

EA No. EC-1300-08-04

Green Mountain Reservoir Substitution and Power Interference Agreements

Final Environmental Assessment



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U.S. Department of the Interior Bureau of Reclamation Great Plains Region Eastern Colorado Area Office



Cooperating Agency: U.S. Department of Energy Western Area Power Administration Rocky-Mountain Customer Service Region Loveland, Colorado

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Acronyms

,	
ACHP	Advisory Council on Historic Preservation
AF	acre-feet
Authority	Upper Eagle Valley Water Authority
BLM	Bureau of Land Management
Breckenridge	Town of Breckenridge
C-BT	Colorado-Big Thompson Project
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Health and the Environment
CDSS	Colorado Decision Support System Model
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
Continental-Hoosier	
System	Continental-Hoosier Transmountain Diversion System
CWCB	Colorado Water Conservation Board
Denver Water	Denver Board of Water Commissioners
D.O.	Dissolved oxygen
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
HUP	Historic Users Pool
Kw	Kilowatt
MOA	Memorandum of Agreement
MPWCD	Middle Park Water Conservancy District
MW	megawatt
NCWCD	Northern Colorado Water Conservancy District
NDIS	Natural Diversity Information Source
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
OHV	off-highway vehicle
ORV	Outstandingly Remarkable Value



PACSM	Platte and Colorado Simulation Model
ppt	parts per thousand
Reclamation	Bureau of Reclamation
River District	Colorado River Water Conservation District
RMP	Resource Management Plan
SHPO	State Historic Preservation Officer
Springs Utilities	Colorado Springs Utilities
Subdistrict	Municipal Subdistrict of the NCWCD
SWSI	Statewide Water Supply Initiative
TMDL	Total Maximum Daily Load
TVS	Total Value Standards
UAA	Use Attainability Analysis
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
Vail	Vail Summit Resorts
WAPA	Western Area Power Administration
WGFP	Windy Gap Firming Project
WQCC	Water Quality Control Commission
WQCD	Water Quality Control Division
WRCC	Western Regional Climate Center



1.0 Purpose and Need

1.1 Introduction

In response to a request from Colorado Springs Utilities (Springs Utilities), the Bureau of Reclamation (Reclamation), an agency of the Department of the Interior, is considering entering into a Green Mountain Reservoir Substitution Agreement with Springs Utilities and a Power Interference Agreement with Springs Utilities and Western Area Power Administration (WAPA). The execution of the proposed agreements would allow Springs Utilities to provide a reliable source of municipal water to the citizen owners and customers of Springs Utilities.

This Environmental Assessment (EA) was prepared by Reclamation, the lead federal agency, in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and Reclamation's Draft NEPA Handbook (U.S. Department of the Interior 2000). This EA is not a decision document, but rather it is a disclosure of the potential environmental consequences of the No Action and Proposed Action alternatives. Implementation of the Green Mountain **Reservoir Substitution and Power** Interference Agreements requires approval by Reclamation. This EA provides the basis for Reclamation's review and evaluation of potential effects of the agreements, as well as reviewing the range of reasonable alternatives.

WAPA, an agency of the U.S. Department of Energy, with statutory authority over the proposed project, was invited to participate in the NEPA process as a cooperating



agency (40 CFR 1501.6 and 1508.5). WAPA has accepted formal cooperating agency status and retains review and comment responsibility on the project.

1.2 Project Purpose and Need

Springs Utilities is obligated to provide substitution water for diversions from the Blue River in years when Green Mountain Reservoir may not fill. Springs Utilities currently does this on an annual basis subject to the terms of the Blue River Decree, which specifically allows for releases to be made from water stored on the Blue River and the Williams Fork River to meet the substitution obligation. The purpose of the Substitution Agreement is to allow Springs Utilities to comply with the Blue River Decree by approving the 2003 Memorandums of Agreement (MOAs) as Springs Utilities' substitution operation plan. This would specifically approve the additional water sources of Wolford Mountain Reservoir and Homestake Reservoir, which are beyond those sources authorized in the Blue River Decree. The need for the additional sources of substitution water is to provide additional operational flexibility in meeting substitution obligations to complete the fill of Green Mountain Reservoir during dry years. Reclamation must operate and maintain Green Mountain Reservoir to fulfill its purpose of assuring replacement water and power generation to the West Slope of Colorado.

In addition to the Substitution Agreement, during both substitution and non-substitution years, Springs Utilities repays WAPA for interfering with power generation from the Green Mountain Reservoir power plant. In the past, this has been accomplished through informal, annual, as-needed agreements with WAPA. The purpose of the Interference Agreement is to provide a long-term, formalized agreement for the arrangement and conditions of repayment. The need for the agreement is to ensure that Springs Utilities repays WAPA for the interference of power generation from the Green Mountain Reservoir hydroelectric plant.

1.3 Study Area

Figure 1-1 presents a vicinity map of the Study Area for the EA. The Study Area primarily encompasses the Continental-Hoosier System as shown in Figure 1-2. In addition, the Study Area is defined by potentially affected reaches of streams and reservoirs that may experience fluctuating flows or water levels. A more detailed Study Area used to describe existing conditions and evaluate impacts is described in Chapter 3 and presented in Figure 3-1.

1.4 Background

This section provides a description of Springs Utilities' existing operations as well as the relationship between these operations, Reclamation's and WAPA's operations at Green Mountain Reservoir, and the Blue River Decree. A description of the prior appropriation system is included in this section to facilitate an understanding of Springs Utilities' water rights.

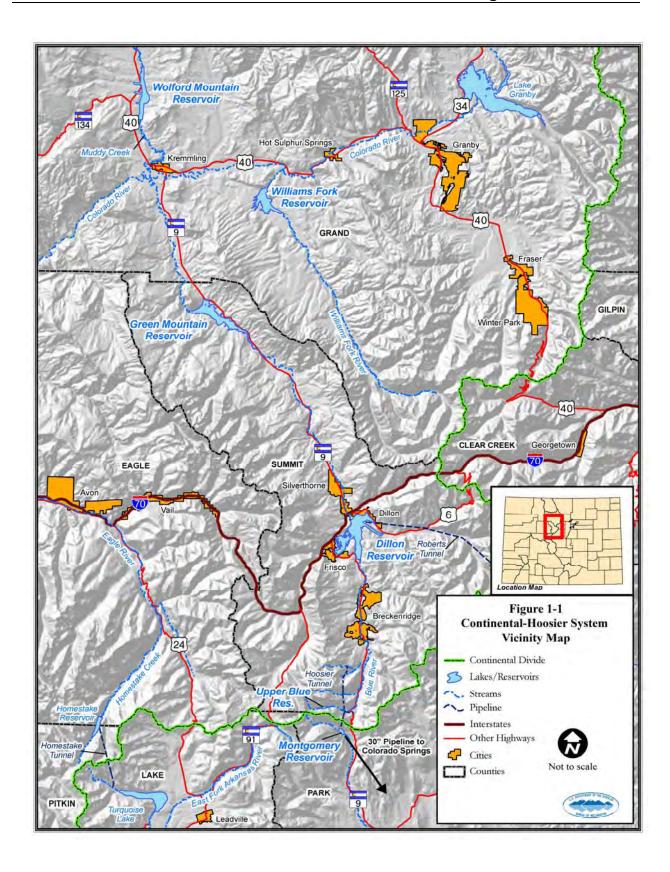
1.4.1 Prior Appropriation System

A legal framework called the **prior appropriation system** regulates the use of surface water in Colorado and operates on a first in time/first in right basis. "Prior" means water users with earlier water rights (senior water rights) can fill their needs before others (junior water rights) in times of short supply. "Appropriation" occurs when a public agency, private person, or business places water to a beneficial legal use per a plan to divert, store, or otherwise capture and control the water. Only previously unappropriated water can be appropriated. The prior appropriation system provides a legal procedure by which water users can obtain a court decree for their water rights. This process of court approval is called adjudication, which sets the priority date of the water right, its source of supply, amount, point of diversion, type and place of use, and terms and conditions that govern the operation of the water right. Adjudication also confirms that the water right will not cause injury to existing water right holders. The prior appropriation system lays out an orderly process for state officials to distribute water according to decreed water priority rights, shutting off junior rights as needed to satisfy senior rights (Colorado Foundation for Water Education 2004).

1.4.2 Reclamation and Green Mountain Reservoir

Reclamation owns, operates and maintains the Colorado-Big Thompson Project (C-BT) which stores, regulates, and diverts water from the Colorado River on the western slope of the Continental Divide to the eastern slope of the Rocky Mountains. It provides supplemental water for irrigation of land, municipal and industrial use, hydroelectric power, and water-oriented recreation opportunities. To preserve existing and future water uses and interests on the West Slope, Green Mountain Reservoir was constructed on the Blue River. Spring runoff is stored in this reservoir and later released for C-BT-authorized purposes on the West Slope. Reclamation has rights to fill Green Mountain Reservoir with a 1935 water right, which are senior to Springs Utilities' 1948 water rights.







A hydroelectric power plant is located at the base of the Green Mountain Reservoir Dam and uses the regulated streamflow of the Blue River and the water released from storage in Green Mountain Reservoir to generate electricity. Historically, power interference has been administered on a year-to-year basis.

Springs Utilities' operations on the Blue River impacts Reclamation's ability to produce hydropower; therefore Springs Utilities is required to replace the power that would have been generated by the water that Springs Utilities diverts under its 1948 water rights. During the months the Blue River System is operated, Springs Utilities provides Reclamation with daily operations data. Reclamation then determines the amount of power interference calculated at a rate of 210 kilowatt-hours per acre-feet (AF) of depletion. Since Springs Utilities owns and operates power generation facilities, power interference is typically repaid with power. Springs Utilities coordinates with WAPA to deliver the required amount of replacement power at a time and location determined by WAPA. Springs Utilities may also pay WAPA in cash.

1.4.3 Western Area Power Administration

WAPA was created under the Department of Energy Organization Act of 1977. At this time, the power marketing functions of Reclamation were transferred to WAPA including the construction, operation, and maintenance of transmission lines, and attendant facilities. The operation and maintenance of Reclamation power plants was not transferred to WAPA. WAPA markets power under the same authority that was exercised by Reclamation before the power marketing function was transferred to WAPA. WAPA takes delivery of Reclamation's generation at the power plant switch yards and then transmits the energy to preference power customers.

1.4.4 Springs Utilities' Collection Systems and Customers

The service area for Springs Utilities' customers includes the City of Colorado Springs and portions of the suburban residential areas surrounding the City. The military installations of Fort Carson Army Post, Peterson Air Force Base, and the United States Air Force Academy also receive water and other utility services from Springs Utilities. The water system serves water to an estimated 423,317 people in the Pikes Peak region. This represents the City's population, as well as persons living in the Ute Pass communities west of the City, and military bases and other areas outside the City limits. In 2007, the overall water system delivered 78,389 AF (25,543 million gallons) of potable water to Springs Utilities' customers.

Springs Utilities' water collection system is defined as all facilities that divert, collect, store and transport water prior to treatment. Springs Utilities' extensive water collection and transmission system is made up of 25 reservoirs and/or storage accounts, more than 200 miles of major pipelines and four major pump stations. The entire system stretches through a total of nine counties: Chaffee, Lake, Eagle, El Paso, Teller, Park, Summit, Pueblo and Crowley.

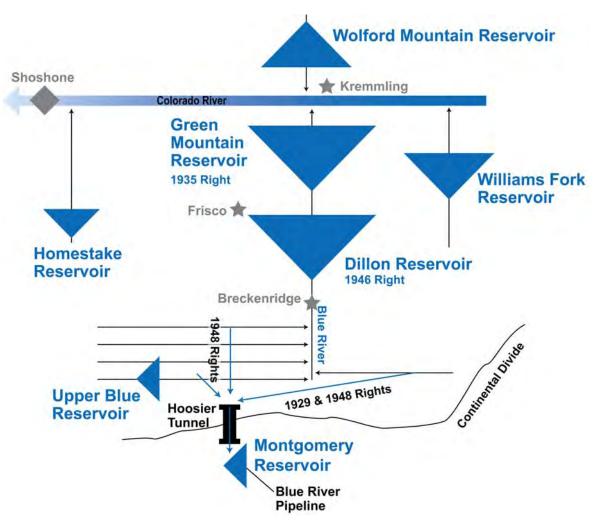
Springs Utilities' collection system is comprised of local and non-local water systems. Because Colorado Springs is not located near a major source of water supply such as a river or lake, local water supplies are limited. As a result, Springs Utilities must also utilize non-local systems to meet



its water demands. The non-local water supply systems utilized by Springs Utilities pertinent to this EA include the following: water diverted from the headwaters of the Blue River through its Continental-Hoosier Transmountain Diversion System (Continental-Hoosier System) facilities; and the Homestake Project (Figure 1-2).

Continental-Hoosier Transmountain Diversion System

The Continental-Hoosier System, commonly referred to as the "Blue River System," was completed in the early 1950s and is Springs Utilities' first transmountain diversion system. The Continental-Hoosier System is a major contributor to Colorado Springs'







water supply, bringing an average of about 8,500 AF per year to Colorado Springs. This system diverts water from the headwaters of the Blue River and its tributaries above the Town of Breckenridge, Colorado. The Blue River is a tributary of the Colorado River.

The Continental-Hoosier System is located upstream of Denver Water's Dillon Reservoir and Reclamation's Green Mountain Reservoir (Figure 1-2). The Continental-Hoosier System includes storage in the Upper Blue Reservoir, and diversion points on Crystal Creek, Spruce Creek, McCullough Creek, East and West Hoosier Creeks, Silver Creek, and the Blue River. Water diverted from these points, along with water released from the Upper Blue Reservoir, is transported through a series of canals, tunnels and siphons to the Hoosier Tunnel. The Hoosier Tunnel transports the water beneath the Continental Divide to Montgomery Reservoir, located on the Middle Fork of the South Platte River above the town of Alma, Colorado. From Montgomery Reservoir, water is delivered by gravity through a 30-inch, 70-mile long Blue River pipeline to the City of Colorado Springs (Springs Utilities 2006; Springs Utilities 2007).

Springs Utilities owns two water rights for the West Slope portion of this system. The 1929 water rights are for a portion of the flow in East and West Hoosier Creeks. The remaining diversions are made under Springs Utilities 1948 water rights. Diversions under the 1948 rights are also governed by the Blue River Decree, which relates to Reclamation's 1935 Green Mountain Reservoir rights (Section 1.4.5 Blue River Decree). As Springs Utilities' 1929 rights are senior to Reclamation's 1935 Green Mountain Reservoir rights, diversions under these rights are not subject to substitution replacement operations under the Blue River Decree.

Water Reuse and Conservation

Springs Utilities also has a longstanding and extensive nonpotable water system that uses reclaimed wastewater, untreated raw surface water, and untreated groundwater. This system meets nonpotable irrigation demands including; parks, golf courses, cemeteries, schools, businesses, and military facilities, as well as industrial uses for power generation and wastewater treatment plant process water. The nonpotable water delivered through this system comprises about 13% of the total water provided by Springs Utilities.

Conservation has been an integral part of water resource planning and management in Colorado Springs for more than 60 years. In the 1996 Water Resource Plan, conservation was identified as one of four components for meeting future demands. A Water Conservation Master Plan was completed in 1999, followed by the Drought Response Plan in 2001. Most recently, Springs Utilities completed its Water Conservation Plan for 2008-2012, which was approved by the Colorado Water Conservation Board (CWCB) in January 2008. Currently, Springs Utilities' water conservation portfolio includes customer education, demonstration projects, community partnerships, rates and metering, regulatory requirements, financial incentives, and lowincome programs. Conservation programs contribute significantly to water resource planning and management, while education, demonstrations and partnerships serve as a strong foundation for an active and accountable water conservation program. Since 2001, Springs Utilities' customers have reduced their water use by 28% per account, leading to a total annual water



usage decrease of about five billion gallons (about 15,000 AF).

1.4.5 Blue River Decree

Reclamation's 1935 Green Mountain Reservoir water rights were adjudicated in Federal District Court in Consolidated Case Nos. 2782, 5016, and 5017. The decrees and stipulations in these cases are collectively known as the Blue River Decree. This decree and its related stipulations allow Springs Utilities to exercise its 1948 water rights (junior) in relation to Reclamation's 1935 Green Mountain Reservoir rights (senior). The Blue River Decree also provides for replacement of water and power to mitigate impacts to Reclamation's operations resulting from Springs Utilities' exercising of its 1948 water rights. The Blue River Decree requires the approval of the Secretary of the Interior for Springs Utilities to exercise its 1948 water rights, to assure that such exercise would not adversely affect the ability of Green Mountain Reservoir to fulfill its functions.

One major provision of the Blue River Decree is that Springs Utilities must replace the power that would have been generated by Reclamation in Green Mountain Reservoir's hydroelectric turbines had Springs Utilities not diverted water. In other words, Springs Utilities must pay for power interference. Springs Utilities has historically provided the replacement power year-to-year by mutual agreement with the WAPA at a time and location requested by WAPA. Springs Utilities has carried out this operation under the authority of the Blue River Decree.

Another major provision of the Blue River Decree is that Springs Utilities, and other junior water rights owners specifically identified in the Blue River Decree, must implement water substitution plans to help assure the filling of Green Mountain



Reservoir. Each year, Reclamation determines, based on snow pack and other forecasting, whether it is reasonably probable that Green Mountain Reservoir will fill as provided for in the Blue River Decree. If a fill is reasonably probable, then it is projected to be a non-substitution year, and Reclamation allows Springs Utilities to divert under its 1948 rights. Typically, during non-substitution years, Reclamation mails a letter between April 1st and May 15th notifying Springs Utilities that the most Probable Forecast is that Green Mountain Reservoir will fill, and therefore Springs Utilities may divert its 1948 water rights. Because the hydrology of the basin has generally been sufficient to assure the filling of Green Mountain Reservoir, this procedure, historically, has been the typical operation in most years.

If Reclamation determines that it is reasonably probable that Green Mountain Reservoir will not fill, then it is projected to be a substitution year, and Springs Utilities may not divert Blue River water without a plan for substitution approved by the Secretary of the Interior. The Decree specifically identifies and authorizes water stored on the Blue River and the Williams Fork River as acceptable substitution supplies.

Typical substitution operation under the terms of the Blue River Decree includes the following:

- A volume of replacement water equal to or greater than the anticipated fill deficit is diverted and held in storage during the fill season, or carried over from a previous storage season.
- At the end of the fill season, the actual fill deficit is determined and the amount of replacement water required from each diverting entity is calculated.

• The entity releases its replacement water according to a schedule of releases set by Reclamation.

1.4.6 Substitution Year Operations

Historical Substitution Year Operations

Typically, Springs Utilities has operated during substitution years by proposing an annual plan for substitution to Reclamation after receiving notice that Green Mountain Reservoir is not expected to fill. Springs Utilities has used replacement storage on the Blue River and Williams Fork River as authorized Blue River Decree replacement supply sources during several of the substitution years. Springs Utilities has also used, with Reclamation's approval, replacement storage from Wolford Mountain Reservoir on Muddy Creek during more recent substitution years. However, this source is not specifically identified in the Blue River Decree, but was utilized as part of interim agreements pending approval of

the 2003 MOAs by Reclamation (see description in Section 1.4.7 Substitution Memorandum of Agreement). Thus, this source is not considered part of the existing operating conditions. Because each substitution year that has occurred has resulted in a different annual plan for substitution, each year's substitution operation and implementation has been different. The operations in the substitution vears that have occurred during the period of 1964 through 2005 are described below and are based on Springs Utilities' Annual Blue River Reports and related correspondence. Additionally, the amount and supply source of the substitution water is summarized in

 Table 1-1.
 These substitution years serve as

 examples of the different sets of existing conditions that result from using the year-byyear substitution plans and substitution sources identified in the Blue River Decree.

1964 Substitution Year				
Total Green Mountain Reservoir Shortage23,531 AF				
Springs Utilities' Replacement from Dillon Reservoir	1,583 AF			
Springs Utilities' Net 1948 Diversions	8,997 AF			
Total Green Mountain Reservoir Shortage	Unknown			
Springs Utilities' Replacement from Upper Blue Reservoir	589 AF			
Springs Utilities' Net 1948 Diversions	2,182 AF			
1981 Substitution Year				
Total Green Mountain Reservoir Shortage (est.)	36,000 AF			
Springs Utilities' Replacement (full replacement provided by Denver Water)	0 AF			
Springs Utilities' Net 1948 Diversions	5,425 AF			
1994 Substitution Year				
Total Green Mountain Reservoir Shortage4,740 Al				
Springs Utilities' Replacement from Williams Fork Reservoir				
Springs Utilities' Net 1948 Diversions8,390 A				

Table 1-1: Summary of Historical Substitution Year Operations



1964 Substitution Year

Denver Water's Dillon Reservoir filled for the first time in 1964. Springs Utilities and Denver Water entered into a one year water supply agreement, which was approved by Reclamation. Under this agreement, Springs Utilities diverted water physically available under the 1948 rights. Denver Water reserved water in and released water from Dillon Reservoir to replace the shortage in Green Mountain Reservoir. Replacement was based on Springs Utilities' pro-rata share of depletions.

1977 Substitution Year

This year was declared a substitution year by Reclamation. Based on direction in the annual letter from Reclamation, Springs Utilities started storing water in Upper Blue Reservoir only, but not diverting through Hoosier Tunnel. Then, in early June, Reclamation notified Springs Utilities that the reserved amounts in Dillon Reservoir and Upper Blue Reservoir were sufficient to fill Green Mountain Reservoir. Thus, Springs Utilities began diverting water until it was no longer in-priority and was called out on June 20, 1977. On July 6, 1977 Reclamation notified Springs Utilities by telephone that Green Mountain Reservoir would fill without the water stored in the Upper Blue Reservoir and Springs Utilities began transferring the Upper Blue Reservoir water through Hoosier Tunnel. On July 13, 1977 Reclamation reversed itself and conveyed by telephone that it needed about 600 AF from Springs Utilities to complete the fill of Green Mountain Reservoir. Springs Utilities held 614 AF in the Upper Blue Reservoir to cover the deficit, and on September 7, 1977, Reclamation notified Springs Utilities that it owed 589 AF to Green Mountain Reservoir, which was released from Upper Blue Reservoir.

1981 Substitution Year

In contrast to the 1977 substitution year, the Probable Fill letter from Reclamation approved diversions under Springs Utilities' 1948 water rights without any reference to holding the water in storage. Therefore, Springs Utilities diverted under the 1948 rights through the entire runoff period until Shoshone called the 1948 right out of priority. There were no communications from Reclamation or from the Division 5 Office of the State Engineer to curtail diversions (other than the Colorado River Call). Simultaneously, Denver Water had proposed and operated a 55,000 AF replacement and exchange from Williams Fork Reservoir to Dillon Reservoir. Reclamation may have concluded that since Denver Water had reserved 55,000 AF. which was more than sufficient to fill Green Mountain Reservoir, substitution water from Springs Utilities was not needed.

1994 Substitution Year

Initially there was no request from Reclamation for Springs Utilities to store water or to curtail their 1948 rights. Later in the season, Reclamation informed all parties that Green Mountain Reservoir would not fill. Denver Water paid back the total Green Mountain Reservoir shortage of 4,740 AF with releases from Williams Fork Reservoir and Springs Utilities agreed to repay Denver Water a pro-rata share of the shortage (474 AF) with releases to the South Platte River from Springs Utilities' Homestake Pipeline.

Recent Substitution Years

Substitution was required for the filling of Green Mountain Reservoir during 2001, 2002, and 2004. In addition, the years 2003 and 2005 were initially declared substitution years, but hydrologic conditions were such that Green Mountain Reservoir filled without any substitution operations or releases necessary. Although 2001 was



initially declared a non-substitution year, Reclamation reversed this position mid-year. Springs Utilities did not gain approval from Reclamation for its proposed substitution operation in 2001, and, accordingly, diversions under Springs Utilities' 1948 water rights were curtailed. Substitution operations during the years 2002 through 2005 were proposed or carried out under interim agreements that partially implemented the Proposed Action. Operations during some of these years included releases from Wolford Mountain Reservoir to cover Springs Utilities' substitution obligations.

Summary of Substitutions

Since the entry of the Blue River Decree, during non-substitution years, Springs Utilities has diverted water under its 1948 rights after notice from Reclamation that Green Mountain Reservoir will most probably fill. During substitution years, Springs Utilities has typically diverted water under its 1948 rights after submitting an annual substitution plan under the authority of the Blue River Decree and receiving approval from Reclamation on behalf of the Secretary of the Interior. Water owed to Green Mountain Reservoir during substitution years has been repaid at various times from Dillon Reservoir, Williams Fork Reservoir, and Upper Blue Reservoir, as expressly authorized in the Blue River Decree. Use of Dillon and Williams Fork Reservoirs as replacement sources for Springs Utilities has been subject to agreement between Springs Utilities and Denver Water. For water diverted during both substitution and non-substitution years, Springs Utilities has repaid power interference through informal, year-to-year agreements with WAPA.

1.4.7 Substitution Memorandums of Agreement

In May 2003, Springs Utilities entered into a MOA, which formalized a long-term substitution plan and sets forth the terms and conditions among the parties to the MOA regarding substitution operations by Springs Utilities. A copy of the 2003 MOA is available on Reclamations' project website at: http://www.usbr.gov/g//nepa/ quarterly.cfm#ecao. The parties to this MOA are Springs Utilities, Colorado River Water Conservation District (River District), the Denver Board of Water Commissioners (Denver Water), Northern Colorado Water Conservancy District (NCWCD), Summit County, Vail Summit Resorts (Vail), and the Town of Breckenridge (Breckenridge). Springs Utilities also signed a Supplemental MOA in October 2003 to address protection of the Upper Blue River entities' exchanges under certain conditions. The parties to this agreement include Summit County, Vail, and Breckenridge. Reclamation is not a party to the MOAs. The NEPA process, through this EA, must be completed prior to Reclamation's decision to approve the substitution plan set forth in the MOAs.

Springs Utilities has proposed that Reclamation approve and adopt the 2003 MOAs to serve as a flexible and reliable substitution plan that will meet the requirements of the Blue River Decree. In addition to operations that are specifically authorized in the Blue River Decree, the 2003 MOAs provide for the addition of two new sources of substitution water: Wolford Mountain Reservoir and Homestake Reservoir. The 2003 MOAs contain additional provisions not directly related to the substitution operation required for the filling of Green Mountain Reservoir, and documents some substitution operations that



are already specifically authorized by the Blue River Decree. Chapter 2 of this EA provides a description of the Proposed Action.

The proposed project also formalizes a longterm power interference agreement with Reclamation and WAPA. Under the agreement, Springs Utilities would compensate for lost hydropower with power generated from their own facilities, at a time and location determined by WAPA.

In separate but related actions, Colorado Springs has filed applications in Colorado Water Court and in Federal Court to formally decree and adjudicate its long-term Substitution Plan (discussed in Section 1.5 Required Permits and Approvals).

1.5 Required Permits and Approvals

Federal, state, and local permits and approvals may be required to implement the proposed project. However, the project does not involve ground disturbing activities and therefore, would not require an extensive list of permits and/or authority. This EA provides information for the other regulatory agencies having jurisdictional responsibility for lands and resources affected by the project. Permits and/or approvals required to implement and/or are related to the project include:

Bureau of Reclamation – Formal approval of a long-term Substitution Agreement per the conditions of the 2003 MOAs between Reclamation and Springs Utilities. Formal approval of a long-term Power Interference Agreement between WAPA, Reclamation, and Springs Utilities.

Western Area Power Administration –

Formal approval of a long-term Power

Interference Agreement between WAPA, Reclamation, and Springs Utilities.

Colorado Water Court System – Final determination in the Springs Utilities' substitution filing (Case No. 03CW320) in Colorado Water Court Division 5. This filing does not impact the NEPA process, but runs concurrent to the project.

Federal Court System – Final determination in the Springs Utilities' filing in Federal District Court parallel to the Colorado Water Court for the same purpose. Again, this filing does not impact the NEPA process, but runs concurrent to the project.

County Permits – Additional county permits may be required. Summit County may require a 1041 permit per the County's Land Use and Development Code regulations (Chapter 10: Areas and Activities of State Interest).

1.6 Agency and Public Input

In accordance with the NEPA (40 CFR 1501.7), Reclamation initiated the scoping process to provide for an early and open process to gather information from the public and interested agencies on the issues and alternatives to be evaluated in this EA. Reclamation conducted stakeholder interviews with federal and state agencies to solicit concerns and comments on the project, and determine the level of anticipated participation from each agency, and is described in the scoping summary report prepared for this project (URS 2008).

During the scoping period, Reclamation held a public scoping meeting on March 6, 2008 in Silverthorne, Colorado. The scoping period extended from March 6 to April 4, 2008. The NEPA scoping process, original scoping letters, and specific comments



gathered by Reclamation during the process are detailed in the scoping summary report and in Chapter 4 Coordination and Consultation (URS 2008).

1.7 Environmental Resources

Chapter 3 Affected Environment and Environmental Consequences describes a summary of the resources Reclamation identified to be included for further evaluation in the EA, and those considered but excluded from further evaluation along with a brief explanation. In summary, resource issues and impact topics evaluated in Chapter 3 include:

- Hydroelectric generation
- Hydrology
- Water quality
- Aquatic resources
- Wetlands/riparian resources
- Special status species associated with aquatic resources and wetland and riparian areas
- Recreation
- Socioeconomics

Resource issues and impacts topics considered, but excluded from further evaluation in the EA include:

- Geology
- Soils
- Farmlands
- Air quality
- Noise
- Transportation
- Land use
- Visual resources
- Hazardous materials
- Terrestrial upland communities and wildlife
- Terrestrial special status species
- Environmental justice
- Cultural and Indian Trust resources



2.0 Alternatives

2.1 Introduction

Compliance with the NEPA requires that the environmental effects of a proposed federal action (i.e., Proposed Action) be studied and compared with the environmental effects of an alternative that does not require the proposed federal action (No Action alternative). For this specific project, the No Action alternative is the same as existing conditions, which is operations per the Blue River Decree using a combination of water from the Blue River and Williams Fork River, as described in Chapter 1, Section 1.4 Background. This EA compares the Proposed Action and the No Action alternatives, as described in Sections 2.2 and 2.3, respectively. The CEQ characterizes the alternatives screening process in an EA as a process to identify reasonable alternatives to be evaluated and appropriate mitigation measures to be incorporated into the alternatives (Section 40 CFR 1508.9[a]). The preliminary alternative screening analysis conducted for this EA is described in Section 2.2.

2.2 Alternative Screening Process

In accordance with NEPA, a reasonable range of preliminary alternatives was evaluated during the screening process. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint using common sense, rather than simply desirable from the standpoint of the applicant ("Forty Most Asked Questions Concerning NEPA," Question 2a). Under NEPA, the comparison of a full spectrum of alternatives should provide "a clear basis for choice among options for the decision maker and the public" (40 CFR 1502.14).



Preliminary alternatives were configured using a variety of potential water supply sources and infrastructure components (i.e., new storage sites, pipelines, pump station). Potential water sources identified must be available (physically and legally) from a sustainable source in amounts sufficient to be practicably developed. Unlike the Proposed Action, all of the preliminary alternatives that were considered required the construction of new facilities. These alternatives were carefully screened based on numerous evaluation criteria related to purpose and need, existing technology, logistics, water rights, costs, environmental impacts, and complying with the requirements of the Blue River Decree. Examples of alternatives that were considered, but screened out are described below.

Additional Storage on the Blue River

Springs Utilities has conditional water rights on the Blue River that could be developed at their original decreed locations or transferred to new storage facilities. The development of additional storage on the Blue River would be used to divert and store water in wet years and hold it for substitution releases in substitution years. Two options for Blue River storage were identified and evaluated during the screening process. The first option included the development of approximately 3,166 AF of storage in one or more new reservoirs in the upper reaches of tributaries to the Blue River using Springs Utilities conditional storage rights. The second option for storage that was considered during screening involved the construction of approximately 5,000 AF of new gravel lake storage on the Blue River below Dillon Reservoir or on the Williams Fork River below Williams Fork Reservoir.

Although construction of additional storage on the Blue River is feasible, it would require regulatory approval from the Army Corps of Engineers (USACE) through the NEPA process, as well as 401 Certification through the Colorado Department of Health and Environment, Water Quality Control Division (CDPHE WQCD). Additionally, there would likely be lengthy water rights litigation required for the development of the additional storage. Both Blue River storage options include construction of new structural components and the cost and environmental impacts were deemed to be far greater than implementing the nonstructural Proposed Action.

Montgomery Reservoir Pump-Back

Another structural alternative that was considered during the screening process was a pump-back project from Springs Utilities' Montgomery Reservoir, located on the headwaters of the South Platte River. Under this scenario, the pump-back would operate during substitution years by diverting water through the Hoosier Tunnel and storing it in Montgomery Reservoir. When substitution releases are required, the pump station would pump the necessary amount of water from that stored in Montgomery Reservoir back through the Hoosier Tunnel to be discharged into the Blue River, where it would then flow down to Green Mountain Reservoir to complete its filling. This alternative would consist of a new pump station constructed at Montgomery Reservoir, and a new pipeline through the Hoosier Tunnel. This alternative would also require the extension of power to the Montgomery Reservoir site. Additionally, conditional storage rights may need to be obtained to operate this alternative.

The same type of federal action required by Reclamation for the Proposed Action would

be required for a pump-back since Montgomery Reservoir is not approved as a substitution source under the Blue River Decree. Water rights litigation in Colorado Water Court Division 5 would also be required for this alternative to allow this operation to be approved for use as a source of substitution water for Green Mountain Reservoir. This option would require the construction of new structural components and the cost and environmental impacts were deemed to be far greater than implementing the non-structural Proposed Action.

2.3 No Action Alternative

Water Substitution

If Reclamation does not approve the Proposed Action, Springs Utilities would operate during substitution years strictly per the Blue River Decree (refer to Chapter 1, Section 1.4.5 Blue River Decree) according to annual substitution plans approved by the Secretary of the Interior as needed. The Blue River Decree authorizes substitution operations using a combination of water from the Blue River and Williams Fork River. Denver Water would be willing to continue to provide replacement water in the future on behalf of Springs Utilities in substitution years for water Springs Utilities is obligated to provide to Green Mountain Reservoir, depending on Denver Water's own operational needs and water supply requirements (Denver Water 2008). Based on this information for the purposes of this analysis, it is assumed that Denver Water would provide replacement water. If Denver Water chose not to provide replacement water, Springs Utilities might have to identify other replacement sources for approval by the Secretary of Interior, and the comparative impacts of the No Action



and action alternatives likely would change. Springs Utilities would not use Wolford Mountain or Homestake Reservoirs as sources of replacement water under the No Action alternative. The terms and conditions agreed to in the May 2003 MOA are not part of the No Action alternative. Approval of the October 2003 MOA is also not part of the No Action alternative.

For the purposes of the analysis of hydrologic effects, Springs Utilities' substitution payback under the No Action alternative is modeled as follows. Water is released first from Upper Blue Reservoir to Dillon Reservoir in August. Releases to Dillon Reservoir decrease Springs Utilities' substitution obligation while increasing Denver Water's substitution obligation by a commensurate amount. If contents in Upper Blue Reservoir are not sufficient to payback Springs Utilities' entire substitution obligation, it is assumed that Denver Water would payback any remaining obligation with releases from William Fork Reservoir and/or Dillon Reservoir. To be conservative and reflect the maximum possible change in Middle Fork South Platte River streamflows and contents in Montgomery and Elevenmile Canyon reservoirs, it was assumed that Springs Utilities would provide Denver Water with water released from Montgomery Reservoir to the degree Springs Utilities' substitution obligation exceeds contents in Upper Blue Reservoir.

Power Interference Substitution

Under the No Action alternative, replacement of power at the Green Mountain Reservoir power plant would continue to be accomplished through informal, as-needed, annual agreements between WAPA, Reclamation, and Springs Utilities as authorized in the Blue River Decree (see discussion in Chapter 1, Section 1.4.2 Reclamation and Green Mountain Reservoir). Springs Utilities' operations on



the Blue River impacts Reclamation's ability to produce hydropower; therefore Springs Utilities is required to replace the power that would have been generated by the water that Springs Utilities diverts under their 1948 water rights. Springs Utilities reserves the right to pay WAPA monetarily or with power. Since Springs Utilities owns and operates power generation facilities, power interference may be repaid with power. Springs Utilities coordinates with WAPA to deliver the required amount of replacement power at a time and location determined by WAPA.

2.4 Proposed Action

Water Substitution

Under the Proposed Action, Reclamation would enter into up to a 40-year Substitution Agreement with Springs Utilities. This agreement would approve Springs Utilities' substitution plan according to the terms and conditions set forth in the 2003 MOAs. The elements of the May 2003 MOA that are specific to the Proposed Action are the use of Wolford Mountain Reservoir and Homestake Reservoir as sources of replacement water in a manner consistent with the terms and conditions of the 2003 MOAs. Reclamation may approve the use of these additional water sources on a longterm basis, but Springs Utilities must submit for approval of its substitution plan specific for that substitution year. Another component of the Proposed Action (May 2003 MOA) is that Springs Utilities provides up to 250 AF stored in the Upper Blue Reservoir to the Colorado River Water Conservation District (River District) each year in return for a like-amount of water stored in Wolford Mountain Reservoir. The 250 AF is intended for water users in the Blue River Basin including Summit County, Vail, Summit Resorts, and Breckenridge. A storage account in an amount up to 1,750 AF is maintained by the River District at

Wolford Mountain Reservoir for the benefit of Springs Utilities to store Upper Blue Reservoir water booked into Wolford Mountain Reservoir. This account is referred to throughout the rest of this document as Springs Utilities' account in Wolford Mountain Reservoir.

For the purposes of the analysis of hydrologic effects, Springs Utilities' substitution payback under the Proposed Action is modeled as follows. Springs Utilities would divert water in dry years when Reclamation determines that Green Mountain Reservoir would likely not fill and substitute this water using water stored on the Blue and Williams Fork rivers per the terms of the Blue River Decree and if needed, from Wolford Mountain Reservoir and Homestake Reservoir per the terms of the 2003 MOAs. The first 2,100 AF of replacement water would be provided from Springs Utilities to Denver Water from Springs Utilities' Upper Blue Reservoir and their South Platte River supplies such as Montgomery Reservoir, if necessary. The amount provided to Denver Water would be added to the Denver Water replacement obligation and released by Denver Water in accordance with the Denver Water substitution agreements and decree. The next increment of Springs Utilities' replacement obligation (up to 1,750 AF) would be comprised of releases from water accrued by exchange in the substitution account maintained for Springs Utilities at Wolford Mountain Reservoir. Any remaining replacement obligation would be made with releases from Homestake Reservoir. The MOA outlines the use Wolford Mountain Reservoir and Homestake Reservoir as alternate replacement sources to Green Mountain Reservoir operations. Therefore, releases from Springs Utilities' account in Wolford Mountain Reservoir and Homestake

Reservoir would be made in replacement of all uses of Green Mountain Reservoir in lieu of releasing water from Green Mountain Reservoir.

To reflect the exchange of 250 AF between Upper Blue Reservoir and Wolford Mountain Reservoir in the model, releases of 250 AF are made from Upper Blue Reservoir every November. For modeling purposes, this water is assumed to be diverted above Dillon Reservoir in the same month and fully consumed. In actuality, all or a portion of the 250 AF may be used for augmentation purposes, in which case it would be used to replace out-of-priority depletions to the Blue River or its tributaries, directly or by exchange. This use would be fully consumptive. Alternatively, some or all of the water may be diverted or stored, directly or by exchange and may or may not be fully consumed in the month of diversion. In return for this water, 250 AF is booked into an account in Wolford Mountain Reservoir up to a maximum of 1,750 AF and is available for substitution payback. Per the terms of the MOA, no evaporative losses are charged to the 250 AF account in Upper Blue Reservoir or Springs Utilities' account in Wolford Mountain Reservoir.

Springs Utilities' Continental-Hoosier System diversions deplete the Blue River, therefore, these diversions affect the ability to meet the CWCB instream flow requirements above Dillon Reservoir, which are junior to Springs Utilities' water rights and the Blue River Decree. However, in order to ensure this alternative protects the natural environment in a manner consistent with the instream flow requirements above Dillon Reservoir, during substitution years, Springs Utilities' would refrain from diverting to the extent necessary in order to maintain flows at the instream flow levels.



Compliance for this mitigation will be to maintain a flow of 5 cfs just upstream of Goose Pasture Tarn Reservoir. Flows at this location will be estimated based on the USGS gage 09046490 Blue River at Blue River, which is located just downstream of Goose Pasture Tarn Reservoir, plus diversions to storage at Goose Pasture Tarn. The location of compliance was chosen because Springs Utilities' Continental-Hoosier System is the primary diversion upstream of Goose Pasture Tarn Reservoir whereas downstream of this point, flows are influenced by reservoir operations at Goose Pasture Tarn and diversions and returns flows associated with water users other than Springs Utilities.

Based on model results, which are explained in Chapter 3, there would be 13 substitution years during the 56-year study period with total substitution obligations ranging from 139 AF to 4,318 AF. Based on the frequency of substitution years during the study period (one in every 4 to 5 years), there would be approximately 9 to 10 substitution years during the 40-year life of the contract with Reclamation.

Power Interference Substitution

Under the Proposed Action, a long-term Power Interference Agreement would be formalized with Reclamation and WAPA. Under the agreement, Springs Utilities would compensate for lost hydropower with power generated from their own facilities, at a time and location determined by WAPA. Springs Utilities reserves the right to pay WAPA monetarily or with power.



3.0 Affected Environment and Environmental Consequences

3.1 Introduction and Methodology

This chapter describes the affected environment and discloses the potential environmental consequences associated with implementing the No Action and Proposed Action alternatives as described in Chapter 2. Resources evaluated in this chapter include: hydrology, hydroelectric generation, water quality, aquatic resources, wetland and riparian resources, recreation, and socioeconomics. A summary of those impacts is shown in Table 3-25 in Section 3.10. As described in Section 3.2 Issues and Impacts Topics Considered but Excluded from Further Evaluation, there are no effects expected to impact geology, soils, farmlands, air quality, noise, transportation, land use, visual resources, hazardous materials, terrestrial upland communities, wildlife, terrestrial special status species, environmental justice, and cultural and Indian trust resources. Therefore, impacts to these topics have been considered but eliminated from further evaluation.

The No Action alternative represents a continuation of operations as outlined in the Blue River Decree. In addition, replacement of power at the Green Mountain Reservoir hydroelectric plant would continue to be accomplished through informal, as-needed, annual agreements between WAPA, Reclamation, and Springs Utilities as authorized in the Blue River Decree. The No Action alternative provides a baseline condition, which was used to evaluate the level of potential impact resulting from the implementation of the Proposed Action. Impact thresholds used to analyze the Proposed Action are defined in Section 3.1.1.

3.1.1 Impact Thresholds

Direct, indirect, and cumulative effects were analyzed for each resource topic and are described in terms of type, duration, and intensity with general definitions of each provided below.

Type – describes the classification of the impact as beneficial or adverse, and direct, indirect or cumulative.

Beneficial: positive change in the condition or appearance of the resource, or a change that moves the resource toward a desired condition.

Adverse: negative change that detracts from the resource's appearance or condition, or a change that moves the resource away from a desired condition.

Direct: effect caused by the Proposed Action and occurs in the same time and place.

Indirect: effect caused by the Proposed Action but occurs later in time or farther removed in distance

Cumulative: incremental effect caused by the Proposed Action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively significant actions taking place over time.

Several reasonably foreseeable actions are anticipated to occur in the future regardless of the implementation of the Proposed Action. The cumulative



effects analysis evaluates reasonably foreseeable actions that when combined with the Proposed Action, results in a cumulative effect on the environment. Potential future actions were considered reasonably foreseeable and included in the cumulative effects analysis if they met all of the following criteria:

- The action would occur within the same geographic area where effects from the Proposed Action are expected to occur,
- The action would affect the same environmental resources as the Proposed Action, and contribute to the total resource impact, and
- There is reasonable certainty as to the likelihood of the action occurring (e.g., actions that are funded or permitted for implementation or are included in firm near-term plans).

Potential water-based future actions were identified through available data on known projects or actions under consideration in the vicinity of the Study Area. Future actions meeting the criteria described above are described in the Section 3.3. Because the Proposed Action would not result in any new infrastructure or ground disturbance, reasonably foreseeable actions were limited to those water-based actions that would have overlapping effects with the Proposed Action on water resources.

Duration – describes the length of time an effect would occur as short-, intermediate-or long-term.

Short-term: lasting no longer than one year of substitution.

Intermediate-term: lasting no more than one year beyond a substitution year. In the case of a series of consecutive substitution years, the length of time would not extend for more than one year beyond the last substitution year in the series.

Long-term: lasting more than one year beyond the substitution year or series of substitution years up to the length of the contract, which is up to 40 years.

Intensity – describes the degree, level, or strength of an impact as no impact, negligible, minor, moderate, or major. The following explains the thresholds used to determine the change in intensity.

No impact: no discernable effect.

Negligible: effect is at the lowest level of detection and causes very little or no disturbance.

Minor: effect that is slight, but detectable, with some perceptible effects of disturbance.

Moderate: effect is readily apparent and has measurable effects of disturbance.

Major: effect is readily apparent and has significant effects of disturbance.

3.1.2 Climate Change

Numerous studies have been conducted on the relationship between climate change and water resources in the West. Most climate models project that temperatures will continue to rise in the West. For instance, in Colorado temperatures have increased about 2°F in the past 30 years and future winter projections indicate fewer extreme cold months, more extreme warm months, and more strings of consecutive warm winters (Western Water Assessment 2008; National Research Council 2007).

Results from hydrological modeling of the impact of rising temperatures on water resources in mountainous western regions,



including Colorado, vary widely (Hoerling and Eischeid 2007; Garfin and Lenart 2007; Woodhouse 2007; IPCC 2008; Western Water Assessment 2008). The general scientific consensus is that increased temperatures would change the composition of winter precipitation and the timing of spring snowmelt. In other words, as temperatures rise the West would receive less snow and the snow that does accumulate would melt earlier in the spring than in past years. In Colorado, the onset of stream flows from melting snow has shifted earlier by two weeks between 1978 and 2004 and the projected timing of runoff is projected to shift earlier in the spring, reducing late-summer flows (Western Water Assessment 2008). Additionally, western snowmelt runoff is expected to decrease due to the higher evaporation and transpiration rates that accompany increased temperatures (Garfin and Lenart 2007; Letheby 2007; Nijhuis 2006a and 2006b; USDA 2007; USGS 2005; Watershed Management Council Networker 2005; IPCC 2008). It is estimated that nearly 75% of water supplies in western states are derived from snowmelt; thus, water managers will likely have to address greater extremes in water systems in the foreseeable future. Water managers may best cope with the combination of these anticipated changes by flexible operations that can incorporate increasing amounts of new scientific information as it becomes available (Woodhouse 2007; Garfin and Lenart 2007). Climate change and global warming may be considered reasonably foreseeable; however currently there is no accepted scientific method of transforming the general concept of increasing temperatures into incremental changes in streamflow or reservoir levels. Thus, hydrologic changes in response to global climate change have not been quantitatively described in this EA.

3.1.3 Reasonably Foreseeable Water-Based Actions Considered in Cumulative Effects Analysis

Water-based actions refer to proposed water storage and diversion projects, water rights changes, and Section 404 activities. The Cumulative Effects Analysis focused on water-based actions because the Proposed Action does not involve land-disturbing activities or other on-the-ground changes. The following reasonably foreseeable waterbased actions were considered in the evaluation of cumulative effects.

Windy Gap Firming Project

The Subdistrict of the NCWCD, on behalf of several of the Windy Gap Project unit holders and the Middle Park Water Conservancy District, is proposing to improve the firm yield from the existing Windy Gap Project water supply by constructing the Windy Gap Firming Project (WGFP). The Subdistrict's Proposed Action is the construction of a 90,000 AF Chimney Hollow Reservoir located just west of Carter Lake on the East Slope. This project is anticipated to result in additional surface diversions at the Windy Gap Project diversion site on the Colorado River, which is downstream of the confluence of the Colorado and Fraser rivers. The WGFP is anticipated to generate approximately 26,000 AF/yr of firm yield for the project participants. The cumulative effect of the WGFP would be reduced flows in the Colorado River downstream of the Windy Gap Project diversion in average and wet years from April through August.

Moffat Collection System Project

Denver Water's total system demand is anticipated to grow to 363,000 AF/yr on average by 2030. Denver Water's current



demand is 285,000 AF/yr on average; therefore, an average increase in demand of 78,000 AF/yr is anticipated by the year 2030. The Moffat Collection System Project is currently proposed by Denver Water to develop 18,000 AF/yr of new, annual yield to the Moffat Treatment Plant to meet future raw water demands on the East Slope. The remainder of the deficit would be comprised of savings from implementing various conservation measures. The alternatives include additional storage in the Moffat Collection System. This project is anticipated to result in additional diversions, primarily from the upper Fraser River and Williams Fork River basins. The Moffat Collection System Project and Denver Water's increase in demand would cumulatively reduce flows in the Colorado River, Williams Fork River, and Blue River in average and wet years primarily during runoff.

Other Increased Water Use in Grand and Summit Counties

The population in Grand and Summit Counties is expected to more than double over the next 25 years, from a year-round population of about 39,000 in 2005 to about 79,000 in 2030 (ERO 2007). Most growth in Grand County is likely to occur in the Fraser River basin while future increases in water use in Summit County would occur primarily in the Blue River basin. The largest growth in water demands in the Blue River basin is expected to occur in areas below Dillon Reservoir including the Towns of Silverthorne, Eagles Nest and Mesa Cortina. Build-out municipal and industrial demands are estimated to be 16,168 AF for Grand County and 17,940 AF for Summit County as identified in the Upper Colorado River Basin Study (Hydrosphere 2003). The timing of the growth in demand depends upon economic development trends in the

respective service areas of the individual water providers. Increased water use and wastewater discharges are expected to result in changes in the quantity and timing of streamflows and water quality.

In addition, Springs Utilities has claimed absolute and conditional rights of exchange in Case No. 03CW314 in connection with the Continental-Hoosier System. These exchange rights would allow Springs Utilities to divert additional water at the Continental-Hoosier System when their rights are out of priority (e.g., Xcel Energy's Shoshone Power Plant rights are calling) and exchange potential exists in the Blue River basin. These exchange rights would typically be exercised in late summer/early fall after Springs Utilities has completed diverting under the Blue River Decree. The circumstances under which these exchanges could occur are varied and difficult to predict since it depends on the physical availability of water at the Continental-Hoosier System and intervening water rights in the exchange reach including Denver Water's rights at Roberts Tunnel and Dillon Reservoir. The operation of these exchanges also depends on Springs Utilities' operational needs and potential benefits to their system. Although Springs Utilities may have the physical and legal ability to exercise an exchange, they may choose not to based on other factors related to their overall system operation.

Reduction of Xcel Energy's Shoshone Power Plant Call

The Shoshone Power Plant, which is owned by Xcel Energy, has two water rights to divert a total of 1,408 cfs from the Colorado River eight miles east of Glenwood Springs. Denver Water and Xcel Energy have negotiated an agreement to periodically invoke a relaxation of the Shoshone call at times flows are less than 1,408 cfs at the



point of diversion. The agreement to relax the call could result in a one-turbine call of 704 cfs, which would be managed in such a way to avoid a Cameo call by the Grand Valley Water users. The Cameo call refers to a suite of senior water right located near Grand Junction. The Shoshone call could be increased above 704 cfs as needed to keep the Cameo water rights satisfied. The Shoshone call relaxation could be invoked if, in March, Denver Water predicts its total system storage to be at or below 80% on July 1 that year, and the March 1 Natural **Resources Conservation Service (NRCS)** forecast for Colorado River flows at Kremmling or Dotsero are at or below 85% of average. The Shoshone call relaxation could be invoked between March 14 and May 20. The term of this agreement is from January 1, 2007, through February 28, 2032.

Key projects/water rights that would benefit from a reduction of the Shoshone call include the Continental-Hoosier Project, Green Mountain Reservoir, Wolford Mountain Reservoir, Moffat Collection System (Moffat Tunnel, Williams Fork Reservoir, Roberts Tunnel, and Dillon Reservoir), Windy Gap, and the Homestake Project. The relaxation of the Shoshone call would allow diverters that would otherwise be called out to divert water in-priority even if they are junior to the Shoshone Power Plant water rights. Because more diversions would be made in-priority, releases from reservoirs such as Green Mountain, Wolford Mountain, and Williams Fork for exchange or substitution purposes would also be less. Increased in-priority diversions and reduced reservoir releases for exchange and/or substitution would decrease flows primarily in the Williams Fork River, Muddy Creek, the Blue River, and the Colorado River mainstem below the Windy Gap diversion during the relaxation period. Colorado River flows at Dotsero could be affected outside of the relaxation period if additional

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION water diverted to storage during the relaxation period is released to the Colorado River. The magnitude and timing of flow reductions attributable to a Shoshone call relaxation could vary widely from year to year and would depend on many factors including streamflows, storage contents, project operations, and bypass/instream flow requirements.

Because of the very high elevation of the Continental-Hoosier system, the snow pack and stream system has generally remained frozen during the period of a potential Shoshone call relaxation described in this section. Therefore, there is very little water that could be diverted by the Continental-Hoosier system under a relaxed call scenario.

Changes in Releases from Williams Fork and Wolford Mountain Reservoirs to Meet USFWS Flow Recommendations for Endangered Fish in the 15-Mile Reach

The Programmatic Biological Opinion for the recovery of endangered fish includes a provision for East and West Slope water users to split equally the delivery of 10,825 AF of water to the 15-Mile Reach of the Colorado River east of Grand Junction. An agreement exists between Denver Water, the Colorado Water Conservation Board (CWCB) and the USFWS, for the interim provision of water to the 15-Mile Reach of the Colorado River near Grand Junction as part of the Recovery Program. A similar agreement exists between River District, CWCB, and the USFWS. These agreements provide for the total release of 10,825 AF of water annually from both Williams Fork and Wolford Mountain Reservoirs (5,412.5 AF from each reservoir) to meet USFWS flow recommendations for the 15-Mile Reach.

These contracts expire in 2009 and 2010, respectively, and both Denver Water and the River District do not plan to continue making these releases from Williams Fork and Wolford Mountain Reservoirs in the future. This action affects the timing and quantity of reservoir storage and releases and the flows in Williams Fork River and Muddy Creek below the reservoirs. Fish releases from these reservoirs have historically been made in the late summer and fall when flows drop below the USFWS flow recommendations. When fish releases are not made from Williams Fork and Wolford Mountain Reservoirs, flows in the Williams Fork River and Muddy Creek would be less by a commensurate amount in the fall. The reduction in fish flow releases would be offset by a corresponding change in the amount of water stored in these reservoirs on average. Less water would need to be stored during the runoff season to replace these releases. As a result, cumulative changes in Williams Fork and Wolford Mountain reservoir storage and releases due to this action would affect the timing of flows below these reservoirs, but would have little affect on the annual quantity of flow on average.

Increases in Wolford Mountain Reservoir Contract Demands

According to the River District, the demand for contract water out of Wolford Mountain Reservoir is expected to increase in the future. River District staff indicated there is currently about 8,750 AF/yr of available contract water in Wolford Mountain Reservoir that would likely be contracted for in the future. In addition, Middle Park Water Conservancy District (MPWCD) has 3,000 AF/yr of contract water in Wolford Mountain Reservoir, which would also likely be contracted for in the future. The specific entities that would contract for this water in the future and the locations of the depletions are not known at this time. Releases from Wolford Mountain Reservoir would need to be made to meet contract demands when depletions (consumptive use) are out-of-priority, which would likely be during winter months (September through March) and in summer months of dry years depending on whether the Shoshone Power Plant rights are calling.

This future action cumulatively affects the timing and quantity of Wolford Mountain Reservoir contents and releases and the flows in Muddy Creek below the reservoir. Because releases for contract demands would increase in the future, flows in Muddy Creek would increase on average by a commensurate amount primarily during winter months and in summer months of dry years. However, more water would be stored during the runoff season to replace these releases, so flows during runoff would decrease on average below the reservoir.

Expiration of Denver Water's Contract with Big Lake Ditch in 2013

The Big Lake Ditch is a senior irrigation right in the Williams Fork basin that diverts below Denver Water's Williams Fork collection system and above Williams Fork Reservoir. Big Lake Ditch diversions are currently delivered for irrigation above Williams Fork Reservoir and for use in the Reeder Creek drainage, which is a tributary of the Colorado River. Return flows associated with irrigation in the Reeder Creek drainage return to the Colorado River below the confluence with the Williams Fork.

The following information on the operation of Big Lake Ditch and the terms and conditions of the contract with Denver Water was provided by Denver Water. In



1963. Denver Water entered into a contract with Bethel Hereford Ranch Inc., which owned and operated the Big Lake Ditch, whereby Denver Water purchased the Ranch's water rights. Bethel Hereford was granted a 40-year lease to continue its operation under the condition that the Big Lake Ditch water rights are not called if needed by Denver Water. The 1963 agreement was superseded by a 1998 agreement, which extended the operation of the Big Lake Ditch through 2013, and provided more detail on the conditions under which Denver Water would need the water. The 1998 agreement expires in 2013 and Denver Water does not plan to extend the existing contract. After the contract expires in 2013, the Big Lake Ditch can no longer divert water under the enlargement decree for 111 cfs for irrigation in the Reeder Creek drainage.

This action cumulatively affects the timing and quantity of flows in Williams Fork River and the Colorado River. The abandonment of all Big Lake Ditch diversions to the Reeder Creek basin would allow Denver Water to divert additional water for storage in Williams Fork Reservoir when their water rights are in priority. Big Lake Ditch diversions would decrease. deliveries to the Reeder Creek drainage would be curtailed, and all Big Lake Ditch return flows would accrue to the Williams Fork River instead of the Colorado River below the confluence with the Williams Fork River. The change in Big Lake Ditch diversions and return flows would result in less depletion and a corresponding increase in flows on average in the Williams Fork River basin. Changes in flow would be greatest from June through October when differences in Big Lake Ditch depletions and return flows are greatest.

3.2 Issues and Impact Topics Considered but Excluded from Further Evaluation

Resource issues and impacts topics considered, but excluded from further evaluation in the EA are described below. In general, these issues and impact topics were dismissed from further evaluation because the Proposed Action does not involve land-disturbing activities or other on-the-ground changes. Additionally, none to minimal surface water changes would occur under the Proposed Action (refer to Section 3.3 Hydrology), therefore no impacts are anticipated to any of these resources.

Geology

The Study Area lies within the central Rocky Mountain geographic region, which consists of steep mountain uplands complemented by areas of glacial drift. The underlying geology consists of sandstone, siltstone, shale and limestone substrates (USGS 2002). The Study Area occurs within Seismic Risk Zone 1 (on a scale of 0 to 3, with Zone 3 having the highest risk) (Algermissen et al. 1990). Since no ground disturbing activities would occur within the Study Area, no impacts to geologic resources, such as aggregate material or minerals, would occur. Additionally, impacts to the project from geologic hazards, such as earthquakes, are not anticipated.

Soils

The Study Area generally contains mediumto-fine textured loamy soils that occur on mountainsides and ridges, interspersed with areas of exposed bedrock. Since the Proposed Action does not include ground disturbing activities, soil loss or



displacement from wind or water erosion is not anticipated. Fluctuating water levels in the reservoirs would be minimal; thus, shoreline instability, sloughing, and slippage are unlikely to occur as a result of the Proposed Action.

Farmlands

Agricultural production in the Study Area is limited by a cold climate and associated short growing season. Additionally, agriculture has steadily declined in the project vicinity as land is increasingly converted to recreational and residential use. Four categories of important farmlands are federally regulated by the United States Department of Agriculture (USDA) under the Farmland Protection Policy Act: (1) Prime farmlands, (2) Unique farmlands, (3) Farmlands of statewide importance, and (4) Farmlands of local importance. Important farmlands are a distinction made by the USDA as soils that support the crops necessary for the preservation of the nation's domestic food and other supplies, specifically the capacity to preserve high yields of food, seed, forage, fiber, and oilseed with minimal agricultural amendment of the soil, adequate water, and a sufficient growing season. Several USDA and other federal natural resource programs, permits, and regulations require the identification of important farmlands.

No lands are classified as Prime and Unique Farmlands in Summit or Grand counties (NRCS 2008a). Similarly, a majority of farmlands are not classified as Prime or Unique in Park and Eagle counties (NRCS 2008b). Many irrigated farmlands in the Study Area, however, are recognized as farmlands of statewide importance (NRCS 2008a and 2008b). The Proposed Action does not include construction of new facilities. Thus, farmlands in the Study Area would not be directly impacted. Additionally, the amount of water that is diverted from rivers and streams within the Study Area for agricultural uses would not be depleted as a result of the Proposed Action.

Air Quality, Noise, and Transportation

No new structures would be built within the Study Area as part of the Proposed Action. Thus, temporary noise impacts associated with construction activities would not occur. Similarly, temporary air impacts resulting from fugitive dust emissions generated from construction activity would not occur. Increased traffic or traffic disruptions associated with construction activity would also not occur. Traffic associated with operations and maintenance of existing facilities within the Study Area is expected to be minimal.

Land Use

Several different land uses (e.g., recreational, agricultural, forest, urban, etc.) occur within the Study Area. No aboveground structures would be built within or adjacent to the Study Area as part of the Proposed Action, thus the existing land uses would not be altered or impacted.

Visual Resources

Scenic quality is defined as the harmonious relationship between physical, biological, and cultural attributes that, when viewed by people, elicits psychological and physiological benefits (USDA 1995). In general, streams in the Study Area occur in high quality scenic or visually sensitive locations. Water levels fluctuate diurnally and seasonally as a result of natural hydrologic cycles, reservoir management, irrigation practices, and diversions for other purposes. Even in a natural state, Colorado streams are characterized by substantial variations in flow, typically reaching the



highest flow levels in May or June and then rapidly dropping off through the remainder of the year until they reach the low flows that predominate during the winter months. As a result, a stream is a dynamic system that rarely remains static and the viewer has an expectation of observing change over the course of the seasons. The Proposed Action would result in no to minimal flow changes and thus would not impact the visual quality of streams and reservoirs in the Study Area.

Hazardous Materials

Hazardous materials are defined in various wavs under a number of state and federal regulatory programs (e.g., Environmental Protection Agency [EPA] and Colorado Department of Public Health and Environment [CDPHE]). Sites with recognized environmental conditions of concern are sites where known, existing, or past releases of hazardous substances, including petroleum products and other organic substances, metals and other inorganic substances have been released to soil or groundwater. Risks to human health and the environment may occur when these materials are not managed properly. Since the Proposed Action does not include ground disturbing activities, hazardous materials that may occur within the Study Area would not be exposed.

Terrestrial Upland Communities, Wildlife, and Special Status Species

Upland communities in the Study Area vary in accordance with elevation. Areas above 10,000 feet generally consist of Engelmann spruce, subalpine fir, and alpine meadows. Lodgepole pine, aspen, blue spruce, and Douglas-fir are examples of tree species found in the plant communities below 10,000 feet. Shrubland communities that occur between 6,000-8,000 feet include mountain mahogany, sage and pinon-juniper associations. Grasses in the Study Area



include various species of fescue, brome, wheatgrass, and bluegrass. Upland communities in the Study Area support terrestrial wildlife such as big game (e.g., mule deer [Odocoileus hemionus], American elk [Cervus elaphus]) and small and medium-sized mammals (e.g., mountain cottontail [Sylvilagus nuttalii], Colorado chipmunk [Tamias quadrivittatus]). These upland areas may also support special status species such as Gunnison's prairie dog (Cynomys gunnisoni) and mountain plover (Charadrius montanus). No construction activities associated with the Proposed Action would occur in the Study Area that would disturb or displace wildlife or reduce associated habitat.

Environmental Justice

As required by Executive Order 12898, General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The Study Area is not comprised of definable minority or lowincome populations (U.S. Census Bureau [Census] 2000a). The Proposed Action would not result in disproportionate impacts to any populations within the Study Area.

Cultural Resources and Indian Trust Resources

On January 23, 2007, Reclamation and the Colorado State Historic Preservation Officer (SHPO) signed a Programmatic Agreement to document the means to determine and evaluate the impacts on historic properties from reservoir operations and storage contracts as required by Section 106 of the National Historic Preservation Act (NHPA)

and stipulated in 36 CFR 800. The Advisory Council on Historic Preservation (ACHP) declined an invitation to participate in this agreement.

Changes in operational strategies within the Study Area in response to project demands would affect timing, depth, and duration of drawdown within the water system network. However, because the water level and flow fluctuations associated with the Proposed Action are within the boundaries of normal flows and levels already experienced within the Study Area, there would be no impact to cultural resources.

Indian trust assets are owned by American Indians but are held in trust by the United States. Requirements are included in the Secretary of the Interior's Secretarial Order 3206, American Indian Tribal Rites, Federal-Tribal Trust Responsibilities, the Endangered Species Act; and Secretarial Order 3175, Departmental Responsibilities for Indian trust resources. There are no known Indian trust assets within the Study Area; therefore there would be no effects on Indian trust resources, resulting from the Proposed Action.

3.3 Hydrology

This section describes the existing surface water resources in the Study Area and the effects of the Proposed Action and No Action alternatives on streamflow quantity and reservoir storage content. Potentially affected river segments and reservoirs in the Study Area are shown in Figure 3-1. For each of the affected river basins in the Study Area, regional surface water characterizations are provided that include an overview of the drainage basins (geographic location, drainage area, elevation range, major tributaries, and flow sources) and a summary of surface water use. Additionally, monthly average historical stream graphs are provided for USGS stream gages that are representative of river reaches within the Study Area. Monthly time series graphs showing historical reservoir storage contents are also provided. Simulated streamflow and reservoir storage content are summarized and environmental consequences associated with the Proposed Action and No Action alternatives are compared. This section also describes the cumulative effects of the Proposed Action in relation to other reasonably foreseeable projects in the Study Area.

Issues raised during scoping that specifically relate to surface water resources are also addressed in this section. These issues include the following:

- Effects on Colorado River stream flows below the Windy Gap Project diversion point due to utilizing Williams Fork Reservoir as a source of substitution replacement.
- Effects on Springs Utilities' diversions from the West Slope to the East Slope.
- Effects on the operation and use of the Green Mountain Reservoir Historic User's Pool (HUP).
- Effects on future projects, such as the Green Mountain Reservoir Pumpback Project.
- Effects of Bureau of Land Management's (BLM) Wild and Scenic River designations on stream reaches within the Study Area.
- Adequacy of a monthly time step model for evaluating environmental consequences.

3.3.1 Affected Environment

The Study Area encompasses portions of the Colorado River and South Platte River basins (refer to Figure 3-1). Potentially



affected river segments include sections of the Blue River, Williams Fork River, Muddy Creek, Colorado River, Homestake Creek, Eagle River, Middle Fork South Platte River, and South Platte River. Potentially affected reservoirs include Upper Blue Reservoir, Dillon Reservoir, Green Mountain Reservoir, Williams Fork Reservoir, Wolford Mountain Reservoir, Homestake Reservoir, Montgomery Reservoir, and Elevenmile Canyon Reservoir. The study area did not extend below Elevenmile Canyon Reservoir because flow changes downstream of this point would be negligible. Changes in contents in Elevenmile Canyon Reservoir and additional releases under the No Action and Proposed Action alternatives would likely be negligible in comparison to Denver Water's storage and operations. Each of these river segments and reservoirs is discussed in the following sections.

3.3.1.1 Blue River Basin

Historical Streamflow

Potentially affected river segments in the Blue River basin include the Blue River and tributaries in the upper Blue River basin from Springs Utilities' Continental-Hoosier System diversion points downstream, as shown in Figure 3-1.

The Blue River flows generally northwest, toward Dillon Reservoir, then on toward the Colorado River, forming a long valley between the Williams Fork Mountains to the north and east, and the Gore Range to the south and west. Springs Utilities' Continental-Hoosier System is located in the upper Blue River basin. The total drainage area of the basin is 680 square miles (Hydrosphere 1989). Precipitation varies with elevation across the Blue River basin, ranging from 15.5 inches at Green Mountain Reservoir Dam in the lower Blue River basin, to nearly 24 inches at Climax mine near Fremont Pass (WRCC 2005). Stream flows are highly variable by season across the basin. Most of the annual stream flow results from snow melt between the months of May and July.

The following table lists the CWCB minimum instream flow rights on the Blue River and tributaries that Springs Utilities diverts from above Dillon Reservoir. There are other CWCB instream flow requirements above Dillon Reservoir that are not included in this table, because those rights are outside of the Study Area. The listed CWCB rights were decreed in 1985 and 1986 and are junior to Springs Utilities' Continental-Hoosier System rights and the Blue River Decree.

CWCB Minimum Instream Flow Rights abo	CWCB Minimum Instream Flow Rights above Dillon Reservoir											
Reach	Flow (cfs)	Period										
Crystal Creek from Lower Crystal Lake	0.5	October through April										
to confluence with Spruce Creek	2	May through September										
Spruce Creek headwaters to confluence, with Plue Piver	0.5	October through March										
Spruce Creek headwaters to confluence with Blue River	2	April through September										
Confluence of Monte Cristo and Bemrose Creeks to Hwy 9 Bridge	1	October through April										
Confidence of Monte Cristo and Bennose Creeks to Hwy 9 Bridge	2	May through September										
Hurr 0 Bridge to Cassa Besture Terr	2	October through April										
Hwy 9 Bridge to Goose Pasture Tarn	5	May through September										
5 200 ft unstream of Swan D to confluence with Swan D	10	November through April										
5,200 ft upstream of Swan R. to confluence with Swan R.	20	May through October										
Swan River to Dillon Reservoir	16	November through April										
Swan Kiver to Dinon Reservoir	32	May through October										

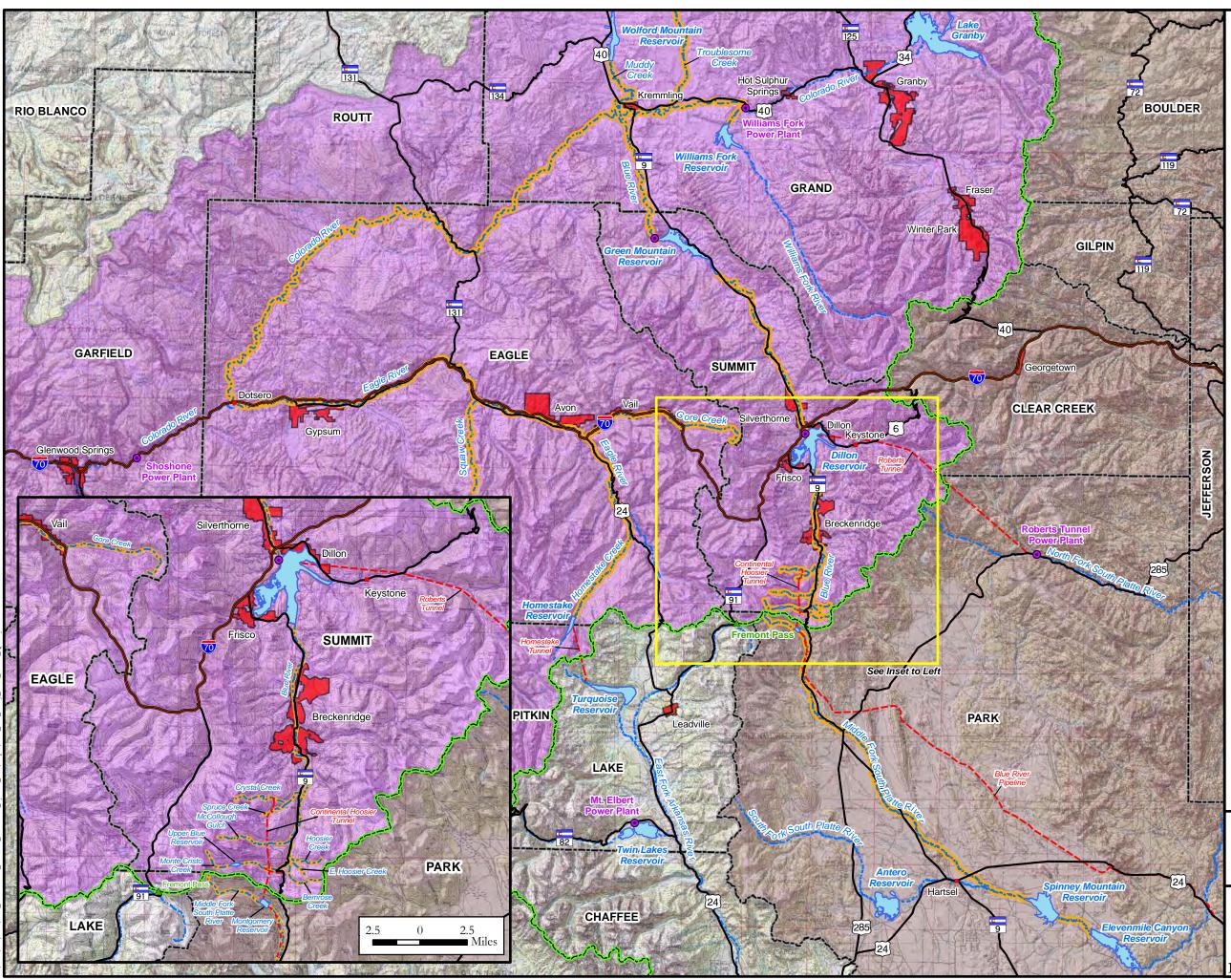


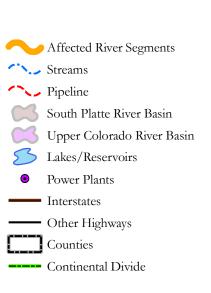
The following table lists the CWCB minimum instream flow rights on the Blue River below Dillon Reservoir. These rights were decreed in 1987 and are junior to Springs Utilities' Continental-Hoosier System rights and the Blue River Decree.

Mean daily historical streamflows and the range of historical daily stream flows are shown in Figures 3-2, 3-3, and 3-4 for the Blue River near Dillon gage (09046600), Blue River below Dillon gage (09050700) and Blue River below Green Mountain Reservoir gage (09057500), respectively.

Blue River CWCB Minimum Instream Flow	v Rights belov	w Dillon Reservoir
Reach	Flow (cfs)	Period
Dillon Reservoir outlet to confluence with Straight Creek	50	Year Round
Confluence with Straight Creek	55	May through July
Confluence with Straight Creek to confluence with Willow Creek	52	August through September
to confidence with whow creek	50	October through April
Confluence with Willow Creek	75	April through September
to confluence with Rock Creek	58	October through March
	115	May through August
Confluence with Rock Creek	90	September, April
to confluence with Boulder Creek	78	October
	67	November through March
	125	May through August
Confluence with Boulder Creek	90	September through October
to confluence with Slate Creek	70	November through February
to confidence with State Creek	78	March
	90	April
	125	May through September
Confluence with Slate Creek	90	October, November, March, April
to Green Mountain Reservoir inlet	85	December through February
	90	March through April
Green Mountain Reservoir outlet to Colorado River	60	May through July 15
Green Wountain Reservoir outlet to Colorado River	85	July 16 through April







Reference:

1:250,000-scale quad maps from USGS. 1:100,000-scale quad maps originally from USGS (1980s) and created with TOPO!, 2006 National Geographic Maps, All Rights Reserved.

Notes:

Only portions of each river basin within the study area are shown.



85

0

8.5 Miles

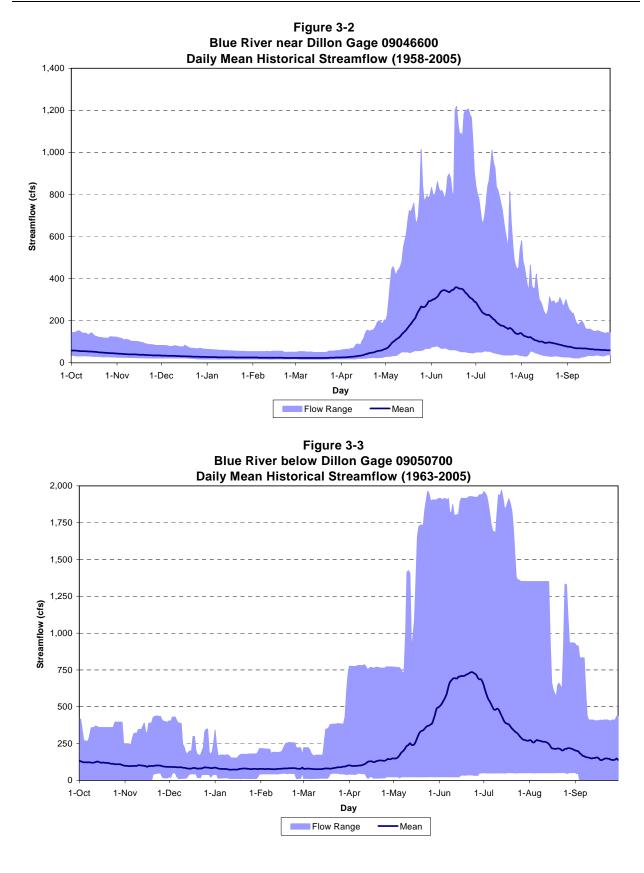
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Green Mountain Reservoir Substitution and Power Interference Agreements EA

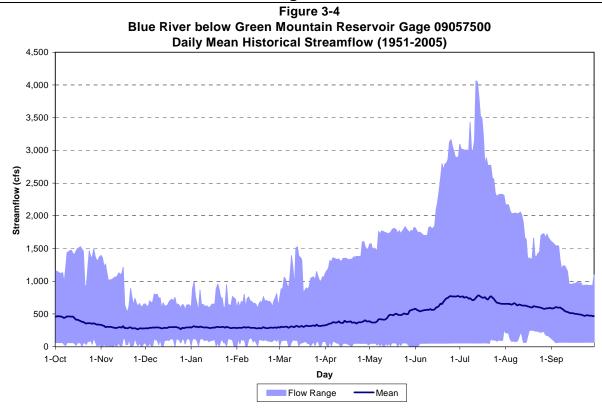
Figure 3-1 Study Area

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Wild and Scenic Rivers Designation

In the summer of 2006, the Kremmling and Glenwood Springs Field Offices of the BLM began the eligibility phase of a Wild and Scenic Rivers evaluation as part of their Resource Management Plan (RMP) revision process. The Wild and Scenic Rivers study process is composed of two main components: the eligibility phase, and the suitability phase. The eligibility phase involves identifying eligible rivers and stream segments, and determining a tentative classification (Wild, Scenic, or Recreational). To be eligible for designation, a river must be free flowing and contain at least one Outstandingly Remarkable Value (ORV) that is scenic, recreational, geological, fish-related, wildlife-related, historic, cultural, botanical, hydrological, paleontological, or scientific. Upon conclusion of the eligibility phase, the BLM prepared a Wild and Scenic Eligibility Report that identified a few river segments

within the EA Study Area (portions of the Colorado and the Blue Rivers) that were eligible for inclusion in the National Wild and Scenic Rivers System (BLM 2007). The suitability phase is now being conducted and a Draft Suitability Plan is expected to be made available to the public in the fall of 2009.

Three segments of the Blue River have been preliminarily classified as recreational and wild for purposes of being deemed eligible for Wild and Scenic River status. These segments and their associated ORVs include:

 Segment 1 from the border of BLM and USFS land (approximately 1.5 miles downstream of Green Mountain Reservoir) to the border between BLM and private land (approximately 2.5 miles downstream of Green Mountain Reservoir) – scenic (unique canyon), recreational fishing, recreational floatboating, geological



(unique canyon), wildlife (bald eagle and river otter).

- Segment 2 downstream of Segment 1 from the BLM land boundary downstream of the confluence with Spring Creek to the BLM land boundary located upstream of the confluence with Spruce Creek – recreational fishing, recreational floatboating, and wildlife (bald eagle and river otter).
- Segment 3 includes several small • sections of the Blue River as it occurs on BLM land from approximately 1/4-mile upstream of the confluence with Dry Creek to approximately 1 mile upstream of the confluence with the Colorado River – recreational fishing, recreational floatboating, wildlife (bald eagle and river otter), and biodiversity (riparian communities).

The BLM also has an established fishing access and boat take-out at the downstream end of Segment 3.

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Historical Reservoir Operations and Contents

Upper Blue Reservoir

Upper Blue Reservoir is a 2,113 AF reservoir located on Monte Cristo Creek, a tributary to the Blue River in the upper Blue River basin. The reservoir was completed in 1967 as a component of Springs Utilities' Continental-Hoosier System. Water is stored in Upper Blue Reservoir during runoff and the reservoir generally fills by the end of June. Water is typically released from August through October to meet Springs Utilities' substitution obligation or for delivery through Hoosier Tunnel to Montgomery Reservoir on the Middle Fork South Platte River. Mean daily historical storage contents and the range of contents for Upper Blue Reservoir are shown in Figure 3-5. Daily contents were interpolated based on historical end-of-month contents.

The water rights associated with Upper Blue Reservoir are junior in priority to Green Mountain Reservoir. Under the Blue River

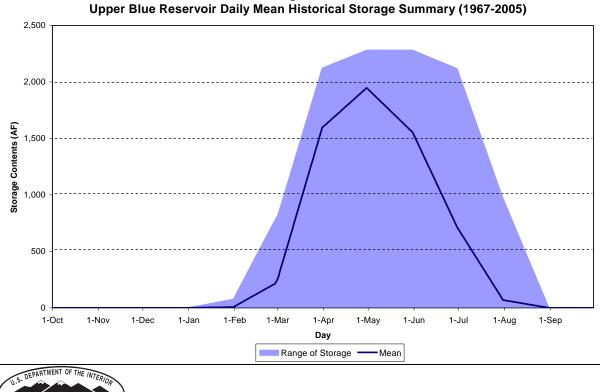


Figure 3-5

Decree, Springs Utilities can store water at Upper Blue Reservoir on an out-of-priority basis against Green Mountain Reservoir's senior first fill storage right. To the extent that Green Mountain Reservoir does not fill, Springs Utilities must provide substitution water to Green Mountain Reservoir. Blue River Decree operations are discussed in more detail under the section for the Green Mountain Reservoir.

Dillon Reservoir

Dillon Reservoir is a 257,305 AF reservoir located at the confluence of the Blue River, Snake River and Ten Mile Creek approximately 20 miles upstream of Green Mountain Reservoir. The reservoir, which was completed in 1963 is owned and operated by Denver Water primarily for municipal use. Dillon Reservoir and Roberts Tunnel are components of Denver Water's Roberts Tunnel Collection System. Dillon Reservoir is a major component of Denver Water's long-term carryover storage and is operated in conjunction with Denver

Water's North and South System facilities to meet their demands. Water stored in Dillon Reservoir is conveyed through Roberts Tunnel to the North Fork of the South Platte River. Denver Water must bypass 50 cubic feet per second (cfs) or inflow, whichever is less, to the Blue River from Dillon Reservoir pursuant to their right-of-way agreement with the USFS and the terms of the 1984 FERC Order granting a license exemption to Denver Water's Blue River Hydroelectric Project. Mean daily historical storage contents and the range of contents for Dillon Reservoir are shown in Figure 3-6. Daily contents were interpolated based on historical end-of-month contents.

There are two power plants associated with the Roberts Tunnel Collection System. The Dillon Power Plant generates power from Dillon Reservoir releases to the Blue River. The Roberts Tunnel Power Plant generates power from Dillon Reservoir releases through Roberts Tunnel.

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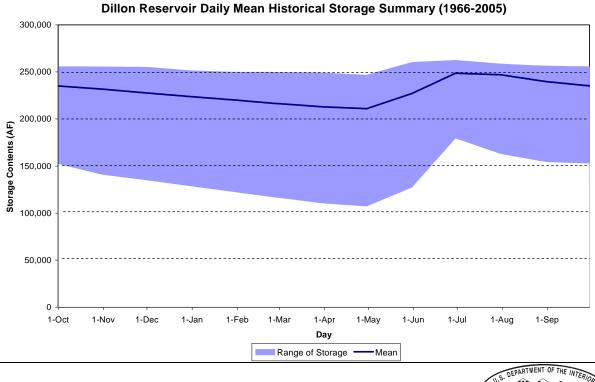


Figure 3-6 Dillon Reservoir Daily Mean Historical Storage Summary (1966-2005)

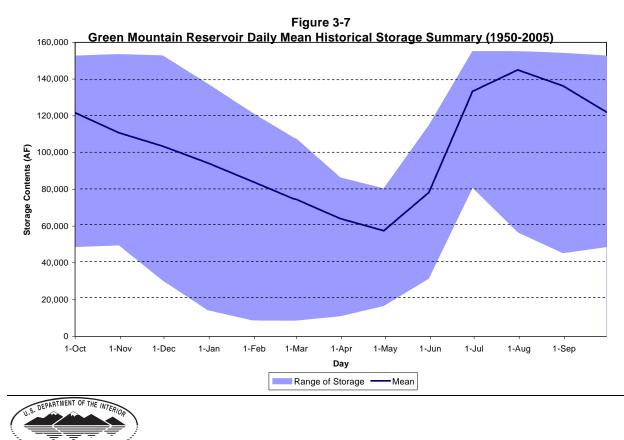
The water rights associated with Dillon Reservoir and Roberts Tunnel are junior in priority to Green Mountain Reservoir. Under the Blue River Decree, Denver Water can divert and store water at Roberts Tunnel and Dillon Reservoir on an out-of-priority basis against Green Mountain Reservoir's senior first fill storage and direct flow power rights. To the extent that Green Mountain Reservoir does not fill in a given runoff year, Denver Water must provide substitution water to Green Mountain Reservoir. Blue River Decree operations are discussed in more detail under section for the Green Mountain Reservoir.

Green Mountain Reservoir

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Green Mountain Reservoir is a 153,639 AF reservoir located on the Blue River approximately 13 miles upstream of the confluence with the Colorado River. The reservoir was completed in 1943 as a component of the Colorado-Big Thompson (C-BT) Project. The reservoir's primary purposes are to provide replacement water for out of priority diversions in the Upper Colorado River basin by the C-BT Project and to preserve existing and future water uses and interests on the West Slope. It is also authorized to generate power. The reservoir has an operating pool of 152,000 AF, of which 52,000 AF is dedicated to replacement of C-BT Project transmountain diversions, and the remaining 100,000 AF is for power and West Slope purposes.

Green Mountain Reservoir stores flows during runoff from the Blue River and water diverted from Elliot Creek, which is delivered to the reservoir via the Elliot Creek Feeder Canal. Water is released from the reservoir later in the year for various authorized purposes. Releases from the reservoir are made through the Green Mountain Power Plant for power generation. Mean daily historical storage contents and the range of contents for Green Mountain Reservoir are shown in Figure 3-7. Daily contents were interpolated based on historical end-of-month contents.



The Blue River Decree (Consolidated Case Nos. 2782, 5016, and 5017) specifies the relative priorities of the storage and hydroelectric rights for Green Mountain Reservoir and the upstream rights at Dillon Reservoir, the Roberts Tunnel and the Continental-Hoosier System. Under the Blue River Decree, Springs Utilities and Denver Water can divert and store water at their facilities, which are upstream of Green Mountain Reservoir, on an out-of-priority basis against Green Mountain Reservoir's senior first fill storage and direct flow power rights. The Interim Policy, which was first adopted by the State Engineer in 2003, is the current administration of the Blue River Decree. The Interim Policy currently defines the administrative and accounting principles concerning Green Mountain Reservoir and specifically outlines the paper fill of Green Mountain Reservoir under its senior storage right. The terms and conditions of the Interim Policy and the manner in which it is reflected in the Colorado Decision Support System (CDSS) Model are described in the technical memorandum, Model Selection and Parameters (ERC 2008) included in Appendix A.

3.3.1.2 Williams Fork River Basin

Historical Streamflow

The potentially affected river segment in the Williams Fork River Basin extends from Williams Fork Reservoir downstream to the confluence with the Colorado River, as shown in Figure 3-1. The Williams Fork River flows generally northwest, forming a relatively narrow basin between the Fraser River basin to the east and the Blue River basin to the west. The southern end of the basin is delimited by the Continental Divide, which separates the Williams Fork River basin from Clear Creek. The total drainage area of the basin is 230 square miles at the USGS gage 09038500 Williams Fork downstream of Williams Fork Reservoir. Annual precipitation varies with elevation across the basin, ranging from approximately 14 inches at Williams Fork Dam to about 24 inches near Jones Pass (WRCC 2005).

Mean daily historical streamflows and the range of historical daily streamflows are shown in Figure 3-8 for the Williams Fork River below Williams Fork Reservoir gage (09038500).

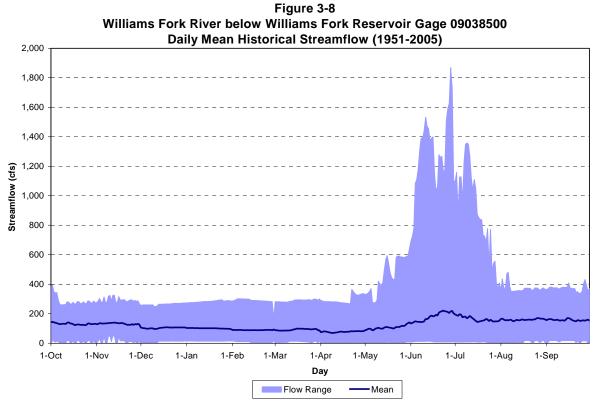
Historical Reservoir Operations and Contents

Williams Fork Reservoir

Williams Fork Reservoir is a 96,822 AF reservoir located on Williams Fork River approximately three miles upstream of the Colorado River confluence. The reservoir, which was completed in 1959, is the only significant reservoir in the basin. The reservoir's primary purpose is to provide replacement water for out-of-priority diversions by Denver Water and to generate power. A power plant is located at Williams Fork Reservoir, and as a condition of Denver Water's FERC license, Denver Water must bypass 15 cfs or inflow, whichever is less, at all times. Williams Fork Reservoir stores flows during runoff from Williams Fork River. Power operations generally influence reservoir releases during much of the year. Replacement water is released later in the year to allow out-of-priority diversions by Denver Water and to meet substitution obligations.

Denver Water's headwater diversions are protected by Williams Fork Reservoir such that when the Denver Water rights are outof-priority with respect to senior diverters downstream of Williams Fork Reservoir, the reservoir releases water for the satisfaction





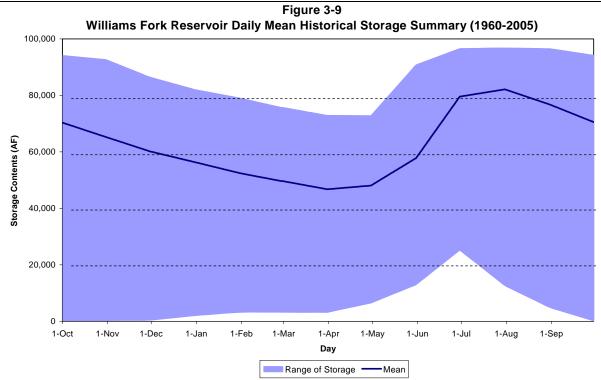
of those rights. Williams Fork Reservoir is operated similarly to replace out-of-priority on diversions at Denver's Moffat Collection system, Roberts Tunnel, and Dillon Reservoir. Denver Water also has an obligation to provide up to 2,200 AF of replacement water to the Henderson Mill out of Williams Fork Reservoir. Releases from Williams Fork Reservoir are also made in substitution for releases from Green Mountain Reservoir in years that Green Mountain Reservoir does not fill and Denver Water has a substitution obligation. To the extent that Green Mountain Reservoir does not fill in a given runoff year, water from Williams Fork Reservoir may be released (substituted) to downstream water demands in place of releases from Green Mountain Reservoir. Mean daily historical storage contents and the range of contents for Williams Fork Reservoir are shown in Figure 3-9. Daily contents were interpolated based on historical end-of-month contents.

3.3.1.3 Muddy Creek Basin

Historical Streamflow

The affected river segment in the Muddy Creek Basin extends from Wolford Mountain Reservoir downstream to the confluence with the Colorado River, as shown in Figure 3-1. Muddy Creek is a north side tributary of the Colorado River that enters the mainstem at Kremmling. Muddy Creek drains the Rabbit Ears Range to the north, the north end of the Gore Range to the west, and a relatively low ridge dividing the Muddy Creek valley from the Troublesome Creek basin to the east. The drainage area of the basin is 270 square miles at the USGS gage 09041400 Muddy Creek below Wolford Mountain Reservoir. Muddy Creek generally experiences earlier runoff peaks and lower unit runoff compared with the Williams Fork, Blue and Eagle River basins. Average annual precipitation at Kremmling is approximately 12 inches. but exceeds 25 inches near the headwaters (WRCC 2005). Mean daily historical





streamflows and the range of historical daily streamflows are shown in Figure 3-10 for the Muddy Creek.

The following table lists the CWCB minimum instream flow rights on Muddy Creek from the outlet of Wolford Mountain Reservoir to the headgate of Deberard Ditch, which were decreed in 1998. In addition, Wolford Mountain Reservoir must bypass 20 cfs or inflow, whichever is less at all times as a permit condition.

Muddy Creek CWCB Minimum Instream Flow Rights below Wolford Mountain Reservoir												
Reach Flow (cfs) Period												
Wolford	20	July 15 to April 3										
Mountain	70	May 1 to May 14										
Reservoir to	105	May 15 to June 30										
Deberard Ditch	70	July 1 to July 14										

Historical Reservoir Operations and Contents

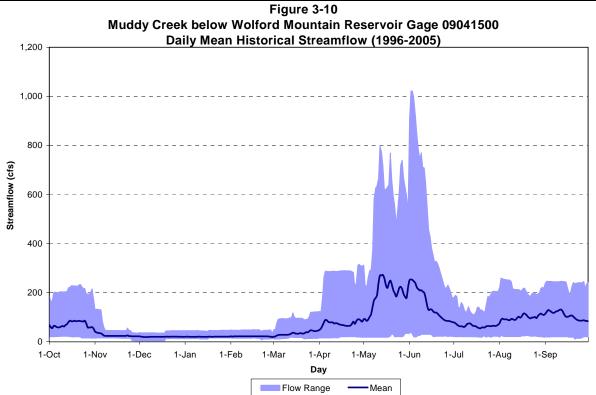
Wolford Mountain Reservoir

Wolford Mountain Reservoir is a 65,985 AF reservoir located on Muddy Creek

approximately 12 miles upstream of the Colorado River confluence. The reservoir, which was completed in 1995, is jointly owned and operated by the River District and Denver Water. Under the Amended Lease Agreement between Denver Water and the River District, which is dated July 21, 1992, Denver Water acquired the ownership of 40% of the capacity of the reservoir and water right.

Wolford Mountain Reservoir operations reflect permit requirements as well as a history of agreements between Denver Water and the River District, and the negotiated settlement of Case 91CW252, in which the two parties applied for substitution and exchange rights to allow substitution and exchange rights to allow Denver Water to substitute water stored in Wolford Mountain Reservoir for water otherwise storable in Green Mountain Reservoir. Releases from Wolford Mountain Reservoir are made in substitution for releases from Green Mountain Reservoir in years that Green Mountain Reservoir does





not fill and Denver Water has a substitution obligation. In addition to Denver Water's operations, Wolford Mountain Reservoir is operated by the River District to meet endangered Colorado River fish flows and other West Slope water uses. Mean daily historical storage contents for Wolford Mountain Reservoir are shown in Figure 3-11. Daily contents were interpolated based on historical end-of-month contents.

3.3.1.4 Colorado River Basin

Historical Streamflow

The affected river segment of the Colorado River extends from the confluence with the Williams Fork River downstream to the confluence with the Eagle River, as shown in Figure 3-1. Major tributaries in this reach include the Williams Fork River, Troublesome Creek, Muddy Creek, Blue River, and Eagle River.

The Azure Settlement Agreement dated June 23, 1980 established instream flow requirements on the reach of the Colorado

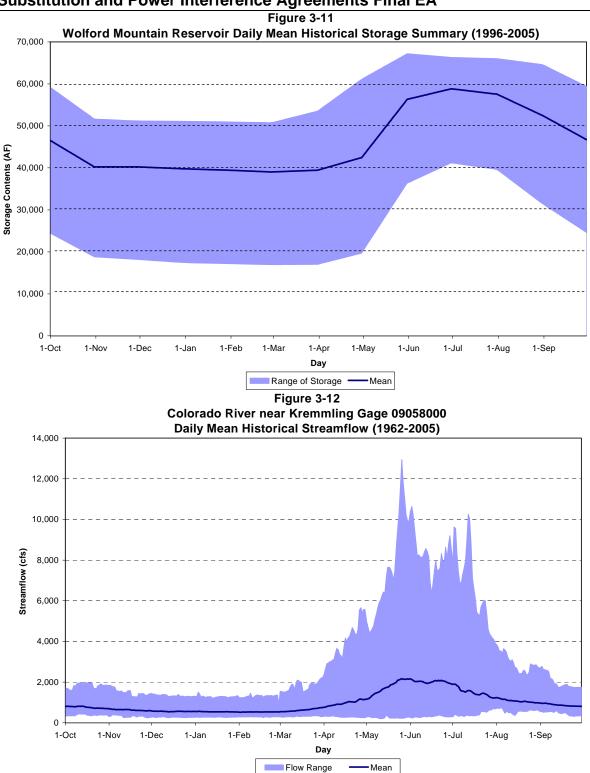
River downstream of the Windy Gap diversion to the confluence with the Blue River. These instream flow requirements are as follows:

- From the Windy Gap diversion point to the confluence with the Williams Fork River, 90 cfs;
- From the confluence with the Williams Fork River to the confluence with Troublesome Creek, 135 cfs; and
- From the confluence with Troublesome Creek to the confluence with the Blue River, 150 cfs.

The instream flow requirements that pertain to this Study Area extend from the confluence with the Williams Fork River downstream to the confluence with the Blue River.

Mean daily historical streamflows and the range of historical daily streamflows are shown in Figure 3-12 for the Colorado River near Kremmling gage (09058000)





Wild and Scenic Rivers Designation

As discussed under Section 3.3.1.1 for the Blue River, three segments of the Colorado River located between Windy Gap and the mouth of Gore Canyon, have been preliminarily classified as recreational for purpose of being deemed eligible for Wild and Scenic River status. These segments and their associated ORVs include:



- Colorado River Segment 3 (Byers Canyon to Mouth of Gore Canyon) recreational fishing, recreational scenic driving, wildlife (bald eagle and river otter).
- Colorado River Segment 4 (Gore Canyon) - scenic, recreational fishing, recreational floatboating, recreational scenic driving, geological, wildlife (bald eagle and river otter), historic.
- Colorado River Segment 5 (Pumphouse to State Bridge) - scenic, recreational fishing, recreational floatboating, recreational scenic driving, geological, wildlife (bald eagle and river otter), historic, paleontological (BLM 2007).

3.3.1.5 Eagle River Basin

Historical Streamflow

The potentially affected river segments in the Eagle River basin include Homestake Creek downstream of Springs Utilities' Homestake Project to the confluence with the Eagle River and the Eagle River from the confluence of Homestake Creek to the confluence with the Colorado River, as shown in Figure 3-1. The Eagle River flows generally northwest to the confluence with Gore Creek and then east to the confluence with the Colorado River near the Town of Dotsero. The Eagle River basin is bounded by the Blue River basin to the north and east and the Roaring Fork River basin to the south and west. The total drainage area of the basin is approximately 944 square miles at the USGS gage 09070000 Eagle River below Gypsum. Precipitation varies with elevation across the Eagle River basin, ranging from 11 inches near the Colorado River confluence to in excess of 25 inches on the high ridges at the southern end of the basin (WRCC 2005).

The following table lists the CWCB minimum instream flow rights on the Eagle River below Homestake Creek. These rights were decreed in 1978 and 1980.

In addition to the CWCB instream flow rights listed above, the Homestake Project must bypass water such that 24 cfs or inflow, whichever is less, is met at the Gold Park gage on Homestake Creek as a permit condition.

Mean daily historical streamflows and the range of historical daily streamflows are shown in Figure 3-13 for the Homestake Creek at Gold Park gage (09064000).

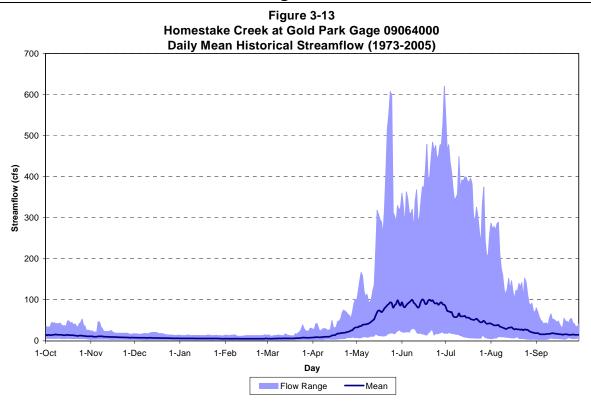
Historical Reservoir Operations and Contents

Homestake Reservoir

Springs Utilities' and Aurora's Homestake Project is a transmountain diversion project that diverts water from the East Fork and

Eagle River CWCB Minimum Instream Flow Rights below the Confluence with Homestake Creek											
Reach	Flow (cfs)	Period									
Confluence with Homestake Creek to confluence with Cross Creek	11	October through April									
Confidence with Homestake Creek to confidence with Closs Creek	25	May through September									
Confluence with Cross Creek to confluence with Gore Creek	2	October through April									
Confidence with cross creek to confidence with Gore creek	50	May through September									
Confluence with Gore Creek to confluence with Lake Creek	3	October through April									
Confidence with Obje Creek to confidence with Lake Creek	85	May through September									
Confluence with Lake Creek to confluence with Brush Creek	4	October through April									
Confidence with Lake Creek to confidence with Brush Creek	110	May through September									
Confluence with Brush Creek to confluence with Colorado River	5	October through April									
Confidence with Brush Creek to confidence with Colorado River	130	May through September									





Middle Fork of Homestake Creek, French Creek, Fancy Creek, Missouri Creek and Sopris Creek for storage in Homestake Reservoir and delivery through Homestake Tunnel to Turquoise Lake, which is located in the Arkansas River Basin. Water delivered to the east slope is used for municipal purposes by Springs Utilities and the City of Aurora. Annual diversions through Homestake Tunnel averaged approximately 23,970 AF from 1967 through 2007 (Springs Utilities 2008).

Homestake Reservoir is a 43,539 AF reservoir located on the Middle Fork of Homestake Creek, which is a tributary to the Eagle River. The reservoir was completed in 1966 and is equally owned and operated by Springs Utilities and the City of Aurora. Homestake Reservoir is the primary West Slope storage facility for the Homestake Project. Water stored in Homestake Reservoir during runoff is typically released in March and April and in summer months to a lesser degree for delivery through Homestake Tunnel to Lake Fork Creek upstream of Turquoise Reservoir. Mean daily historical storage contents and the range of contents for Homestake Reservoir are shown in Figure 3-14. Daily contents were interpolated based on historical end-ofmonth contents.

3.3.1.6 South Platte River Basin

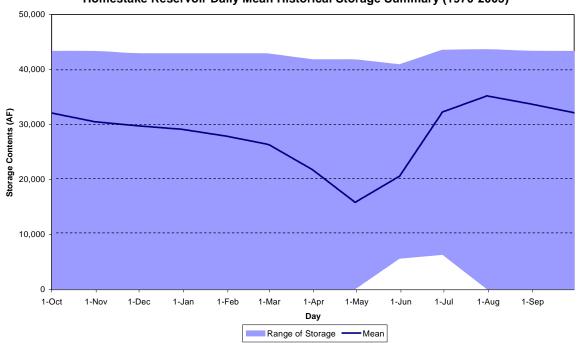
Historical Streamflow

The potentially affected river segments in the South Platte River basin include the Middle Fork South Platte River from Montgomery Reservoir to the confluence with the South Fork South Platte River and the South Platte River from the confluence with the Middle Fork and South Forks of the South Platte River to Elevenmile Canyon Reservoir, as shown in Figure 3-1.

The headwaters of the South Platte River lie in the western perimeter of Colorado's South Park on the east side of the Mosquito Range. Although the western peaks receive



Figure 3-14 Homestake Reservoir Daily Mean Historical Storage Summary (1970-2005)



over 30 inches of precipitation annually, normal precipitation at the Town of Hartsel near Elevenmile Canyon Reservoir is approximately 11 inches. Three major streams flow generally southeast across the plain of South Park. From north to south they are Tarryall Creek, Middle Fork South Platte River, and South Fork South Platte River. Three miles east of the Town of Hartsel, the Middle Fork joins the South Fork to form the South Platte River.

The following table lists the CWCB minimum instream flow rights on the Middle Fork South Platte River downstream of Montgomery Reservoir. These rights were decreed in 1978 and 1980.

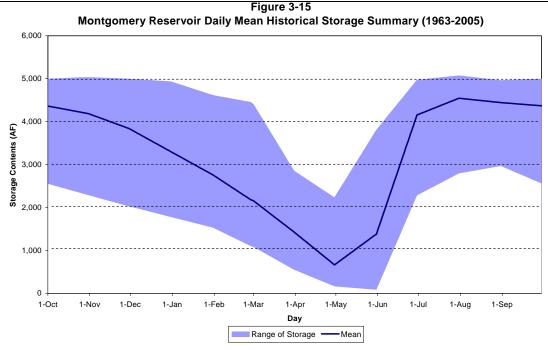
Montgomery Reservoir

reservoir located on the Middle Fork South Platte River, which is a headwaters tributary to the South Platte River. The reservoir is owned by Spring Utilities and is used to store flows diverted from the Middle Fork South Platte River and to regulate water supplies from the Blue River basin that are delivered through the Hoosier Tunnel. Water is only occasionally diverted from the Middle Fork South Platte River because of the reservoir's relatively junior water right. From Montgomery Reservoir, water is conveyed through the Blue River Pipeline to Springs Utilities' North Slope reservoirs. Mean daily historical storage contents and the range of contents for Montgomery Reservoir are shown in Figure 3-15. Daily contents were interpolated based on historical end-of-month contents.

Montgomery Reservoir is a 5,088 AF

Middle Fork South Platte River CWCB Minimum Instream Flow Rights below Montgomery Reservoir											
Reach	Flow (cfs)	Period									
Montgomery Reservoir to confluence with Buckskin Creek	4	Year round									
Confluence with Buckskin Creek	6	October through April									
to confluence with Sacramento Creek	12	May through September									
Confluence with Sacramento Creek	8	October through April									
to confluence with South Fork South Platte River	16	May through September									

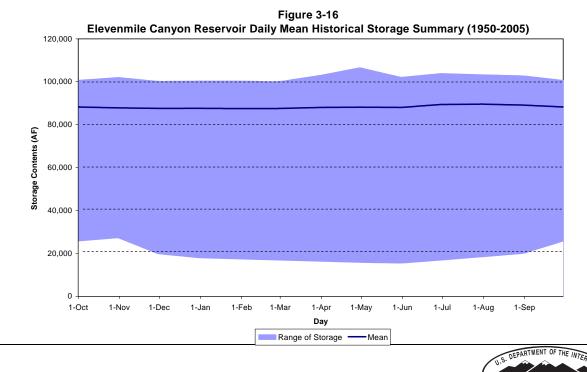




Elevenmile Canyon Reservoir

Elevenmile Canyon Reservoir is a 98,000 AF reservoir located on the South Platte River at the eastern edge of South Park. The reservoir, which was completed in 1932, is owned and operated by Denver Water. Elevenmile Canyon Reservoir is operated for long-term drought storage and typically remains full during most years. During a drought, water is released from the reservoir to meet Denver Water's demands. The reservoir may require multiple seasons to fill after being drawn down because of the reservoir's relatively junior water rights. Mean daily historical storage contents and the range of contents for Elevenmile Canyon Reservoir are shown in Figure 3-16. Daily contents were interpolated based on historical end-of-month contents.

SUREAU OF RECLAMATION



3.3.1.7 Grand County Stream Management Plan

Grand County is currently involved in an ongoing effort to develop a Stream Management Plan (SMP) for the County. Phase 1 of the SMP was completed in the spring of 2007 and included an inventory and review of existing data and information for streams within the County. Phase 2 of the SMP, Grand County's Stream Management Plan, Phase 2, Environmental and Water Users Flow Recommendations, which was completed in April 2008, includes recommendations of environmental stream flows and flows to support nonconsumptive water uses. The stream reaches evaluated in the SMP that overlap with the Study Area for this EA are listed below.

- Reach WR: Williams Fork River below Williams Fork Reservoir to the Colorado River
- Reach CR5: Colorado River below Williams Fork River to the KB Ditch
- Reach CR6: Colorado River below KB Ditch to the Blue River confluence
- Reach CR7: Colorado River below Blue River confluence to Grand-Eagle County Line
- Reach MC2: Muddy Creek below Wolford Mountain Reservoir to the Colorado River
- Reach BR: Blue River downstream of Green Mountain Reservoir

Phase 2 of the SMP defined environmental flows as flows that were determined to best maintain the ecological needs of the stream in relation to its fisheries. For the Colorado River, the preferred range for summer environmental flows is 250 to 450 cfs below the confluence with the Williams Fork River. As major tributaries (Williams Fork River, 40 to 140 cfs; Muddy Creek, 60 to 90 cfs; Blue River, 200 to 250 cfs) enter the Colorado River, the preferred range for summer environmental flows increases to 600 to 1000 cfs (Grand County 2008).

Flow recommendations for water users were defined as preferred flow regimes for irrigators, municipalities and industry, and recreation use.

An independent review of the SMP flow recommendations has not been conducted, and the recommendations are currently being evaluated by basin stakeholders as to their validity and applicability, however, they were recognized in the analysis of environmental consequences.

3.3.2 Environmental Consequences

The effects on streamflows and reservoir contents from the Proposed Action and No Action alternatives were determined using hydrologic modeling. The State's CDSS Model was used to simulate streamflows and reservoir operations for the No Action and Proposed Action alternatives. The CDSS Model is a surface water allocation model of the Upper Colorado River Basin. A description of the CDSS Model including information on the study period, network configuration, water rights, diversions, demands, and operational rights is provided in the technical memorandum. Model Selection and Parameters (ERC 2008), and the reports, Upper Colorado River Basin Information (CWCB 2007a) and Upper Colorado River Basin Water Resources Planning Model User's Manual (CWCB 2007b). Pertinent modeling assumptions and variables for the No Action and Proposed Action alternatives are described in Chapter 2, Sections 2.3 and 2.4.

The study period selected extends 56 years from 1950 through 2005. This time frame



was evaluated because it includes a variety of hydrologic conditions. The selected study period contains a balance of dry years (1954, 1966, 1977, 1981, and 2002), wet years (1957, 1983, 1984, 1995, and 1996), and average years. Of particular concern for this EA was the inclusion of several dry years, since hydrologic effects associated with the Proposed Action would occur primarily in substitution years, which generally correspond with dry years. Starting the model a few years prior to the mid 1950's drought period minimizes the influence of initial conditions on model results for those years. The study period ends in 2005 because the CDSS Model data sets currently available extend through 2005. A monthly time step was considered adequate for the purposes of this EA based on the magnitude and timing of hydrologic effects anticipated under the Proposed Action. As discussed in the following sections, differences in the timing of substitution releases within a month between the No Action and Proposed Action alternatives are not likely, in which case a more refined time step was not warranted. In addition, flow changes under the Proposed Action would occur primarily in dry years in the fall (August and September) when there is typically less variability in flows over the month since runoff is over and flows are generally lower. Potential differences in hydrologic effects (percentage change in flows, reservoir contents, etc.) estimated on a monthly basis versus daily basis are not expected to be so great as to warrant a daily model.

While the majority of the Study Area for this EA is located in the upper Colorado River basin, a small portion is located in the upper South Platte River basin, including Springs Utilities' Montgomery Reservoir, Denver Water's Elevenmile Canyon Reservoir and the Middle Fork South Platte River. The CDSS Model does not include the South Platte River basin; therefore, potential hydrologic effects in that portion of the Study Area were based on an assessment of historical end-of-month contents and releases for Montgomery Reservoir provided by Springs Utilities and data provided by Denver Water from their Platte and Colorado Simulation Model (PACSM) for Elevenmile Canyon Reservoir.

Direct and indirect effects were determined based on the difference between simulated conditions under the Proposed Action and No Action alternatives. Simulated flow and reservoir content data at key locations in the Study Area for the entire study period is presented in Appendix B for the No Action and Proposed Action alternatives. The hydrologic data presented in Tables 3-2 through 3-19 consists of simulated maximum monthly streamflow and reservoir end-of-month content increases and decreases and average monthly streamflows and reservoir end-of-month contents for the five driest years and all substitution years for the Proposed Action compared with the No Action alternative. Total natural flow from April through September at the USGS gage Colorado River near Kremmling (#09058000) was ranked from low to high to define the five driest in the 56-year study period because that gage is centrally located within the West Slope Study Area. The five driest years of the study period are 1954, 1966, 1977, 2002, and 2004.

3.3.2.1 No Action Alternative

Under the No Action alternative, Springs Utilities would continue to operate according to the Blue River Decree during substitution years. Therefore, river flows and reservoir contents would continue to fluctuate as they have historically as a result of Springs Utilities substitution operations.



This alternative is expected to have no direct, indirect or cumulative impacts on streamflows or reservoirs.

3.3.2.2 Proposed Action

The impacts of the Proposed Action are evaluated as compared to the No Action alternative. Therefore, in the discussion of the impacts to follow, unless otherwise noted, a "decrease" in a quantity (i.e. flow, storage amount, etc.) means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an "increase" in a quantity means that the quantity for the Proposed Action is greater than the comparable quantity for the No Action alternative.

Substitution Operations

The majority of hydrologic changes under the Proposed Action would occur in substitution years. Model results indicate there would be 13 substitution years during the 56-year study period with total substitution obligations ranging from 139 AF to 4,318 AF. Substitution years would include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. All of these years are within the driest 30 percent of years in the study period. There is no substitution obligation in years that Green Mountain Reservoir fills, which is approximately 80% of the time during the 56-year study period.

There would be no change in Springs Utilities *total* substitution obligation between the No Action and Proposed Action alternatives in substitution years because there would be no difference in the deficit at Green Mountain Reservoir in those years. In addition, Springs Utilities would divert the same amount of water under the Proposed Action from the Blue River at their Continental-Hoosier System diversion points. There would be no increase in Springs Utilities diversions from the West Slope to the East Slope through the Hoosier or Homestake Tunnels under the Proposed Action. In fact, Springs Utilities diversions to the East Slope would decrease in nonsubstitution years because up to 250 AF in Upper Blue Reservoir would be released to West Slope users in the Blue River basin, which would not occur under the No Action alternative. While Springs Utilities' total substitution obligation would not change under the Proposed Action, the timing and sources of water used for substitution payback would change.

In years the substitution obligation is less than 2,100 AF and the total contents in Upper Blue Reservoir are sufficient to fully payback the substitution obligation, there would be no difference in the location or amount of substitution payback under the Proposed Action. There may be slight differences in the timing of substitution releases under the Proposed Action since releases from Upper Blue Reservoir would be coordinated to provide environmental benefits in the late summer and early fall per the terms and conditions of the 2003 MOA. Since substitution releases under the No Action alternative typically occur in the late summer and early fall, changes in the timing of releases under the Proposed Action are expected to be small. In years the obligation is less than 2,100 AF, Springs Utilities would release water from their Upper Blue Reservoir to Denver Water's Dillon Reservoir under both the No Action and Proposed Action alternatives. In return, Springs Utilities' entire substitution obligation would be paid back by Denver Water with releases from Williams Fork Reservoir and/or Dillon Reservoir.

The biggest difference in the payback of the substitution obligation under the Proposed Action would occur when the substitution



obligation is greater than 2,100 AF. The substitution bill is greater than 2,100 AF in approximately seven of the substitution years during the 56-year study period. In those years, contents in Upper Blue Reservoir would not be sufficient to fully pack back the substitution obligation. Therefore, under the Proposed Action more water would be released from Springs Utilities' accounts in Wolford Mountain and Homestake Reservoirs while Denver Water's substitution releases for Springs Utilities from either Dillon Reservoir and/or Williams Fork Reservoir would decrease.

Table 3-1 shows substitution releases from Upper Blue Reservoir under the No Action and Proposed Action alternatives. Monthly substitution releases from Upper Blue Reservoir would decrease by a maximum of 252 AF. Monthly substitution releases from Upper Blue Reservoir would decrease by 153 AF on average and 248 AF in the driest years. Under the Proposed Action, substitution releases would decrease by up to 250 AF in August because that amount of water must be reserved in Upper Blue Reservoir for West Slope users in the Blue River basin each year. Water for these users would typically be released in November under the Proposed Action as opposed to August for substitution payback under the No Action alternative. When contents in Upper Blue Reservoir are sufficient to fully payback the substitution obligation and release 250 AF for West Slope users in the Blue River Basin, there would be no difference in the substitution release from Upper Blue Reservoir between the alternatives. Decreases in substitution releases from Upper Blue Reservoir would occur in 8 years out of the 56-year study period.

Under the Proposed Action, releases from Springs Utilities' account in Wolford Mountain Reservoir would occur in 7 years out of the 56-year study period and range up to 1,750 AF under the Proposed Action, as shown in Table 3-1. Monthly substitution releases would be 340 on average and 426 AF in the driest years. Under the No Action alternative, no substitution releases from Wolford Mountain Reservoir on behalf of Springs Utilities would be made from Denver Water's account. Substitution releases for Springs Utilities would be allocated among the releases from Denver Water's Williams Fork and/or Dillon Reservoirs

Under the Proposed Action, releases from Springs Utilities' account in Homestake Reservoir would occur in only 1 year out of the 56-year study period in the amount of 469 AF, as shown in Table 3-1. Under the No Action alternative, substitution releases would not be made from Springs Utilities' Homestake Reservoir account.

Table 3-1 shows Denver Water's substitution releases for Springs Utilities under the No Action and Proposed Action alternatives. Denver Water's monthly substitution release for Springs Utilities would decrease by a maximum of 2,220 AF. Monthly substitution releases for Springs Utilities would decrease by 374 AF on average and 424 AF in the driest years. Denver Water's substitution releases for Springs Utilities would decrease in 7 years out of the 56-year study period. Under the Proposed Action, Springs Utilities would release water from their accounts in Wolford Mountain and Homestake Reservoirs to payback their substitution obligation in excess of 2,100 AF, therefore, Denver Water's substitution release from either Williams Fork Reservoir and/or Dillon Reservoir for Springs Utilities would decrease.



	Modeled Differences Between No Action and Proposed Action Alternatives (AF)													
	Ma	Maximum Decrease in August			aximum Inc in Augus		D	ry Year Ave in August		Subst	Substitution Year Average in August ¹			
Springs Utilities Substitution Obligation	No Action	Proposed Action	Difference	No Action	Proposed Action	Difference	No Action	Proposed Action	Difference	No Action	Proposed Action	Difference		
Total Substitution Obligation	4319.0	4318.0	-1.0	2759.0	2767.0	8.0	2424.4	2427.4	3.0	1830.4	1832	1.6		
Upper Blue Reservoir Release	848.0	596.0	-252.0	724.0	726.0	2.0	1379	1131.2	-247.8	1113.1	960.2	-152.9		
Wolford Mountain Reservoir Release from Springs Utilities Account			0.0	0.0	1750.0	1750.0	0	426	426.4	0	340	339.8		
Homestake Reservoir Release			0.0	0.0	469.0	469.0	0.0	0.0	0.0	0.0	36.1	36.1		
Denver Water Substitution Release for Springs Utilities ²	4320.0	2100.0	-2220.0	724.0	726.0	2.0	2424.8	2001.0	-423.8	1830.5	1456.3	-374.2		

Table 3-1Springs Utilities Substitution SummaryModeled Differences Between No Action and Proposed Action Alternatives (AF)

¹Substitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004.

² Denver Water's substitution release for Springs Utilities includes the amount released from Upper Blue Reservoir to Dillon Reservoir.

³ The dry year average is the average of the five driest years in the study period, which include 1954, 1966, 1977, 2002, and 2004.



The decrease in Denver Water's substitution release from either Williams Fork or Wolford Mountain Reservoirs depends on Denver Water's total substitution bill. In a substitution year, Denver Water reserves the first 1,000 AF of its substitution obligation in Dillon Reservoir. This water is available to augment releases from Dillon Reservoir if necessary to meet the bypass flow requirement of 50 cfs. This water would be the last water released for substitution payback and is generally not needed since inflow to Dillon Reservoir is almost always greater than 50 cfs. In the model, this water is released from Dillon Reservoir to the river at the end of March to fully payback Denver Water's substitution obligation. However, under actual operations this water reverts to Denver Water ownership. If this water is not released to the river, flows below Dillon Reservoir would be slightly lower in March than estimated in the model in substitution years and contents in Dillon Reservoir slightly higher until the reservoir fills. The difference between actual and modeled operations of the 1.000 AF in Dillon Reservoir would not affect Springs Utilities' substitution obligation or the manner in which their substitution payback is made. Because Green Mountain Reservoir generally releases through the winter months to meet storage targets, the release of 1,000 AF from Dillon Reservoir in March would also not affect modeled storage contents in Green Mountain Reservoir. After the 1,000 AF is reserved in Dillon Reservoir, substitution releases are alternated between Wolford Mountain and Williams Fork reservoirs, with the first 5,000 AF released from Wolford Mountain Reservoir. Williams Fork Reservoir provides the next 10,000 AF of substitution water, in Wolford Mountain Reservoir the next increment up to an annual maximum of 26,000 AF in total from Wolford Mountain Reservoir (Denver

Water 2003). The next 25,000 AF is released from Williams Fork Reservoir and any remaining obligation is met with releases from Dillon Reservoir. For modeling purposes, all releases from Denver Waters' facilities (i.e., Denver Water's substitution obligation plus Springs Utilities' obligation) are aggregated and released according to the schedule of releases described above. However, for the No Action alternative, Springs Utilities' releases are allocated among releases from Dillon Reservoir and/or Williams Fork Reservoir to be consistent with the Blue River Decree.

In years that the last increment of Denver Water's substitution obligation is released from Wolford Mountain Reservoir, there would be no change in the total substitution release from Wolford Mountain and Williams Fork Reservoirs under the Proposed Action. In those years, the total amount released from Wolford Mountain Reservoir for substitution payback would be the same; however, the releases would be allocated from different accounts in that reservoir and from Williams Fork Reservoir. Under the No Action alternative, water would be released from Denver Water's Williams Fork Reservoir for Springs Utilities and a larger proportion of Denver Waters' release would be allocated to Wolford Mountain Reservoir, whereas, under the Proposed Action, water would be released from Springs Utilities' Wolford Mountain Reservoir account. The only exception to this would be when Springs Utilities account in Wolford Mountain is not sufficient to fully payback their obligation and an additional substitution release is needed from Homestake Reservoir.

In years that the last increment of Denver Water's substitution obligation is released from Williams Fork Reservoir, substitution



releases from Wolford Mountain Reservoir would increase, while substitution releases from Williams Fork Reservoir would decrease by a commensurate amount. The total amount released from these reservoirs would be the same under both alternatives unless Springs Utilities' account in Wolford Mountain is not sufficient to fully payback their obligation and an additional substitution release is needed from Homestake Reservoir.

Blue River Basin

Blue River

Flow changes along the Blue River are shown in Tables 3-2 through 3-4. Refer to

Table 3-2 for a summary of monthly average changes in flows in the Blue River downstream of the Continental-Hoosier System and upstream of Dillon Reservoir. Under the Proposed Action, flows would increase in November due to the additional release from Upper Blue Reservoir to West Slope users in the Blue River basin. In one September out of the 56-year study period, flows under the Proposed Action would increase by 4.2 cfs because 250 AF less would be stored in Upper Blue Reservoir that month. This type of flow change would occur infrequently because there is typically little to no water available for diversion to storage in Upper Blue Reservoir that late in

Modeled D	Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg	
Maximum Monthly Flo	Maximum Monthly Flow Decrease ¹													
No Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	27.8	N/A	51.0	N/A		
Proposed Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	27.6	N/A	46.5	N/A		
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	-4.6	0.0		
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.8%	0.0%	-8.9%	0.0%		
Maximum Monthly Flow Increase ¹														
No Action Flow	N/A	19.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	63.5	19.6		
Proposed Action Flow	N/A	23.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	63.5	23.8		
Flow Change	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2		
Percent Change	0.0%	21.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	21.4%		
Dry Year Monthly Ave	erage Fl	ow (Aver	age of 1	954, 190	66, 1977	, 2002, 2	2004)							
No Action Flow	25.3	16.7	14.6	12.3	11.9	11.5	19.8	35.6	28.7	31.4	49.2	21.2	23.2	
Proposed Action Flow	25.3	20.9	14.6	12.3	11.9	11.5	19.8	35.6	28.6	31.4	45.2	21.2	23.2	
Flow Change	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.0	0.0	0.0	
Percent Change	0.0%	25.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	-8.2%	0.0%	0.0%	
Average Flow During S	Substitu	tion Year	rs ²											
No Action Flow	23.0	16.9	14.7	12.2	11.4	11.2	20.4	46.0	49.8	43.1	56.6	28.4	27.8	
Proposed Action Flow	23.0	21.1	14.7	12.2	11.4	11.2	20.4	46.0	49.8	43.1	54.1	28.7	28.0	
Flow Change	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.5	0.3	0.2	
Percent Change	0.0%	24.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-4.5%	1.1%	0.6%	

Table 3-2Blue River below the Continental-Hoosier SystemModeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)

¹A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004 N/A: Not applicable.



the year. Under the Proposed Action, flows would decrease in August of substitution years when the total substitution obligation is greater than the contents in Upper Blue Reservoir less 250 AF. This amount of water must be reserved in Upper Blue Reservoir for release later in the year.

Springs Utilities' Continental-Hoosier System diversions deplete the Blue River, therefore, these diversions affect the ability to meet the CWCB instream flow requirements above Dillon Reservoir, which are junior to Springs Utilities' water rights and the Blue River Decree. However, in order to ensure the Proposed Action protects

the natural environments in a manner consistent with the CWCB instream flow requirements above Dillon Reservoir, during substitution years, Springs Utilities would refrain from diverting to the extent necessary in order to maintain flows at the instream flow levels as described in Section 2.4. Therefore, there would be no impact on these instream flow requirements as a result of the Proposed Action. Compliance for this mitigation will be to maintain a flow of 5 cfs just upstream of Goose Pasture Tarn Reservoir. Flows at this location will be estimated based on the USGS gage 09046490 Blue River at Blue River, which is located just downstream of Goose Pasture

Table 3-3
Blue River below Dillon Reservoir at USGS Gage 09050700
Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)

T-LL 2 2

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg	
Maximum Monthly Flo	Maximum Monthly Flow Decrease ¹													
No Action Flow	N/A	N/A	N/A	N/A	52.9	N/A	N/A	225.6	121.1	390.8	454.7	N/A		
Proposed Action Flow	N/A	N/A	N/A	N/A	52.4	N/A	N/A	217.7	117.0	386.8	448.8	N/A		
Flow Change	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	-7.8	-4.1	-3.9	-5.9	0.0		
Percent Change	0.0%	0.0%	0.0%	0.0%	-1.0%	0.0%	0.0%	-3.5%	-3.4%	-1.0%	-1.3%	0.0%		
Maximum Monthly Flow Increase ¹														
No Action Flow	N/A	N/A	N/A	51.9	68.2	N/A	N/A	1,061.1	1,711.1	N/A	174.8	N/A		
Proposed Action Flow	N/A	N/A	N/A	51.9	68.2	N/A	N/A	1,061.2	1,711.1	N/A	174.8	N/A		
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0		
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Dry Year Monthly Ave	erage Flo	ow (Ave	rage of i	1954, 19	66, 1977	7, 2002,	2004)							
No Action Flow	73.0	66.8	58.5	58.0	60.0	60.3	50.0	50.0	71.9	185.3	151.6	59.8	78.8	
Proposed Action Flow	73.0	66.8	58.5	58.0	60.0	60.3	50.0	50.0	71.9	185.3	150.5	59.8	78.7	
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	-0.1	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.8%	0.0%	-0.1%	
Average Flow During S	Substitu	tion Yea	ars ²											
No Action Flow	58.8	56.5	53.3	53.2	54.2	55.8	50.0	50.0	103.3	141.3	155.9	53.8	73.8	
Proposed Action Flow	58.8	56.5	53.3	53.2	54.2	55.8	50.0	50.0	103.3	141.3	155.4	53.8	73.8	
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	0.0%	-0.1%	
1 A decrease means that the	. • .	C (1 D	1		1 .1	.1			37 4 .*			•		

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004 N/A: Not applicable.



Tarn Reservoir, plus diversions to storage at Goose Pasture Tarn.

Refer to Table 3-3 for a summary of monthly average changes in flows in the Blue River downstream of Dillon Reservoir. Changes in flow downstream of Dillon Reservoir would occur due to small differences in reservoir end-of-month contents when Dillon Reservoir fills and spills. These flow changes would occur due to the release of 250 AF from Upper Blue Reservoir for West Slope users in the Blue River basin under the Proposed Action.

Since this water would be used to extinction it would not be available for storage in Dillon Reservoir. Therefore, Dillon Reservoir contents would decrease by 250 AF in substitution years under the Proposed Action. Changes in Dillon Reservoir contents would also occur under the Proposed Action due to slight differences in the amount and timing of Denver Water's substitution payback from Dillon Reservoir. However, these changes in contents would be small and infrequent. Differences in Dillon Reservoir contents would carry forward from year to year, which would result in less water spilled in years when the reservoir fills.

Refer to Table 3-4 for a summary of monthly average changes in flows in the Blue River downstream of Green Mountain

Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)														
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg	
Maximum Monthly Flo	Maximum Monthly Flow Decrease ¹													
No Action Flow	307.5	241.8	240.6	241.6	251.1	237.3	N/A	N/A	1,828.1	1,179.4	841.1	395.6		
Proposed Action Flow	306.1	241.1	240.0	240.9	250.4	236.6	N/A	N/A	1,820.0	1,175.4	836.4	394.5		
Flow Change	-1.4	-0.7	0.0	-0.7	-0.7	-0.7	0.0	0.0	-8.1	-3.9	-4.7	-1.2		
Percent Change	-0.5%	-0.3%	0.0%	-0.3%	-0.3%	-0.3%	0.0%	0.0%	-0.4%	-0.3%	-0.6%	-0.3%		
Maximum Monthly Flow Increase ¹														
No Action Flow	241.8	185.2	166.5	162.5	169.4	191.7	276.2	580.8	1,935.7	2,329.6	612.9	229.5		
Proposed Action Flow	243.0	185.5	166.7	162.8	169.7	192.0	276.3	580.9	1,935.7	2,329.6	613.2	229.9		
Flow Change	1.2	0.3	0.3	0.3	0.3	0.3	0.0	0.1	0.0	0.0	0.3	0.4		
Percent Change	0.5%	0.2%	0.2%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%		
Dry Year Monthly Ave	erage Flo	ow (Ave	rage of 1	954, 190	56, 1977,	2002, 2	004)							
No Action Flow	519.4	240.0	218.2	249.9	208.0	236.8	259.8	84.6	253.7	568.5	252.9	189.0	273.4	
Proposed Action Flow	519.4	240.0	218.3	249.9	208.0	236.8	259.8	84.6	253.7	568.5	252.4	188.9	273.4	
Flow Change	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-0.5	-0.1	0.0	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	
Average Flow During	Substitu	tion Yea	ars ²											
No Action Flow	444.5	217.4	204.7	207.7	198.4	214.2	216.6	82.1	204.4	544.6	348.5	236.6	260.0	
Proposed Action Flow	444.5	217.4	204.8	207.8	198.5	214.2	216.6	82.1	204.4	544.6	348.2	236.6	260.0	
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	

Table 3-4Blue River below Green Mountain ReservoirModeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Substitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004 N/A: Not applicable.



Reservoir. The reduction in flows downstream of Dillon Reservoir would be translated downstream to the confluence

with the Colorado River. Reductions in flows downstream of Dillon Reservoir would decrease the inflow to Green Mountain Reservoir, and therefore, reduce the amount and possibly timing of spills at Green Mountain Reservoir. Small increases and decreases in flows downstream of Green Mountain Reservoir would also occur due to slight differences in the timing of HUP releases from Green Mountain Reservoir. While the total amount released would be the same under both the No Action and Proposed Action alternatives, the timing of these releases may be offset by a few months. These slight differences are likely a function of the reservoir storage targets and the sequence and priority of operating rules in the CDSS Model and may not occur under actual operations.

As discussed in Section 3.3.1.7, Phase 2 of the Grand County SMP identified environmental flows to support ecological needs in relation to fisheries for the reach below Green Mountain Reservoir. The preferred range for summer environmental flows is 200 to 250 cfs below Green Mountain Reservoir. As indicated in the Phase 2 report, flow records for the USGS gage station 09057500 below Green Mountain Reservoir, show the recommended summer environmental flow range is typically present and often exceeded within this reach. Flow reductions under the Proposed Action in this reach would be infrequent and small and not affect the ability to meet these recommendations.

Based on the magnitude and frequency of flow changes along the Blue River below Dillon and Green Mountain reservoirs, there would be little to no impact on potential future projects such as the Green Mountain Reservoir Pumpback Project or on the BLM's potential Wild and Scenic River designations in the Blue River basin.

In summary, flows in the Blue River downstream of the Continental-Hoosier System and upstream of Dillon Reservoir. would decrease by up to 4.6 cfs or 8.9% in August and increase by up to 4.2 cfs or 21.5% in November. Maximum flow increases and decreases at this location would be similar in the driest years and substitution years. Flows below Dillon Reservoir would decrease by up to 7.8 cfs or 3.5% in May. Flows below Green Mountain Reservoir, would decrease by up to 8.1 cfs or 0.4% in June and increase by up to 1.2 cfs or 0.5% in December. In the driest years and substitution years, monthly average flows would decrease by less than 1.2 cfs below Dillon and Green Mountain Reservoirs.

The changes in flows along the Blue River downstream of the Continental-Hoosier System, Dillon Reservoir and Green Mountain Reservoir under the Proposed Action would be well within the normal range of flows that have historically occurred at these locations, as shown in Figures 3-2, 3-3, and 3-4.

Upper Blue Reservoir

Refer to Table 3-5 for a summary of monthly average changes in contents in Upper Blue Reservoir. In summary, end-ofmonth contents in Upper Blue Reservoir would increase by up to 250 AF in August, September and October. Under the Proposed Action, Upper Blue Reservoir contents would increase because 250 AF must be reserved in Upper Blue Reservoir



Modeled Differences in Content Between No Action and Proposed Action Alternatives (AF)													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Maximum Monthly	Content	Decrease	e ¹										
No Action Content	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	319	2,090	
Proposed Action Content	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	318	2,087	
Content Change	0	0	0	0	0	0	0	0	0	0	-1	-3	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	-0.1%	
Maximum Monthly	Content	Increase	1										
No Action Content	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,053	1,269	0	0	
Proposed Action Content	250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,066	1,281	250	250	
Content Change	250	0	0	0	0	0	0	0	13	12	250	250	
Percent Change	N/A	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.9%	N/A	N/A	
Dry Year Content (A	Average	of 1954, 1	1966, 197	7, 2002,	2004)								
No Action Content	0	0	0	0	0	0	18	432	1,500	1,379	0	0	
Proposed Action Content	250	0	0	0	0	0	18	432	1,503	1,381	250	250	
Content Change	250	0	0	0	0	0	0	0	3	2	250	250	
Percent Change	N/A	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	N/A	N/A	
Average Content Du	iring Sul	ostitution	Years ²										
No Action Content	0	0	0	0	0	0	7	482	1,636	1,699	449	344	
Proposed Action Content	250	0	0	0	0	0	7	482	1,637	1,700	622	497	
Content Change	250	0	0	0	0	0	0	0	1	1	173	154	
Percent Change	N/A	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	38.5%	N/A	

Table 3-5 Upper Blue Reservoir Iodeled Differences in Content Between No Action and Proposed Action Alternatives (AF

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month. ²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004 N/A: Not applicable.

for release in November for West Slope users in the Blue River basin. Under the No Action alternative, this water would be released earlier in the year for either substitution payback or delivery through Hoosier Tunnel. The same amount of water would be released from Upper Blue Reservoir under the Proposed Action; however, the timing of the release would change slightly. Since this water likely will be released later in the year under the Proposed Action, storage contents would be higher from August through October.

Dillon Reservoir

Refer to Table 3-6 for a summary of monthly average changes in contents in Dillon Reservoir. In summary, end-ofmonth contents in Dillon Reservoir would increase by up to 113 AF or 0.1% and decrease by up to 522 AF or 0.3%. In the driest years and substitution years, average end-of-month contents would decrease by



Mode	Modeled Differences in Content Between No Action and Proposed Action Alternatives (AF)													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Maximum Mon	thly Con	tent Dec	rease ¹											
No Action Content	134,664	130,949	126,819	124,275	120,406	115,275	112,363	135,890	202,413	235,097	155,891	142,785		
Proposed Action Content	134,144	130,429	126,299	123,754	119,913	114,783	111,871	135,400	201,925	234,610	155,369	142,264		
Content Change	-520	-520	0	-521	-493	-492	-492	-490	-488	-487	-522	-521		
Percent Change	-0.4%	-0.4%	0.0%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.2%	-0.2%	-0.3%	-0.4%		
Maximum Mon	Maximum Monthly Content Increase ¹													
No Action Content	102,089	95,649	88,579	83,080	77,805	71,532	71,946	118,491	189,471	205,009	131,006	113,703		
Proposed Action Content	102,202	95,762	88,692	83,193	77,918	71,645	72,059	118,603	189,583	205,121	131,119	113,816		
Content Change	113	113	113	113	113	113	113	112	112	112	113	113		
Percent Change	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%		
Dry Year Conte	ent (Aver	age of 19	954, 1966,	1977, 200)2, 2004)									
No Action Content	215,246	210,606	205,097	200,972	196,133	192,422	186,344	192,098	192,939	171,538	150,546	135,011		
Proposed Action Content	215,268	210,628	205,119	200,994	196,155	192,444	186,366	192,120	192,958	171,557	150,391	134,856		
Content Change	22	22	22	22	22	22	21	22	19	19	-156	-155		
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%		
Average Conter	t During	g Substiti	ution Yea	rs ²										
No Action Content	194,852	190,639	185,768	181,561	177,292	173,793	168,403	181,521	193,463	180,732	166,511	156,485		
Proposed Action Content	194,803	190,590	185,719	181,512	177,242	173,744	168,354	181,472	193,413	180,682	166,334	156,328		
Content Change	-49	-49	-49	-49	-49	-49	-49	-49	-50	-50	-176	-157		
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%		

Table 3-6 Dillon Reservoir Madalad Differences in Content Potycon No Action and Proposed Action Alternatives (AF)

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month. ²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004 N/A: Not applicable.

up to 176 AF or 0.1% and increase by up to 22 AF or less than 0.1%.

Changes in content at Dillon Reservoir would primarily occur due to the release of 250 AF from Upper Blue Reservoir for West Slope users in the Blue River basin under the Proposed Action instead of being released for substitution purposes by Springs Utilities. Since this water would be used to extinction it would not be available for storage in Dillon Reservoir in substitution years. Therefore, Dillon Reservoir contents would decrease by 250 AF in substitution years under the Proposed Action. Changes in Dillon Reservoir contents would also occur under the Proposed Action due to slight differences in the amount and timing of Denver Water's substitution payback from Dillon Reservoir. However, these



changes in content would be small and infrequent. Differences in contents under the Proposed Action would carry forward from year to year until Dillon Reservoir fills.

Green Mountain Reservoir

Refer to Table 3-7 for a summary of monthly average changes in contents in Green Mountain Reservoir. In summary, end-of-month contents in Green Mountain Reservoir would increase by up to 414 AF or 0.3% in August and decrease by up to 479 AF or 0.6% in May. In the driest years and substitution years, average end-of-month contents would increase by up to 24 AF or less than 0.1%.

Decreases in contents at Green Mountain Reservoir would be due primarily to reduced inflow when Dillon Reservoir fills. Reduced spills from Dillon Reservoir would decrease the inflow to Green Mountain Reservoir, and therefore, reduce the amount and possibly timing of spills at Green Mountain Reservoir. Increases in contents

Table 3-7
Green Mountain Reservoir
Modeled Differences in Content Between No Action and Proposed Action Alternatives (AF)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Maximum Monthly Co	ontent De	ecrease1										
No Action Content	107,962	64,490	64,021	63,523	63,007	63,115	70,506	81,884	146,782	129,697	75,348	73,593
Proposed Action Content	107,759	64,302	63,833	63,335	62,819	62,927	70,317	81,405	146,544	129,456	75,027	73,319
Content Change	-203	-188	0	-188	-188	-188	-189	-479	-238	-241	-321	-274
Percent Change	-0.2%	-0.3%	0.0%	-0.3%	-0.3%	-0.3%	-0.3%	-0.6%	-0.2%	-0.2%	-0.4%	-0.4%
Maximum Monthly Content Increase ¹												
No Action Content	105,573	96,410	87,381	78,322	69,148	N/A	75,031	150,073	107,138	120,612	143,684	131,295
Proposed Action Content	105,926	96,693	87,593	78,463	69,219	N/A	75,032	150,074	107,139	120,625	144,098	131,649
Content Change	353	283	212	141	71	0	1	1	1	13	414	354
Percent Change	0.3%	0.3%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.3%
Dry Year Content (Ave	erage of i	1954, 196	56, 1977,	2002, 200	4)							
No Action Content	101,583	95,220	88,989	82,729	76,351	69,926	65,243	80,405	89,872	78,994	80,287	77,814
Proposed Action Content	101,601	95,234	88,999	82,736	76,354	69,926	65,243	80,405	89,872	78,994	80,312	77,835
Content Change	18	14	10	7	3	0	0	0	0	0	24	21
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Average Content Durin	ng Substi	itution Y	ears ²									
No Action Content	97,644	91,916	86,316	80,689	74,947	69,157	66,844	85,955	105,664	95,615	93,186	88,728
Proposed Action Content	97,653	91,923	86,322	80,693	74,948	69,157	66,844	85,955	105,664	95,616	93,195	88,735
Content Change	9	7	5	3	2	0	0	0	0	1	9	8
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004 N/A: Not applicable.



at Green Mountain Reservoir would be due to slight differences in the timing of releases from the HUP pool. While, the operation and use of Green Mountain's HUP pool would not change under the Proposed Action, there may be slight differences in the timing of HUP releases from Green Mountain Reservoir. While the total amount released from Green Mountain Reservoir would be the same under both the No Action and Proposed Action alternatives, the timing of these releases may be offset by a few months. These slight differences are likely a function of the reservoir storage targets and the sequence and priority of operating rules in the CDSS Model and may not occur

under actual operations.

Williams Fork River Basin

Williams Fork River

Flow changes in Williams Fork River downstream of Williams Fork Reservoir are shown in Table 3-8. In summary, monthly average flows in Williams Fork River would decrease by a maximum of 8.3 cfs or 11.5% in March and increase by a maximum of 3.4 cfs or 2.5% in June. In the driest years and substitution years, monthly average flows would increase or decrease by less than 0.6 cfs or less than 0.7%. The changes in flows in the Williams Fork River under the Proposed Action would be well within the

Table 3-8
Williams Fork River below Williams Fork Reservoir
Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)

T 11 20

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg		
Maximum Monthly Flow Decrease ¹															
No Action Flow	264.0	N/A	48.6	75.6	59.1	72.1	N/A	N/A	657.0	222.3	310.9	110.2			
Proposed Action Flow	263.1	N/A	48.4	75.6	59.0	63.8	N/A	N/A	656.3	222.3	308.9	109.3			
Flow Change	-0.9	0.0	0.0	0.0	-0.2	-8.3	0.0	0.0	-0.6	0.0	-2.0	-0.9			
Percent Change	-0.3%	0.0%	0.0%	0.0%	-0.3%	-11.5%	0.0%	0.0%	-0.1%	0.0%	-0.6%	-0.9%			
Maximum Monthly Flow Increase ¹															
No Action Flow	93.4	N/A	N/A	87.2	64.4	N/A	N/A	N/A	134.1	273.5	186.2	207.2			
Proposed Action Flow	94.8	N/A	N/A	88.6	64.9	N/A	N/A	N/A	137.4	273.5	187.7	208.8			
Flow Change	1.4	0.0	0.0	1.4	0.5	0.0	0.0	0.0	3.4	0.0	1.5	1.6			
Percent Change	1.6%	0.0%	0.0%	1.6%	0.8%	0.0%	0.0%	0.0%	2.5%	0.0%	0.8%	0.8%			
Dry Year Monthly Avera	ge Flow	(Averag	ge of 195	54, 1966	, 1977, 2	2002, 2004	l)								
No Action Flow	143.0	107.2	94.4	77.7	62.2	87.3	95.1	32.8	55.4	95.0	242.9	107.0	100.0		
Proposed Action Flow	143.3	107.2	94.4	77.7	62.2	87.3	95.1	32.8	55.4	95.0	242.6	106.9	100.0		
Flow Change	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.2	0.0		
Percent Change	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	0.0%		
Average Flow During Sul	bstitutio	n Years ²	2												
No Action Flow	169.2	117.0	98.4	85.3	69.3	88.6	87.6	37.4	83.7	84.7	247.7	156.3	110.4		
Proposed Action Flow	169.3	117.0	98.4	85.3	69.3	87.9	87.6	37.4	83.7	84.7	247.4	156.4	110.4		
Flow Change	0.1	0.0	0.0	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	-0.4	0.1	-0.1		
Percent Change	0.1%	0.0%	0.0%	0.0%	0.0%	-0.7%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.1%		
				Percent Change 0.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% -0.1% 0.0% -0.1%											

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004 N/A: Not applicable.



normal range of flows that have historically occurred downstream of Williams Fork Reservoir, as shown in Figure 3-8.

Flow changes in the Williams Fork River would occur under the Proposed Action due to differences in the amount and timing of water released from Williams Fork Reservoir for substitution payback. Under the Proposed Action, substitution releases from Wolford Mountain and Homestake reservoirs would increase, while substitution releases from Williams Fork Reservoir would decrease by a commensurate amount. Changes in substitution releases from Williams Fork Reservoir would only occur in years the last increment of Denver Water's substitution obligation is released from Williams Fork Reservoir. A reduced substitution release under the Proposed Action would result in higher contents in Williams Fork Reservoir. As a result, less water would be stored in subsequent months depending on storage targets at Williams Fork Reservoir as the reservoir refills. Reductions in the amount stored would increase flows below the reservoir in some months under the Proposed Action. Changes in flows in some months would also occur due to differences in the timing of substitution releases from Williams Fork Reservoir. While the total amount released would be the same under both alternatives, the timing of the substitution releases may be offset by a few months. For example, a reduction in flow in one month due to a reduced substitution release would be offset by a corresponding increase in flow in subsequent months due to an increased substitution release. These differences are small and infrequent and likely a function of modeling assumptions such as reservoir storage targets and the sequence and priority of operating rules in the CDSS Model and may not occur under actual operations.

There would be no impact on the ability to meet the bypass requirement at Williams Fork Reservoir under the Proposed Action.

As discussed in Section 3.3.1.7. Phase 2 of the Grand County SMP identified environmental flows to support ecological needs in relation to fisheries for the reach below Williams Fork Reservoir. The preferred range for summer environmental flows is 40 to 140 cfs below Williams Fork Reservoir. As indicated in the Phase 2 report, flow records for the USGS gage station 09038500 below Williams Fork Reservoir show the recommended summer environmental flow range is quite commonly present in this reach. Flow reductions under the Proposed Action would be infrequent and minor and would not affect the ability to meet these flow recommendations particularly since substitution releases from William Fork Reservoir augment flows in this reach during the late summer and fall.

Williams Fork Reservoir

Refer to Table 3-9 for a summary of monthly average changes in contents in Williams Fork Reservoir. In summary, endof-month contents in Williams Fork Reservoir would increase by up to 564 AF or 2.8% in March and decrease by up to 37 AF or 0.1% in February, March, April and May. In the driest years and substitution years, monthly average contents would increase by up to 85 AF or 0.2%.

Changes in content at Williams Fork Reservoir would primarily occur due to differences in the timing and amount of releases for substitution payback. In substitution years when the last increment of Denver Water's substitution obligation is released from Williams Fork Reservoir, substitution releases from Wolford Mountain Reservoir and possibly



Modeled Differences in Content Between No Action and Proposed Action Alternatives (AF)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Maximum Mon	thly Con	tent Decr	ease ¹									
No Action Content	3,042	1,479	4,288	54,709	53,188	51,415	66,434	92,205	N/A	N/A	89,267	18,573
Proposed Action Content	3,025	1,462	4,279	54,672	53,151	51,378	66,397	92,168	N/A	N/A	89,266	18,571
Content Change	-17	-17	0	-37	-37	-37	-37	-37	0	0	-1	-2
Percent Change	-0.6%	-1.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Maximum Monthly Content Increase ¹												
No Action Content	19,686	16,423	13,747	11,356	9,228	19,930	16,057	26,229	32,254	32,168	28,783	23,165
Proposed Action Content	20,234	16,971	14,295	11,905	9,777	20,494	16,619	26,788	32,811	32,722	29,335	23,714
Content Change	548	548	548	549	549	564	562	559	557	554	552	549
Percent Change	2.8%	3.3%	4.0%	4.8%	5.9%	2.8%	3.5%	2.1%	1.7%	1.7%	1.9%	2.4%
Dry Year Conte	ent (Avera	age of 195	5 4, 1966, 1	1977, 2002	2, 2004)							
No Action Content	46,241	43,526	40,926	38,906	37,710	35,670	35,158	39,824	43,156	40,602	27,832	23,010
Proposed Action Content	46,294	43,580	40,979	38,960	37,764	35,723	35,212	39,877	43,209	40,654	27,902	23,091
Content Change	53	53	53	53	54	53	54	53	53	53	70	81
Percent Change	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.3%	0.4%
Average Conter	t During	Substitut	tion Year	s^2								
No Action Content	47,083	43,568	40,499	37,866	36,303	33,964	33,812	41,302	48,369	47,547	35,033	27,858
Proposed Action Content	47,107	43,592	40,524	37,891	36,328	34,028	33,876	41,366	48,433	47,610	35,118	27,939
Content Change	25	25	25	25	25	64	64	64	63	63	85	80
Percent Change	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%	0.2%	0.3%

Table 3-9 Williams Fork Reservoir Iodeled Differences in Content Between No Action and Proposed Action Alternatives (AF

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. N/A: Not applicable.

Homestake Reservoir would increase, while substitution releases from Williams Fork Reservoir would decrease by a commensurate amount. A reduced substitution release under the Proposed Action would result in higher contents in Williams Fork Reservoir until the reservoir refills. Some increases and decreases in contents would also occur due to slight differences in the timing of substitution releases from Williams Fork Reservoir under the Proposed Action. While the total amount released would be the same under both the No Action and Proposed Action alternatives, the timing of substitution releases may be offset by a



few months. These slight differences are likely a function of modeling assumptions such as reservoir storage targets and the sequence and priority of operating rules in the CDSS Model and may not occur under actual operations.

Muddy Creek Basin

Muddy Creek

Flow changes in Muddy Creek downstream of Wolford Mountain Reservoir are shown in Table 3-10. In summary, monthly average flows in Muddy Creek would decrease by a maximum of 5.7 cfs or 4.3% in June and increase by a maximum of 6.1 cfs or 4.4% in October. In the driest years and substitution years, monthly average flows would increase or decrease by less than 0.2 cfs or less than 0.5%. The changes in Muddy Creek flows under the Proposed Action would be well within the range of flows that have historically occurred downstream of Wolford Mountain Reservoir, as shown in Figure 3-10.

Flow changes in Muddy Creek would occur due to differences in the amount and timing of water released for substitution payback from Wolford Mountain Reservoir. In substitution years when the last increment of Denver Water's substitution obligation is

Table 3-10
Muddy Creek below Wolford Mountain Reservoir
Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)

Modeled Differences in Flow Detween No Action and Floposed Action Atternatives (cis)													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg
Maximum Monthly Flow Decrease ¹													
No Action Flow	316.2	N/A	N/A	39.6	12.9	N/A	86.0	66.5	132.9	139.8	78.5	34.9	
Proposed Action Flow	311.7	N/A	N/A	38.2	12.9	N/A	85.9	64.9	127.2	139.7	77.9	33.3	
Flow Change	-4.4	0.0	0.0	-1.4	0.0	0.0	0.0	-1.6	-5.7	0.0	-0.7	-1.6	
Percent Change	-1.4%	0.0%	0.0%	-3.5%	-0.1%	0.0%	0.0%	-2.4%	-4.3%	0.0%	-0.8%	-4.6%	
Maximum Monthly Flow Increase ¹													
No Action Flow	137.2	N/A	N/A	N/A	N/A	130.3	461.0	355.8	319.5	N/A	270.4	33.1	
Proposed Action Flow	143.3	N/A	N/A	N/A	N/A	131.3	461.4	356.1	324.2	N/A	271.2	34.0	
Flow Change	6.1	0.0	0.0	0.0	0.0	1.0	0.4	0.3	4.6	0.0	0.8	0.9	
Percent Change	4.4%	0.0%	0.0%	0.0%	0.0%	0.8%	0.1%	0.1%	1.5%	0.0%	0.3%	2.8%	
Dry Year Monthly Avera	age Flov	w (Avera	age of 1	954, 196	6, 1977	, 2002, 2	004)						
No Action Flow	14.5	22.0	14.2	13.4	10.5	26.5	89.2	177.3	104.3	93.4	224.8	38.9	69.1
Proposed Action Flow	14.5	22.0	14.2	13.4	10.5	26.5	89.2	177.3	104.3	93.4	224.8	39.1	69.1
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%
Average Flow During Su	ıbstituti	on Year	s^2										
No Action Flow	55.7	23.6	15.6	13.9	11.4	26.9	88.2	156.5	137.8	92.1	194.9	56.2	72.7
Proposed Action Flow	55.7	23.6	15.6	13.9	11.4	27.0	88.2	156.6	137.8	92.1	194.9	56.1	72.7
Flow Change	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. N/A: Not applicable.



released from Wolford Mountain Reservoir, there would be no change in the total substitution release from Wolford Mountain. In those years, the total amount released from Wolford Mountain Reservoir for substitution payback would be the same: however, the releases would be allocated from different accounts in that reservoir and from Williams Fork Reservoir. Under the No Action alternative, water would be released from Denver Water's Williams Fork Reservoir for Springs Utilities and a larger proportion of Denver Waters' release would be allocated to Wolford Mountain Reservoir, whereas, under the Proposed Action, water would be released from Springs Utilities' Wolford Mountain Reservoir account. An exception to this would be when Springs Utilities account in Wolford Mountain is not sufficient to fully payback their obligation and an additional substitution release would be needed from Homestake Reservoir. Under the Proposed Action, substitution releases from Homestake Reservoir would occur infrequently (once in the 56-year study period). A reduced substitution release from Wolford Mountain Reservoir under the Proposed Action would result in higher contents in Wolford Mountain Reservoir. As a result, less water would be stored in subsequent months depending on storage targets as Wolford Mountain Reservoir refills. Reductions in the amount stored would increase flows in some months under the Proposed Action.

Changes in flows in some months would also occur due to differences in the timing of substitution releases from Wolford Mountain Reservoir. While the total amount released would be the same under both alternatives, the timing of substitution releases may be offset by a few months. These slight differences are likely a function of modeling assumptions such as reservoir storage targets and the sequence and priority of operating rules in the CDSS Model and may not occur under actual operations.

There would be no impact on the ability to meet the bypass requirement at Wolford Mountain Reservoir or the CWCB instream flow requirements below the reservoir under the Proposed Action.

As discussed in Section 3.3.1.7. Phase 2 of the Grand County SMP identified environmental flows to support ecological needs in relation to fisheries for the reach below Wolford Mountain Reservoir. The preferred range for summer environmental flows is 60 to 90 cfs below Wolford Mountain Reservoir. As indicated in the Phase 2 report, flow records for the USGS gage station 09041400 below Wolford Mountain Reservoir show the recommended summer environmental flow range is typically present in this reach. Flow reductions under the Proposed Action would be infrequent and minor and would not affect the ability to meet these recommendations, particularly since substitution releases from Wolford Mountain Reservoir augment flows in this reach during the late summer and fall.

Wolford Mountain Reservoir

Refer to Table 3-11 for a summary of monthly average changes in contents in Wolford Mountain Reservoir. In summary, end-of-month contents in Wolford Mountain Reservoir would increase by a maximum of 280 AF or 1.3% in December, January and February and decrease by a maximum of 343 AF or 1.7% in January and February. In the driest years and substitution years, monthly average contents would increase by up to 6 AF or less than 0.1% and decrease by up to 8 AF or less than 0.1%.



Modeled Differences in Content Between No Action and Proposed Action Alternatives (AF)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Maximum Monthl	y Conten	t Decreas	e ¹									•
No Action Content	19,790	19,724	19,699	19,684	19,639	19,551	19,386	48,920	50,859	50,445	45,286	38,423
Proposed Action Content	19,448	19,382	19,356	19,341	19,296	19,209	19,045	48,582	50,755	50,342	45,184	38,323
Content Change	-342	-342	0	-343	-343	-342	-341	-338	-104	-103	-102	-100
Percent Change	-1.7%	-1.7%	0.0%	-1.7%	-1.7%	-1.7%	-1.8%	-0.7%	-0.2%	-0.2%	-0.2%	-0.3%
Maximum Monthl	y Conten	t Increas	e ¹									
No Action Content	20,914	20,844	20,821	20,812	20,763	20,673	22,136	51,363	45,605	39,507	62,196	46,444
Proposed Action Content	21,193	21,123	21,101	21,092	21,043	20,952	22,414	51,639	45,613	39,516	62,236	46,542
Content Change	279	279	280	280	280	279	278	276	8	9	40	98
Percent Change	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	0.5%	0.0%	0.0%	0.1%	0.2%
Dry Year Content	(Average	e of 1954,	1966, 197	7, 2002, 2	2004)							
No Action Content	54,312	54,236	54,258	54,298	54,253	54,138	53,862	57,469	57,938	55,234	41,894	39,825
Proposed Action Content	54,317	54,241	54,263	54,303	54,258	54,143	53,867	57,474	57,943	55,240	41,897	39,817
Content Change	5	5	5	5	5	5	5	5	5	6	3	-8
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Average Content I	During Su	ibstitutio	n Years ²									
No Action Content	50,986	50,737	50,685	50,657	50,561	50,183	49,925	58,838	59,909	57,609	46,308	43,364
Proposed Action Content	50,988	50,738	50,686	50,658	50,562	50,180	49,922	58,832	59,904	57,604	46,303	43,363
Content Change	1	1	1	2	1	-3	-3	-6	-5	-5	-5	-1
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 3-11 Wolford Mountain Reservoir Modeled Differences in Content Between No Action and Proposed Action Alternatives (AF

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month. ²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. N/A: Not applicable.

Changes in content at Wolford Mountain Reservoir would primarily occur due to differences in the amount and timing of releases for substitution payback. In substitution years when the last increment of Denver Water's substitution obligation is

released from Williams Fork Reservoir, substitution releases from Wolford Mountain Reservoir would increase while substitution releases from Williams Fork Reservoir would decrease by a commensurate amount. An increased substitution release under the Proposed Action would result in lower contents in Wolford Mountain Reservoir until the reservoir refills. In substitution years when the last increment of Denver Water's substitution obligation is released from Wolford Mountain Reservoir, there would often be no change in contents in Wolford Mountain Reservoir. In those years, the total amount released from Wolford Mountain Reservoir for substitution payback



would be the same; however, releases would be allocated differently as described previously. If Springs Utilities account in Wolford Mountain Reservoir is not sufficient to fully payback their obligation an additional substitution release would be needed from Homestake Reservoir. In those years, Wolford Mountain Reservoir contents would be higher until the reservoir refills, because some water would be released from Homestake Reservoir under the Proposed Action instead of Wolford Mountain Reservoir.

Some small increases and decreases in contents under the Proposed Action reflect slight differences in the timing of substitution releases from Wolford Mountain Reservoir under the Proposed Action. While the total amount released would be the same under both the No Action and Proposed Action alternatives, the timing of substitution releases may be offset by a few months. These slight differences are likely a function of modeling assumptions such as reservoir storage targets and the sequence and priority of operating rules in the CDSS Model and may not occur under actual operations.

Colorado River Basin

Colorado River

Flow changes in the Colorado River downstream of the confluence with Williams Fork River, at the USGS gage near Kremmling (09058000), and downstream of the confluence with the Eagle River are shown in Tables 3-12, 3-13, and 3-14, respectively.

Flow changes in the Colorado River downstream of the confluence with the Williams Fork River reflect changes in the amount and timing of substitution releases from Williams Fork Reservoir and the amounts stored as the reservoir refills. Model results indicate there would be a slight difference in the magnitude of flow change downstream of Williams Fork Reservoir compared to the Colorado River downstream of the confluence with the

Williams Fork River due to differences in the amount diverted by HUP beneficiaries downstream of Williams Fork Reservoir under the Proposed Action. This change may or may not occur depending on the location, amount and timing of HUP demands and their associated consumptive use and return flows.

The Municipal Subdistrict (Subdistrict) of the Northern Colorado Water Conservancy District (NCWCD) expressed concerns that the Proposed Action would result in decreased flows in the Colorado River below the confluence with the Williams Fork River. The Subdistrict indicated that decreased flows in the Colorado River below the Williams Fork River during the spring could affect the Windy Gap Project water rights because those rights cannot legally divert unless certain downstream minimum stream flows in the Colorado River below the Williams Fork River are maintained and downstream senior water rights are satisfied. As discussed above, substitution releases from Williams Fork Reservoir would decrease under the Proposed Action, while substitution releases from Wolford Mountain and Homestake reservoirs would increase. The decrease in substitution releases from Williams Fork Reservoir would occur from August through March of dry years when Windy Gap is not diverting. A reduced substitution release under the Proposed Action would result in higher contents in Williams Fork Reservoir. As a result, less water would be stored in subsequent months as the reservoir refills. Reductions in the amount stored would



Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg
Maximum Monthly Flov	v Decrea	ase ¹											
No Action Flow	345.3	203.0	230.0	166.8	147.1	169.1	288.9	156.2	2,591.7	172.0	232.6	231.7	
Proposed Action Flow	344.4	203.0	229.7	166.8	147.0	162.8	287.9	155.9	2,590.3	171.9	228.5	230.5	
Flow Change	-0.9	0.0	0.0	0.0	0.0	-6.3	-1.0	-0.3	-1.4	-0.1	-4.1	-1.2	
Percent Change	-0.3%	0.0%	0.0%	0.0%	0.0%	-3.7%	-0.3%	-0.2%	-0.1%	-0.1%	-1.7%	-0.5%	
Maximum Monthly Flov	v Increa	se ¹											
No Action Flow	158.9	N/A	N/A	211.2	159.6	N/A	300.9	1,350.5	2,434.5	274.7	294.7	299.9	
Proposed Action Flow	160.4	N/A	N/A	212.6	160.1	N/A	301.3	1,350.9	2,438.6	274.7	296.1	301.8	
Flow Change	1.4	0.0	0.0	1.4	0.5	0.0	0.4	0.4	4.1	0.0	1.4	1.9	
Percent Change	0.9%	0.0%	0.0%	0.7%	0.3%	0.0%	0.1%	0.0%	0.2%	0.0%	0.5%	0.6%	
Dry Year Monthly Avera	age Flov	v (Aver	age of	1954, 1	966, 19	77, 200	2, 2004)						
No Action Flow	226.8	239.9	209.0	183.1	168.4	235.1	228.6	157.6	173.1	276.8	368.3	216.0	223.6
Proposed Action Flow	227.1	239.9	209.0	183.1	168.4	235.1	228.6	157.6	173.1	276.8	368.1	215.8	223.6
Flow Change	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0
Percent Change	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Average Flow During Su	ıbstituti	on Yea	rs ²										
No Action Flow	261.7	255.4	198.6	184.5	173.4	224.5	239.9	177.4	209.7	241.5	375.0	274.7	234.7
Proposed Action Flow	261.9	255.4	198.6	184.5	173.3	224.0	239.8	177.3	209.7	241.5	374.4	274.8	234.6
Flow Change	0.1	0.0	0.0	0.0	0.0	-0.5	-0.1	0.0	0.0	0.0	-0.6	0.1	-0.1
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%

Table 3-12 Colorado River below the Confluence with the Williams Fork River Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. N/A: Not applicable.

increase flows along the Colorado River in some months under the Proposed Action and potentially benefit the Windy Gap Project. Model results show there would be no impact on Windy Gap diversions under the Proposed Action.

The ability to meet the CWCB instream flow requirements along the Colorado River below the confluence with the Williams Fork River under the Proposed Action was evaluated. The analysis focused on August and September, which are key low flow months during which there are occasionally flow changes under the Proposed Action due to differences in substitution releases from Williams Fork Reservoir. Springs Utilities diversions from the Upper Blue River do not deplete the Colorado River from the confluence of the Williams Fork downstream to the confluence to the Blue River. Springs Utilities' Continental-Hoosier System diversions deplete the Blue River and Colorado River mainstem from the confluence of the Blue River downstream. In substitution years, water released from Williams Fork Reservoir in August and September for substitution payback augments flows in the Colorado River below the confluence Williams Fork River. Therefore, the only potential impact



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Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg
Maximum Monthly Flov	v Decrea	ase ^{1,3}											
No Action Flow	880.9	668.9	546.6	557.5	527.2	411.3	707.5	663.2	5,485.8	1,329.6	921.3	376.0	
Proposed Action Flow	876.8	668.2	545.9	556.8	526.5	405.3	706.6	661.6	5,477.7	1,325.7	915.6	375.0	
Flow Change	-4.1	-0.7	0.0	-0.7	-0.7	-5.9	-0.9	-1.6	-8.1	-3.9	-5.7	-0.9	
Percent Change	-0.5%	-0.1%	0.0%	-0.1%	-0.1%	-1.4%	-0.1%	-0.2%	-0.1%	-0.3%	-0.6%	-0.2%	
Maximum Monthly Flov	v Increa	se ^{1,3}											
No Action Flow	636.4	568.4	452.6	421.3	460.7	400.8	1,334.3	2,802.2	1,402.3	2,676.4	1,437.4	859.7	
Proposed Action Flow	641.0	568.7	452.9	421.6	461.0	401.3	1,335.2	2,802.6	1,406.9	2,676.4	1,438.9	861.2	
Flow Change	4.6	0.3	0.3	0.3	0.3	0.5	0.9	0.4	4.6	0.0	1.5	1.5	
Percent Change	0.7%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.3%	0.0%	0.1%	0.2%	
Dry Year Monthly Avera	age Flov	w (Aver	age of i	1954, 19	966, 197	7, 2002	, 2004)						
No Action Flow	817.5	581.4	501.3	469.1	476.5	578.6	620.9	363.0	435.9	871.4	863.5	484.8	588.6
Proposed Action Flow	817.8	581.5	501.3	469.1	476.5	578.7	620.9	363.0	435.9	871.4	862.9	484.6	588.6
Flow Change	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-0.6	-0.2	0.0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%
Average Flow During Su	bstituti	on Yea	rs ²										
No Action Flow	807.8	578.1	485.3	464.4	471.5	559.1	623.9	434.2	514.0	821.0	934.6	599.6	607.8
Proposed Action Flow	808.0	578.1	485.3	464.4	471.5	558.7	623.8	434.2	514.0	821.0	933.8	599.6	607.7
Flow Change	0.1	0.0	0.0	0.0	0.0	-0.4	-0.1	0.0	0.0	0.0	-0.8	0.0	-0.1
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%

Table 3-13Colorado River near Kremmling at USGS Gage 09058000Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cf

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month. ²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004.

³The first year of the study period was not included in the analysis of maximum increases and decreases due to start-up conditions in the model. N/A: Not applicable.

on CWCB instream flow rights along the Colorado River from the confluence with the

Williams Fork River downstream to the confluence with the Blue River would be a reduction in the amount of water *added* to the river due to a change in substitution releases from Williams Fork Reservoir.

CDSS Model results show that average monthly flows in the Colorado River below the confluence with the Williams Fork River would occasionally be less than the instream flow requirement of 135 cfs in August and September under the Proposed Action. However, flows can be less than 135 cfs in August and September in non-substitution years because water is not released from Williams Fork Reservoir for substitution payback purposes. Flows in August and September would not decrease under the Proposed Action in non-substitution years. Model results show the average monthly flow exceeded the instream flow requirement of 135 cfs in all months that flows in the Colorado River below the confluence with the Williams Fork River would decrease under the Proposed Action. Therefore, a reduction in substitution releases from Williams Fork Reservoir



Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg
Maximum Monthly Flor	w Decrea	ase ^{1,3}		•			•						
No Action Flow	1,142.9	1,070.3	891.0	882.8	809.6	626.7	1,061.2	2,399.7	10,746.8	3,367.2	1,654.5	554.4	
Proposed Action Flow	1,138.8	1,069.6	890.3	882.1	808.9	620.7	1,060.3	2,398.1	10,738.7	3,363.2	1,649.8	553.4	
Flow Change	-4.1	-0.7	0.0	-0.7	-0.7	-5.9	-0.9	-1.6	-8.1	-4.0	-4.7	-0.9	
Percent Change	-0.4%	-0.1%	0.0%	-0.1%	-0.1%	-0.9%	-0.1%	-0.1%	-0.1%	-0.1%	-0.3%	-0.2%	
Maximum Monthly Flo	w Increa	se ^{1,3}											
No Action Flow	858.8	887.4	728.1	663.0	687.3	632.4	3,008.5	5,970.7	5,764.7	2,928.5	1,330.9	1,404.1	
Proposed Action Flow	863.4	887.7	728.4	663.3	687.6	632.9	3,009.4	5,971.1	5,769.4	2,928.5	1,332.8	1,405.6	
Flow Change	4.6	0.3	0.3	0.3	0.3	0.5	0.9	0.4	4.6	0.0	1.9	1.5	
Percent Change	0.5%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	
Dry Year Monthly Aver	age Flov	v (Avera	ge of 1	954, 19	66, 197	7, 2002	, 2004)						
No Action Flow	1,138.6	924.8	775.3	731.0	699.0	856.9	1,097.9	1,453.7	1,309.1	1,170.5	1,063.8	706.9	994.0
Proposed Action Flow	1,138.9	924.8	775.4	731.1	699.1	857.0	1,097.9	1,453.7	1,309.1	1,170.5	1,063.4	706.7	994.0
Flow Change	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-0.5	-0.2	0.0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Average Flow During S	ubstituti	on Years	s^2										
No Action Flow	1,114.1	932.0	758.2	707.4	703.6	821.7	1,099.7	1,779.6	1,842.8	1,246.9	1,217.3	887.7	1,092.6
Proposed Action Flow	1,114.2	932.0	758.3	707.4	703.6	821.3	1,099.6	1,779.6	1,842.7	1,246.8	1,217.1	887.6	1,092.5
Flow Change	0.1	0.0	0.0	0.0	0.0	-0.4	-0.1	0.0	0.0	0.0	-0.2	0.0	0.0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 3-14 Colorado River Below the Confluence with the Eagle River Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cf

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month. ²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. ³The first year of the study period was not included in the analysis of maximum increases and decreases due to start-up conditions in the model. N/A: Not applicable.

under the Proposed Action would have negligible impact on the ability to meet the CWCB instream flow requirements along the Colorado River.

This analysis coincides with a review of flow data for the gage maintained by the Northern Colorado Water Conservancy District (NCWCD), Colorado River below the confluence of the Williams Fork River at Parshall. Since 1992, recorded flows at that gage in August and September were less than 135 cfs for only 4 days in early September 2006. Since 2006 was not a substitution year, Springs Utilities

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION operations had no effect on flows in the Colorado River in that reach.

As discussed in Section 3.3.1.7, Phase 2 of the Grand County SMP identified environmental flows to support ecological needs in relation to fisheries for several stream reaches along the Colorado River. The preferred range for summer environmental flows in the Colorado River is 250 to 450 cfs below the confluence with the Williams Fork River and 600 to 1000 cfs below the confluence with the Blue River. As indicated in the Phase 2 SMP, flow records for gage stations near Parshall and below the KB Ditch, which are operated by NCWCD, and the USGS gage 09058000 Colorado River near Kremmling, show the recommended summer environmental flow ranges are quite commonly present in these reaches. Substitution releases from Williams Fork Reservoir and Wolford Mountain Reservoir contribute to meeting these flow recommendations since they augment naturally occurring flow along the Colorado River in the fall. Flow reductions along the Colorado River under the Proposed Action would be infrequent and minor and would have negligible affect on the ability to meet these flow recommendations particularly since substitution releases augment flows in this reach during the late summer and fall.

Flow changes in the Colorado River near Kremmling reflect changes in the amount and timing of substitution releases from Williams Fork Reservoir and Wolford Mountain Reservoir and the amounts stored as these reservoirs refill. These changes in flows are translated downstream. Slight changes in flow may also occur due to the location, amount and timing of HUP demands and their associated consumptive use and return flows.

Flow changes in the Colorado River downstream of the Eagle River reflect changes in the timing of substitution releases from Williams Fork, Wolford Mountain, and Homestake Reservoirs, reservoir spills, and the additional 250 AF that would be used by West Slope users in the Blue River basin. Slight changes in flow may also occur due to the location, amount and timing of HUP demands and their associated consumptive use and return flows. Downstream of the Eagle River there would be little change in the total flow across the year since the total substitution payback by Springs Utilities and Denver Water would not change at this location. The majority of flow changes downstream of the Eagle River would be due to changes in the timing of reservoir releases and spills.

In summary, average monthly flows in the Colorado River downstream of the confluence with Williams Fork River would decrease up to 6.3 cfs or 3.7% in March and increase by up to 4.1 cfs or 0.2% in June. Monthly average flows in the Colorado River near Kremmling would decrease by up to 8.1 cfs or 0.1% in June and increase by up to 4.6 cfs or 0.7% in October. Monthly average flows in the Colorado River downstream of the Eagle River would decrease by up to 8.1 cfs or 0.1% in June and increase by up to 4.6 cfs or 0.5% in October. In the driest years and substitution years, monthly average flows at all these locations would increase or decrease by less than 0.8 cfs.

The changes in flows under the Proposed Action would be well within the normal range of flows that have historically occurred along the Colorado River at these locations, as shown in Figure 3-12 for the Colorado River near Kremmling. Based on the magnitude and frequency of flow changes along the Colorado River, there would be little to no impact on the BLM's potential Wild and Scenic Rivers designation along the Colorado River.



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Eagle River Basin

Homestake Creek

Flow changes downstream of the Homestake Project on Homestake Creek are shown in Table 3-15. In summary, monthly average flows in Homestake Creek would increase by a maximum of 7.6 cfs or 18.1% in August. In substitution years, average monthly flows would increase by up to 0.6 cfs or 2.3%. There would be no change in flows in the driest years. Flows in Homestake Creek would change under the Proposed Action due to a substitution release from Homestake Reservoir in one year during the 56-year study period. This substitution release would result in a reduced delivery through Homestake Tunnel. The increase in flows under the Proposed Action would be well within the normal range of flows that have historically occurred in Homestake Creek downstream of the Homestake Project, as shown in Figure 3-13.

There would be no impact on the ability to meet the instream flow requirements along Homestake Creek and the Eagle River under the Proposed Action.

Modeled Diffe	erences i	n Flov	v Betw	een No	o Actio	on and	Prop	osed A	ction A	Altern	atives (cfs)		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg	
Maximum Monthly Flow Decrease ¹														
No Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Proposed Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Maximum Monthly Flow	Increase ¹													
No Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	82.9	42.1	N/A		
Proposed Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	83.1	49.8	N/A		
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.6	0.0		
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	18.1%	0.0%		
Dry Year Monthly Averag	ge Flow (A	verage	of 1954	, 1966,	1977, 2	002, 200)4)							
No Action Flow	11.2	5.4	4.2	4.1	3.8	6.7	24.7	69.0	82.9	35.3	20.5	11.3	23.3	
Proposed Action Flow	11.2	5.4	4.2	4.1	3.8	6.7	24.7	69.0	82.9	35.3	20.5	11.3	23.3	
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Average Flow During Sub	stitution	Years ²												
No Action Flow	10.4	6.6	4.9	4.2	4.0	5.7	19.8	55.6	68.2	49.0	25.7	14.1	22.3	
Proposed Action Flow	10.4	6.6	4.9	4.2	4.0	5.7	19.8	55.6	68.2	49.0	26.3	14.1	22.4	
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	0.2%	

Table 3-15Homestake Creek below Homestake Project at USGS Gage 09064000Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. N/A: Not applicable.



Homestake Reservoir

Refer to Table 3-16 for a summary of monthly average changes in contents in Homestake Reservoir. Changes in contents at Homestake Reservoir under the Proposed Action would be infrequent and minor. End-of-month contents would decrease in seven months during the 56-year study period by up to 469 AF or 18.9% in August. Contents would decrease under the Proposed Action due to a substitution release from Homestake Reservoir in one year during the study period.

Table 3-16
Homestake Reservoir
Modeled Differences in Content Between No Action and Proposed Action Alternatives (AF)

Modeled Differences in Content Detween No Action and Proposed Action Alternatives (AF)													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Maximum Monthly Content Decrease ¹													
No Action Content	2,464	2,462	2,471	2,482	2,484	N/A	N/A	N/A	N/A	8,118	4,895	4,814	
Proposed Action Content	1,998	1,996	2,004	2,014	2,015	N/A	N/A	N/A	N/A	8,111	4,426	4,347	
Content Change	-466	-466	-467	-468	-469	0	0	0	0	-7	-469	-467	
Percent Change	-18.9%	-18.9%	0.0%	-18.9%	-18.9%	0.0%	0.0%	0.0%	0.0%	-0.1%	-9.6%	-9.7%	
Maximum Month	ly Conte	nt Increa	se ¹										
No Action Content	18,967	N/A	14,187	N/A	N/A	N/A	169	5,052	17,401	N/A	29,055	N/A	
Proposed Action Content	18,968	N/A	14,188	N/A	N/A	N/A	170	5,053	17,402	N/A	29,056	N/A	
Content Change	1	0	1	0	0	0	1	1	1	0	1	0	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
Dry Year Content	t (Averag	e of 1954	, 1966, 19	977, 2002,	, 2004)								
No Action Content	25,768	25,016	25,038	25,063	25,068	20,981	13,410	17,249	19,324	19,137	17,786	16,190	
Proposed Action Content	25,768	25,016	25,038	25,063	25,068	20,981	13,410	17,249	19,324	19,137	17,786	16,190	
Content Change	0	0	0	0	0	0	0	0	0	0	0	0	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Average Content	During S	ubstitutio	on Years ²	2									
No Action Content	24,860	24,555	24,577	24,602	24,607	19,327	11,170	16,221	21,104	19,592	18,357	17,279	
Proposed Action Content	24,824	24,519	24,541	24,566	24,571	19,327	11,170	16,221	21,104	19,592	18,321	17,242	
Content Change	-36	-36	-36	-36	-36	0	0	0	0	-1	-37	-37	
Percent Change	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. N/A: Not applicable.



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South Platte River Basin

Middle Fork South Platte River

Flow changes downstream of Montgomery Reservoir on the Middle Fork South Platte River are shown in Table 3-17. Springs Utilities' flow measurements at the outlet of Montgomery Reservoir were used to evaluate changes in streamflows along the Middle Fork South Platte River. Changes in flow reflect a 6% transit loss which would be assessed on deliveries from Montgomery Reservoir to Elevenmile Canyon Reservoir per the 2003 MOA. In summary, average monthly flows in the Middle Fork South Platte River would decrease by 34.1 cfs or 61.6% and increase by 4.3 cfs or 14.6% in August. The decrease in flows would be greater than 7 cfs in only one month during the study period. In the driest years and substitution years, average monthly flows in

Table 3-17
Middle Fork South Platte River below Montgomery Reservoir ³
Modeled Differences in Flow Between No Action and Proposed Action Alternatives (cfs)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg	
Maximum Mont	Maximum Monthly Flow Decrease ¹													
No Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	55.3	N/A		
Proposed Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21.2	N/A		
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-34.1	0.0		
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-61.6%	0.0%		
Maximum Mont	hly Flow	v Increas	se ¹											
No Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29.6	N/A		
Proposed Action Flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	33.9	N/A		
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0		
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.6%	0.0%		
Dry Year Month	ly Avera	age Flow	(Avera	ge of 19	54, 1966	, 1977, 2	2002, 200)4)						
No Action Flow	2.9	0.1	0.0	0.0	0.0	0.0	0.7	16.7	33.7	28.7	30.6	6.9	10.0	
Proposed Action Flow	2.9	0.1	0.0	0.0	0.0	0.0	0.7	16.7	33.7	28.7	27.5	6.9	9.8	
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	-0.3	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-10.0%	0.0%	-2.5%	
Average Flow D	uring Su	bstitutio	on Years	2										
No Action Flow	2.8	0.1	0.0	0.0	0.0	0.0	0.9	19.8	40.1	36.2	26.8	7.9	11.2	
Proposed Action Flow	2.8	0.1	0.0	0.0	0.0	0.0	0.9	19.8	40.1	36.2	23.0	7.9	10.9	
Flow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	-0.3	
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-14.3%	0.0%	-2.8%	

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004.

³ Middle Fork South Platte River flows below Montgomery Reservoir were assumed to equal the measured outflow to the river. Measured outflows were not available prior to 1990, therefore, monthly flows prior to 1990 were assumed to be the average of flows from 1990 through 2005.

N/A: Not applicable.



August would decrease by 3.8 cfs or 14.3%. The decrease in flows under the Proposed Action would be well within the normal range of flows that have historically occurred in the Middle Fork South Platte River.

Flows in the Middle Fork South Platte River would change under the Proposed Action due to differences in releases from Montgomery Reservoir. Under the Proposed Action, less water would be released from Montgomery Reservoir to payback Denver Water for substitution releases made for Springs Utilities on the West Slope. Under the Proposed Action, Denver Water would release less water from Williams Fork and Wolford Mountain Reservoirs to meet Springs Utilities' substitution obligation, therefore, Springs Utilities' releases from Montgomery Reservoir to payback Denver Water would also decrease. Flows in the Middle Fork South Platte River would change in eight months during the 56-year study period.

The only potential impact on CWCB instream flow rights along the Middle Fork South Platte River below Montgomery Reservoir would be a reduction in the amount of water added to the river below the reservoir. There would be no increase in depletions to the Middle Fork South Platte River under the Proposed Action, however, less water would be released from Montgomery Reservoir to payback Denver Water for substitution releases made for Springs Utilities on the West Slope as described above. A review of Springs Utilities' flow measurements at the outlet of Montgomery Reservoir indicates there would be no impact on the ability to meet the instream flow requirements along the Middle Fork South Platte River below Montgomery Reservoir under the Proposed Action alternative.

Montgomery Reservoir

Refer to Table 3-18 for a summary of monthly average changes in contents in Montgomery Reservoir. In summary, endof-month contents in Montgomery Reservoir would decrease by a maximum of 271 AF or 24.1% and increase by a maximum of 2,096 AF or 355%. The change in contents would be greater than approximately 400 AF in only one year during the study period. In the driest years and substitution years, average end-of-month contents would decrease by up to 250 AF or 11.1% and increase by up to 218 AF or 6.4%.

Changes in content at Montgomery Reservoir would primarily occur due to differences in the amount of water Springs Utilities would release to payback Denver Water for substitution releases on the West Slope. In substitution years when there is sufficient water in Upper Blue Reservoir to fully payback Springs Utilities' substitution obligation there would be no water released from Montgomery Reservoir for Denver Water under both alternatives. In years, when the contents in Upper Blue Reservoir are not sufficient to fully pack back the substitution obligation, Springs Utilities would release water from Montgomery Reservoir to Elevenmile Canyon Reservoir to payback Denver Water for substitution releases on the West Slope. Under the Proposed Action, Denver Water's substitution releases for Springs Utilities would decrease on average, therefore, Springs Utilities' releases from Montgomery Reservoir to payback Denver Water would also decrease. If less water is released from Montgomery Reservoir to the Middle Fork South Platte River under the Proposed Action, contents would be higher on average from August through March following



Modeled Differences in Content Between No Action and Proposed Action Alternatives (AF)											(AF)	
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Maximum Montl	hly Cont	ent Dec	rease ¹						•			
No Action Content	3,881	3,534	2,994	2,455	1,876	1,124	N/A	N/A	N/A	N/A	3,568	3,586
Proposed Action Content	3,610	3,263	2,723	2,184	1,604	853	N/A	N/A	N/A	N/A	3,302	3,320
Content Change	-271.1	-271.1	-271	-271.1	-271.1	-271.1	0.0	0.0	0.0	0.0	-266.0	-266.0
Percent Change	-7.0%	-7.7%	0.0%	-11.0%	-14.5%	-24.1%	0.0%	0.0%	0.0%	0.0%	-7.5%	-7.4%
Maximum Montl	hly Cont	ent Inci	rease ¹						•			
No Action Content	1,144	590	206	206	206	1,119	N/A	N/A	N/A	N/A	2,548	2,190
Proposed Action Content	3,240	2,686	2,113	1,541	1,019	1,525	N/A	N/A	N/A	N/A	4,644	4,286
Content Change	2,096	2,096	1,908	1,335	814	405	0	0	0	0	2,096	2,096
Percent Change	183%	355%	927%	649%	395%	36%	0%	0%	0%	0%	82%	96%
Dry Year Conter	nt (Avera	age of 19	954, 1966	, 1977, 20	002, 2004)						
No Action Content	4,145	3,774	3,331	3,056	2,255	1,514	1,004	1,853	3,736	4,154	2,922	2,706
Proposed Action Content	3,895	3,524	3,081	2,806	2,005	1,307	1,004	1,853	3,736	4,154	3,109	2,893
Content Change	-250	-250	-250	-250	-250	-207	0	0	0	0	187	187
Percent Change	-6.0%	-6.6%	-7.5%	-8.2%	-11.1%	-13.6%	0.0%	0.0%	0.0%	0.0%	6.4%	6.9%
Average Content	During	Substit	ution Yea	ars ²					•			
No Action Content	3,822	3,507	3,053	2,642	1,938	1,213	732	1,612	3,822	4,080	3,433	3,399
Proposed Action Content	3,825	3,510	3,042	2,586	1,837	1,056	732	1,612	3,822	4,080	3,651	3,617
Content Change	3	3	-11	-55	-100	-157	0	0	0	0	218	218
Percent Change	0.1%	0.1%	-0.4%	-2.1%	-5.2%	-12.9%	0.0%	0.0%	0.0%	0.0%	6.3%	6.4%

Table 3-18 Montgomery Reservoir odeled Differences in Content Between No Action and Proposed Action Alternatives (AF

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase

means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month.

²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004.

N/A: Not applicable.

substitution years. There would likely be no change in contents from April through July since Montgomery Reservoir is typically drawn down to the dead pool by the end of April due to deliveries through the Blue River Pipeline through the winter months. Increased storage under the Proposed Action would likely result in higher deliveries through the Blue River Pipeline to Springs Utilities North Slope reservoirs through the winter months. For the purposes of this analysis it was assumed there would no change in diversions to Montgomery Reservoir from the Middle Fork South Platte



River, particularly since the reservoir's water right is relatively junior and storage contents at the end of April would be similar under both alternatives.

Montgomery Reservoir contents would also decrease slightly in non-substitution years due to a reduction in Hoosier Tunnel deliveries under the Proposed Action. The release of 250 AF each year from Upper Blue Reservoir for West Slope users in the Blue River basin would decrease the amount of water delivered through the Hoosier Tunnel to Montgomery Reservoir by a commensurate amount. Deliveries through the Blue River Pipeline to Springs Utilities' North Slope reservoirs through the winter months would likely decrease by 250 AF due to this reduction in storage contents. There would likely be no change in contents from April through July since Montgomery Reservoir is typically drawn down to the dead pool by the end of April.

Elevenmile Canyon Reservoir

Refer to Table 3-19 for a summary of monthly average changes in contents in Elevenmile Canyon Reservoir. There would likely be no change in Elevenmile Canyon Reservoir contents under the Proposed Action because the reservoir is operated for long-term drought storage and typically remains full during most years. In substitution years when there is sufficient water in Upper Blue Reservoir to fully payback Springs Utilities' substitution obligation there would be no water released from Montgomery Reservoir to Elevenmile Canyon Reservoir under both alternatives. In years when the contents in Upper Blue Reservoir are not sufficient to fully payback Spring Utilities' substitution obligation, water would be released from Montgomery Reservoir to Elevenmile Canyon Reservoir to payback Denver Water for substitution

releases made for Springs Utilities. Under the Proposed Action, more water would be released from Springs Utilities' accounts in Wolford Mountain and Homestake Reservoirs in lieu of Denver Water's substitution releases for Springs Utilities from Wolford Mountain Reservoir and/or Williams Fork Reservoir. As a result, the amount of water released from Montgomery Reservoir would decrease under the Proposed Action in eight months during the 56-year study period. Releases from Montgomery Reservoir would likely be passed through Elevenmile Canyon Reservoir since Elevenmile Canyon Reservoir would typically be full.

3.3.3 Cumulative Impacts

Actions that meet all of the following criteria were considered reasonably foreseeable and were included in the cumulative effects analysis:

- The action would occur within the same geographic area.
- The action would affect the same environmental resources and measurably contribute to the total resource impact.
- There is reasonable certainty as to the likelihood of the action occurring; the action is not speculative.
- There is sufficient information available to define the action and conduct a meaningful analysis.



Modele	d Differ	ences in	Conter	nt Betw	een No	Action	ı and P	ropose	d Actio	n Altern	atives (Al	F)
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Maximum Mont	hly Conte	nt Decrea	ase ¹									
No Action Content	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Proposed Action Content	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Content Change	0	0	0	0	0	0	0	0	0	0	0	0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maximum Mont	hly Conte	nt Increa	se ¹									
No Action Content	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Proposed Action Content	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Content Change	0	0	0	0	0	0	0	0	0	0	0	0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry Year Conter	nt (Averag	ge of 1954	, 1966, 1	977, 200	2, 2004)							
No Action Content	95,465	95,377	95,281	95,054	94,929	94,804	94,742	94,689	94,819	95,408	95,614	95,062
Proposed Action Content	95,465	95,377	95,281	95,054	94,929	94,804	94,742	94,689	94,819	95,408	95,614	95,062
Content Change	0	0	0	0	0	0	0	0	0	0	0	0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Average Conten	t During S	Substituti	on Years	s^2								
No Action Content	95,155	94,892	94,512	93,724	93,064	92,443	92,038	91,743	91,827	92,334	92,287	91,627
Proposed Action Content	95,155	94,892	94,512	93,724	93,064	92,443	92,038	91,743	91,827	92,334	92,287	91,627
Content Change	0	0	0	0	0	0	0	0	0	0	0	0
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 3-19 Elevenmile Canyon Reservoir Jodeled Differences in Content Between No Action and Proposed Action Alternatives (AF)

¹ A decrease means that the quantity for the Proposed Action is less than the comparable quantity for the No Action alternative, and an increase means that the quantity in the Proposed Action is greater than the comparable quantity for the No Action alternative.

The maximum monthly flow increase and decrease due to the Proposed Action may occur in different years from month to month. ²Subsitution years during the 56-year study period include 1954, 1955, 1961, 1963, 1964, 1966, 1977, 1981, 1992, 1994, 2001, 2002, and 2004. N/A: Not applicable.

Cumulative Effects for the Proposed Action

Cumulative changes in reservoir contents and streamflows, including those segments of the Blue and Colorado rivers potentially eligible for Wild and Scenic Rivers designation, resulting from the Proposed Action would follow a pattern similar to direct effects.

Within the Study Area for this EA, the reasonably foreseeable projects would primarily affect flows along the Colorado River from the confluence with the Williams Fork River downstream. Growth in Summit County and the exchanges applied for in



Case No. 03CW314 would affect flows in the Blue River basin, however, increased water demands and depletions are expected to occur primarily in areas below Dillon Reservoir. It is possible that flows could be reduced below the Continental-Hoosier System in late summer/early fall if Springs Utilities exercises their pending exchange rights. These additional diversions could potentially overlap with flow reductions associated with differences in substitution payback in August under the Proposed Action. However, typically flows are higher in August in years that substitution releases are made from Upper Blue Reservoir. In addition, flows in the Blue River would generally need to be higher than average for exchange potential to exist. While it is difficult to predict the frequency and magnitude that these exchange rights would be exercised, the cumulative effect of Springs Utilities' pending exchange rights is expected to be negligible to minor given the circumstances that must occur for exchange potential to exist. The Homestake Project to Blue River exchange has only been operated once in the past in late July and August in 1966.

The cumulative effects projects discussed above would likely have negligible effect on Springs Utilities' Continental-Hoosier System diversions under the Blue River Decree and their corresponding substitution obligation since that system is located high in the Blue River basin. It is possible that Springs Utilities' substitution obligation may increase slightly in the future if Xcel Energy's Shoshone Power Plant call comes on sooner and/or extends for a longer period in years that Green Mountain Reservoir does not fill.

The potential hydrologic effects associated with reasonably foreseeable actions focused on dry years since the Proposed Action

would cause flow changes primarily during substitution years, which coincide with dry years. There would be negligible cumulative effects from the Proposed Action in average and wet years since flow changes in those years would be infrequent and minor and generally a result of differences in reservoir spills. In dry years, the critical low-flow period along the Colorado River that coincides with potential flow reductions under the Proposed Action is August and September. Therefore, the following analysis focuses on potential flow changes associated with reasonably foreseeable actions in dry years during August and September, which would occur in combination with flow reductions associated with the Proposed Action.

There would be no change in flows along the Colorado River in dry years due to the WGFP and Denver Water's Moffat Collection System Project because the Windy Gap Project and Denver Water already divert the maximum amount physically and legally available under their existing water rights without additional storage in their systems in those years.

The expiration of Denver Water's Contract with Big Lake Ditch would result in less depletion and a corresponding increase in flows on average in the Williams Fork River basin. This increase in flow may be translated downstream to the Colorado River depending on whether Denver Water stores additional water in Williams Fork Reservoir when their water rights are in priority.

Increased water use and wastewater discharges associated with urban growth in Grand and Summit counties would result in changes in the quantity and timing of streamflows along the Colorado River. However, cumulative changes in flows in the fall in dry years would be minor since



the majority of additional water diverted for indoor use (80% to 90%) would be returned to the river as wastewater effluent. Additional diversions in the fall would also be limited since municipal water providers already typically divert the maximum amount physically and legally available under their existing water rights in dry years similar to Denver Water and the Windy Gap Project.

The reasonably foreseeable action with the greatest potential to effect flows along the Colorado River in dry years would be a reduction of Xcel Energy's Shoshone Power Plant call. Increased in-priority diversions and reduced reservoir releases for exchange and/or substitution under a call reduction would decrease flows in the Colorado River during the relaxation period. However, the Shoshone call relaxation could be invoked between March 14 and May 20, therefore, there would be no impact on flows in the months of August and September from this action.

Increased contract releases from Wolford Mountain Reservoir would increase flows in Muddy Creek below the reservoir and along the Colorado River mainstem in August and September. Since contract demands would likely be out-of-priority in dry years during the fall, contract releases would be made to cover those depletions. This increase in flow in the fall could offset decreases in flow resulting from the Proposed Action.

Reductions in releases from Williams Fork and Wolford Mountain reservoirs to meet USFWS flow recommendations for the 15-Mile Reach would decrease flows along the Colorado River downstream of the confluence of the Williams Fork during the late summer and early fall. Historical releases for fish flow purposes from 2000 through 2006 were reviewed. Typically

releases are on the order of 50 to 75 cfs. however, the maximum amount released from Wolford Mountain Reservoir and Williams Fork Reservoir was 140 cfs and 150 cfs, respectively. Typically these releases are offset in terms of timing however, occasionally releases from both reservoirs are made at the same time. While releases from these reservoirs for the agreed upon flow recommendations in the 15-mile reach (i.e., 10,825 AF) would decrease in the future, it is possible a portion of this water would be released from Lake Granby instead. The ongoing 10,825 Study is evaluating options to release a portion of the 10,825 obligation from Lake Granby. This would reduce potential impacts on flows high in the basin associated with reductions in releases from Williams Fork and Wolford Mountain reservoirs.

During August and September, the Proposed Action would result in average monthly flow reductions of up to 0.2 cfs or 0.1% in dry years and 0.6 cfs or 0.2% in substitution years in the Colorado River below the confluence with the Williams Fork River. The reasonably foreseeable projects that reduce flows in August and September include increased water use due to urban growth in Grand and Summit counties and reductions in releases from Williams Fork and Wolford Mountain reservoirs for fish flow purposes. If these actions reduce average monthly flows in August and September by an additional 150 cfs in dry years below the confluence with the Williams Fork River, the incremental effect of the Proposed Action would still be a flow reduction of less than 0.4% on average at that location. A flow reduction of 150 cfs was selected because that is the maximum amount that has been released from Williams Fork Reservoir for fish flow purposes in relation to the agreed upon flow recommendations in the 15-mile reach (i.e.,



10,825 AF). In August and September of dry years, the potential cumulative effects on flows along the Colorado River from the confluence with the Williams Fork River downstream to the confluence with the Blue River would primarily be a reduction in the amount of water *added* to the river as compared to the No Action alternative since releases for fish flow purposes and substitution payback augment flows in that reach. The Proposed Action does not cause depletions in this reach of the river.

A similar analysis was conducted for the Colorado River near Kremmling gage. The Proposed Action would result in average monthly flow reductions of up to 0.6 cfs or 0.1% in dry years and 0.8 cfs or 0.1% in substitution years in the Colorado River near Kremmling gage. The reasonably foreseeable projects that reduce flows in August and September include increased water use due to urban growth in Grand and Summit counties and reductions in releases from Williams Fork and Wolford Mountain reservoirs for fish flow purposes. If these actions reduce average monthly flows in August and September by an additional 300 cfs in dry years, the incremental effect of the Proposed Action would still be a flow reduction of less than 0.1%. A flow reduction of 300 cfs was selected because that is approximately the maximum amount that has been released from both Williams Fork and Wolford Mountain reservoirs for fish flow purposes in relation to the agreed upon flow recommendations in the 15-mile reach (i.e., 10,825 AF).

The incremental cumulative hydrologic effect of the Proposed Action would be negligible to minor in comparison to other past actions and the reasonably foreseeable actions described above. In general, the reasonably foreseeable actions would result in additional water use in the future, which would cumulatively reduce streamflows and reservoir contents in the Study Area. While the magnitude of hydrologic changes under the Proposed Action would be similar under cumulative effects, the percentage change in flows and reservoir contents under the Proposed Action may be slightly higher under cumulative effects than described for direct effects.

3.4 Hydroelectric Generation

Six hydroelectric facilities occur within the Study Area and were evaluated in this section (refer to Figure 3-1 for the location of these facilities).

- 1) Dillon Reservoir Power Plant
- 2) Roberts Tunnel Power Plant
- 3) Green Mountain Reservoir Power Plant
- 4) Shoshone Power Plant
- 5) Mt. Elbert Power Plant
- 6) Williams Fork Reservoir Power Plant

For the purposes of this analysis, it is assumed all of the power plants have the same generation efficiencies. In other words, if the same volume of water is passed through one hydroelectric facility instead of another hydroelectric facility due to an exchange or substitution, then the same power is generated.

3.4.1 Affected Environment

Dillon Reservoir Power Plant

Two power plants are associated with the Roberts Tunnel Collection System. The first is the Dillon Reservoir Power Plant, owned and operated by Denver Water, which generates power from Dillon Reservoir releases to the Blue River. The outlet works



from the Dillon Reservoir are equipped with a hydroelectric generating facility, with a capacity of about 110 cfs. Power releases from Dillon Reservoir are discharged to the power plant through a penstock (pipe or conduit) branching off of the outlets works tunnel. The Dillon Reservoir Power Plant contains a single turbine with a rated capacity of 1,750 kilowatt (Kw). When possible releases from the Dillon Reservoir to the Blue River are maintained between 50 and 110 cfs, the latter being the flow required for full power generation. There is no direct flow right for the hydroelectric operation (CDWR 2007).

Roberts Tunnel Power Plant

The Roberts Tunnel Power Plant associated with the Roberts Tunnel Collection System is owned and operated by Denver Water. The Roberts Tunnel Power Plant generates power from Dillon Reservoir releases through Roberts Tunnel. Power releases from the Roberts Tunnel are conveyed to the Roberts Tunnel Power Plant through a penstock bifurcating off of the tunnel upstream of the outlet works. The power plant consists of a single turbine connected to a generator with a rated capacity of 5.5 megawatts (MW).

Green Mountain Reservoir Power Plant

The Green Mountain Reservoir Power Plant, owned and operated by Reclamation, is a 26 MW facility located at the base of Green Mountain Reservoir Dam. It is one of six power plants - the only one on the West Slope - in the C-BT Project. Green Mountain Reservoir was constructed for the primary purposes of providing replacement storage for transmountain diversions by the C-BT Project and to preserve existing and future water rights and interests on the West Slope. Power generation is a secondary purpose for Green Mountain Reservoir. Releases from the reservoir are made through the Green Mountain Reservoir Power Plant. The Green Mountain Reservoir Power Plant has a decree for 1,726 cfs (CDWR 2007).

Historically, power interference has been administered on a year-to-year basis. Springs Utilities' operations on the Blue River impacts Reclamation's ability to produce hydropower; therefore Springs Utilities is required to replace the power that would have been generated by the water that Springs Utilities diverts under its 1948 water rights. During the months the Blue River System is operated, Springs Utilities provides Reclamation with daily operations data. Reclamation then determines the amount of power interference calculated at a rate of 210 kilowatt-hours per AF of depletion. Since Springs Utilities owns and operates power generation facilities, power interference is typically repaid with power. Springs Utilities coordinates with WAPA to deliver the required amount of replacement power at a time and location determined by WAPA. Springs Utilities may also pay WAPA with cash.

Shoshone Power Plant

The Shoshone Power Plant, owned by Xcel Energy, is a 3 MW facility located on the mainstem of the Colorado River in Glenwood Canyon eight miles upstream of Glenwood Springs. The plant has two identical horizontal turbine-generator units. This facility has water rights to divert 1,408 cfs from the Upper Colorado River.

Water is diverted at the Shoshone Power Plant on a year-round basis, although the plant is often closed during January for maintenance and power production is curtailed in the winter in direct proportion to the decrease in flow in the river. Below 800 cfs, one unit is normally shut down and the full flow is routed through the other unit. Both units are typically operated at full



capacity when the flow at Dotsero (eight miles upstream of the power plant) is 1,408 cfs or above. There is no consumptive use associated with the operation of the power plant and all diverted water is returned back to the river at a point located about three miles downstream of the diversion dam. There are no other water rights in the intervening reach of the river (CDWR 2007).

During times when the streamflow at the Dotsero gage is less than 1,408 cfs, the power plant diverts generally all of the river flow, leaving only a small amount of leakage through the diversion dam as the flow in the river throughout the three mile reach. At times when the flow is less than 1,250 or 1,408 cfs, the division engineer strictly enforces the call by the Shoshone Power Plant. The right for 1,250 cfs is senior in comparison with the majority of upstream water rights, so the Shoshone Power Plant is generally the controlling call on the river during the late summer, winter, and early spring. During unusually dry years, the Shoshone call can be enforced throughout the period of late June through mid-April of the following year. During unusually wet years, the call does not go into effect until November or December (CDWR 2007).

Mt. Elbert Power Plant

The Mt. Elbert Power Plant is a 200 MW facility owned and operated by Reclamation near Leadville, Colorado. This facility is a pumped-storage hydroelectric plant, which is a facility with both an upper and lower reservoir for water storage. It operates by releasing water for generation from the upper reservoir to the lower reservoir during periods of high demand and then pumping the water back into the upper reservoir during the evening or other periods of low demand. Pumped-storage plants allow existing off-peak generation to be shifted to peak periods, and thus reduce the need for new generating plants (Renewable Resource Generation Development Areas Task Force 2007).

The Mt. Elbert Power Plant generates hydroelectric power for the Fryingpan-Arkansas Project and supports peak capacity needs of the interconnected power system. The power generated at Mt. Elbert derives from water originally pumped from Twin Lakes Reservoir, which acts as the Mt. Elbert afterbay, and also from supplemental water delivered from Turquoise Reservoir via the Mt. Elbert conduit to the Mt. Elbert forebay. The majority of the power plant structure is below ground on the edge of Twin Lakes Reservoir. Water is stored in the forebay to build up "head" or energy before being dropped down over half a mile in elevation to the hydroelectric Mt. Elbert Plant. Water exiting the Mt. Elbert Power Plant helps to fill Twin Lakes Reservoir.

Williams Fork Reservoir Power Plant

The Williams Fork Reservoir Power Plant is a 3 MW facility on a secondary outlet from the Williams Fork Reservoir and is owned and operated by Denver Water. The primary purpose of Williams Fork Reservoir is to provide replacement water for out-ofpriority diversions by Denver Water and to generate power. Power operations generally influence reservoir releases during much of the year. Depending upon the available pressure head in the reservoir and the number of turbines in operation, the flow required for hydroelectric generation ranges from about 100 cfs (1 MW) to 280 cfs (3 MW) (CDWR 2007). Most of the power generated at Williams Fork Reservoir Power Plant is provided to Reclamation as partial payment for power generation interference caused to the Green Mountain Reservoir Power Plant by Denver Water's upstream depletions to the Blue River at Dillon



Reservoir and Roberts Tunnel. The minimum flow for the power plant to function is 105 cfs and the maximum flow is 300 cfs.

3.4.2 Environmental Consequences

3.4.2.1 No Action Alternative

Under the No Action alternative, Springs Utilities would continue to operate according to the Blue River Decree during substitution years. Therefore, hydroelectric power generation would not change as a result of Springs Utilities' substitution operations. Per the Blue River Decree, Springs Utilities would continue to pay Reclamation and WAPA at Green Mountain Reservoir Power Plant on an as-needed basis for lost power generation due to their diversions from the Blue River. As a result, this alternative is expected to have no direct, indirect, or cumulative impacts on hydroelectric power generation.

3.4.2.2 Proposed Action

Under the Proposed Action, a long-term Power Interference Agreement would be formalized with Reclamation and WAPA. Under the agreement, Springs Utilities would compensate Reclamation and WAPA for lost hydropower in substitution years with power generated from their own facilities, at a time and location determined by WAPA. Springs Utilities may pay WAPA in cash or with power.

Model results indicate there would be 13 substitution years during the 56-year study period from 1950 through 2005. In those years, there would be no change in Springs Utilities' *total* substitution obligation between the No Action and Proposed Action alternatives because there would be no difference in the deficit at Green Mountain Reservoir in those years. Springs Utilities

would divert the same amount of water under the Proposed Action from the Blue River at their Continental-Hoosier System diversion points. As a result, there would be little to no change in hydropower generation under the Proposed Action. However, even though the Springs Utilities' total substitution obligation would not change under the Proposed Action, the timing and sources of water used for substitution payback would change. Small changes in the timing and amount of releases from Dillon Reservoir, Green Mountain Reservoir, Homestake Reservoir, Wolford Mountain Reservoir, and Williams Fork Reservoir could have a minor impact on hydroelectric power generation.

The biggest difference in the payback of the substitution obligation under the Proposed Action would occur when the substitution obligation is greater than 2,100 AF. The substitution bill is greater than 2,100 AF in approximately seven of the substitution years during the 56-year study period. In those years, contents in the Upper Blue Reservoir would not be sufficient to fully pay back the substitution obligation. Therefore, under the Proposed Action more water would be released from Springs Utilities' accounts in Wolford Mountain and Homestake reservoirs while Denver Water's substitution releases for Springs Utilities from either Wolford Mountain Reservoir or Williams Fork Reservoir would decrease. Changes in hydropower generation at each facility due to changes in the timing and source of water used for substitution payback are discussed below.

Dillon Reservoir Power Plant

Changes in releases from Dillon Reservoir to the Blue River would occur due to small differences in reservoir end-of-month contents when Dillon Reservoir fills and spills. These flow changes would occur in



part to the release of 250 AF from Upper Blue Reservoir for West Slope users in the Blue River basin under the Proposed Action. Since this water would be used to extinction it would not be available for storage in Dillon Reservoir, in which case Dillon Reservoir contents would decrease by 250 AF in substitution years under the Proposed Action. Under the No Action alternative, this water would be delivered through the Hoosier Tunnel to Montgomery Reservoir. Differences in Dillon Reservoir contents would carry forward from year to year, which would result in changes in spills in years when the reservoir fills. Since there would be no change in releases from Dillon Reservoir in the 50 cfs to 110 cfs range, there would be no change in hydroelectric power generation at the Dillon Reservoir Power Plant. No impacts are anticipated.

Roberts Tunnel Power Plant

The Roberts Tunnel Power Plant generates power from Dillon Reservoir releases through Roberts Tunnel. Since there would be no difference in the amount of water diverted through Roberts Tunnel under the Proposed Action, there would be no impact on hydropower generation at this facility. Minor changes in inflow to Dillon Reservoir described in Section 3.3.2 would result in changes in storage contents, however, there would be no impact on Roberts Tunnel deliveries since there is always sufficient storage in Dillon Reservoir and water available under the Roberts Tunnel direct flow water right to meet that demand.

Green Mountain Reservoir Power Plant

Springs Utilities would divert the same amount of water under the Proposed Action from the Blue River at their Continental-Hoosier System diversion points. As a result, hydropower generation at the Green

Mountain Reservoir Power Plant would not change in substitution years under the Proposed Action. There could be a minor adverse short-term impact on hydropower generation in years that Green Mountain Reservoir fills and spills. There would be a small decrease in spills from Green Mountain Reservoir in some years under the Proposed Action, due primarily to reduced inflow when Dillon Reservoir fills. Reduced spills from Dillon Reservoir would decrease the inflow to Green Mountain Reservoir, and therefore, reduce the amount and possibly timing of spills at Green Mountain Reservoir. This could decrease the amount of water released through the Green Mountain Reservoir Power Plant, however, these changes are expected to be negligible.

Shoshone Power Plant

To evaluate potential changes in hydroelectric power generation at the Shoshone Power Plant, flow changes in the Colorado River near Kremmling were evaluated. Flow changes at this location reflect changes in the amount and timing of substitution releases from Williams Fork Reservoir and Wolford Mountain Reservoir and the amounts stored as these reservoirs refill. These changes in flows are translated downstream. Slight changes in flow may also occur due to the location, amount, and timing of HUP demands and their associated consumptive use and return flows. The maximum increases and decreases in flow would be less than 1% at the Colorado River near Kremmling, therefore, changes in hydropower generation are expected to be minor adverse and short-term.

Mt. Elbert Power Plant

Under the No Action alternative, substitution releases would not be made from Springs Utilities' Homestake Reservoir



account. However, under the Proposed Action, substitution releases from Springs Utilities' account in Homestake Reservoir would occur in one year out of the 56-year study period in the amount of 469 AF, as shown in Table 3-1. Due to this substitution release, Springs Utilities' diversions through the Homestake Tunnel would decrease by a comparable amount. This decrease in diversion through the Homestake Tunnel could result in a minor adverse short-term decrease in power generation at the Mt. Elbert Power Plant under the Proposed Action.

Williams Fork Reservoir Power Plant

Changes in releases from Williams Fork Reservoir would occur due to differences in the amount and timing of water released from Williams Fork Reservoir for substitution payback. Under the Proposed Action, substitution releases from Wolford Mountain and Homestake reservoirs would increase, while substitution releases from Williams Fork Reservoir would decrease by a commensurate amount. A reduced substitution release under the Proposed Action would result in higher contents in Williams Fork Reservoir. As a result, less water would be stored in subsequent months depending on storage targets at Williams Fork Reservoir as the reservoir refills. Changes in reservoir releases in some months would also occur due to differences in the timing of substitution releases from Williams Fork Reservoir under the Proposed Action. While the total amount released from Williams Fork Reservoir would essentially be the same under both alternatives, the timing of substitution releases may be offset by a few months. Because there would be little to no change in the total amount released from Williams Fork Reservoir, changes in the total hydroelectric power generation at the



Williams Fork Reservoir Power Plant would be negligible. However, there could be minor adverse short-term changes in the timing of hydroelectric power generation in some years.

3.4.3 Cumulative Impacts

The incremental hydrologic effect of the Proposed Action would be negligible to minor in comparison to other past actions and the reasonably foreseeable water-based actions considered in the cumulative effects analysis as described in Section 3.1.3. In general, the reasonably foreseeable actions relevant to this study would result in additional water use in the future, which would reduce streamflows and reservoir contents in the Study Area. While the magnitude of hydrologic changes under the Proposed Action would be similar under cumulative effects, the percentage change in flows and reservoir contents under the Proposed Action may be slightly higher under cumulative effects than described for direct effects. However, hydropower generation operations would be maintained per existing contracts at the facilities described previously. Therefore, there would be no cumulative change to operations at these power plants.

3.5 Water Quality

This section describes the existing water quality in the Study Area per the CDPHE Water Quality Control Commission (WQCC) water quality standards (classifications and designated uses) and qualitatively describes the potential effects of the No Action and Proposed Action alternatives on water quality in streams and reservoirs. Potentially affected river segments and reservoirs in the Study Area are shown in Figure 3-1. It is assumed, for the purposes of this water quality assessment, that any impacts to the existing

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flow conditions of a water body, may in turn, have the potential to change the existing water quality. This section provides a summary of the water quality standards for each of the affected river basins in the Study Area (river basins are shown on Figure 3-1). Any existing water quality concerns such as Total Maximum Daily Load (TMDL) and/or other use protection designations, area also included in this section.

The TMDL process is designed by the Federal Water Pollution Control Act ("Clean Water Act") to insure that all sources of pollutant loading are accounted for when devising strategies to meet Water Quality Standards. Consistent with the Section 3.3 Hydrology, the water quality assessment was conducted on a watershed/basin basis for those waterbodies identified as potentially affected. In order to be consistent with the structure of water quality standards in Colorado, water quality is evaluated on a broader basin basis for the Upper Colorado River Basin and the South Platte River Basins only; these two basins contain potentially affected stream segments.

Issues raised during scoping that relate to water quality are similar to those identified in Section 3.3 Hydrology. These issues include:

- Effects on Colorado River stream flows below the Windy Gap Project diversion point due to using Williams Fork Reservoir as a source of substitution replacement, and
- Effect of transfers on water temperatures in affected streams

In general, water quality conditions correlate to water quantity and flow conditions and therefore any potentially affected stream segments evaluated in Section 3.3 may impact water quality.

Water Quality Standards and Regulations

The "health" of a water body is measured by whether or not it is maintaining the assigned water quality standards. The Water Quality Standards Program in Colorado is a system based on protection of designated uses, also referred to as classifications. Specific uses (such as aquatic life, agriculture, and recreation) have been established by the WQCC and water quality standards (numeric criteria) have been developed to protect those uses. Different uses and standards may be assigned to different portions or segments of a water body.

In Colorado, water quality standards are set for specific water body segments through the use of statewide adopted Table Value Standards (TVS). TVS are the levels that are protective of the uses under general conditions. Segments may have TVS standards or site-specific standards. Sitespecific standards require a great deal more data collection and background information to support their adoption by showing the levels would be protective of the uses of the segment.

In addition to numeric criteria to protect specific uses, WQCC has adopted numeric standards for radionuclides and narrative standards for such parameters as sediment deposition, floating debris, odor, taste, and shore deposits. A summary of the numeric criteria for the Upper Colorado and South Platte River Basins is provided in Appendix C.

Regulation No. 31, the Basic Standards and Methodologies for Surface Water (CDPHE 2008c) defines the use classifications for Recreation, Agriculture, Aquatic Life, and Domestic Water Supply.



Affected Environment 3.5.1

The Study Area encompasses portions of the Upper Colorado River and South Platte River basins. Potentially affected river segments and reservoirs in the Upper Colorado River Basin and South Platte River Basin are discussed in detail in Section 3.3 Hydrology and are presented in Figure 3-1. The existing water quality the Upper Colorado and South Platte River basins are discussed in the following sections.

Upper Colorado River Basin

The potentially affected river segments and reservoirs in the Upper Colorado River Basin are presented in Figures 3-1 and 3-17, and are listed in Table 3-20. Water quality standards for the Upper Colorado River Basin are provided in Regulation No. 33, Upper Colorado River Basin (see Appendix C) (CDPHE 2008d). The water quality appendix provides a summary of the

designated uses and criteria for the waterbodies within the Upper Colorado River Basin.

Waterbodies currently not meeting water quality standards are listed on the 303(d) List and are provided on associated TMDL. The WQCC updates the 303(d) List of impaired stream segments every two years. Section 303(d) List Water-Quality Limited Stream Segments Requiring TMDLs is stated in Regulation No. 93 (CDPHE 2008e).

Table 3-20 summarizes the potentially affected stream segments within the Upper Colorado River Basin and are shown on Figure 3-17.

Reservoir

TMDLs for the Upper Colorado River Basin												
Segment/ Waterbody ID	Stream Segment	Portion	Parameters	Priority								
COUCEA05a	Eagle River, Belden to Hwy 24 Bridge	All	Cu, Zn*	Н								
COUCEA05b	Eagle River, Hwy 24 Bridge to Martin Creek	All	Zn*	Н								
COUCEA05c	Eagle River, Martin Creek to Gore Creek	All	Zn*	Н								
COUCUC05	Lakes and Reservoirs tributary to the Colorado River from RMNP/ANRA to the	Wolford Mountain	D.O.	L								

Table 3-20

Source: CDPHE 2008c

Notes:

* - Carryover listings from the 1998 303(d) List; All are high priority

Roaring Fork not on National Forest

Cd – Cadmium	Mn – Manganese	H - High
Cu – Copper	Pb – Lead	M - Medium
D.O. – Dissolved Oxygen	Trec – Total recoverable	L - Low
Fe – Iron	Zn – Zinc	



Dillon Reservoir

The WQCC has developed a specific regulation which controls both point sources and nonpoint sources of total phosphorus to Dillon Reservoir over the long term. This regulation is based on a state-local partnership in controlling total phosphorus. Regulation No. 71, Dillon Reservoir Control Regulation (CDPHE 2007a). Specific wasteload and load (nonpoint source) allocations have been established for this reservoir. See Regulation No. 71 for specific information regarding the numeric and narrative criteria.

South Platte River Basin

Potentially affected river segments and reservoirs in the South Platte River basin are presented in Figures 3-1. Water quality standards for the South Platte River Basin are stated in Regulation No. 38, Classifications and Numeric Standards for South Platte River Basin (Appendix C) (CDPHE 2008f). There are no affected river segments within the South Platte River Basin that are classified as impaired.

3.5.2 Environmental Consequences

No Action Alternative

As described in Section 3.3.2 Hydrology, the No Action alternative would have no hydrologic impacts. Rather, stream flows and reservoir contents would continually fluctuate as they have historically under the Blue River Decree. Typically, water quality correlates with surface water fluctuations; thus no impacts to water quality are anticipated under the No Action alternative.

Proposed Action

As described in Section 3.3.2 Hydrology, the Proposed Action would create none to minor short-term impacts to surface water resources. Similarly, none to minimal stream flow changes within all segments of the potentially affected rivers segments in the Upper Colorado River and South Platte River basins and fluctuations within all reservoirs in these river basins would occur infrequently during substitution years and are thus not anticipated to degrade water quality in these water bodies within the Study Area. The greatest potential for water quality impacts is for those stream segments listed in the TMDL tables for the Upper Colorado (refer to Table 3-20 and Figure 3-17). It should be noted that the CDPHE WQCC (Regulation No. 93) TMDL list is updated every two years.

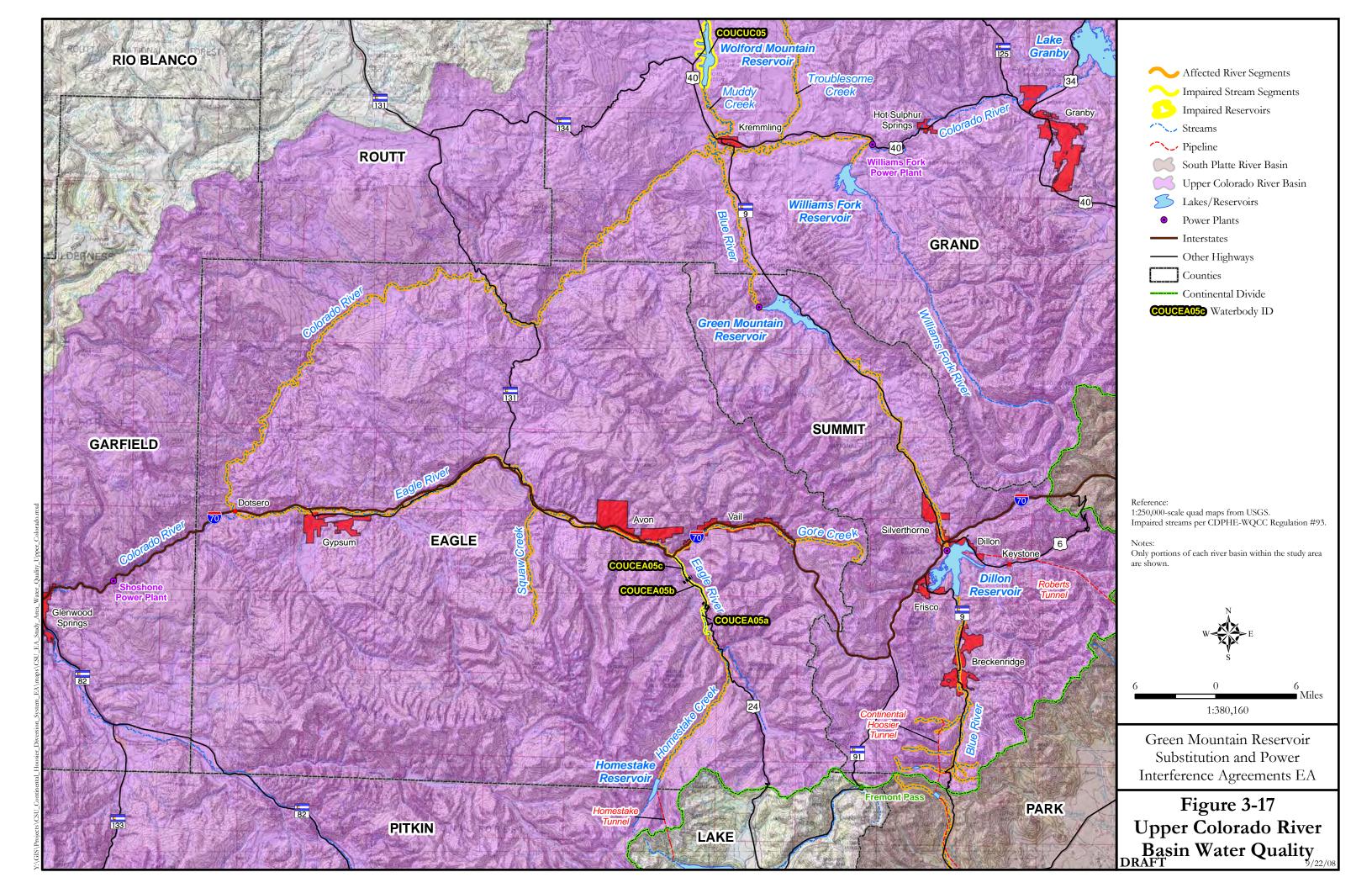
Consistent with the conclusions discussed in Section 3.3.1.7, there will be little to no change in flows under the Proposed Action along the Williams Fork River, Muddy Creek, Eagle River, and Colorado River mainstem. Therefore, it is anticipated that there will be negligible water quality and temperature impacts to these river reaches.

The timing and location of the releases from reservoirs (e.g., releasing water from the base of reservoirs where the water is colder) in late summer and early fall could assist in enhancing "environmental" benefits as defined in the Grand County SMP. This management strategy is a type of administrative mitigation measure that can assist with minimizing and/or eliminating any impacts to the existing water quality and temperature in the river reaches included in the Grand County SMP.

3.5.3 Cumulative Impacts

Refer to Section 3.1.3 for a general description of the reasonably foreseeable water-based actions that are considered and to Section 3.3.3 for the cumulative impacts discussion as it relates to hydrology. As a general rule, any changes in the quantity of





water in a stream or reservoir may have an effect on water quality. The timing of the change in flow, both on a daily basis and seasonal basis, and where the flow is being diverted may affect water quality.

Windy Gap Firming Project

The cumulative effect of the WGFP in reduction of flows in the Colorado River downstream of the Windy Gap diversion may have the potential to impact water quality. The water quality standards and data for the Colorado River Basin are provided in Appendix C.

There are several TMDLs listed for the Upper Colorado River (Table 3-21).

Denver Water Moffat Collection System Project

The additional diversions anticipated to result from this project, primarily from the upper Fraser River and Williams Fork River basins, may affect the water quality of those basins and specifically reduce water quality in the Colorado River, Williams Fork River, and Blue River in average and wet years primarily during runoff.

Other Increased Water Use in Grand and Summit Counties

Any construction-related activities as a result of growth in Grand and Summit counties and within the Study Area river basins have the potential to contribute pollutants to receiving waters. Increased water use and wastewater discharges are also expected to result in changes in the quantity and timing of streamflows and water quality.

Reduction of Xcel Energy's Shoshone Power Plant Call

Reduced flows as a result of any reduction in the call at Shoshone primarily may have an effect on water quality in the Williams



Fork River, Muddy Creek, the Blue River, and the Colorado River Mainstem below the Windy Gap diversion and may affect the water quality along the Lower Colorado River below the point of diversion.

Changes in Releases from Williams Fork and Wolford Mountain Reservoirs to Meet USFWS Flow Recommendations for Endangered Fish in the 15-Mile Reach

Water quality standards supporting the uses for these endangered fish exist along this 15-Mile reach of the Colorado River. Any cumulative reduction in flows may affect the water quality standards supporting the designated uses for these species, such as dissolved oxygen, temperature, and increased sediment loads.

Cumulative Effects for the Proposed Action

Any changes in streamflows and reservoir contents due to the Proposed Action under cumulative effects would follow a pattern similar to direct effects. The incremental hydrologic effect of the Proposed Action would be negligible, as would the water quality affects. In general, the reasonably foreseeable actions described above would result in additional water use in the future. which would reduce streamflows and reservoir contents in the Study Area. While the magnitude of hydrologic changes under the Proposed Action would be similar under cumulative effects, the percentage change in water quality conditions under the Proposed Action may be slightly higher under cumulative effects than described for direct effects.

3.6 Aquatic Resources and Special Status Species

This section describes the aquatic resources in the Study Area and the potential environmental consequences of the Proposed Action and No Action alternatives. The alternatives could potentially affect aquatic resources through changes in flow regimes, habitat, and water quality. The aquatic resources described in this section include active river channels and fish populations. Fisheries data, specifically abundance of species locally and throughout the Study Area, was selected as a benchmark for determining the environmental consequences associated with changes to flow regimes due to the availability of historic Colorado Division of Wildlife (CDOW) fish survey data (CDOW 2008a) and detailed literature documentation of fish habitat impacts associated with changes to flow regimes. Aquatic resource evaluations can include a multitude of factors (i.e., benthic macroinvertebrates, habitat quality and water quality); however, for the purposes of this study fish species have been utilized as indicators of potential effects. No other data set encompassing the entire Study Area was as consistently useful or available to compare changes in aquatic habitat characteristics between the Proposed Action and the No Action alternatives without more intensive field evaluation. In addition, site specific resource evaluation was conducted as part of this study. A summary of the fish populations for each basin within the Study Area is provided.

This section also provides an assessment of the potential environmental consequences of the Proposed Action and No Action alternatives to aquatic habitat of special status species. In particular, the impact assessment provides an effect determination in relation to Section 7 of the Endangered Species Act (ESA) for the four endangered fish in the 15-mile reach of the Colorado River. The effect determination is included in Section 3.6.2.2 for the special status fish species and is indicated by parentheses [()].

3.6.1 Affected Environment

The CDPHE WQCD provides a classification system for surface waters, which establishes beneficial use categories (CDPHE 2008). Waters are classified according to the uses for which they are presently suitable or intended to become suitable. Classifications may be established for any state surface waters, except water in ditches and other manmade conveyance structures. Waters assessed within the Study Area are defined as Class 1 – Cold Water Aquatic Life. These are waters that (1) currently are capable of sustaining a wide variety of cold water biota, including sensitive species, or (2) could sustain such biota but for correctable water quality conditions. Waters shall be considered capable of sustaining such biota where physical habitat, water flows or levels, and water quality conditions result in no substantial impairment of the abundance and diversity of species. In addition, several of the waters within the Study Area are designated Gold Medal Waters by the Colorado Wildlife Commission. Gold Medal Waters are defined as lakes or streams that support a trout standing stock of at least 60 pounds per acre, and contains an average of at least 12 quality trout (any trout 14 inches or longer) per acre (CWC 2008). Potentially affected aquatic resources include active channels within sections of the Blue River, Williams Fork River, Muddy Creek, Colorado River, Homestake Creek, Eagle River, Middle Fork South Platte



River, and South Platte River (refer to Figure 3-1).

A desktop review of available CDOW fisheries survey data was utilized to provide an understanding of fish species distribution throughout the Study Area (CDOW 2008a). Data provided by the CDOW for each basin was collected using one of three methods (1) mark – recapture; (2) multi-pass removal; (3) presence – absence surveys. The CDOW surveys represent data recorded from 70 sample station locations within the Study Area between 1985 and 2007. Information presented in this section has not been field verified for accuracy.

Whirling disease was introduced to Colorado in 1987 and has spread throughout the state. Whirling disease is caused by a parasite that affects fish in the trout and salmon family. By damaging cartilage, whirling disease can kill young fish directly, or cause infected fish to swim in an uncontrolled whirling motion. This can make it impossible for them to escape predators or to effectively seek food, ultimately decimating trout populations before they have an opportunity to mature. Fish less than 13 centimeters (cm) are most at risk to whirling disease. Larger fish are less susceptible to the disease and are not affected, but may be vectors. There are also differences in the susceptibility of different trout species to the parasite, although rainbow trout and cutthroat trout are particularly susceptible. The parasite that causes the disease, Myxobolus cerebralis, has two hosts during its life cycle: trout and tubificid worms. All watersheds within the Study Area have tested positive for whirling disease, although particular streams within these watersheds may still be negative. Whirling disease has greatly reduced the population of rainbow trout within the Study Area basins as well as throughout Colorado.

Over five hundred miles of five major trout streams (Cache La Poudre, Colorado, Gunnison, South Platte and Rio Grande rivers) are showing partial to complete loss of wild rainbow trout recruitment (CDOW 2008b).

3.6.1.1 Blue River Basin

Portions of the Blue River in the Study Area are classified as Aquatic Life Cold Class 1. The Blue River downstream of Dillon Reservoir to the confluence with the Colorado River is designated Gold Medal Waters by CDOW.

Fish population survey data at 30 separate sampling locations on the Blue River was reviewed for sampling years 1985 – 1997 (CDOW 2008a). Fish species and subspecies collected during these sampling periods are shown in Table 3-21. Dominant trout species upstream of the Green Mountain Reservoir include brook trout, rainbow trout and brown trout. Dominant species downstream of the Green Mountain Reservoir are primarily rainbow trout and brown trout.

The section of the Blue River between Dillon Reservoir and Green Mountain Reservoir is stocked annually by CDOW with small (6 inches or less) rainbow trout. CDOW also annually stocks Dillon and Green Mountain reservoirs with species that may include rainbow trout, Snake River cutthroat trout, and kokanee salmon in any given year. These fish may also move into the section of the Blue River between these two reservoirs.

3.6.1.2 Williams Fork River Basin

The Surface Water classification for the Williams Fork River downstream of Williams Fork Reservoir is Aquatic Life Cold Class 1.



Fish population survey data at 2 separate sampling locations on the Williams Fork River was reviewed for sampling years 1993-2003 (CDOW 2008a). Fish species and subspecies collected during these sampling periods are shown in Table 3-21. Brown trout, followed by rainbow trout, represent the most abundant fish species within the Williams Fork River Basin.

3.6.1.3 Muddy Creek Basin

The Surface Water classification for Muddy Creek downstream of Wolford Mountain Reservoir is Aquatic Life Cold Class 1.

Fish population survey data at 2 separate sampling locations within Muddy Creek was reviewed for sampling years 1993 and 2000 (CDOW 2008a). Fish species and subspecies collected during these sampling periods are shown in Table 3-21.

Rainbow trout represent the most abundant fish species within the Muddy Creek Basin (407 recorded in 2000), followed by brook trout (59 recorded in 2000). Kokanee salmon are also strongly represented in the September 27, 2000 sampling data at Sample Station CR 0397. These individuals probably represent species collected during a spawning run, and do not necessarily represent species living permanently within Muddy Creek.

3.6.1.4 Colorado River Basin

The surface water classification for the Colorado River below the confluence with the Williams Fork River downstream to the confluence with the Eagle River is Aquatic Life Cold Class 1. The reach of the Colorado River between Windy Gap and the confluence with Troublesome Creek is designated Gold Medal Waters by the CDOW. This section of the Colorado River is stocked annually by CDOW with small (6 inches or less) rainbow trout.

Fish population survey data at 4 separate sampling locations along the Colorado River between the confluence with the Williams Fork River and the confluence with the Eagle River was reviewed for sampling years 1993, 2003, and 2004 (CDOW 2008a). Local diversity of fish species within the Colorado River can vary temporally and spatially based on a variety of factors. Fish species and subspecies collected during these sampling periods are shown in Table 3-21. Rainbow trout and brown trout are the most abundant trout species within this reach of the Colorado River.

Special Status Fish Species in the Colorado River Basin

Water depletions to West Slope tributaries of the Colorado River may affect four endangered fish species where they occur downstream in the Colorado River. These species include bonytail chub, Colorado pike minnow, humpback chub, and razorback sucker. Critical habitat for endangered Colorado River fish extends from Rifle, Colorado downstream to Lake Powell.

The decline of these fish species throughout the Colorado Basin is a result of extensive loss, fragmentation, modification of habitat, and barriers to fish movement associated with dam construction and operations. In addition, loss of stream flows due to upstream depletions in the watershed is a major factor that has contributed to the decline of the endangered fish species. Each of these endangered fish species is discussed in more detail below.

Bonytail Chub

Bonytail chubs were historically found throughout the Colorado River drainage.



Wild adult bonytail have been captured in Powell, Mohave, and Havasu lakes, and in rivers within the Upper Colorado River Basin, including the Green River in Colorado and Utah and in the Colorado River, west of Grand Junction near the Colorado-Utah border. Since 1977, only 11 wild adults have been reported from the upper basin. Currently, no self-sustaining populations of bonytail chub exist in the wild (USFWS 2002a). CDOW has been stocking some bonytail chub in the river near Grand Junction.

Colorado Pikeminnow

Currently, Colorado pikeminnow occur primarily in the Green River below the confluence with the Yampa River, the lower Duchesne River in Utah, the Yampa River below the town of Craig in Colorado, the White River from Taylor Draw Dam near the town of Rangely downstream to the confluence with the Green River, the Gunnison River in Colorado, and the Colorado River from Palisade, Colorado, downstream to Lake Powell (USFWS 2002b).

Humpback Chub

Historically, humpback chubs occurred in Colorado, Green, Yampa, White and Little Colorado Rivers. Currently humpback chub populations are found in canyon portions of the Colorado River near the Colorado-Utah border at Westwater Canyon in Utah and Black Rocks in Colorado. Smaller populations inhabit the Yampa and Green rivers in Dinosaur National Monument in Colorado, Desolation and Gray canyons on the Green River in Utah, Cataract Canyon on the Colorado River in Utah and the Colorado River and Little Colorado River in the Grand Canyon in Arizona.

Razorback Sucker

In the upper Colorado River Basin, reproducing razorback suckers are currently only found in the upper Green River in Utah and in an off-channel pond of the Colorado River near Grand Junction. Razorback suckers also occur in the lower Yampa River in Colorado and Lake Powell at the mouths of the Dirty Devil, San Juan and Colorado rivers. Approximately 500 wild razorback suckers are thought to occur in the upper Colorado River basin. Most of these individuals are adults likely more than 25 years old, and are reproducing, but few young are surviving. Razorback suckers are being stocked in the Green, Colorado, Gunnison and San Juan rivers to develop and augment adult populations (CDOW 2006b).

3.6.1.5 Eagle River Basin

The surface water classification for Homestake Creek and the Eagle River below the confluence with the Homestake Creek downstream to the confluence with the Colorado River is Aquatic Life Cold Class 1.

Fish population survey data at 15 separate sampling locations within the Eagle River Basin was reviewed for sampling years 1991-2005 (CDOW 2008a). Fish species and subspecies collected during these sampling are shown in Table 3-21. Species diversity and abundance can vary greatly based on timing and location of sampling efforts. Brown trout, followed by rainbow trout and brook trout are the most abundant trout species within the Eagle River Basin. Colorado River cutthroat trout, though not the most abundant species, also appear regularly throughout sampling efforts.



3.6.1.6 South Platte River Basin

The surface water classification for the Middle Fork South Platte River and South Platte River downstream to Elevenmile Canyon Reservoir is Aquatic Life Cold Class 1 by CDPHE. The Middle Fork South Platte River downstream from the Highway 9 Bridge is designated Gold Medal Waters by the CDOW. Fish population survey data at nine sampling locations within the South Platte River was reviewed for sampling years 1993–2005 (CDOW 2008a). Fish species and subspecies collected during these sampling periods are shown in Table 3-21. Brown trout are the most abundant species in the South Platte River Basin, followed by rainbow trout. Brook trout do not constitute a significant population (4 individuals in 1995).

	Blue River	Williams Fork River	Muddy Creek	Colorado River	Eagle River	South Platte River
Fish Species	Basin	Basin	Basin	Basin	Basin	Basin
Brook Trout	\checkmark		✓		\checkmark	✓
Brown Trout	\checkmark	\checkmark	~	\checkmark	✓	\checkmark
Rainbow Trout	\checkmark	\checkmark	\checkmark	\checkmark	✓	\checkmark
Colorado River Rainbow Trout	\checkmark					
Colorado River Cutthroat Trout					\checkmark	
Kamloop Form Rainbow Trout	\checkmark					
Emerald Lake Rainbow Trout	✓					
Rainbow Trout x Natural Hybrid	✓		✓		✓	
Steelhead Form Rainbow Trout	✓					
Snake River Cutthroat Trout	✓					✓
Kokanee (Sockeye) Salmon	✓		✓			
Cutthroat Trout	✓					
Cutthroat Trout S.U.*					✓	
Bluehead Sucker	✓			✓	✓	
Flannelmouth Sucker	✓			✓	√	
Longnose Sucker	✓	\checkmark		✓	✓	\checkmark
White Sucker	✓	✓	✓	✓		✓
Creek Chub	\checkmark		\checkmark			
Mottled Sculpin	✓	\checkmark	✓		✓	
Speckled Dace	\checkmark	\checkmark	~	✓		
Northern Pike		\checkmark				✓
Longnose Dace		\checkmark		✓		\checkmark
Chub S.U.*			\checkmark			
Dace S.U.*			\checkmark			
Paiute Sculpin			\checkmark			
Sucker S.U.*			\checkmark			
Red Shiner				✓		
Sand Shiner				✓		

 Table 3-21

 Fish Species Identified within Study Area Stream Reaches



Fish Species	Blue River Basin	Williams Fork River Basin	Muddy Creek Basin	Colorado River Basin	Eagle River Basin	South Platte River Basin
Roundtail Chub				~		
Channel Catfish				~		
Common Carp				✓		
Fathead Minnow				✓	✓	
Yellow Bullhead				✓		
Mountain Whitefish					\checkmark	
Trout S.U*					✓	

Table 3-21Fish Species Identified within Study Area Stream Reaches

S.U.* = Species unidentified

 \checkmark

= Species identified in CDOW samples within basin

= Species identified as a dominant species within basin

3.6.2 Environmental Consequences

The CDOW has collected routine fish population census data for each Study Area basin. Trout were selected as a reference species because of the availability of survey data throughout each Study Area basin and potential sensitivity to flow change. Within all river Study Area basins, 34 species or subspecies of fish have been documented by the CDOW. Three species, brown trout, rainbow trout and brook trout, represent over 50% of the total number of fish counted in CDOW surveys. When different trout species occur in the same high gradient river systems, they tend to occupy the suitable trout habitat in a longitudinally stratified manner from headwater areas downstream. Typically, brook or cutthroat trout tend to occupy the colder, swifter, less fertile headwater region; rainbow trout the midregion of the river system with intermediate habitat conditions; and brown trout the deeper, lower velocity, warmer, more fertile downstream region. Although trout species can utilize different habitat during critical periods of the year, all trout require food,

shelter, breeding, migratory and overwintering habitat that could potentially be affected by flow changes.

Brown trout are the only species of fish documented at all CDOW sample stations and within all river Study Area basins. In addition, the areas potentially affected by changes in flow are primarily characterized by lower velocity, warmer downstream habitat, which is optimal habitat for brown trout, and mid-region intermediate habitat, which is optimal habitat for rainbow trout. Consistent with these habitats, brown trout represent approximately 33% of all the fish observed in the survey, followed by rainbow trout (12%). No other species accounts for more than 10% of the fish surveyed. Based on the abundance of brown and rainbow trout utilizing relatively similar habitat types, brown trout habitat requirements, as outlined by Raleigh et al., (1986) in Habitat Suitability Index Models and Instream Flow Suitability Curves: Brown Trout, were assessed to evaluate the effects of changes in flow between the No Action alternative and the Proposed Action.



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Optimal brown trout riverine habitat is characterized by clear, cool to cold water; a relatively silt-free rocky substrate in rifflerun areas; a 50% to 70% pool to 30% to 50% riffle –run combination with areas of slow deep water; well-vegetated, stable stream banks; abundant instream cover; and relatively stable annual water flow and temperature regimes. Fundamental habitat requirements potentially affected by changes in flow are described on a life stage basis: embryo, fry, juvenile and adult.

The embryo stage includes egg incubation and fry development up to emergence from gravel. Redds are shallow depressions in the gravel substrate of a stream channel, in which spawning fish deposit eggs and sperm. When the process is complete, the female covers the redd with gravel to protect the embryos until fry emerge from the gravel. Brown trout construct well-defined redds. Waters (1976) set the optimal water depth for brown trout redd construction at 0.80 feet to 1.5 feet, with a suitable range of 0.40 feet to 2.9 feet. A range of water velocity between 1.75 feet per second (ft/s) and 2.25 ft/s is believed to be optimal, with 0.498 ft/s to 2.9 ft/s considered suitable.

A critical period for brown trout is the time between egg deposition in late summer and fall and fry emergence the following spring. Although flows must be adequate to meet the needs of the developing embryos and yolk sac fry in the gravel, abnormally low or high flows can be destructive. Generally low flow periods are most critical to adult trout. Prolonged periods of shallow water can increase temperatures and reduce the amount of dissolved oxygen, negatively affecting trout throughout all portions of their life stages.

The fry stage extends from emergence from the redd until the end of the first year of life. Dispersal of fry takes place immediately after emergence. Fry are often found in shallow, smooth bottomed stream reaches where older trout are absent. Brown trout fry are often found along the margins of rivers, in sections with water depths between 0.66 feet and 0.98 feet (Lindroth 1955; Raleigh 1986).

The juvenile stage is the second year of life. Juvenile brown trout occur at shallower depths and lower velocities than adults. Both fry and juvenile brown trout prefer velocities of less than 0.492 ft/s (Wesche 1980). As growth progresses, depths greater than 0.492 feet are preferred (Wesche 1980).

The adult stage begins when the individual reaches sexual maturity after its second year. Water depths greater than 0.492 feet and a focal point velocity of less than 0.492 ft/s are recommended for optimal adult brown trout resting and feeding habitat (Raleigh et al. 1986; Wesche 1980). During the winter, brown trout exhibit strong hiding or cover behavior. Adult brown trout tend to move into deep, low-velocity water (Bjornn 1971).

Changes in flow were evaluated to determine changes in channel characteristics potentially affecting aquatic resources within each Study Area basin. Three flow parameters were selected for evaluation: (1) depth (feet); (2) wetted perimeter (feet); and (3) velocity (ft/s).

The effects of large changes in flow parameters could significantly affect the feeding, breeding, sheltering, migratory and overwintering habitats associated with trout life histories. For instance:

• a dramatic increase in water depth could upset predator-prey interactions



occurring within trout microhabitat such as pool-riffle-run areas;

- a dramatic increase in flow velocity could disrupt preferred sheltering habitat for juvenile and adult trout;
- a dramatic decrease in water depth could expose optimal spawning habitat, exposing shallow gravel areas and leaving mature fish with no potential redds;
- a dramatic decrease in flow velocity could decrease dissolved oxygen content and increase temperatures; and
- a dramatic decrease in wetted area could reduce the usable habitat available for overwintering habitat, subjecting all species to additional predator-prey related stress.

The following critical guideline thresholds were established to determine if a change in flow would effect trout and therefore the aquatic resource.

- Depths utilized by trout generally range from 0.2 feet to 5.5 feet. A water depth of greater than 0.5 feet is recommended for optimal adult brown trout resting and feeding habitat. Depths below 0.2 feet are considered critical and unusable to brown trout. Flow changes which result in water depths less than 0.4 feet are considered a potential effect. Flow change fluctuations of greater than 0.5 feet for a monthly average are also considered a potential effect. Flow changes which do not result in water depths less than 0.4 feet or fluctuations greater than 0.5 feet are considered negligible and are not expected to have discernable effects on aquatic resources.
- Wetted perimeter is the perimeter of the cross sectional area of a channel or river that is "wet". In theory, if the wetted



perimeter of a river decreases, less water is available and additional substrate is exposed. Conversely, if wetted perimeter increases, more water is available in the river to aquatic resources. In regards to trout habitat, significant decreases in wetted perimeter could expose adult, embryo and young trout resulting in a potential effect. For the purpose of this EA, a conservative estimate of a 5 feet decrease or increase in wetted perimeter is considered a potential effect. Flow changes resulting in less than a 5 feet change in wetted perimeter are considered negligible and are not expected to have a discernable effect on aquatic resources.

Velocity preferences of adult brown • trout range from 0 to 0.7 ft/s for resting and 0.5 to 1.5 ft/s for feeding. A velocity of 0.5 ft/s is recommended for optimal adult brown trout resting and feeding habitat. For the purpose of this analysis, velocity below 0.5 ft/s is considered a potential effect. Monthly average changes in velocity greater than 0.5 ft/s are also considered a potential effect. Flow changes that do not result in velocities below 0.5 ft/s and fluctuations of more than 0.5 ft/s are considered negligible and not expected to have discernable effects on aquatic resources.

Differences in flow between the No Action and Proposed Action alternatives described in Section 3.2.2 Hydrology were utilized as the basis for determining potential effects to aquatic resources along affected river segments, which are described in the following sections. The hydrology comparison tables (Tables 3.1 through 3.19) were reviewed to determine the maximum *percentage* decrease and increase in average monthly flow in any month at each location. The corresponding maximum changes in flow were evaluated to determine changes in flow parameters (water depth, wetted perimeter and velocity). Channel characteristics, including average channel width, slope and cross-section shape, at key locations in the Study Area were used to calculate water depth, wetted perimeter and velocity for a given flow rate. Modeled flow parameters were then compared to the critical guideline thresholds, which were established for water depth, wetted perimeter and velocity.

Differences in reservoir contents between the No Action and Proposed Action alternatives described in Section 3.3.2 Hydrology were utilized as the basis for determining potential effects to aquatic resources in reservoirs. The Proposed Action and No Action alternatives storage contents and water levels within the reservoirs encompassed in the Study Area are very similar. Average monthly changes in content in the driest years and all substitution years are less than 1% at all reservoirs except Montgomery Reservoir. At Montgomery Reservoir, dry year average monthly contents decrease by up to 13.6% in March, as shown in Table 3-18. However, Montgomery Reservoir functions as a regulating reservoir for deliveries from the Continental-Hoosier System. The reservoir is filled each summer and then is typically drawn down to less than 1,000 AF by the end of April. Given that Montgomery Reservoir is operated as a regulating facility, it is intended to have fluctuating contents and water levels. The fluctuations in contents and levels that would occur at Montgomery Reservoir under the Proposed Action would be well within the normal range of fluctuations that have historically occurred.

Based on the magnitude and frequency of changes in reservoir contents and water

levels that would occur under the Proposed Action, there would be no measurable, discernable effects on aquatic resources in the affected reservoirs.

3.6.2.1 No Action Alternative

Under the No Action alternative, Springs Utilities would continue to operate according to the Blue River Decree during substitution years. Therefore, river flows and reservoir contents would continue to fluctuate as they have historically as a result of Springs Utilities substitution operations. The No Action alternative is expected to have no direct, indirect or cumulative impacts on aquatic resources or on threatened and endangered fish species (no effect).

3.6.2.2 Proposed Action

Blue River Basin

Refer to the flow changes expected along the Blue River as described in Section 3.3.2 Hydrology. The maximum changes in flow shown in Tables 3-2 through 3-4 were used to estimate changes in water depth, wetted perimeter and velocity.

Refer to Tables 3-22 and 3-23 for the changes in water depth, wetted perimeter, and velocity expected for the No Action and Proposed Action along the Blue River. In summary, expected changes in flows along the Blue River downstream of the Continental-Hoosier System, Dillon Reservoir and the Green Mountain Reservoir under the Proposed Action would result in minimal change in flow parameters (less than: 0.04 feet change in water depth, 0.2 feet change in wetted perimeter and 0.2 ft/s change in velocity) within the aquatic environment. Flow changes of this magnitude under the Proposed Action would have no discernable effect on aquatic resources. In addition, critical threshold



guidelines established for this EA as described in Section 3.6.2 would not be exceeded.

Williams Fork River Basin

Refer to the flow changes expected along the William Fork River as described in the Section 3.3.2 Hydrology. The maximum changes in flow shown in Table 3-8 were used to estimate changes in water depth, wetted perimeter and velocity.

Refer to Tables 3-22 and 3-23 for the changes in water depth, wetted perimeter, and velocity expected for the No Action and Proposed Action alternatives along the Williams Fork River. In summary, expected changes in flows along the Williams Fork River downstream of Williams Fork Reservoir would result in minimal change in flow parameters (less than: 0.03 feet change in water depth, 0.1 feet change in wetted perimeter and 0.2 ft/s change in velocity) within the aquatic environment. Flow changes of this magnitude under the Proposed Action would have no discernable effect on aquatic resources. In addition, critical threshold guidelines established for this analysis would not be exceeded.

Muddy Creek Basin

Refer to the flow changes expected along Muddy Creek as described in Section 3.3 Hydrology. The maximum changes in flow shown in Table 3-10 were used to estimate changes in water depth, wetted perimeter and velocity.

Refer to Tables 3-22 and 3-23 for the changes in water depth, wetted perimeter, and velocity expected for the No Action and Proposed Action alternatives along Muddy Creek. In summary, expected changes in flows along Muddy Creek downstream of Wolford Mountain Reservoir would result in minimal change in flow parameters (less



than: 0.03 feet reduction in water depth, 0.1 feet reduction in wetted perimeter and no measurable change in velocity) within the aquatic environment. Flow changes of this magnitude under the Proposed Action would have no discernable effect on aquatic resources. In addition, critical threshold guidelines established for this analysis would not be exceeded.

Colorado River Basin

Refer to the flow changes expected along the Colorado River as described in Section 3.3.2 Hydrology. The maximum changes in flow shown in Tables 3-12, 3-13, and 3-14 were used to estimate changes in water depth, wetted perimeter and velocity.

Refer to Tables 3-22 and 3-23 for the changes in water depth, wetted perimeter, and velocity expected for the No Action and Proposed Action alternatives along the Colorado River. In summary, expected changes in flows along the Colorado River would result in minimal change in flow parameters (less than: 0.02 feet reduction in water depth, 0.1 feet reduction in wetted perimeter, and 0.1 ft/s reduction in velocity) within the aquatic environment. Flow changes of this magnitude under the Proposed Action would have no discernable effect on aquatic resources. In addition, critical threshold guidelines established for this analysis would not be exceeded.

Special Status Fish Species in the Colorado River Basin

Consultation with USFWS is required under Section 7 of the ESA prior to authorization of any federal action that may adversely modify critical habitat, which includes alteration of flow volume or timing (i.e., depletion). Flow depletions adversely affect the listed species by reducing peak spring and base flows that limit access to and the extent of off-channel waters such as

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backwaters, eddies, and oxbows, which are necessary as rearing areas for young fish. To evaluate potential depletions to the Colorado River under the Proposed Action, flows in the Colorado River downstream of the confluence with the Eagle River were evaluated.

Downstream of the Eagle River there would be no change in the average annual flow in the Colorado River under the Proposed Action since diversions at Springs Utilities' Continental-Hoosier System and the total substitution payback by Springs Utilities and Denver Water would not change. However, there would be infrequent, minor changes in the timing of flows due primarily to changes in the timing of substitution releases from Williams Fork, Wolford Mountain, and Homestake reservoirs, reservoir spills, and the additional 250 AF that would be used by West Slope users in the Blue River basin.

Monthly average flows in the Colorado River downstream of the confluence with the Eagle River would decrease by a maximum of 8.1 cfs or 0.1% in June and increase by a maximum of 4.6 cfs or 0.5% in October, as shown in Table 3-14. These changes in flow would be translated downstream along the Colorado River, but changes would be smaller relative to the total stream, which is growing. These changes in flow would not alter the water depth, wetted perimeter, or velocity by any measurable amount within the aquatic environment. In addition, critical threshold guidelines established for this analysis would not be exceeded. Flow changes of this magnitude under the Proposed Action would have no adverse effect on the endangered fish species along the Colorado River (no effect).

Eagle River Basin

Refer to the flow changes expected along Homestake Creek as described in Section 3.3.2 Hydrology. The maximum changes in flow shown in Table 3-15 were used to estimate changes in water depth, wetted perimeter and velocity.

Refer to Tables 3-22 and 3-23 for the changes in water depth, wetted perimeter, and velocity expected for the No Action and Proposed Action alternatives along Homestake Creek. In summary, expected changes in flow along Homestake Creek downstream of the Homestake Project would result in minimal change in flow parameters (less than: 0.09 feet increase in water depth, 0.5 feet increase in wetted perimeter and 0.2 ft/s increase in velocity) within the aquatic environment. Flow changes of this magnitude under the Proposed Action would have no discernable effect on aquatic resources. In addition, critical threshold guidelines established for this analysis would not be exceeded.

South Platte River Basin

Refer to the flow changes expected along the Middle Fork South Platte River as described in Section 3.3.2 Hydrology. The maximum changes in flow shown in Table 3-17 were used to estimate changes in water depth, wetted perimeter and velocity.

Refer to Tables 3-22 and 3-23 for the changes in water depth, wetted perimeter, and velocity expected for the No Action and Proposed Action alternatives along the Middle Fork South Platte River. In summary, the maximum decrease in flow would result in a reduction in water depth of 0.37 feet, a reduction in wetted perimeter of 2.0 feet and a reduction in velocity of 0.8 ft/s. The maximum



Summary of Maximum Average Monthly Flow Decreases and Associated Changes in Water Depth, Wetted Perimeter,											
	Channel P	Channel Parameters Max Avg Monthly Flow Decrease No Action Flow Parameters								Proposed Action	
Location Description	Average Bottom Width	Average Slope	Month	Change in Flow	% Change in Flow	Flow	Depth	Wetted Perimeter	Velocity	Flow	Depth
	(ft)	(%)			(%)	(cfs)	(ft)	(f t)	(ft/s)	(cfs)	(ft)
Blue River below the Continental-Hoosier System	27	1.93%	August	-4.6	-8.9%	51.0	0.58	30.1	3.1	46.5	0.55
Blue River below Dillon Reservoir	83	0.82%	June	-4.1	-3.4%	121.1	0.64	86.5	2.2	117.0	0.63
Blue River below Green Mountain Reservoir	105	1.05%	August	-4.7	-0.6%	841.1	1.66	114.0	4.6	836.4	1.66
Williams Fork River below Williams Fork Reservoir	47	2.14%	March	-8.3	-11.5%	72.1	0.5	49.7	3.0	63.8	0.47
Muddy Creek below Wolford Mountain Reservoir	67	0.41%	June	-5.7	-4.3%	132.9	0.96	72.1	2.0	127.2	0.93
Colorado River below the Confluence with the Williams Fork River	108	0.35%	March	-6.3	-3.7%	169.1	0.87	112.7	1.8	162.8	0.85
Colorado River near Kremmling	317	0.59%	March	-5.9	-1.4%	411.3	0.67	320.6	1.9	405.3	0.66
Colorado River below the confluence with the Eagle River	194	0.10%	March	-5.9	-0.9%	626.7	1.96	204.5	1.6	620.7	1.94
Homestake Creek below Homestake Project	17	0.83%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Middle Fork South Platte River below Montgomery Reservoir	21	1.03%	August	-34.1	-61.6%	55.3	0.85	25.6	2.8	21.2	0.48

Table 3-22 Summary of Maximum Average Monthly Flow Decreases and Associated Changes in Water Depth, Wetted Perimeter, and Velocity

Table 3-23

Summary of Maximum Average Monthly Flow Increases and Associated Changes in Water Depth, Wetted Perimeter, and Velocity

	Channel P	arameters	Max Av	g Monthly Flo	ow Increase]	No Action F	low Paramete	rs	Pro	posed Actio	on Flow Paran	neters	Chang	ge in Flow Par	ameters
	Average Bottom Width	Average Slope	Month	Change in Flow	% Change in Flow	Flow	Depth	Wetted Perimeter	Velocity	Flow	Depth	Wetted Perimeter	Velocity	Change in Depth	Change in Wetted Perimeter	Change in Velocity
Location Description	(ft)	(%)			(%)	(cfs)	(ft)	(ft)	(ft/s)	(cfs)	(ft)	(ft)	(ft/s)	(ft)	(ft)	(ft/s)
Blue River below the Continental-Hoosier System	27	1.93%	November	4.2	21.8%	19.3	0.33	28.8	2.1	23.5	0.37	29.0	2.3	0.04	0.20	0.20
Blue River below Dillon Reservoir	83	0.82%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blue River below Green Mountain Reservoir	105	1.05%	October	1.2	0.5%	241.8	0.79	109.3	2.9	243.0	0.79	109.3	2.9	0.00	0.00	0.00
Williams Fork River below Williams Fork Reservoir	47	2.14%	June	3.4	2.5%	134.1	0.72	50.9	3.8	137.4	0.73	51.0	3.8	0.01	0.10	0.00
Muddy Creek below Wolford Mountain Reservoir	67	0.41%	October	6.1	4.4%	137.2	0.97	72.2	2.0	143.3	1.00	72.4	2.1	0.03	0.20	0.10
Colorado River below the Confluence with the Williams Fork River	108	0.35%	October	1.4	0.9%	158.9	0.84	112.5	1.7	160.4	0.84	112.5	1.7	0.00	0.00	0.00
Colorado River near Kremmling	317	0.59%	October	4.6	0.7%	636.4	0.87	321.7	2.3	641.0	0.87	321.7	2.3	0.00	0.00	0.00
Colorado River below the confluence with the Eagle River	194	0.10%	October	4.6	0.5%	858.8	2.36	206.7	1.8	863.4	2.36	206.7	1.8	0.00	0.00	0.00
Homestake Creek below Homestake Project	17	0.83%	August	7.6	18.1%	42.1	0.87	21.7	2.5	49.8	0.96	22.2	2.7	0.09	0.50	0.20
Middle Fork South Platte River below Montgomery Reservoir	21	1.03%	August	4.3	14.6%	29.6	0.59	24.2	2.2	33.9	0.64	24.4	2.4	0.05	0.20	0.20



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tion Flow Parameters **Change in Flow Parameters** Change in Change Wetted Change in Wetted Perimeter Velocity in Depth Perimeter Velocity (ft) (ft/s) (ft) (ft) (ft/s) 30.0 3.0 -0.03 -0.10 -0.10 86.4 2.2 -0.01 -0.10 0.00 114.0 4.6 0.00 0.00 0.00 49.5 2.8 -0.03 -0.20 -0.20 0.00 72.0 2.0 -0.03 -0.10 112.6 1.7 -0.02 -0.10 -0.10 320.6 1.9 -0.01 0.00 0.00 204.5 -0.02 0.00 1.6 0.00 N/A N/A N/A N/A N/A 23.6 2.0 -0.37 -2.00 -0.80



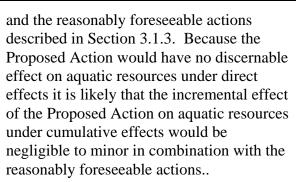
increase in flow would result in an increase in water depth of 0.05 feet, an increase in wetted perimeter of 0.2 feet and an increase of velocity of 0.2 ft/s (Table 3-23).

In summary, the changes in flow along the Middle Fork of the South Platte River downstream of Montgomery Reservoir would result in minimal change in flow parameters (less than: 0.37 feet change in water depth, 2.0 feet change in wetted perimeter and 0.2 ft/s change in velocity) within the aquatic environment. Flow changes of this magnitude under the Proposed Action would have no discernable effect on aquatic resources. In addition, critical threshold guidelines established for this analysis would not be exceeded.

3.6.3 Cumulative Impacts

Cumulative impacts of reasonably foreseeable water-based actions are summarized in Section 3.3.3. Reasonably foreseeable projects would likely result in cumulative changes in flow that could have a potential effect on aquatic resources.

In general, reasonably foreseeable actions would result in additional water use in the future, which would reduce streamflows and reservoir contents and levels in the Study Area. While the magnitude of hydrologic changes caused by the Proposed Action would be similar under cumulative effects, the percentage change in flows and reservoir contents under the Proposed Action may be slightly higher under cumulative effects than described for direct effects. This could result in a slightly greater effect on aquatic resources in the Study Area. The analysis of potential flow changes in dry years due to reasonably foreseeable actions described in Section 3.3.3 showed that the incremental cumulative hydrologic effect of the Proposed Action would be negligible to minor in combination with other past actions



3.7 Wetland and Riparian Resources and Special Status Species

This section describes the existing wetland and riparian resources in the Study Area and the effects of the Proposed Action and No Action alternatives on these resources. An evaluation of special status species associated with wetland and riparian areas within the Study Area is also provided in this section. The effect determination is included in Section 3.7.2.2 for the special status species and is indicated by parentheses [()].

Wetland and riparian resources generally occur along streams and reservoir perimeters and other locations where surface or groundwater is sufficient to support the vegetation types. The Study Area basins associated with this EA provide suitable conditions for wetland and riparian resources that could potentially be affected by the Proposed Action.

Wetlands

Wetlands are valuable biological resources that perform many functions including groundwater recharge, flood flow attenuation, erosion control, and water quality improvement. They also provide habitat for many plants and animals.



Wetlands have three general diagnostic characteristics; hydrophytic vegetation, hydric soils, and wetland hydrology.

Riparian Areas

Riparian areas generally serve as transitional zones between active river channels and uplands. They are vegetated corridors that border creeks, rivers, or other bodies of water.

Because of their proximity to water, topographic relief, and high degree of vegetative cover, these areas provide a unique and important habitat for many plant and animal species. From a watershed perspective, riparian areas occupy only a small percentage of the land; however, they represent an extremely important component of the overall landscape by performing many of the same functions as wetlands such as trapping sediment and pollutants, absorbing excess nutrients from runoff, attenuating flood flow, moderating water temperature, and providing habitat for wildlife.

Riparian habitats are often viewed as an element of wetlands as a result of their hydrologic similarities; however, they differ in that riparian areas are generally linear, more terrestrial, and are often dependent on the varying flow regimes of rivers (Naiman and Latterell 2005). Riparian areas are not typically classified as wetland because they often do not meet the general diagnostic characteristics established by the USACE and U.S. Environmental Protection Agency (EPA).

Wetland and Riparian Resource Assessment

A qualitative assessment of wetland and riparian resources was used to describe the affected environment within the Study Area, which included documentation of existing wetland/riparian resources and the general magnitude of these habitat types within the Study Area. The wetland information included in this assessment was derived from 44 National Wetland Inventory (NWI) Maps produced by the USFWS (USFWS 1983; USFWA 1984). Review of the **CDOW** Natural Diversity Information Source (NDIS) digital riparian vegetation mapping was also conducted to further identify wetland and riparian resources within the Study Area.

NWI Maps were developed by the USFWS as topical overlays to the USGS Quadrangle (Quad) Maps. The data represents the extent, approximate location, and type of wetlands and deepwater habitats; however it is in no way intended as a formal wetland delineation or federal jurisdictional determination.

The methodology used to assess the wetland and riparian resources in the Study Area included a visual review of NWI maps to determine the type of wetlands and river habitats located within each Study Area basin. The percent cover of wetland and river type was then visually estimated and compiled for each length of potentially affected river segment. The data collected from the NWI maps was compiled to determine a relative coverage estimate for the length of the river basin within the Study Area (Table 3-24). The following sections provide a description of the wetland types present (as defined by the Cowardin et al. wetland classification system) within the Study Area basins.



Riverine

Riverine Systems are all wetlands and deepwater habitats contained within a channel except those wetlands which (1) are dominated by trees, shrubs, persistent emergents, emergent mosses or lichens and (2) which have habitats with ocean derived salinities in excess of 0.5 parts per thousand (ppt) (Cowardin 1979).

Within the Riverine classification, stream systems can be further categorized as Upper Perennial (R3) and Lower Perennial (R2).

Palustrine

Palustrine Systems are all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens and all such tidal wetlands where ocean derived salinities are below 0.5 ppt. This category also includes wetlands lacking such hydric vegetation but with all of the following characteristics: (1) area less than 20 acres, (2) lacking an active wave formed or bedrock boundary, (3) water depth in the deepest part of the basin is less than 6.6 feet at low water and (4) ocean derived salinities less than 0.5 ppt (Cowardin 1979).

Within the Palustrine classification, wetlands can be further categorized into Emergent (PEM), Scrub-Shrub (PSS), Forested (PFO), and Aquatic Bed (AB) Subsystems.

Additional qualifiers exist for both Riverine and Palustrine Systems with regard to

substrate type (Class and Subclass). However, the level of detail required for this assessment did not necessitate the utilization of these additional qualifiers.

Review of the CDOW riparian vegetation mapping was also conducted to further qualitatively identify riparian resources within each Study Area basin. This review documented the type and relative coverage of riparian resources depicted by the CDOW riparian vegetation mapping within the Study Area basins. The CDOW riparian mapping was incomplete for some basins and not available in other basins. Mapping was not available for review in the Muddy Creek Basin.

3.7.1 Affected Environment

Potentially affected wetland and riparian resources include areas immediately adjacent to or within sections of the Blue River, Williams Fork River, Muddy Creek, Colorado River, Homestake Creek, Eagle River, Middle Fork South Platte River, and South Platte River. The data provided in this section is based on visual relative estimates of the type of habitat and is intended to provide an understanding of magnitude and composition of wetland and riparian resources within the Study Area basins (Table 3-24). The information presented in this section has not been investigated on the ground for accuracy.



	Cowardin Classification System							
	Riverine Palustrine							
	Upper Perennial (R2)	Lower Perennial (R3)	Emergent (PEM)	Scrub- Shrub (PSS)	Forested (PFO)	Aquatic Bed (PAB)	Total Wetland Cover	Dominant Vegetation Classification
Blue River Basin	N/A	74%	17%	9%	<1%	N/A	100%	riparian herbaceous, riparian shrub
Muddy Creek Basin	N/A	77%	15%	7%	1%	N/A	100%	N/A
Colorado River Basin	N/A	75%	10%	10%	≈ 2.5%	≈ 2.5%	100%	riparian herbaceous, riparian shrub
South Platte River Basin	20%	40%	30%	10%	<1%	N/A	100%	riparian herbaceous
Eagle River Basin	N/A	70%	15%	10%	≈2.5%	≈2.5%	100%	riparian deciduous, riparian herbaceous
Williams Fork River Basin	N/A	75%	≈ 12.5%	≈12.5%	N/A	N/A	100%	riparian evergreen, riparian shrub

 Table 3-24

 Dominant Riparian and Wetland Classifications in the Study Area

Blue River Basin

Approximately 63 miles of the Blue River was assessed. The river type through the length of the basin is classified as R3, with an approximate average cover of 74%. The dominant wetland type is PEM, with an approximate average cover of 17%, followed by PSS wetland with an approximate average cover of 9%. Areas of PFO wetland were noted along the river; however cover was negligible at approximately 1%. Wetlands adjacent to the Blue River were minimal throughout the Study Area. The total average cover for wetlands adjacent to the Blue River is approximately 27% (Table 3-24).

CDOW riparian vegetation mapping is incomplete within the Blue River Basin. Based on a review of available CDOW riparian vegetation mapping for the affected river reach, the dominant vegetation types along the river consist of riparian herbaceous – both general and sedges/rushes/mesic grasses and riparian shrub – willow.

Williams Fork River Basin

Approximately 2.1 miles of the Williams Fork River was assessed. NWI Maps were not available for the potentially affected reach below Williams Fork Reservoir; therefore percent cover estimates of wetlands along this reach were not completed. Because of relatively similar geographic characteristics, wetland and riparian resources are assumed to be similar to that of the Blue River and the Muddy Creek Basins. For the purpose of this assessment, the river type through the length of the system is assumed classified as R3, with an approximate average cover of 75%.



The remaining dominant wetland type is assumed a mix of PSS, PEM, and PFO with an approximate average cover of 25% (Table 3-24). Based on a review of available CDOW riparian vegetation mapping for the affected river reach, the dominant vegetation types along the river consist of riparian evergreen and riparian shrub – willow.

Muddy Creek Basin

Approximately 10.5 miles of Muddy Creek was assessed. The river type through this reach is classified as R3, with an approximate average cover of 77%. The dominant wetland cover type is PEM, with an approximate average cover of 15%, followed by PSS wetland with an approximate average cover of 7%. Areas of PFO wetland were noted along the river; however cover was negligible at approximately 1% (Table 3-24). Wetlands adjacent to the Muddy Creek were minimal throughout the Study Area. The total average cover for wetlands adjacent to the Muddy Creek is approximately 23%. CDOW riparian vegetation mapping was not available for review within the Muddy Creek Basin.

Colorado River Basin

Approximately 84.5 miles of the Colorado River was assessed. The dominant river type through the system is R3, with an approximate average cover of 75%. The dominant wetland cover types are PEM with an approximate average cover of 10% and PSS with an approximate average cover of 10%. Areas of PFO and PAB wetland were noted along the river; however cover was negligible at approximately 5% (Table 3-24). The majority of the Study Area basin had minimal wetland complexes located adjacent to the river. The total average cover for wetlands adjacent to the Colorado River is approximately 25%. Based on review of available data CDOW riparian vegetation mapping for this affected river reach, the dominant vegetation types along the river consist of riparian herbaceous – both general and sedges/rushes/mesic grasses and riparian shrub – willow. Long sections of the river were noted where no riparian vegetation was mapped. These areas appear to be sections where the river has steep banks and is deeply incised.

Eagle River Basin

Approximately 63.8 total miles of river was assessed, including 13.45 miles of Homestake Creek and 50.3 miles of Eagle River.

The entire length of affected river is categorized as R3, with an approximate average cover of 70%. Wetland habitat through this reach of the Eagle River is dominated by PSS (average cover of 15%), followed by PEM (average cover of 10%). Areas of PFO and PAB wetland were noted along the river; however cover was minimal at less than 5% (Table 3-24). Large sections of the Eagle River were observed to be highly channelized, resulting in minimal wetland complex development adjacent to the river channel.

CDOW riparian vegetation mapping is incomplete within the Eagle River Basin. Based on review of available data for the affected river reach, the dominant vegetation types consists of riparian deciduous cottonwood trees and riparian herbaceous consisting of sedges, rushes and mesic grasses.

South Platte River Basin

The area assessed in the Upper South Platte River basin includes approximately 52.4 miles of river. The upper reach of the river is characterized as R3 (with an average



cover of 40%) and the lower reach is characterized as R2 (with an average cover of 20%). Wetland habitat was dominated by PEM wetlands, with an average of approximately 30% cover. PSS cover along the river was approximately 10%; areas of PFO and PAB wetland were noted along the river, however cover was negligible (Table 3-26). The river is characterized by a meandering pattern, resulting in the existence of large wetland complexes adjacent to the channel along the length of the reach assessed.

Based on review of available CDOW riparian vegetation mapping for this river reach, the dominant vegetation type in the basin is riparian herbaceous – both general and sedges/rushes/mesic grasses. The river is highly meandering and the majority of the section assessed had mapped riparian vegetation along the banks.

Special Status Species Associated with Wetland and Riparian Areas

Special status species include federal and state listed threatened, endangered, and candidate species. Federally-listed species are protected under the ESA and Bald and Golden Eagle Protection Act while state listed species are protected under Colorado State law. Bald eagle (*Haliaeetus leucocephalus*), boreal toad (*Bufo boreas boreas*), and river otter (*Lontra Canadensis*) have been documented to occur, or have the potential to occur within the Study Area.

Bald eagles mainly subsist on fish, waterfowl, and carrion but are also opportunistic feeders and often rely on rabbits and ground squirrels (Griffin et al. 1982). In Colorado, nest trees are located in various forest types from old-growth ponderosa pine to linear groups of riparian woodland. Nests and roosts are usually located in tall trees near water in areas free of human activity and development. Roost sites are trees that provide diurnal and/or nocturnal perches for less than 15 wintering bald eagles and includes a ¹/₄-mile buffer zone (NDIS 2005). An active bald eagle nest is located just west of the western end of the Colorado River segment, west of the town of Parshall. This segment of the Colorado River is used by bald eagles during winter foraging and the western end of the segment is a foraging area in summer (NDIS 2005). Two inactive nests and several bald eagle roost sites are located along the Blue River. Inactive nests are defined as nests in which neither courtship, breeding, or brooding activity has been observed at any time during the last 5 years (NDIS 2005).

River otters inhabit high-quality, perennial rivers that support abundant fish or crustaceans within many habitats ranging from semi-desert shrublands to montane and subalpine forests. Other habitat features that may be important include the presence of ice-free reaches of stream in winter, water depth. stream width, and suitable access to shoreline (Fitzgerald et al. 1994). An approximately 0.5-mile reach of the Colorado River, two miles east of the town of Hot Sulphur Springs is a river otter concentration area. Concentration areas are where otter sightings and signs of otter activity are higher than in the overall range (NDIS 2006). River otters have also been documented in the Blue River between the Town of Silverthorne and Green Mountain Reservoir (McKinney 2001; Taylor Young 2000). CDOW has identified only a small area of river otter range several miles north of the town of Silverthorne (NDIS 2006).

Historic records indicate boreal toads were present along the Williams Fork River (CDOW 2005). Areas of potential habitat include shallow, abandoned, or active



beaver ponds and other areas of still, shallow water. The Colorado Natural Heritage Program (CNHP) monitors and surveys boreal toads in Colorado; nonbreeding boreal toads were surveyed in Williams Fork River in 2005 (CNHP 2005). Boreal toads have also been recorded from the Blue River watershed (Keinath and McGee 2005), however, the habitat conditions along the river in the Study Area are only marginally suitable to support the species.

3.7.2 Environmental Consequences

Over 75% of the potentially affected river Study Area basins are classified as R3. This river type is typically lined with cobbles or gravel and has very little floodplain development due to rapidly moving water (Cowardin 1979). Wetland or riparian areas along these river types are typically narrow and less developed if at all present. However, water typically moves through these systems throughout the year. One basin section, the Middle Fork of the South Platte River in its lower reaches, was characterized as R2. This type of river system typically has flowing water throughout the year and a substrate that consists mainly of sand and mud. The gradient is lower than the R3 system, which allows for a relatively more developed floodplain. Thus, wetland or riparian areas along this type of river are typically larger and more complex.

The correlation between in-channel river flows and adjacent wetland/riparian habitat is very site specific and not easily determined for an entire river basin without more intensive field evaluation. Wetlands and riparian areas may be directly connected to flows of a river system, with sustaining hydrology provided by in-channel flows.

Other wetland and riparian areas may be directly connected to inflows from other sources draining towards the river and not directly connected to in-channel flows. As a general theoretic rule, the less water available within a river system, the less water will be available for wetland and riparian resources. As in-channel flows increase and water depths become higher more water is available to adjacent wetland and riparian resources. As in-channel flows decrease depths become lower and less water is available to adjacent wetland and riparian resources. In addition, as inchannel flows decrease, groundwater hydrologic gradient can increase, creating additional drainage of adjacent wetland and riparian resources.

Differences in flow between the No Action and Proposed Action alternatives described in Section 3.3 were utilized as the basis for determining potential effects to wetland and riparian resources. The hydrology comparison tables (Tables 3.2 through 3.19) were reviewed to determine the maximum percentage increase and decrease in average monthly flow in any month at each location. The corresponding maximum changes in flow were evaluated to determine changes in flow parameters (water depth and wetted perimeter). Changes in flow parameters were calculated using average channel width, slope and cross-section shape at each location.

Two flow parameters were selected as they related to this resource, including depth (feet) and wetted perimeter (feet). These flow parameters were selected as part of this analysis as indicators of potential effects to wetland and riparian resources immediately adjacent to the river channels. Large changes in these flow parameters under the Proposed Action could be considered an effect to the resources. Modeled flow



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parameters were compared to critical guideline thresholds, which were established for water depth and wetted perimeter.

The following critical guideline thresholds were established to determine if changes in flow could potentially affect wetland and riparian resources:

- Depth: Wetlands and riparian resources are typically adapted to tolerate seasonal relatively short duration increases and decreases in stream flows (i.e., flooding and drying). However, for the purposes of this study, flow changes which result in a monthly average fluctuation in water depth of more than 0.5 feet are considered a potential effect. Flow changes that result in water depth fluctuations of less than 0.5 feet are considered negligible and expected to have no discernable effect on the resource.
- Wetted Perimeter: Wetted Perimeter is the perimeter of the cross sectional area of a channel or river that is "wet". In theory, if the wetted perimeter of a river decreases, less water is available to the adjacent wetland and riparian resources. Conversely, if wetted perimeter increases, more water is available in the river to the adjacent wetland and riparian resources. For the purpose of this study a conservative estimate of a 5 feet decrease or increase in the wetted perimeter is considered a potential effect. Flow changes resulting in a change in wetted perimeter less than 5 feet are considered negligible and expected to have no discernable effect on the resource.

3.7.2.1 No Action Alternative

Under the No Action alternative, Springs Utilities would continue to operate according to the Blue River Decree during substitution years. Therefore, river flows and reservoir contents would continue to fluctuate as they have historically as a result of Springs Utilities' substitution operations. This alternative is expected to have no direct, indirect or cumulative impacts on streamflows or reservoirs. Therefore, the No Action alternative is expected to have no direct, indirect or cumulative impacts on wetland or riparian resources within the Study Area. Likewise, there are no anticipated impacts (no effect) to special status species associated with wetland and riparian areas under the No Action alternative.

3.7.2.2 Proposed Action

Blue River Basin

Refer to Section 3.6.2.2 for a discussion of maximum flow increases and decreases and the associated changes in water depth and wetted perimeter along the Blue River downstream of the Continental-Hoosier System, Dillon Reservoir and the Green Mountain Reservoir. Flow changes of this magnitude and frequency would have no effect on the adjacent wetland and riparian resources. In addition, the critical threshold guidelines established for this study would not be exceeded.

Williams Fork River Basin

Flow changes along the Williams Fork River would likely occur under the Proposed Action as described in the Section 3.3.2 Hydrology.

Refer to Section 3.6.2.2 for a discussion of maximum flow increases and decreases and the associated changes in water depth and wetted perimeter along the Williams Fork River. Flow changes of this magnitude and frequency would have no effect on the adjacent wetland and riparian resources. In



addition, the critical threshold guidelines established for this study would not be exceeded.

Muddy Creek Basin

Flow changes along Muddy Creek would likely occur under the Proposed Action as described in the Section 3.3.2 Hydrology.

Refer to Section 3.6.2.2 for a discussion of maximum flow increases and decreases and the associated changes in water depth and wetted perimeter along Muddy Creek. Flow changes of this magnitude and frequency would have no effect on the adjacent wetland and riparian resources. In addition, the critical threshold guidelines established for this study would not be exceeded.

Colorado River Basin

Flow changes along the Colorado River would likely occur under the Proposed Action as described in the Section 3.3.2 Hydrology.

Refer to Section 3.6.2.2 for a discussion of maximum flow increases and decreases and the associated changes in water depth and wetted perimeter along the Colorado River. Flow changes of this magnitude and frequency are expected to have no effect on the adjacent wetland and riparian resources. In addition, the critical threshold guidelines established for this study would not be exceeded.

Eagle River Basin

Flow changes along Homestake Creek and the Eagle River would likely occur under the Proposed Action as described in the Section 3.3.2 Hydrology.

Refer to Section 3.6.2.2 for a discussion of maximum flow increases and decreases and the associated changes in water depth and wetted perimeter along Homestake Creek.

Flow changes of this magnitude and frequency would have no effect on the adjacent wetland and riparian resources. In addition, the critical threshold guidelines established for this analysis would not be exceeded.

South Platte River Basin

Flow changes along the Middle Fork South Platte River and South Platte River would likely occur under the Proposed Action as described in the Section 3.3.2 Hydrology.

Refer to Section 3.6.2.2 for a discussion of maximum flow increases and decreases and the associated changes in water depth and wetted perimeter along the Middle Fork South Platte River. While changes in flow along the Middle Fork of the South Platte River downstream of Montgomery Reservoir indicate some of the largest flow parameter changes calculated as part of the assessment, the changes still indicate relative insignificant effect on wetland and riparian resources. Flow changes of this magnitude as part of the Proposed Action would have no effect on the adjacent wetland and riparian resource. In addition, critical threshold guidelines established for this analysis would not be exceeded.

Special Status Species Associated with Wetland and Riparian Areas

No ground disturbing activities associated with the Proposed Action would occur in the Study Area that would directly impact special status species' habitat. Thus, potential impacts to special status species were assessed in relation to the changes in hydrology described in Section 3.3. Habitat for bald eagles, river otters and boreal toads occur along the Colorado and Blue rivers. As previously described, flow changes associated with the Proposed Action would have no impact (no effect) on the adjacent



riparian/wetland habitats that sustain these special status species in the Study Area.

3.7.3 Cumulative Impacts

Cumulative impacts of reasonably foreseeable water-based actions are summarized in Section 3.3.3. These projects would likely result in changes in flow that could have a potential effect on wetland and riparian resources.

In general, reasonably foreseeable actions would result in additional water use in the future, which would reduce streamflows and reservoir contents in the Study Area. While the magnitude of hydrologic changes caused by the Proposed Action would be similar under cumulative effects, the percentage change in flows and reservoir contents under the Proposed Action may be slightly higher under cumulative effects than described for direct effects. This could result in a slightly greater effect on wetland and riparian resources in the Study Area. The analysis of potential flow reductions in dry years due to reasonably foreseeable actions described in Section 3.3.3 showed that the incremental cumulative hydrologic effect of the Proposed Action would be negligible to minor in combination with other past actions and the reasonably foreseeable actions described in Section 3.1.3. Because the Proposed Action would have no effect on wetland and riparian resources under direct effects it is likely that the incremental effect of the Proposed Action on wetland and riparian resources under cumulative effects would be negligible to minor in combination with the reasonably foreseeable actions previously described.

3.8 Recreation

This section provides an overview of existing recreational resources within the

Study Area and evaluates the potential effects of the No Action and Proposed Action alternatives.

During scoping for this project, the following comments were recorded that were considered for this recreational analysis (URS 2008):

- Effect of implementing the 2003 MOAs on stream flow variations including, effect on recreational uses, in particular the Blue River (kayaking and fishing)
- Effects of changes in streamflow and reservoir contents on fish habitat and subsequently fishing opportunities
- The effect of streamflow changes on stream reaches deemed eligible for BLM Wild and Scenic River designation

3.8.1 Affected Environment

Numerous recreational opportunities exist in the potentially affected reaches of streams and reservoirs within the Study Area. The primary recreational opportunities in the streams include fishing, rafting, and kayaking. Fishing can occur on all public sections of the streams and with landowner permission, on many of the private land parcels. One of the higher use areas for fishing along the Blue River is the 10 miles of public access from the Dillon Reservoir Dam to Green Mountain Reservoir. The Breckenridge Kayak Park is located on the Blue River within the Study Area. Indirect recreational uses also come from streams within the Study Area including snowmaking for ski areas in Breckenridge and Vail and irrigation for golf courses.

Several reservoirs are located within the Study Area. The recreational opportunities within each reservoir and on the surrounding property of each reservoir are described below.



Dillon Reservoir provides boating, canoeing, kayaking, sailboarding, fishing, and wildlife viewing within the reservoir. Other recreational opportunities on the property include camping, hiking, and biking in the summer; and cross-country skiing and ice fishing in the winter. Green Mountain Reservoir is used for boating and fishing. Recreational activities in the area include hiking, biking, off-highway vehicle (OHV) riding, snowmobiling, wildlife viewing, and camping. Several rental cabins are located at the south end of the reservoir.

Wolford Mountain Reservoir is used for boating, canoeing, kayaking, fishing, and water sports such as jet skiing. Recreational activities in the area include camping, picnicking, hiking, biking, and volleyball. Recreational opportunities in and around Williams Fork Reservoir include fishing, ice fishing, boating, sailboarding, canoeing, kayaking, camping, picnicking, wildlife viewing, and big game hunting.

Elevenmile Canyon Reservoir is contained within Eleven Mile State Park. Recreational activities within this park include biking; wildlife viewing; boating, including winter ice boating; canoeing; kayaking; sailboarding; camping, including backcountry camping and winter camping; cross-country skiing; educational programs; fishing, including ice fishing; big game, small game, and water fowl hunting; ice skating; OHV riding; and picnicking.

Upper Blue Reservoir and Montgomery Reservoir are used for fishing. Hiking trails exist in the areas surrounding these reservoirs. Homestake Reservoir is used for boating and fishing. Recreational opportunities around the reservoir include hiking and biking.

Gold Medal waters are the highest quality cold water habitats and have the capability

to produce many quality size (14 inches or longer) trout (Colorado Wildlife Commission 2008). Several waters within the Study Area are designated Gold Medal waters:

- Below the Dillon Reservoir dam (Denver Water no date).
- The Middle Fork South Platte River from the confluence of the Middle Fork and South Fork downstream to Spinney Mountain Reservoir (CDOW 2008).
- Spinney Mountain Reservoir (CDOW 2008).
- The South Platte River at the outlet of Spinney Mountain Reservoir downstream to the inlet of Elevenmile Reservoir (CDOW 2008).
- The Colorado River between Windy Gap and the confluence with Troublesome Creek (CDOW 2008). This section is partially within the project Study Area.

As described in Section 3.3.1.7, Grand County is currently developing a SMP for the County. Some of stream reaches evaluated in the SMP overlap portions of the Colorado and Blue rivers that were evaluated in the EA. Appendix D of the Phase 2 SMP defines water users flow recommendations for maintaining recreational activities including kayaking, rafting and angling in these reaches (Grand County 2008). The table below summarizes minimal and optimal flows for recreational activities in the Colorado River from the confluence with the Williams Fork River downstream and Blue River downstream of Green Mountain Reservoir as defined in Phase 2 of the SMP.



Colorado River						
Recreational Activity	Range of Optimum Flows (cfs)	Range of Minimum Flows (cfs)				
Kayaking	600 - 1,400	500 - 700				
Rafting	800 - 1,300	700 - 800				
Angling	200 - 1,000	60 - 450				
	Blue River					
Recreational Activity	Range of Optimum Flows (cfs)	Range of Minimum Flows (cfs)				
Kayaking	600 - 1,000	400				
Rafting	700 - 1,400	550				
Angling	200 - 1,200	100				

An independent review of the SMP recreational flow recommendations has not been conducted, and the recommendations are currently being evaluated by basin stakeholders as to their validity and applicability, however, they were recognized in the impact analysis.

Wild and Scenic Rivers Designation

As described in Section 3.3.1.4, the BLM is in the process of identifying eligible river segments in Colorado for Wild and Scenic River designations. Three segments of the Blue River have been preliminarily classified as recreational and wild for purpose of being deemed eligible for Wild and Scenic River status. The BLM also has an established fishing access and boat takeout at the downstream end of this segment. ORVs for these segments that may make them eligible for designation include high quality fishing and floatboating, wildlife habitat, and high biodiversity.

3.8.2 Environmental Consequences

3.8.2.1 No Action Alternative

Under the No Action alternative, Springs Utilities would operate according to the Blue River Decree during substitution years. River flows and reservoir contents would fluctuate as they have in the past. Therefore, no changes in stream flow or reservoir contents are expected, and there would be no direct, indirect, or cumulative impacts on recreational resources.

3.8.2.2 Proposed Action

The potential for impacts to recreation are related to changes in stream flow or reservoir content that could impact the quality of recreational activities, especially fishing, rafting/kayaking, and boating. The Proposed Action would change how Springs Utilities pays back their substitution obligation based on the 2003 MOAs. To put the potential for impact into context, it is important to consider that for the historical period evaluated by the hydrologic model, there were 13 substitution years during the 56-year study period. Additionally, changes in how Springs Utilities pays back their substitution obligation would only occur when the substitution obligation is greater than about 2,100 AF or the contents in Upper Blue Reservoir, which would occur in 7 of the 13 substitution years during the hydrologic modeling study period. This trend indicates that potential changes in stream flow caused by the Proposed Action would occur infrequently. The total substitution obligation would not change, and there would be very minimal change in the total amount of water flowing down rivers in the Study Area, but the timing and sources of substitution releases would change.



Based on the results of the hydrologic modeling presented in Section 3.3 Hydrology, the Blue River below the Continental-Hoosier System, and the Middle Fork South Platte River would experience the greatest change in average monthly flow during substitution years (4.5 % decrease in flow in August, and a 24.8% increase in flow in November). Average monthly flows in August would decrease from 56.6 cfs to 54.1 cfs. The minimum change in flow is not enough of a change to have any noticeable impact to water-based recreation activities. The increase in flow during November occurs when there is little onwater recreation use. The Breckenridge Ski Area is usually involved in snowmaking operations in November - the increase of water in the river would not have an adverse impact on their operations. On the Middle Fork South Platte River, the average monthly flow during substitution years would decrease by 14.3% in August, changing flow from 26.8 cfs to 23 cfs. The primary recreational activity on this river reach is fishing. The estimated change in flow would not have an impact on fish, or the quality of fishing opportunities.

All of the other river segments potentially affected by flow changes would experience substantially less changes than those described above for the Blue River and the Middle Fork South Platte River, and would not experience noticeable effects to waterbased recreation. The aquatic ecosystem analysis, presented in Section 3.6 Aquatic Resources and Special Status Species, predicts no impact to fish habitat or populations, and therefore the quality or quantity of fish available to anglers would not be impacted.

Montgomery Reservoir and the Upper Blue Reservoir would be the only reservoirs that could experience a noticeable change in



average content during substitution years (a 5.2% and a 12.9% decrease in average content during the months of February and March, respectively). This level of change during winter months at these high mountain reservoirs would not impact recreation. During the months of August and September, there would be an average increase in contents of 6.3 % and 6.4 %, respectively. This small increase in contents would not have a noticeable effect on fish or fishing opportunities. In the month of August, the contents of the Upper Blue Reservoir could increase by an average of 38.5%. Except for June and July, which would experience an increase in content of less than 1%, August is the only month where a noticeable change in content is predicted. The additional water content of the reservoir should slightly improve conditions for fish and fishing.

The river segments in the Study Area that have been deemed eligible by BLM for Wild and Scenic Rivers designation would not experience noticeable changes in stream flow; the important values associated with those river segments should not be affected by the Proposed Action.

To summarize, because of the infrequent occurrence of substitution-related changes in stream flow, and the generally modest changes predicted to occur during those infrequent events, recreation is anticipated to experience adverse negligible short-term impacts.

As discussed in Section 3.8.1, Phase 2 of the Grand County SMP identified recreational flows recommendations to support activities such as kayaking, rafting, and angling. Flow reductions under the Proposed Action in the Blue and Colorado rivers would be infrequent and negligible (see Section 3.3.2.2) and would have no noticeable

effects to the minimum and optimum flows for recreational activities in the Study Area.

3.8.3 Cumulative Impacts

Several reasonably foreseeable water projects, described in Section 3.1.3, could affect streams and reservoirs in the project Study Area. The Proposed Action would have a negligible to minor incremental hydrological effect, and therefore would have a corresponding minor cumulative effect on recreation resources.

3.9 Socioeconomics

This section provides a brief overview of existing socioeconomic conditions and evaluates potential socioeconomic effects of the No Action and Proposed Action alternatives.

None of the issues, questions or comments received during public scoping identified socioeconomic concerns associated with the Proposed Action. One scoping commenter did identify potential effects on recreational uses (e.g., fishing and kayaking) on the Blue River as an issue to be examined; recreational impacts on the Blue River are described in Section 3.8.

This socioeconomic evaluation focuses on Summit County. Three of the signatories to the 2003 MOA that describes the Proposed Action are Summit County entities: Summit County; Vail Summit Resorts, Inc., and; the Town of Breckenridge. The county encompasses the Blue River Basin from the headwaters of the Blue River near Hoosier Pass, and from the headwaters of Ten Mile Creek near Fremont Pass, to the boundary with Grand County below Green Mountain Reservoir. Several of the water storage facilities that would be affected by the Proposed Action are located in Summit County, including Upper Blue Reservoir, Dillon Reservoir, and Green Mountain Reservoir.

3.9.1 Affected Environment

Summit County was home to nearly 28,000 permanent residents in 2006. Fifty-eight percent of the county's residents lived in unincorporated areas, with approximately 36% of permanent residents living in Silverthorne, Breckenridge, and Frisco, the three largest municipalities in the county (SDO 2008a). Throughout most of the past four decades, the county has been one of the fastest growing areas in Colorado. From 1970 through 2005, Summit County's population increased by an average of 6.5% per year (Headwaters Economics 2007). In general, Summit County has a relatively young, fairly affluent and predominantly non-minority population (Census 2000b).

Summit County is home to four major ski resorts – Breckenridge, Keystone, Copper Mountain and Arapahoe Basin. Due in part to proximity to these resorts, as well as relatively easy access to the Denver Metropolitan Area via Interstate 70, Summit County also has a large population of parttime residents and second home owners. With a large number of second homes, a substantial hotel bed base and many day use visitors, the effective peak population in Summit County on weekends and holidays can be several times the number of permanent residents.

The attractiveness of Summit County real estate has some negative consequences for county residents. In general, housing affordability in Summit County has declined between 1990 and 2000 where the median family income is not enough to buy the median value home (Headwaters Economics 2007a; Headwaters Economics 2007b).



While Summit County was founded during Colorado's mining boom in the 1800s, tourism, broadly defined, is now the primary source of employment in the county. The four Summit County ski resorts received over 4.2 million skier visits during the 2006-2007 season and accounted for just over one-third of all skier visits in Colorado (CSCUSA 2008). Fishing is another example of tourism in Summit County. Preliminary estimates developed for the CDOW indicate that fishing activity generated \$37 million in Summit County economic output in 2007 (BBC 2008).

There were 23,850 jobs in Summit County in 2006 (SDO 2008b). The high number of jobs relative to the size of the population reflects both the prevalence of multiple job holding that is common in Colorado resort communities and extensive in-commuting by workers that live in nearby counties. The Colorado State Demography Office estimates that almost two-thirds of Summit County's economic base is tied to tourism, generally in the accommodations and food services industry (Headwaters Economics 2007a; SDO 2008c). Consistent with the emerging, broader definition of "tourism" that includes second home-related activity, 22% of Summit County jobs are in construction and real estate (Headwaters Economics 2007a).

3.9.2 Environmental Consequences

3.9.2.1 No Action Alternative

Under the No Action alternative, Springs Utilities would continue to operate according to the Blue River Decree during substitution years. River flows and reservoir contents would continue to fluctuate as they have historically as a result of Springs Utilities substitution operations. The No Action alternative is expected to have no



direct, indirect or cumulative impacts on streamflows or reservoirs and would have no effect on available water supplies in Summit County. Consequently, there would be no socioeconomic effects as a result of the No Action alternative.

3.9.2.2 Proposed Action

Under the Proposed Action, there would be minimal changes to the flow in the Blue River and to the contents and levels of Summit County reservoirs (e.g., Upper Blue, Dillon and Green Mountain). However, these changes are expected to have little or no noticeable impact on recreation opportunities. Fish populations are not expected to be affected. Consequently, the economic benefits to Summit County from river and lake-related recreation activity are not anticipated to be affected by the Proposed Action.

Under the Proposed Action, Springs Utilities would make 250 AF of water available from Upper Blue Reservoir each year to a West Slope Account for use by the River District's marketing program and its contractees in exchange for a like amount of water stored by the River District in Wolford Mountain Reservoir. The River District, in turn, intends to enter into contracts with the Summit County entities. It is anticipated that Summit County would contract for 100 AF of this new supply, Vail Summit Resorts would contract for 100 AF and the Town of Breckenridge would contract for 50 AF.

Exactly how this new water supply would be used has not been specified or documented. However, Summit County is generally in need of additional water supplies to meet anticipated growth in demands. The Statewide Water Supply Initiative (SWSI) identified a gap between identified supplies for Summit County and anticipated demands by 2030 of 1,900 AF. This gap reflects a number of anticipated water needs, including a projected need for 505 AF for development in unincorporated portions of the county (SWSI 2004). Snowmaking demands are projected to grow from 1,500 AF in 2000 to 3,700 AF by 2030 (SWSI 2004).

Precisely quantifying the economic value of the 250 AF of new supply available to Summit County entities under the Proposed Action is not possible. A minimum estimate of the economic value can be estimated, however, based on the prices charged under the River District's marketing program. Under the current marketing policy for contracts issued after July 2006, the River District charges \$1,301.25 per AF for Blue River supplies (River District 2008). Under these terms, the Summit County entities would pay a total of approximately \$325,000 per year to contract for the 250 AF made available under the Proposed Action. The willingness of the Summit County entities to enter into contracts for this water at the specified price indicates that the benefits from this new supply would likely be greater than the contract price.

3.9.3 Cumulative Impacts

Several reasonably foreseeable actions were identified for cumulative impact assessment in Section 3.1.3. Among these actions, the most relevant in terms of socioeconomic effects are:

- Other increased water use in Grand and Summit counties, and
- Increases in Wolford Mountain Reservoir Contract Demands.

Ongoing urban growth in Summit County will continue to increase the demand for water for municipal, domestic and commercial purposes. Given the limited supply available to the area, the value of the 250 AF made available to the Summit County entities would likely continue to increase in the future.

Increases in Wolford Mountain Reservoir Contract Demands would add to the value of the water that the River District stores in that reservoir on behalf of Springs Utilities in exchange for the supply that Springs Utilities makes available to the River District (and the Summit County entities) from Upper Blue Reservoir. This activity would somewhat reduce the net economic benefit of the new supply provided to the Summit County entities because the "cost" of that supply to the River District would increase. However, the amount of water that the River District will hold for Springs Utilities in Wolford Mountain is capped at 1,750 AF (MOA, May 15, 2003). This cap would limit the offsetting cost of the water to the River District.

3.10 Summary of Impacts

Detailed discussions of the impact analyses for affected resources in the Study Area are presented in Sections 3.3 through 3.9. Table 3-25 presents a summary of impacts to resources evaluated as a result of the Proposed Action and provides a comparison of the potential effects for each resource. In general, the Proposed Action would either result in no impacts, or minor short-term adverse impacts to the affected environment.

Under the No Action alternative, for all resources, Springs Utilities would continue to operate according to the Blue River Decree during substitution years. River flows and reservoir contents would continue to fluctuate as they have historically as a result of Springs Utilities substitution operations. The No Action alternative is



expected to have no direct, indirect, or cumulative impacts on streamflows or reservoirs and would have no effect on available water supplies in Summit County. Consequently, there would be no effects to resources evaluated as a result of the No Action alternative.



Affected Resources	Proposed Action
Hydrology	
Blue River	Average monthly flows in the Blue River downstream of the Continental-Hoosier System and upstream of Dillon Reservoir would decrease by up to 4.6 cfs or 8.9% in August and increase by up to 4.2 cfs or 21.5% in November. Flows below Dillon Reservoir would decrease by up to 7.8 cfs or 3.5% in May. Flows below Green Mountain Reservoir, would decrease by up to 8.1 cfs or 0.4% in June and increase by up to 1.2 cfs or 0.5% in October.
Williams Fork River	Monthly average flows in the Williams Fork River would decrease by a maximum of 8.3 cfs or 11.5% in March and increase by a maximum of 3.4 cfs or 2.5% in June.
Muddy Creek	Average monthly flows would decrease by a maximum of 5.7 cfs or 4.3% in June and increase by a maximum of 6.1 cfs or 4.4% in October.
Colorado River	Average monthly flows in the Colorado River downstream of the confluence with the Williams Fork River would decrease up to 6.3 cfs or 3.7% in March and increase by up to 4.1 cfs or 0.2% in June. Average monthly flows in the Colorado River near Kremmling would decrease by up to 8.1 cfs or 0.1% in June and increase by up to 4.6 cfs or 0.7% in October. Average monthly flows in the Colorado River downstream of the Eagle River would decrease by up to 8.1 cfs or 0.1% in June and increase by up to 8.1 cfs or 0.1% in June and increase by up to 4.6 cfs or 0.5% in October.
Eagle River	Average monthly flows in Homestake Creek would increase by a maximum of 7.6 cfs or 18.1% in August. In substitution years, average monthly flows would increase by up to 0.6 cfs or 2.3%.
South Platte River	Average monthly flows in the Middle Fork South Platte River would decrease by 34.1 cfs or 61.6% and increase by 4.3 cfs or 14.6% in August.
Upper Blue Reservoir	End-of-month contents in Upper Blue Reservoir would increase by up to 250 AF in August, September and October.
Dillon Reservoir	End-of-month contents in Dillon Reservoir would increase by up to 113 AF or 0.1% in all months and decrease by up to 522 AF or 0.3% in August.
Green Mountain Reservoir	End-of-month contents in Green Mountain Reservoir would increase by up to 414 AF or 0.3% in August and decrease by up to 479 AF or 0.6% in May.
Williams Fork Reservoir	End-of-month contents in Williams Fork Reservoir would increase by up to 564 AF or 2.8% in March and decrease by up to 37 AF or 0.1% in January through May.
Wolford Mountain Reservoir	End-of-month contents in Wolford Mountain Reservoir would increase by a maximum of 280 AF or 1.3% in December, January and February and decrease by a maximum of 343 AF or 1.7% in January and February.
Homestake Reservoir	End-of-month contents in Homestake Reservoir would decrease in seven months during the 56-year study period by up to 469 AF or 18.9% in August.
Montgomery Reservoir	End-of-month contents in Montgomery Reservoir would decrease by a maximum of 271 AF or 24.1% from October through March and increase by a maximum of 2,096 AF or 355% from August through November.
Elevenmile Canyon Reservoir	There would likely be no change in Elevenmile Canyon Reservoir contents.

Table 3-25Summary of Impacts from the Proposed Action



	Summary of impacts from the Proposed Action
Affected Resources	Proposed Action
Hydroelectric Generation	
Hydroelectric generation at power plants	• Flow changes would result in none to negligible changes in hydroelectric power generation at the following facilities: Dillon Reservoir Power Plant, Roberts Tunnel Power Plant, and Green Mountain Reservoir Power Plant.
	• Flow changes in the Colorado River near Kremmling could result in minor adverse short-term impacts to hydropower generation at the Shoshone Power Plant.
	• Changes in the diversions through Homestake Tunnel could result in minor adverse short-term impacts to hydropower generation at the Mt. Elbert Power Plant.
	• Changes in the timing of substitution releases from the Williams Fork Reservoir may result in minor adverse short-term impacts to hydropower generation at the Williams Fork Reservoir Power Plant.
Water Quality	
River basins: Upper Colorado River and South Platte River	Flow changes would have negligible effect on water quality in the Upper Colorado River Basin or the South Platte River Basin.
Aquatic Resources and Special Stat	tus Species
River basins: Blue River, Williams Fork River, Muddy Creek, Colorado River, Eagle River, and South Platte River	Flow changes would have negligible effect on aquatic resources.
Special status fish species in the Colorado River Basin	Flow changes in the Colorado River downstream of the confluence with the Eagle River would have no adverse effect on the endangered fish species along the Colorado River (no effect).
Wetlands and Riparian Resources a	und Special Status Species
River basins: Blue River, Williams Fork River, Muddy Creek, Colorado River, Eagle River, and South Platte River	Flow changes would have negligable effect on wetlands and riparian resources.
Special status species associated with wetland and riparian areas	Flow changes would have no impact (no effect) on the adjacent riparian/wetland habitats that sustain special status species in the Study Area.
Recreation	
Recreational activities, including: fishing, rafting, kayaking, and boating	Because of the infrequent occurrence of substitution-related changes in stream flow, and the generally modest changes predicted to occur during those infrequent events, impacts to recreation are anticipated to be negligible.

Table 3-25Summary of Impacts from the Proposed Action



Affected Resources	Proposed Action
Socioeconomics	
Economic benefits related to recreational opportunities and economic value of available water supply	Minimal flow changes would have no discernable effect on recreation opportunities, such as fishing. Consequently, the economic benefits to Summit County from river and lake-related recreation activity are not anticipated to be affected.
	The new water supply (250 AF of water from Upper Blue Reservoir each year to a West Slope Account for use by the River District's marketing program and its contractees) in Summit County would satisfy a portion of the needed supply to meet anticipated growth in demands. The benefits from this new supply would likely be greater than the contract price.

Table 3-25Summary of Impacts from the Proposed Action



4.0 Consultation and Coordination

4.1 Scoping Process

Reclamation used several methods to inform the public and interested agencies of the proposed project and to solicit their input, including: scoping announcements, agency scoping interviews, and a public scoping meeting.

Public notices were published on February 20 and 27, 2008 in *The Summit Daily News*. A postcard, "Notice of Public Open House," was mailed to all individuals on Reclamation's project mailing list, totaling over 50 people.

Reclamation issued a press release on February 29, 2008. The press release was electronically mailed to approximately 130 people on Reclamation's project-specific mailing list. The press release announced the scoping meeting and provided an overview of the project, the dates of the scoping comment period, and a contact for more information.

A scoping newsletter was provided at the Public Scoping Meeting (described below) and to agencies as part of the agency scoping interview process. The newsletter described the project purpose and need, proposed alternatives, and the NEPA process.

Agency scoping was conducted through individual stakeholder telephone interviews. These interviews were conducted in March and April 2008 and included representatives from four federal agencies, three state agencies, five municipal and regional agencies, and one county agency. A summary of the agency scoping process is described in the *Scoping Summary Report* (URS 2008).

A public scoping meeting was held by Reclamation on March 6, 2008 at the Silverthorne Library in Silverthorne, Colorado. A total of eight attendees signedin. The scoping newsletter, described above, was provided at the meeting. The meeting was an open house format with eight display boards.

The public comment period extended 30 days between March 6 and April 4, 2008. Two written comments were submitted by the CDPHE and the Municipal Subdistrict regarding the project and may be found in the *Scoping Summary Report* (URS 2008).

As a result of this scoping process Reclamation received written or oral feedback on the project. The comments are summarized below, and have been considered in the development of the EA.

- Effect of implementing the 2003 MOAs on stream flow variations including:
 - Fluctuations related to timing and amount of flow
 - Effect on aquatic biological resources in the Colorado River and Blue River
 - Effect on recreational uses, in particular the Blue River (kayaking and fishing)
- Effects on Colorado River stream flows below the Windy Gap Project diversion point from utilizing water from the Williams Fork Reservoir as a substitute supply.
- Effects of water transfers on water temperature and subsequently fish.
- What is Reclamation's power right and how is it administered?



- How does the Historic Users Pool (HUP) operate and would the HUP be affected by stream flow variations as a result of implementing the 2003 MOAs?
- Would the Green Mountain Reservoir Pumpback project (also known as the Blue River Pumpback) considered by Denver Water be affected by implementation of the 2003 MOAs?
- The effect of Springs Utilities' re-use and conservation programs on the water substitution agreement.
 - Is Springs Utilities maximizing their efforts to reuse transbasin water to extinction under their existing conservation program?
- The effect of BLM's Wild and Scenic River designations on stream reaches within the study area of this project.
- Will additional water be diverted from the West Slope to the East Slope as part of the project?

4.2 Comments on the Draft EA

A Draft EA was prepared and made available for comment during a 2-week comment period between September 30 through October 14, 2008. An electronic copy of the Draft EA, as well as other project-related information, is available at Reclamation's website at: http://www.usbr.gov/gp/nepa/quarterly.cfm. A hardcopy of the Draft EA was available for public review at the following repositories:

Summit County Library North Branch 651 Center Circle Silverthorne, CO 80498

Summit County Library South Branch 504 Airport Road Breckenridge, CO 80424 A postcard notification of the availability of the EA was distributed to the project mailing list, attendees at the scoping meeting, and agencies.

Comments on the Draft EA were received by: Colorado Department of Public Health and the Environment, Water Quality Control Division; Bureau of Land Management; Trout Unlimited; Petros and White, LLC on behalf of the Board of Commissioners, Summit County, Colorado, and; White and Jankowski, L.L.P. on behalf of the Board of County Commissioners, Grand County, Colorado. A summary of the comments contained in these letters as well as responses can be found in Appendix D.

4.3 Preparers

URS Corporation (URS), a third-party contractor, prepared the Green Mountain Reservoir Substitution Agreement and Power Interference Agreement EA working under the direction of and in cooperation with the lead agency for the project, Reclamation. The following subcontractors assisted Reclamation and URS with the preparation of the EA: Ecological Resource Consultants, Inc. (ERC) assisted conducted hydrologic analysis and modeling, surface water resources, aquatic resources, and special status species associated with aquatic resources; BBC Research & Consulting conducted socioeconomic analysis, and; Seamless Composition, LLC assisted with the public involvement process for the project. Table 4-1 provides the names of the individuals who were principally involved with preparing the EA.



Table 4-1
List of Preparers

Name	Title	Contribution			
Bureau of Reclamation		•			
Carlie Ronca	Project Manager	Project management for environmental compliance and document production			
Kara Lamb	Public Involvement Specialist	Public and agency involvement and notification			
Ron Thomasson	Hydraulic Engineer	Water scheduling consideration, hydrologic analysis, and document review			
URS Corporation					
Paula Daukas	Project Manager (Nov 2007 – May 2008)	Project management for environmental compliance and document production			
Andrea Parker	Project Manager (May 2008 - present) Assistant Project Manager (Nov 2007 – May 2008)	Project management, environmental compliance, and document production			
Rachel Badger	Environmental Planner	Technical report writing and document production			
Angie Fowler	Water Resources Engineer	Water quality			
Sarah Jensen	Environmental Planner	Recreation			
David Jones	Senior Environmental Planner	Recreation			
John Sikora, P.E.	Senior Water Resources Engineer	Water resources, hydroelectric generation			
Ecological Resource Consulta	nts, Inc.				
David Blauch	Ecologist	Floodplains, aquatic resources, wetland and riparian resources			
Heather Thompson, P.E.	Water Resource Engineer	Surface water, hydrology and modeling			
Troy Thompson, P.E.	Troy Thompson, P.E. Water Resource Engineer				
BBC Research & Consulting					
Doug Jeavons	Economist	Social and economic analysis			
Seamless Composition, LLC					
Lisa Pine	Public Involvement Specialist	Public and agency involvement and notification			



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Glossary

Acre-foot – A uniform volume of water that will cover one acre (43,560 square feet) to a depth of one foot (often averaged to 326,000 gallons).

Appropriation – The diversion of water and the placing of it to a beneficial use, also may refer to the amount of water a user has the legal right to withdraw from a water source.

Call – Demand for administration of water rights.

Consumptive use – Water use that permanently withdraws water from its source; water that is no longer available because it has evaporated, been transpired by plants, incorporated into products or crops, consumed by people or livestock, or otherwise removed from the immediate water environment.

Denver Water's Platte and Colorado Simulation Model (PACSM) – PACSM is a water allocation and accounting model that was developed by Denver Water to model the operations of raw water supply systems belonging to Denver Water and others within portions of the Colorado and Platte River basins. The water supply system is represented as a system of linked nodes. The diversion structures, reservoirs, water rights, operations, instream flow requirements, demands and stream gages included in the PACSM model are very similar to the CDSS Model for the Colorado River Basin.

Diversion – An alteration in the natural course of a stream for the purpose of water supply, usually causing some of the water to leave the natural channel. In Colorado Springs this includes taking water through a ditch, tunnel, pipe or other conduit.

Drought – A water supply shortage that is caused by natural conditions such as an

extended period of below-normal precipitation.

Historic User's Pool (HUP) – The HUP in Green Mountain Reservoir is 66,000 acrefeet. When the administration of water under the priority system would result in curtailment in whole or in part of a water right for irrigation or domestic uses within western Colorado, which was perfected by use on or before October 15, 1977, releases are made from the HUP pool to the extent necessary to permit diversions to the full amount of said decrees.

Hydroelectric Power – Electric current produced from water power.

Hydroelectric Power Plant – A building in which turbines are operated, to drive generators, by the energy of natural or artificial waterfalls.

Priority (in & out) – The right to divert or store water, based on the Doctrine of Prior Appropriation. In Colorado this is regulated by the Division of Water Resources, and is based on the date of the water right, i.e., "First in time, first in right."

Pumped-Storage Hydroelectric Plant – A plant that usually generates electric energy during peak-load periods by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir through a conduit to turbine generators located in a power plant at a lower level.

Reusable Water – Water with the legal characteristic of being able to be used, reused, and subsequently used to extinction. Sources typically are transbasin water, nontributary (e.g. Denver Basin) groundwater, and agricultural consumptive use water.



Riparian Areas – Those plant communities adjacent to and affected by surface or groundwater of perennial or ephemeral water bodies such as rivers, streams, lakes, ponds, playas, or drainage ways. These areas have distinctly different vegetation than adjacent areas or have species similar to surrounding areas that exhibit a more vigorous or robust growth form. (CDOW 2006a).

State of Colorado's Colorado Decision Support System Model (CDSS Model) –

The CDSS Model is a surface water allocation model of the Upper Colorado River Basin. The model covers the entire Colorado River drainage, except the Gunnison River, from the headwaters to the Colorado-Utah state line. The water supply system is represented as a system of nodes, which correspond with features such as diversion structures, reservoirs, instream flow requirements, demands, or stream gages.

Transmountain diversion – A water project that diverts water from one river basin to another. For Colorado Springs, this typically is a project to divert water from the Colorado River Basin to the Arkansas River Basin.

Transmountain water (Transbasin water) – Water produced by a transmountain diversion (e.g. water diverted from the western slope of the continental divide for use on the eastern slope). See also Reusable Water.

Water right – A property right created by the diversion of water and the placing of it to a beneficial use (appropriation). Water rights become officially recognized and administrable when documented in a decree of the State water court (adjudicated).

Wetlands – As defined by the USACE and EPA, wetlands are: those areas that are inundated or saturated by surface or

groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (EPA 2006; USACE 2007)



MODEL SELECTION AND PARAMETERS



35715 US Hwy. 40, Sulte D204 ~ Evergreen, CO 80439 ~ 303.679.4820

Technical Memorandum

Date:	August 20, 2008
To:	Andrea Parker, URS Corporation, Carlie Ronca, U.S. Bureau of Reclamation
From:	Heather Thompson, Ecological Resource Consultants
Project:	Green Mountain Reservoir Substitution and Power Interference Agreements EA
Re:	Model Selection and Parameters

The following memorandum describes the model selected for the Environmental Assessment (EA) and the model parameters associated with the No Action and Proposed Action alternatives.

1.0 MODEL SELECTION

Alternatives that will be evaluated for the EA will have hydrologic effects due to differences in the manner in which Springs Utilities repays its substitution obligation to Green Mountain Reservoir. These impacts could increase or reduce flows or change reservoir operations and water levels resulting in impacts to water rights, instream flows, and diversions. A tool is needed to evaluate these and other hydrologic effects and assess mitigation measures, if any. Two models were reviewed to assess their suitability for accomplishing the modeling objectives of this EA. These models include the State's Upper Colorado Water Resource Planning Model from the Colorado Decision Support System (CDSS Model) and Denver Water's Platte and Colorado Simulation Model (PACSM). A brief overview of each model is provided below.

CDSS Model Overview

The State of Colorado has invested significantly in the development of the CDSS Model to provide an integrated system of databases and model of the Upper Colorado River that is available to the public. The CDSS Model is widely known and has been used for analysis of historical and future water management policies in the Upper Colorado River basin. It covers the entire Colorado River drainage, except the Gunnison River, from the headwaters to the Colorado-Utah state line. The water supply system is represented as a system of links and nodes, which correspond with features such as diversion structures, reservoirs, instream flow requirements, demands, or stream gages. In general, the model allocates water to a node based on available flow, water rights, diversion or storage capacity and water demand. The physical system represented in the model is constrained by Colorado's water rights laws and numerous contractual and operating agreements. The model is extremely detailed, containing more than 400 diversions nodes, 30 reservoirs, and 80 USGS gages. The model includes operating rules for all major reservoirs, including complex and unique operations. Physical features, times series inputs, and operating criteria can be directly edited in the CDSS Model input files.

PACSM Overview

PACSM is a water allocation and accounting model that was developed by Denver Water to model the operations of raw water supply systems belonging to Denver Water and others within portions of the Colorado and Platte River basins. Similar to the CDSS Model, the water supply system is represented as a system of linked nodes. The diversion structures, reservoirs, water rights, operations, instream flow requirements, demands and stream gages included in the PACSM model are very similar to the CDSS Model for the Colorado River Basin. In addition, both PACSM and the CDSS Model use direction solution algorithms to assure that water is allocated according to physical, hydrological, and institutional parameters.

The primary difference between PACSM and the CDSS Model is the model study areas. The area modeled in PACSM extends from the headwaters of the Colorado River downstream to the 15-Mile Reach (excluding the Gunnison River) and the headwaters of the South Platte River downstream to the Kersey gage, whereas the CDSS Model does not include the South Platte River basin.

Criteria and Decision

The three basic criteria considered in the selection of the model include:

- 1. Required functionality: The model must be capable of representing the hydrology and operations to which the Colorado River system is subject.
- 2. Ease of Modification: The user must be able to customize and modify the model to reflect operations specific to this EA.
- 3. Accessibility: The model must be readily accessible for use on this EA in a timely manner.

Based on a review of these models it was determined that both models have similar functionality, although PACSM has the slight benefit of including the South Platte River basin. The majority of the EA study area is located in the Upper Colorado River Basin with a small portion in the upper South Platte River Basin. PACSM offers a slight benefit over the CDSS Model because it could be used to evaluate hydrologic effects in the South Platte River basin. Both models can be modified to incorporate the changes needed to model the No Action and Proposed Action alternatives. Regarding accessibility, CDSS is owned by and available to the public whereas because Denver Water owns and operates the PACSM model, its availability for use in the EA is less certain. Therefore, after reviewing the two potential models, ERC selected the CDSS Model for assessing hydrologic effects in the Colorado River Basin.

While the majority of the study area for the EA is located in the upper Colorado River basin, a small portion is located in the upper South Platte River basin, including Springs Utilities' Montgomery Reservoir, Denver Water's Elevenmile Canyon Reservoir and the Middle Fork South Platte River from the headwaters to Elevenmile Canyon Reservoir. The CDSS model does not include the South Platte River basin, therefore, potential hydrologic effects in that portion of the study area will be based on an assessment of USGS gage data, historical reservoir endof-month contents for those reservoirs, and data provided by Denver Water from PACSM, which includes the South Platte River basin.

2.0 MODEL PARAMETERS

2.1 Study Period and Time Step

The recommended model study period extends from 1950 through 2005. A study period should be long enough to include a variety of hydrologic conditions, including average, wet and dry years. At the same time, it should not be so long that many streamflows or reservoir contents must be synthesized to fill in missing data. The selected study period contains a balance of dry years (1954, 1966, 1977, 1981, and 2002), wet years (1957, 1983, 1984, 1995, and 1996), and average years. Of particular concern for this EA was the inclusion of several dry years, since hydrologic effects associated with the Proposed Action would occur primarily in substitution years, which typically correspond with dry years. Starting the model a few years prior to the 1950's drought period minimizes the influence of initial conditions, including reservoir contents, on model results for those years. The study period ends in 2005 because the CDSS Model data sets currently available extends through 2005.

The CDSS Model is available in both a daily and monthly time step format. Based on the magnitude and timing of hydrologic effects anticipated under the Proposed Action alternative a monthly time step was determined to be adequate for the purposes of this EA.

2.2 Model Scenarios

The CDSS Model Baseline Data Set was selected as the basis for representing the No Action and Proposed Action alternatives. The Baseline Data Set is used to simulate current conditions and operations imposed on historical hydrology to understand and evaluate the hydrologic effects of the No Action and Proposed Action alternatives.

A detailed description of the entire CDSS Model and the associated datasets is provided in the following reports: Upper Colorado River Basin Information (CWCB 2007a) and Upper Colorado River Basin Water Resources Planning Model User's

Manual (CWCB 2007b). The specific facilities and operations that would be affected under the Proposed Action alternative include Springs Utilities' Continental-Hoosier System and Homestake Project, and Blue River Decree operations, including substitution replacement at Upper Blue Reservoir, Dillon Reservoir, Williams Fork Reservoir and Wolford Mountain Reservoir. The manner in which these facilities and operations are reflected in the CDSS Model is summarized below.

Continental-Hoosier System Operations

The Continental-Hoosier System diverts water from several tributaries at the headwaters of the Blue River and delivers it through the Continental-Hoosier Tunnel (Hoosier Tunnel) into Montgomery Reservoir in the headwaters of the Middle Fork of the South Platte River. The system has been in operation since 1953.

The Continental-Hoosier System has several direct flow water rights to divert water from East Hoosier Creek, Hoosier Creek, Bemrose Creek, Crystal Creek, Spruce Creek, McCullough Gulch, and Monte Cristo Creek through Hoosier Tunnel. The capacity of the Hoosier Tunnel is 500 cfs. In addition, water can be stored in Upper Blue Reservoir under a storage right. The capacity of Upper Blue Reservoir is approximately 2,100 AF. The water rights associated with the Continental-Hoosier System that are included in the CDSS Model are summarized in **Table 1**.

Name	Decreed Amount	Appropriation Date
1929 Water Rights		
East Hoosier Creek	40 cfs	Aug 5, 1929
Hoosier Creek	20 cfs	Aug 5, 1929
Bemrose Creek (Silver Ck)	17 cfs	Aug 5, 1929
Subtotal	77 cfs	
1948 Water Rights		
Upper Blue Reservoir	2,140 AF	May 13, 1948
East Hoosier Creek	50 cfs	May 13, 1948
Hoosier Creek	40 cfs	May 13, 1948
Bemrose Creek (Silver Ck)	20 cfs	May 13, 1948
Crystal Creek	40 cfs	May 13, 1948
Spruce Creek	60 cfs	May 13, 1948
McCullough Gulch	60 cfs	May 13, 1948
Monte Cristo Creek	200 cfs	May 13, 1948
Interceptor Ditch (to Tunnel)	50 cfs	May 13, 1948
Tunnel Seepage	20 cfs	May 13, 1948
Subtotal	540 cfs	

Table 1. Summary of Continental Hoosier System Absolute Water Rights

¹ The maximum diversion under the 1948 decrees is limited to 400 cfs.

The 1929 water rights are senior to Green Mountain Reservoir's water rights and Denver Water's rights at Dillon Reservoir and Roberts Tunnel. Therefore, diversions under the 1929 water rights are generally controlled by an administrative call from the Shoshone Power plant water right and the physical water supply at the headgates. The 1948 water rights are junior to the Green Mountain Reservoir senior storage right, therefore, diversions under these water rights are subject to the Blue River Decree, which is explained in the following section on Blue River Decree operations.

The 1929 water rights are decreed for diversion from three relatively small tributaries to the Blue River near the top of the basin. The tributary drainage area available to these rights is about 2 square miles, which is about 14 percent of the total drainage basin tributary to the entire collection system (approximately 14.3 square miles (CWCB, 2007b). Therefore, in the CDSS model, 14 percent of the natural flow is placed above one node that represents all the 1929 rights and the remaining 86 percent is placed above one node that represents all the 1948 water rights and a node for Upper Blue Reservoir.

Historical deliveries through the Hoosier Tunnel are shown in **Table 2**. The average annual flow through the tunnel was approximately 8,540 acre-feet (AF). Deliveries occur from April through October, with the majority in May through September. Diversions from the Blue River and its tributaries through the tunnel and into storage are limited by the water right to the period of May through September. However, flow through the Hoosier Tunnel also includes releases of previously stored water from Upper Blue Reservoir. In accordance with the Blue River Decree, the total diversions at the Continental-Hoosier System "... shall not exceed in any calendar year, ten percent of the natural flow of the Blue River near Dillon below its confluence with the Snake River and Ten Mile Creek." This requirement is generally not a limiting factor with respect to Continental-Hoosier System diversions based on an evaluation of streamflow data and conversations with Springs Utilities staff. Therefore, this requirement is not incorporated in the CDSS Model.

Historical end-of-month (EOM) contents for Upper Blue Reservoir are shown in **Table 3**. Water is stored in Upper Blue Reservoir during runoff and the reservoir generally fills by the end of June. As shown in **Table 3**, Upper Blue Reservoir filled in all but seven years (1977, 1980, 1981, 1985, 1989, 2002, and 2004). Water is typically released from August through October to meet Springs Utilities' substitution obligation or for delivery through Hoosier Tunnel as needed to supplement direct diversions. The reservoir was emptied by the end of October in all years. The operating rules in the CDSS Model for Upper Blue Reservoir reflect these historical operations. End-of-month reservoir targets equal to historical contents were included for the seven years the reservoir did not fill historically since the EOM contents are indicative of the physical supply in those years. The EOM reservoir targets prevent the reservoir from storing above the target but do not force the reservoir to release to those targets.

Since the Continental Hoosier System is a core component of Springs Utilities' water supply system and diversions are typically limited by the physical water supply, the demand placed at the Hoosier Tunnel was set equal to historical tunnel diversions from 1953 through 2005. From 1950 through 1952 the demand at Hoosier Tunnel was estimated as follows. Each of those years was classified as average, wet or dry based on total natural flow from April through September at the USGS gage Colorado River near Kremmling (#09058000). Natural flows are defined as gaged flows plus adjustments for reservoir releases and filling, diversions, gaged inflows, transbasin imports, and irrigation or other returns to the river. It reflects the hydrology that existed prior to the development of water supply systems, or the hydrology that would exist if the effects of water diversions, reservoirs and return flows were removed. The Kremmling gage was used as an indicator gage of hydrologic conditions because it is centrally located in the study area and could be used for multiple locations. Average, wet and dry monthly diversions were developed based on the historical diversion data shown in Table 2. Wet diversions were assumed to be the average of the five wettest years, dry diversions the average of the five driest years, and average diversions the average of the remaining years. For example, 1952 which was classified as a wet year. therefore, it was filled with the monthly averages of the five wettest years. Hoosier Tunnel demands may be underestimated in September and October from 1953 through 1966 in average and wet years prior to Upper Blue Reservoir coming online in 1967. Since the years in which Green Mountain Reservoir does not fill are typically dry years, this would not affect Springs Utilities' substitution obligation or the manner in which their substitution releases are made. In addition, Upper Blue Reservoir is emptied every year, therefore, potential differences in reservoir EOM contents would not be carried forward from year to year. Because Hoosier Tunnel diversions in average and wet years are not anticipated to cause hydrologic effects under the Proposed Action alternative, September and October diversions attributable to Upper Blue Reservoir releases were not estimated for the period from 1953 through 1966. The modeled demand at the Hoosier Tunnel is shown in Table 4. In the CDSS Model, direct diversions and releases from Upper Blue Reservoir are made to meet the total demand at Hoosier Tunnel.

Homestake Project Operations

The Homestake Project is a transmountain diversion project that diverts water from the Eagle River basin for municipal use by Springs Utilities and Aurora. The Homestake Project has facilities located in both the Eagle and Arkansas River basins, however, this section describes the facilities in the Eagle River Basin since they are the focus of the EA. Facilities in the Eagle River basin include the Missouri Tunnel, Homestake Reservoir, and the Homestake Tunnel.

The Homestake Project has several direct flow water rights to divert water from the East Fork and Middle Fork of Homestake Creek, French Creek, Fancy Creek, Missouri Creek and Sopris Creek. Water diverted from French Creek, Fancy Creek, Missouri Creek and Sopris Creek is conveyed through the Missouri Tunnel

to Homestake Reservoir. The capacity of Homestake Reservoir is approximately 43,000 AF. All flows diverted into Homestake Reservoir, which is located on the Middle Fork of Homestake Creek, can be stored under a storage right. From Homestake Reservoir, water is delivered via Homestake Tunnel under the Continental Divide to Turquoise Lake, which is located in the Arkansas River Basin. The capacity of Homestake Tunnel is 300 cfs. The water rights associated with the Homestake Project that are included in the CDSS Model are summarized in **Table 5**.

Name	Decreed Amount	Appropriation Date
East Fork Homestake Creek	70.8	Sep 22, 1952
French Creek	60.1	Sep 22, 1952
Fancy Creek	38.6	Sep 22, 1952
Missouri Creek	39.8	Sep 22, 1952
Sopris Creek	41.3	Sep 22, 1952
Subtotal	250.6	Sep 22, 1952
Missouri Tunnel	179.8	Sep 22, 1952
Homestake Project Tunnel ¹	300.0	Sep 22, 1952
Homestake Reservoir	43504.7 AF	Sep 22, 1952

 Table 5. Summary of Homestake Project (Eagle River Basin) Absolute Water

 Rights

¹ Absolute decree amount of 300 cfs for Homestake Project Tunnel may include storable inflows from Middle Fork Homestake Creek in addition to the 250.6 cfs from the collection system.

Historical diversions through the Homestake Tunnel are shown in **Table 6**. The average annual diversion was approximately 23,970 AF. Based on more recent operations (since approximately 1992), deliveries through Homestake Tunnel typically occur from March through August with occasional releases in September, October and November. Deliveries through the tunnel are greatest in March and April as water is released from Homestake Reservoir to make space available to store water during runoff.

Historical EOM contents for Homestake Reservoir are shown in **Table** 7. Water is stored in Homestake Reservoir during runoff and the reservoir generally fills by the end of June in average and wet years. Water is released to Homestake Tunnel primarily in March and April and in summer months to a lesser degree to supplement direct diversions. The operating rules in the CDSS Model for Homestake Reservoir reflect these historical operations.

Since the Homestake Project is a core component of Springs Utilities' water supply system, the demand placed at Homestake Tunnel was assumed to equal historical diversions from 1992 through 2005. Prior to 1992, operations were clearly different with diversions through Homestake Tunnel occurring throughout the year. From 1950 through 1991 the demand at Homestake Tunnel was estimated as follows. Each of those years was classified as average, wet or dry based on total natural flow from April through September at the USGS gage Colorado River near

Kremmling (#09058000). Average, wet and dry monthly diversions were developed based on historical diversion data from 1992 through 2007. Wet diversions were assumed to be the average of the five wettest years, dry diversions the average of the five driest years, and average diversions the average of the remaining years. Therefore, 1952 which was classified as a wet year was filled with the monthly averages of the five wettest years. The modeled demand at the Homestake Tunnel is shown in **Table 8**. In the CDSS Model, direct diversions and releases from Homestake Reservoir are made to meet the total demand at Homestake Tunnel.

Blue River Decree Operations

In the Blue River Decree (Consolidated Case Nos. 2782, 5016, and 5017), the relative priorities of the storage and hydroelectric rights for Green Mountain Reservoir and the upstream rights at Dillon Reservoir and the Continental-Hoosier System were specified as follows:

77 cfs	August 5, 1929
154,645 AF	August 1, 1935
1726 cfs	August 1, 1935
6,315 AF	August 1, 1935
788 cfs	June 24, 1946
252,578 AF	June 24, 1946
400 cfs	May 13, 1948
2,140 AF	May 13, 1848
	154,645 AF 1726 cfs 6,315 AF 788 cfs 252,578 AF 400 cfs

¹ The maximum diversion under the 1948 decrees is limited to 400 cfs. Source: (CWCB, 2007b).

Under the Blue River Decree, Springs Utilities and Denver Water can divert and store water at their facilities which are upstream of Green Mountain Reservoir, on an out-of-priority basis against Green Mountain Reservoir's senior first fill storage right. The Blue River Decree also provides for replacement of power to mitigate impacts to Reclamation's operations resulting from Springs Utilities' exercising their 1948 water rights. The representation of Green Mountain Reservoir power and fill operations in the CDSS Model per the Blue River Decree is discussed below.

Green Mountain Reservoir Power Operations

Hydropower diversions at Green Mountain Reservoir are made under the direct flow hydropower right. The CDSS model also reflects Elliot Creek Feeder Canal diversions to demands at Green Mountain Reservoir for power generation. Baseline power demands are based on average use from 1975 through 1991. There would be no difference in hydropower diversions at Green Mountain Reservoir between the No Action and Proposed Action alternatives. Springs Utilities has historically provided replacement power year-to-year by mutual agreement with the Western Area Power Authority (WAPA) at a time and location requested by WAPA. The only difference in power interference substitution would be the formalization of a long-term Power Interference Agreement with Reclamation and WAPA.

Green Mountain Reservoir Fill Operations

The CDSS Model is configured to represent the Interim Policy, which was adopted by the State Engineer and is the current administration of the Blue River Decree. The Blue River Decree has been administered under the Interim Policy since 2003. The State Engineer does not intend that the Interim Policy create any precedent binding on the U.S. Bureau of Reclamation or any other water user in the future. The U.S. Bureau of Reclamation does not endorse the administrative and accounting principles included in the Interim Policy.

The Interim Policy defines the administrative and accounting principles concerning Green Mountain Reservoir and specifically outlines the paper fill of Green Mountain Reservoir under its senior storage right. The paper fill is met when 154,645 acre-feet is equal to the sum of:

- Initial storage in Green Mountain Reservoir at the beginning of the administrative year, which is April 1st for modeling purposes,
- Stored water in Green Mountain Reservoir after the beginning of the administrative year,
- Bypassed water in excess of 60 cfs or the demand of a downstream call senior to August 1, 1935,
- Out-of-priority depletions from Historic User's Pool and Green Mountain Reservoir contract beneficiaries upstream of Green Mountain Reservoir, (this in not explicitly modeled in the CDSS Model because it is minor), and
- Out-of-priority diversions and storage made by Denver Water and Springs Utilities.

After the paper fill has been met Green Mountain's 1935 storage right is satisfied and can no longer place a call. Green Mountain Reservoir can continue to store under an October 5, 1955 priority date up to the amount of water stored and diverted out-of-priority to its 1935 right by Denver Water and Springs Utilities. When the amount stored under the October 5, 1955 priority date equals the out-ofpriority diversions/storage by both entities, there is no substitution required.

The CDSS Model tracks Springs Utilities' direct diversions through the Hoosier Tunnel and water stored in Upper Blue Reservoir, which is out-of-priority to Green Mountain's senior storage right. As water is stored in Green Mountain Reservoir under the October 5, 1955 priority date, the out-of-priority obligation owed by Springs Utilities and Denver Water is reduced proportional to their out-of-priority diversions/storage. On August 1, the remaining out-of-priority obligation owed by Springs Utilities equals their substitution bill. Denver Water's substitution bill is calculated in a similar manner. The date of August 1st is assumed for modeling

purposes, and represents a proxy for the date that the senior Shoshone water right calls out Green Mountain Reservoir, thus ending its fill season and allowing for calculation of any fill deficit.

The only difference between the No Action and Proposed Action alternatives is the manner in which Springs Utilities substitution obligation is paid back. The model assumptions related to substitution payback that are specific to each alternative are summarized in Chapter 2 of the Environmental Assessment.

3.0 REFERENCES

Colorado Water Conservation Board. 2007a. Upper Colorado River Basin Information

Colorado Water Conservation Board, 2007b. Upper Colorado River Basin Water Resources Planning Model User's Manuel

Table 2
Historical Continental-Hoosiar Tunnel Diversions (AF)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1953	0	0	0	0	294	2,315	1,496	646	85	0	0	0	4,835
1954	ō	0	0	0	1,060	1,404	1,048	42	0	0	0	0	3,554
1955	ō	ō	0	0	688	1,777	2,110	1,870	1,113	0	0	0	7,559
1956	ŏ	ō	Ō	Ō	2,205	4,760	1,843	492	0	0	0	0	9,300
1957	ŏ	õ	õ	ō	374	4,657	2,080	0	0	0	0	0	7,111
1958	ŏ	õ	õ	õ	3,042	2,126	1,249	0	0	Q	0	0	6,417
1959	ŏ	õ	õ	ŏ	489	5,040	2,471	496	õ	0	0	0	8,496
1960	ŏ	ŏ	õ	õ	901	4,608	2,386	315	Ō	Ō	0	0	8,210
	o	0	0	õ	1,180	3,836	428	0	751	432	4 T	0	6,689
1961	0	0	0	ŏ	1,524	4,998	3,087	1,393	87	0	0	0	11,088
1962		ŏ	0	49	2,293	3,257	98	2,983	1,257	311	ō	0	10,246
1963	0				1,839	3,452	2,542	1,429	0	0	õ	ō	9,263
1964	0	0	0	0			615	1,053	842	325	38	õ	8,415
1965	0	0	0	0	651	4,891		1,009	0	0	õ	ŏ	7,456
1966	0	0	0	0	1,311	2,404	2,732		968	ő	ŏ	õ	10,087
1967	0	0	0	100	1,074	3,265	3,457	1,224		1,108	õ	õ	11,369
1968	0	0	0	0	644	5,099	2,473	898	1,148	-			
1969	0	0	0	73	2,590	735	1,396	609	1,470	888	0	0	7,562
1970	0	Ó	0	0	1,542	743	131	1,584	1,433	1,880	0	0	7,313
1971	0	0	0	0	780	4.906	1,856	1,938	1,729	1,495	0	0	12,703
1972	0	0	0	0	1,422	3,448	1,626	1,609	973	0	0	0	9,079
1973	0	0	0	0	370	1,581	849	1,083	1,846	472	0	0	5,201
1974	0	0	0	0	1,202	4,033	2,074	1,222	1,855	0	0	0	10,386
1975	0	0	0	0	378	3,133	2,092	1,296	1,584	491	0	0	8,974
1976	í o	0	0	0	1,013	4,566	1,993	1,598	1,282	0	0	0	10,452
1977	0	0	0	27	158	1,915	410	0	18	0	0	0	2,527
1978	0	0	0	49	684	4,762	1,088	1,241	1,822	0	0	0	9,648
1979	0	Ō	0	0	1,064	3,863	1,653	1,510	1,782	202	0	0	10,074
1980	Ō	0	0	0	188	1,678	1,595	2,068	0	0	0	0	5,528
1981	ō	ō	ō	38	757	3,135	734	785	258	0	0	0	5,707
1982	ŏ	ŏ	õ	0	803	4,236	3,370	1,263	1,230	892	0	0	11,593
1983	ŏ	ŏ	ŏ	0	274	3,238	414	874	538	1,874	0	0	7,212
1984	ŏ	õ	õ	õ	968	1,783	741	739	1,373	1,065	0	0	6,850
1985	o	õ	ő	õ	865	2,279	1,141	970	1,227	61	0	0	6,544
	ŏ	õ	õ	ŏ	989	5,625	2,541	1,809	1,818	1,059	0	0	13,842
1986			ŏ	167	2,404	2,098	720	1,450	979	0	ō	ō	7,819
1987	0	0				5,470	1,691	781	1,205	õ	ŏ	ō	10,353
1988	0	0	0	14	1,212	3,516	3,973	1,320	0	õ	30	ō	10,825
1989	0	0	0	80	1,807			2,102	26	ŏ	0	õ	11,130
1990	0	0	0	7	996	5,148	2,851			12	ŏ	o	12,150
1991	0	0	0	0	1,299	4,559	3,353	1,768	1,158	0	õ	0	\$1,571
1992	0	0	0	86	2,318	3,827	3,425	1,958	158		0	ŏ	12,944
1993	0	0	0	0	1,386	4.814	2,599	1,965	422	1,758	0	0	8,262
1984	0	0	0	103	1,652	4,272	148	15	1,241	831	-		
1995	0	0	0	0	0	2,643	26	704	329	1,265	864	0	5,831
1996	0	0	Q	0	482	5,823	1,422	1,004	1,382	333	0	Q	10,426
1997	0	0	0	0	631	4,082	791	412	1,016	1,311	0	0	8,242
1998	0	0	0	0	876	1,489	3,570	775	1,898	295	0	0	8,703
1989	0	0	0	з	950	3,610	1,727	1,745	1,687	1,077	0	0	10,800
2000	0	0	0	0	2,232	3,893	1,686	1,451	0	0	0	0	9,062
2001	0	0	0	5	2,122	1,403	207	147	1,020	1,039	0	0	5,944
2002	0	0	0	49	756	1,549	0	0	0	0	0	0	2,354
2003	0	0	0	23	2,088	3,126	812	79	978	935	108	0	8,129
2004	0	0	0	119	1,334	2,525	1,180	48	19	0	0	0	5,224
2005	0	0	0	107	1,661	3,669	2,641	1,148	719	1,208	0	0	11,152
2006	0	0	0	235	2,213	4,698	2,781	1,447	852	4	95	0	12,125
2007	0	0	0	187	2,048	1,227	1,944	395	131	0	0	0	5,931
Average	Ū.	0	0	28	1,193	3,392	1,688	1,032	791	408	23	D	8,564
Min	0	0	0	0	0	735	0	0	0	Q	0	0	2,354
	0	0	0	235	3,042	5,823	3,973	2,983	1,898	1,880	864	0	13,842

Source: Data provided by Colorado Springs Utilitias.

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Table 3 Upper Blue Reservoir Historical End-of-Month Contents (AF)

Year	Jan	Feb	Mar	Apr	May	jun	luL	Aug	Sep	Öct	Nov	Dec
1961	0	0	0	0	0	0	0	0	ö	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	Ō	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	172	1,334	2,219	1,018	0	0	0	0
1968	0	0	0	0	0	1,783	2,282	2,282	1,268	0	0	0
1969	0	0	0	77	776	1,857	2,282	2,282	788	0	0	0
1970	0	0	0	0	414	2,062	2,119	2,119	1,818	0	0	0
1971	0	0	0	0	0	1,496	2,119	2,119	1,414	0	0	0
1972	0	0	0	0	0	1,621	2,119	1,001	0	0	0	0
1973	0	0	0	0	0	1,374	2,119	2,006	575	0	0	0
1974	0	0	0	0	0	1,931	2,119	1,850	0	0	0	0
1975	0	0	0	0	0	788	2,119	2,119	572	0	0	0
1976	Ō	0	0	0	0	910	2,119	1,498	0	0	0	0
1977	0	0	0	0	246	1,042	614	614	0	0	0	0
1978	Ő	0	0	0	162	1,840	2,119	1,796	0	0	0	0
1979	0	0	0	0	332	1,664	2.119	1,978	295	0	0	0
1980	0	0	0	0	0	1,751	1,621	0	0	0	0	0
1981	0	0	0	28	176	573	870	219	0	0	0	0
1962	0	0	0	0	0	1,253	2,119	2,119	946	0	0	0
1963	0	0	0	Ū	0	1,111	2,119	2,119	2,073	0	0	0
t984	0	0	0	0	0	1,376	2,119	2,119	1,281	0	0	0
1985	0	0	0	0	0	1,432	1,377	1,078	111	0	0	0
1986	0	0	0	0	80	1,990	2,119	2,095	1,178	0	0	0
1987	0	0	0	0	200	1,623	2,013	1,292	0	0	0	0
1988	0	0	0	0	0	2,119	2,119	1,596	330	0	0	0
7989	0	0	0	36	508	1,638	974	0	0	0	0	0
1990	0	0	0	0	298	2,095	2,119	144	0	0	0	0
1991	0	0	0	0	325	1,751	2,119	1,178	95	0	0	0
1992	0	0	0	0	614	1,734	2,119	310	0	0	0	0
1993	0	0	0	0	69	1,251	2,119	2,119	1,824	0	0	0
1994	0	0	0	0	480	2,119	2,119	2,119	958	0	0	0
1995	0	0	0	0	0	1,324	2,119	2,119	2,119	968	0	0
1996	0	0	0	0	109	2,119	2,119	1,725	523	0	0	0
1997	0	0	0	0	130	1,886	2,119	2,119	1,416	0	0	0
1996	0	0	0	0	212	1,158	2,119	2,119	404	0	0	0
1999	0	0	0	0	121	1,973	2,119	2,119	1,195	0	0	0
2000	0	0	0	0	561	2.010	1,621	0	0	0	0	0
2001	0	0	0	0	488	2,001	2,119	2,119	1,221	146	0	0
2002	0	0	0	22	321	961	961	961	961	508	0	0
2003	0	0	0	0	577	2,124	2,124	2,124	1,194	304	0	0
2004	0	0	0	70	422	1,457	1,691	1,891	},875	557	0	0
2005	0	0	0	27	528	1,701	2,124	2,124	1,443	216		
2006	0	0	0	0	557	2,124	2,122	1,233	326	292	0	0
2007	0	0	0	0	0	0	0	0	0 600	0 64	0	0
Average	0	0	0	5	189	1,369	1,661	1,316	000	04	0	0
Min	0	0	0	0	0	0 2,124	2,282	2,282	2,119	968	0	0
Max	0	0	0	77	776	2,124	2,202	2,202	4,110	800	9	5

Source: Data provided by Colorado Springs Utilities. Data were not available from 1962 through 1966.

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	Tabl	ie 4
Hoosler	Tunnel	Demands (AF)

Yeer	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Yr Typ
1950	0	0	0	24	1,231	3,383	1,091	1,048	1,017	518	0	0	8,525	Avg
1951	ō	Ō	ō	24	1,231	3,383	1,891	1,048	1,017	516	0	٥	8,525	Avg
1952	0	Ō	Ō	47	1,334	4,920	2,628	1,785	1,156	386	0	0	12,753	Wel
1953	ŏ	0	ō	0	294	2,316	1,496	046	85	0	0	0	4,835	
1954	ŏ	ŏ	õ	ō	1,060	1,404	1,048	42	0	0	0	0	3,564	
1955	lő	õ	ŏ	ŏ	688	1,777	2,110	1,870	1,113	0	0	0	6,446	
		ő	ő	ŏ	2,205	4,780	1,643	492	0	ō	ō	Ō	9,300	
1958	0		-	0	374	4,760	2,080	0	ŏ	ō	ō	ŏ	7,111	
1957	0	0	0			2,126	1,249	õ	ŏ	ŏ	ŏ	ō	6,417	
1958	0	0	0	0	3,042			498	õ	ŏ	ŏ	õ	6,496	
1959	0	0	0	0	489	5,040	2,471		0	õ	õ	õ	6,210	
1960	0	0	0	0	901	4,606	2,386	316			41	ő	6,685	ĺ
1961] 0	0	0	0	1,180	3,838	428	0	761	432		õ		
1962	0	0	0	0	1,624	4,998	3,087	1,393	67	0	0		11,088	
1963	0	0	0	49	2,293	3,257	98	2,983	1,257	311	0	0	10,246	
1964	0	0	0	0	1,839	3,452	2,542	1,429	0	0	0	0	9,263	
1965	0	0	0	0	861	4,891	615	1,053	842	326	38	0	8,415	
1966	ō	ō	0	0	1,311	2,404	2,732	1,009	0	0	0	0	7,466	
1967	ŏ	ō	ō	100	1,074	3,265	3,457	1,224	968	0	0	0	10,087	
1968	lõ	õ	õ	0	644	5,099	2,473	898	1,148	1,108	0	0	11,369	
1969	lő	ŏ	ŏ	73	2,590	735	1,396	609	1,470	688	0	0	7,682	(
		õ	ŏ	0	1,642	743	131	1,584	1,433	1,680	0	0	7,313	
1970	Ö	0	0	0	760	4,906	1,656	1,938	1,729	1,495	õ	ō	12,703	
1971					1,422	3,448	1,626	1,609	973	0	õ	ŏ	9,079	
1972	0	0	0	0			849	1.083	1,646	472	ŏ	ŏ	6,201	
1973	0	0	0	0	370	1,501				0	õ	ŏ	10,388	
1974	0	0	0	0	1,202	4,033	2,074	1,222	1,855					
1975	0	0	0	0	378	3,133	2,092	1,296	1,684	491	0	0	8,974	
1976	0	0	0	0	1,013	4,566	1,993	1.698	.282	0	0	Û	10,452	[
1977	0	0	0	27	158	1,915	410	0	18	0	0	0	2,627	
1978	0	0	0	49	684	4.762	1,089	1.241	1,822	0	0	0	9,646	
1979	0	0	0	0	1,064	3.663	1,653	1,510	1,762	202	0	0	10,074	
1980	Ō	ō	0	0	188	1,678	1,695	2,068	0	0	0	0	5.528	
1981	lō	ō	ō	38	757	3,135	734	786	258	0	0	0	5,707	
1982	ŏ	ō	÷0	0	605	4,236	3,370	1,263	1,230	892	0	0	11,593	
1983	ŏ	ŏ	0	ŏ	274	3,238	414	674	538	1,874	0	0	7,212	ļ
	lõ	õ	Q	õ	968	1,763	741	739	1,373	1,065	0	0	6,650	
1984	1	ŏ	õ	õ	865	2,279	1.141	970	1,227	61	Ō	0	6,644	
1985	0				989	5,625	2,641	1,809	1.618	1,059	0	0	13.042	
1986	0	0	0	0		2,098	720	1,450	979	0	õ	ŏ	7,819	
1987	0	0	0	167	2,404					õ	õ	õ	10,353	
1968	0	0	0	14	1,212	5,470	1,691	761	1,205	0	130	ő	10,825	
1989	0	0	0	80	1,807	3,516	3,973	1,320	0					
1990	0	0	0	7	996	6,148	2,851	2,102	26	0	0	0	11,130	1
1991	0	0	0	0	1,299	4,559	3,353	1,768	1,158	12	0	0	12,150	
1992	0	0	0	66	2,318	3,627	3,425	1,958	158	0	0	0	11,571	
1993	0	0	0	0	1,368	4,814	2,599	1,965	422	1,758	0	0	12,944	
1994	0	Ō	0	103	1,652	4,272	148	15	241	631	Ð	0	8,262	
1995	ō	ō	ō	0	0	2,843	26	704	323	1,265	864	0	6,831	
1996	ŏ	ŏ	ō	ō	462	5,823	1,422	1,004	1,382	333	0	0	10,426	
1997	- 0	ŏ	õ	ŏ	631	4,082	791	412	1,016	1,315	0	0	6,242	
1998	0	Ğ	õ	ŏ	876	1,489	3,570	775	1,698	295	Ō	0	8,703	
		õ	õ	3	950	3,610	1,727	1,745	1,687	1.077	ō	0	10,800	[
1999	0			0	2,232	3,693	1,686	1,451	0	0	ŏ	ŏ	9,062	
2000	0	0	0	-			207	147	1.020	1.039	õ	ŏ	6,944	
2001	0	ð	0	5	2,122	1,403			0	0	ŏ	ŏ	2,354	
2002	0	0	0	49	750	1,549	0	0		935	108	0	8,129	
2003	0	0	D	23	2,068	3,126	812	79	978			Q		
2004	0	0	0	119	1,334	2,525	1,180	48	19	0	0		5,224	
2005	0	0	0	107	1,661	2,000	2,641	1,148	719	1,208		0	11,152	-
Average	0	0	0	21	1,164	3,434	1,690	1,050	820	434	21	0	6,602	

Notes: Values from 1950 through 1952 were estimated because the Continental-Hooster System did not come un-line until 1953.

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Table 6
Historical Homestake Tunnel Diversions (AF)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1967	0	0	0	0	Q	0	Q	1,035	758	52	0	0	1,842
1968	0	0	0	2,801	7,841	0	0	0	1,171	2,647	2,570	2,412	19,441
1969	4,511	4,784	5,677	4,298	0	0	0	2,365	1,850	163	1,490	3,017	28,135
1970	1,555	1,372	3,073	3,159	0	0	856	3,202	2,592	4,659	4,357	1,220	26,044
1971	772	3,996	4,957	4,630	0	0	0	4,042	2,277	3,171	2,905	965	27,714
1972	899	2,567	3,870	3,615	0	0	Ø	290	261	143	1,094	2,731	15,470
1973	3,858	3,034	2,038	4,803	5,480	2,359	1,483	0	0	0	0	906	23,941
1974	955	3,092	8,683	5,165	4,987	2,726	767	0	0	0	0	0	24,394
1975	0	0	0	7,460	14,417	7,712	8,108	12,770	9,963	0	0	0	60,430
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	2,594	10,891	6,194	6,046	5,594	0	0	Q	Û	0	31,318
1978	0	0	0	0	0	Õ	0	0	0	0	0	0	0
1979	0	0	17,634	13,381	0	0	0	0	0	0	0	4,536	35,550
1980	7,281	7,696	2,361	6,157	5.677	0	0	0	0	430	0	300	30,303
1981	6,634	6,166	10,141	155	0	0	0	0	0	0	45	3,683	27,024
1982	4,711	4,209	4,617	2,247	0	0	0	0	0	0	0	0	15,784
1983	6,522	6,960	7,663	1,605	0	0	0	0	0	0	776	0	23,526
1984	0	0	2,729	0	1,678	3,132	4,229	12,684	2,533	0	0	(,246	28,232
1985	l o	0	2,426	887	0	1,310	2,343	1,793	148	0	0	0	8,907
1988	lo	a	0	0	7.714	4,348	3,011	1,732	95	0	0	3,468	20,368
1987	3,558	3,291	3,546	6,667	0	0	0	0	0	0	0	0	17,063
1986	7,689	7,666	0	0	0	0	0	2,482	4,898	5,442	4,737	0	32,913
1989	o l	0	0	1,700	3,820	1,484	2,648	3,701	3,538	1,206	0	0	18,097
1990	l o	0	0	0	a	0	5,394	5,513	15,065	203	0	0	26,176
1991	lo	Ó	0	0	0	0	119	152	38	2,753	4,293	0	7,354
1992	0	0	5,056	5,326	0	0	Q	2,339	5,596	303	0	0	18,620
1993	0	0	9,024	7,616	0	2,114	8,190	1,048	22	0	0	0	28,014
1994	0	0	8,535	10,462	0	2,928	0	0	2,331	11,390	0	0	35,645
1995	Ō	0	312	15,250	Ó	1	4,414	3,687	o	0	0	0	23,664
1996	0	0	7,255	14,852	1,730	7,237	6.372	1,131	0	0	0	0	38,577
1997	0	0	9,795	14,712	0	4,146	5,981	2,612	0	409	0	0	37,855
8991	a	0	6,148	725	951	6,702	6,897	1,084	0	0	0	0	24,505
1999	Ō	ō	6,445	14,760	3,302	o	3,218	1,304	275	0	0	0	31,303
2000	Ō	õ	4,453	9,510	0	7,530	780	382	392	0	Ō	Ō	23,046
2001	Ō	Ō	8,933	16,977	6,997	0	0	509	0	1,093	3,735	Ō	40,244
2002	ō	ō	5,312	10,584	0	õ	ō	3,006	2,589	0	0	õ	21,491
2003	ō	Ō	0	0	Ō	9,843	ō	0	C	14,010	ō	ō	23,853
2004	Ō	ō	212	8,713	Ō	0	ō	ō	Ō	Û	ō	õ	8,925
2005	å	ŏ	8,036	14,926	431	õ	ŏ	õ	ō	ō	ō	ŏ	23,394
2006	Ő	9,031	9,309	6,208	7,607	Ō	Ō	ō	10	ō	ō	ō	32,163
2007	ō	0	9,677	2,564	8,552	0	õ	4	G	0	851	Ō	21,848
Average	1,194	1,562	4,451	5,679	2,184	1,698	1,717	1,680	1,378	1,173	655	402	23,970
Min	0	0	0	0	0	0	0	0	Ő	0	Ō	0	0
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Source: Data provided by Colorado Springs Utilities.

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Table 7	
Homestake Historical End-of-Month Contents (AF)	

Year 1966	Jan 0	<u>Feb</u> 0	Mar0	Apr 0	May0	<u></u> 0		Aug 1.259	Sep 1,259	Oct 1,078	Nov 1,069	Dec 1,069
1966	1,069	1,069	1,069	1,069	9,493	22,020	26,038	25,003	24,247	24,196	24,196	24,196
1967	1,089		24,196	21,395	9,495 13,554	28,529	31,782	34,825	33,654	31,008	28,438	26,023
	-	24,196		-	16,710	27,643	32,175	29,811	27,961	27,798	28,308	23,29
1969	21,515	16,751	11,075	8,776	•	42,145	41,289	38,087	35,495	30,836	26,480	25,26
1970	21,736	20,363	17,291	14,132	24,218			•	20,571	17,400	14,495	13,53
1971	24,488	20,492	15,536	10,906	13,985	23,176	28,890	22,848	28,914	28,771	27,577	24,94
1972	12,631	10,064	6,194	2,579	6,709	25,480	29,485	29,175	33,303	32,906	32,664	31.56
1973	20,948	17,651	15,452	10,817	8,095	22,432	32,407	33,489		34,445	34,127	33,78
1974	30,605	27,708	20,875	15,591	19,766	32,591	35,244	35,274	34,705			
1975	33,414	33,022	32,694	25,555	13,201	18,293	24,353	11.811	76	76	76	78
1976	76	78	76	76	7,968	19,574	23,387	23,429	23,132	23,122	22,832	22,82
1977	22,822	22,822	20,828	9,701	8,305	6,324	76	76	78	76	78	76
1978	76	76	76	194	5,825	25,741	38,345	39,059	38,842	38,609	38,355	38,347
1979	38,347	38,347	21,314	7,332	13.167	27,296	38,678	39,255	39,255	39,003	38,994	34,653
1980	27,411	19,281	18,594	10,953	7,640	25,799	32,139	32,288	32,288	31,858	31,843	31,74
1981	25,134	18,965	9,025	8,585	13,270	23,863	24,379	24,379	24,379	24,379	24,379	20,60
1982	15,892	11,681	7,082	4,667	7,409	24,812	35,458	37,093	37,093	37,093	37,093	37,09
1983	30,822	23,852	16,193	14,343	15,298	32,402	43,368	43,334	43,334	43,334	42,557	42,55
1984	42,557	42,557	39,828	39,828	39,828	42,652	40,307	29,245	26,214	26,214	26,166	24,82
1985	24,822	24,822	22,474	21,509	33,764	42,683	43,647	42,007	41.799	41,799	41,799	41,79
1986	41,799	41,799	41,799	41,799	34,379	43,539	43,539	39,472	39,232	39,232	39,232	35,88
1987	32,326	29,031	25,483	19,139	28,823	38,499	39,459	39,009	38,815	38,297	38,003	37,99
1988	30,582	22,637	14,632	14,632	17,973	33,717	35,176	32,736	28,730	23,735	17,182	16,96
1989	16,964	16,964	16,964	15,160	19,323	27,013	25,268	21,100	17,247	15,681	15,681	15,68
1990	15,681	15,681	16,681	15,786	21,003	35,643	31,872	25,772	9,843	9,112	9,112	9,112
1991	9,113	9,113	9,113	9,113	16,605	31,761	35,893	35,912	35,795	32,989	28,600	28,80
1992	28,560	28,560	22,927	18,228	29,160	38,785	41,852	39,273	33,625	33,511	33,502	33,49
1993	33,491	33,491	24,427	16,785	24,980	39,557	42,547	42,557	42,480	42,447	42,447	42,44
1994	42,447	42,447	33,885	23,534	32,933	42,824	42,734	42,641	40,281	28,875	28,875	28,87
1995	28,875	28,875	28,563	13,309	15,328	33,288	42,881	42,881	42,881	42,881	42,881	42,88
1996	42,881	42,681	35,624	20,772	28,986	41,782	41,915	40,893	40,893	40,893	40,893	40,89
1997	40,893	40,581	30,784	18,071	24,862	42,314	42,814	42,614	42,814	42,471	42,471	42,47
1998	42,471	42,186	34,025	33,300	39,816	42,881	41,650	41,817	41,617	41,817	41.817	41,53
1999	41,247	41,214	32,769	18,009	21,278	39,041	42,280	42,447	42,172	42,172	42,172	42,17
2000	42,172	42,172	37,394	28,210	40,893	42,180	42,903	42,521	42,129	42,129	42,129	42,12
2001	42,129	42,129	33,196	18,219	19,400	31,443	32,928	32,419	32,419	31,326	27,591	27,40
2002	27,185	27,185	21,873	11,289	19,288	22,987	22,987	19,643	17,054	17,055	17,055	17,05
2002	17,055	17,055	17,055	17,322	27,699	33,189	35,986	35,988	35,978	21,811	21,811	21.81
2003	21,911	21,959	21,599	13,549	23,284	32,844	34,989	34,989	34,989	34,928	34,989	34,84
2005	34,783	35,034	26,998	12,337	20,171	34,035	38,721	39,202	39,108	39,589	39,589	39,46
2005	39,686	30,688	21,438	18,396	20,772	35,862	40,909	41,122	41,254	41,188	41,254	41.02
2000	40,958	41,057	31,412	29,737	32,227	42,747	42,848	42,548	42,414	42,747	41,948	41,94
	26,946	25,394	20,840	15,398	19,686	31,409	34,323	33,069	31,625	30,445	29,730	29,11
Average Min	0	20,394	20,040	0	0	0	0	76	78	76	76	76
MINT	42,881	42,881	41,799	41,799	40,893	43,539	43,647	43,334	43,334	43,334	42,881	42,88

Source: Data provided by Colorado Springs Utilities.

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Yr Type	Avg	Avg	We	Avp	0,50	Ave	Ava	Wei	Avg	Avg	Avo	Avg	Avg.	Avg	Avg	Avg	20	Avg	<u>ک</u>	Avç	Avç	βνΑ	Avç	Avç	Μθ	Мe	Avç	Ave	Åvå	Avo	Ava	Å									
Total	25,789	25,789	36,857	25,789	18,746	25,789	25,789	36,857	25,789	25,789	25,789	25,789	25,789	25,789	25,789	25,789	18,746	25,789	25,789	25,789	25,789	25,789	25,789	25,789	25,789	25,789	25,789	18,746	25,789	25,789	25,789	25,789	25,789	36,857	36,857	25,789	25,789	25,789	25,789	25,789	25.789
0.ec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	747	0	170	0	0	747	0	0	0	0	0	0	0	0	170	0	0	0	0	0	0	0	0	0	0	170	0	0	0	0	0	747	747	0	0	0	0	0	0
5 S	2,335	2,335	2,578	2,335	61	2,335	2,335	2,578	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	61	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	61	2,335	2,335	2,335	2,335	2,335	2,578	2,578	2,335	2,335	2,335	2,335	2,335	2.335
d XeD	49	49	468	49	1,715	49	49	468	49	49	49	49	49	49	49	49	1,715	49	49	49	49	49	49	49	49	49	49	1,715	49	49	49	49	49	468	468	49	49	49	49	49	49
Aug	1,187	1,187	850	1,187	1.146	1,187	1,187	850	1,187	1,187	1,187	1.187	1.187	1,187	1,187	1,187	1,146	1,187	1,187	1,187	1,187	1,187	1,187	1,187	1,187	1,187	1,187	1,146	1,187	1.187	1,187	1,187	1,187	850	850	1,187	1,187	1,187	1,1.87	1,187	1.187
M	3,786	3,786	2,471	3,786	156	3,786	3,786	2,471	3,786	3,786	3,786	3,786	3,786	3,786	3,786	3,786	156	3,786	3,786	3,786	3,786	3,786	3,786	3,786	3,786	3,786	3,786	156	3,786	3,786	3,786	3,786	3,786	2.471	2,471	3,786	3,786	3,786	3,786	3,786	3.786
UIL	3,110	3,110	2,862	3,110	1,506	3,110	3,110	2,862	3,110	3,110	3,110	3,110	3,110	3,110	3,110	3,110	1,506	3,110	3,110	3,110	3,110	3,110	3,110	3,110	3,110	3,110	3,110	1,506	3,110	3,110	3,110	3,110	3,110	2,862	2,862	3,110	3,110	3,110	3,110	3,110	3,110
way	781	781	3,667	781	1,710	781	781	3,667	781	781	781	781	781	781	781	781	1,710	781	781	781	781	781	781	781	781	781	781	1,710	781	781	781	781	781	3,667	3,667	781	781	781	781	781	781
MM	8,880	8,880	12,642	8,880	7,339	8,880	8,880	12,642	8,880	8,880	8,880	8,880	8,880	8,880	8,880	8,880	7,339	8,880	8,880	8,880	8,880	8,880	8,880	8,880	8,880	8,880	8,880	7,339	8,880	8,880	8,880	8,880	8,880	12,642	12,642	8,880	8,880	8,880	8,880	8,880	8,880
MIGI	5.661	5,661	8,765	5,661	4,942	5,661	5,661	8,765	5,661	5,661	5,661	5,661	5,661	5,661	5,661	5,661	4,942	5,661	5,661	5,661	5,661	5,661	5,661	5,661	5,661	5,661	5,661	4,942	5,661	5,661	5,661	5,661	5,661	8,765	8,765	5,661	5,661	5,661	5,661	5,661	5,661
280	0	0	1,806	0	0	0	0	1,806	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	•	0 0	0 0	0 0		0	1,806	1,806	0	0	o	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	¢	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	5 (0 0	0 0	5 0	5 0	5 0	0 0	þ	0	0	0	0	0	0
	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	19/6	1970	R/AL	6/61	1981	1981	282	1963	1964	1985	1886	1987	1988	1989	1990

Table 8 Homestake Tunnel Demands (AF)

Year	Jan	Feb	Mar	Apr	May	Jun	וענ	Aug	Sep	00 0	Nov	Dec	Total	Yr Type
1992	0	0	5,056	5,326	0	0	0	2,339	5,596	303	¢	0	18,620	
1993	0	0	9,024	7,616	0	2,114	8,190	1,048	23	0	0	0	28,014	
1994	0	0	8,535	10,462	0	2,928	0	0	2,331	11,390	0	0	35,645	
1995	0	0	312	15,250	0	~	4,414	3,687	0	0	0	0	23,664	
1996	0	0	7,255	14,852	1,730	7,237	6,372	1,131	0	0	0	0	38,577	
1997	0	0	9,795	14,712	0	4,146	5,981	2,612	0	409	0	0	37,655	
1998	0	0	8,146	725	951	6,702	6,897	1,084	0	0	0	0	24,505	
1999	0	0	8,445	14,760	3,302	0	3,218	1,304	275	0	0	0	31,303	
2000	0	0	4,453	9,510	0	7,530	780	382	392	0	0	0	23,048	
2001	0	0	8,933	16,977	8,997	0	0	509	0	1,093	3,735	0	40,244	
2002	0	0	5,312	10,584	0	0	0	3,006	2,589	0	0	0	21,491	
2003	0	0	0	0	0	9,843	0	0	0	14,010	0	0	23,853	
2004	0	0	212	8,713	0	0	0	0	0	0	0	0	8,925	
2005	0	0	8,036	14,926	431	0	0	0	0	0	0	0	23,394	
Average	D	129	5,920	9,425	1,117	2,952	3,191	1,170	356	2,133	129	0	26,522	

Table 8 Homestake Tunnel Demands (AF)

Notes: Values from 1950 through 1991 were estimated because operations of the Homestake Project prior to 1992 were different than current operations.

MODEL OUTPUT

NO ACTION ALTERNATIVE

Reservoir Data

Simulated End-of-Month Contents

- Homestake Reservoir
- Wolford Mountain Reservoir
- Williams Fork Reservoir
- Dillon Reservoir
- Upper Blue Reservoir
- Green Mountain Reservoir
- Montgomery Reservoir
- Elevenmile Canyon Reservoir

Diversions

Simulated Deliveries

- Homestake Tunnel
- Hoosier Tunnel

Substitution Summary

Streamflows

Simulated Flows

- Homestake Creek below Homestake Project at USGS Gage 09064000
- Blue River below Green Mountain Reservoir
- Blue River below Dillon Reservoir at USGS Gage 09050700
- Blue River below Continental-Hoosier Project
- Muddy Creek below Wolford Mountain Reservoir
- Williams Fork River below Williams Fork Reservoir
- Colorado River Below the Confluence with the Eagle River
- Colorado River Above the Confluence with the Eagle River
- Colorado River near Kremmling at USGS Gage 09058000
- Colorado River below the Confluence with the Williams Fork River

• Middle Fork South Platte River below Montgomery Reservoir

PROPOSED ACTION ALTERNATIVE

Reservoir Data

Simulated End-of-Month Contents

- Homestake Reservoir
- Wolford Mountain Reservoir
- Williams Fork Reservoir
- Dillon Reservoir
- Upper Blue Reservoir
- Green Mountain Reservoir
- Montgomery Reservoir
- Elevenmile Canyon Reservoir

Diversions

Simulated Deliveries

- Homestake Tunnel
- Hoosier Tunnel

Substitution Summary

Streamflows

Simulated Flows

- Homestake Creek below Homestake Project at USGS Gage 09064000
- Blue River below Green Mountain Reservoir
- Blue River below Dillon Reservoir at USGS Gage 09050700
- Blue River below Continental-Hoosier Project
- Muddy Creek below Wolford Mountain Reservoir
- Williams Fork River below Williams Fork Reservoir
- Colorado River Below the Confluence with the Eagle River
- Colorado River Above the Confluence with the Eagle River
- Colorado River near Kremmling at USGS Gage 09058000
- Colorado River below the Confluence with the Williams Fork River
- Middle Fork South Platte River below Montgomery Reservoir

NO ACTION ALTERNATIVE

Reservoir Data

Homestake Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

WATER												
YEAR	100	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP
1950	30,020	30,014	30,040	30,068	30,073	24,393	15,996	21,283	32,506	32,299	31.028	30.911
1951	28,540	28,534	28,559	28,586	28,592	22,913	13,995	20,713	34,485	42,008	42,328	42,199
1952	39,822	39,816	39,845	39,877	38,077	29,291	17,172	18,893	36,503	40,700	42,075	41.528
1953	38,908	38,155	38,183	38,215	38,221	32,539	23,613	27,995	41,473	42,951	42,704	42,575
1954	40,197	40,191	40,220	40,252	40,259	35,295	27,907	34,330	32,702	32,424	31,194	29,412
1955	29,315	29,139	29,164	29,191	29,197	23,518	14,600	18,444	23,833	19,947	18,696	18,594
1956	16,232	16,227	16,246	16,267	16,271	10,596	2,731	12,478	21,007	18,236	16,987	16,888
1957	14,527	14,523	14,540	14,560	12,758	3,982	189	418	16,690	31,578	33,932	33,392
1958	30,777	30,024	30,049	30,077	30,083	24,403	15,485	23,807	31,845	29,765	28,498	28,384
1959	26,014	26,009	26,032	26,058	26,064	20,386	11,471	15,497	26,520	25,305	24,045	23,935
1960	21,569	21,564	21,585	21,609	21.614	15,937	8,269	11,883	22,003	21,825	20,570	20,466
1961	18,102	18,098	18,118	18,139	18,143	12,468	3,563	8,384	13,097	9,236	8,001	10,451
1962	10,239	10,235	10,251	10,268	10,272	4,600	185	5,349	14,517	17,614	16,834	16,735
1963	14,374	14,370	14,388	14,407	14,411	8,738	175	6,165	9,974	6,122	4,895	4,814
1964	2,464	2,462	2,471	2,482	2,484	172	169	5,640	10,991	8,118	6,886	6,801
1965	4,448	4,445	4,457	4,470	4,472	169	166	5,052	17,401	26,629	29,055	30,490
1966	28,681	28,675	28,700	28,727	28,733	23,772	16,395	19,945	22,297	22,040	20,826	19,057
1967	18,967	18,793	18,813	18,835	18,839	13,164	4,911	12,029	20,561	20,589	19,336	19,234
1968	16,871	16,867	16,886	16,907	16,911	11,236	2,333	3,209	15,359	15,001	17,529	17,429
1969	15,067	15,063	15,081	15,101	15,105	9,431	1,530	10,446	17,151	17,882	16,634	16,535
1970	14,174	14,170	14,187	14,207	14,211	8,537	179	11,225	25,243	26,170	25,209	25,217
1971	23,408	23,403	23,425	23,450	23,454	17,777	9,669	13,064	20,915	20,962	19,709	19,606
1972	17,243	17,238	17,257	17,279	17,283	11,608	2,703	6,997	21,231	21,258	20,176	20,315
1973	17,951	17,947	17,966	17,988	17,992	12,317	3,412	7,730	20,897	27,171	27,998	27,884
1974	25,515	25,509	25,533	25,558	25,564	19,886	11,382	19,438	29,568	29,641	28,477	28,363
1975	25,993	25,988	26,011	26,037	26,043	20,365	11,450	13,759	23,129	32,719	32,966	32,847
1976	30,474	30,469	30,494	30,522	30,528	24,848	15,929	22,754	30,075	30,320	29,658	29,543
1977	27,172	27,167	27,191	27,218	27,223	22,263	14,887	15,634	17,200	16,955	15,750	13,987
1978	13,901	13,727	13,744	13,763	13,767	8,094	186	5,706	24,159	31,068	29,799	29,683
1979	27,313	27,308	27,332	27,358	27,364	21,685	12,769	19,526	30,970	36,865	37,300	37,176

Homestake Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

WATER	OCT	NON	DEC	JAN	FEB	MAR	APR	MAY	NDP		AliG	SED S
	100 10											5
1980	34,801	34,795	34,823	34,853	34,859	29,178	20,255	24,418	38,883	40,761	39,481	39,355.
1981	36,979	36,973	37,001	37,032	37,038	31,356	22,431	26,515	33,230	29,324	28,058	27,944
1982	25,575	25,569	25,593	25,618	25,624	19,946	11,031	14,398	26,964	32,399	34,364	34,243
1983	31,869	31,864	31,890	31,918	30,118	21,335	8,659	7,242	21,753	32.459	36,927	36,385
1984	33,767	33,015	33,041	33,070	31,270	22,487	9,810	16,699	31,391	40.810	42.996	43.011
1985	41,257	40,504	40,533	40,565	40,572	34,889	26,778	37,629	42,959	42.951	42.268	42,140
1986	40,832	40,825	40,855	40,887	40,894	35,211	27,680	33,287	42,963	42,952	41.705	41 687
1987	39,310	39,304	39,333	39,365	39,371	33,688	25,940	34,353	40,277	38.928	37,650	37.525
1988	35,150	35,144	35,172	35,202	35,208	29,527	21,453	25,406	36,079	34,386	33,113	32,993
1989	30,621	30,615	30,640	30,669	30,674	24,995	17,479	24,763	29,909	28,483	27,218	27,105
0661	24,736	24,731	24,754	24,779	24,784	19,107	10,193	14,778	25,300	23,819	22,560	22,453
1991	20,088	20,084	20,104	20,127	20,131	14,455	5,547	13,212	24,038	24,686	23,426	23,318
1992	20,952	20,948	20,968	20,992	20,996	15,330	9,972	19,951	28,473	28,358	25,942	20,288
1993	19,955	19,951	19,971	19,993	19,998	10,960	3,319	13,699	28,202	29,931	30,327	30,238
1994	30,201	30,196	30,221	30,249	30,254	21,701	11,204	20,936	28,933	28,817	28,738	26,342
1995	14,923	14,919	14,936	14,956	14,960	14,634	186	3,202	24,469	38,551	40,698	40.668
1996	40,626	40,619	40,648	40,681	40,687	33,411	19,244	29,025	40,997	40,828	39,889	39,811
1997	39,770	39,763	39,792	39,824	39,831	30,015	15,909	25,862	42,970	42,951	42,994	43,012
1998	42,560	42,553	42,583	42,616	42,623	34,455	34,140	40,791	42,957	42,952	42,995	42,915
1999	42,872	42,865	42,895	42,928	42,935	34,468	19,663	23,202	39,423	42,570	42,995	42,752
2000	42,709	42,702	42,732	42,766	42,772	38,296	29,989	42,994	42,955	42,951	42,472	42,001
2001	41,958	41,951	41,981	42,014	42,021	33,066	16,046	18,598	29,206	29,090	28,502	28,437
2002	27,309	23,568	23,591	23,616	23,620	18,292	7,676	7,626	7,562	7.496	4,449	1.834
2003	1,822	1,820	1,828	1,837	1,839	1,833	1,817	12,972	16,582	19,632	19.567	19.514
2004	5,480	5,478	5,490	5,504	5,507	5,285	184	8,710	16,858	16.770	16.710	16,660
2005	16,633	16,629	16,647	16,668	16,672	8,623	172	8,559	20,588	25,076	25,002	24,940
AVERAGE:	25,911	25,777	25,800	25,825	25,701	19,838	11,432	17,261	26,933	28,595	28,217	27,893
MINIMUM:	1,822	1,820	1,828	1,837	1,839	169	166	418	7,562	6,122	4,449	1.834
MAXIMUM:	42,872	42,865	42,895	42,928	42,935	38,296	34,140	42,994	42,970	42,952	42,996	43,012

Wolford Mountain Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

VEAPOCTNOVDECJANFEBMARAPHMAY195058,82658,87758,85758,92658,91458,87558,92656,613195152,80852,81852,80852,81852,88452,83656,51365,653195556,81156,70156,75056,76156,67556,503195553,32953,33953,40653,35153,22052,92556,503195653,32953,33953,40653,35153,22052,92556,503195652,90554,81756,23334,21354,96556,617195652,90554,81756,23353,43353,43356,565195752,90552,81853,48353,47553,43356,566195652,46452,37552,38452,38557,70655,565195752,30552,38452,38452,38557,70655,56553,47553,47553,34753,34753,34753,34755,74453,46664,81064,82964,86765,56665,56653,47653,34753,34753,34753,34753,34755,56653,46663,47462,97352,88553,44553,44664,64753,46663,75663,47453,47553,34753,44555,56653,41753,34753,34753,34753,34753,44655,566196653,44653,4	WATER												
58,826 58,857 58,926 56,914 58,828 58,576 52,471 56,677 56,596 56,618 56,631 56,596 56,462 65,750 56,617 56,596 56,618 56,631 56,596 56,627 56,332 56,811 56,790 56,817 56,790 56,817 56,704 52,471 56,811 56,790 56,817 56,761 57,320 52,927 56,927 56,333 58,3326 57,416 27,361 57,345 57,410 53,433 52,813 52,813 52,813 52,813 52,813 52,813 52,813 52,813 52,813 52,813 52,813 52,813 52,813 52,813 52,814 53,404 53,434 56,714 55,744<	YEAR	OCT	NON	DEC	JAN	FEB	MAR	APR	ΜΑΥ	NDD	JUL	AUG	SEP
52,888 52,818 52,818 52,814 52,836 52,471 56,677 56,595 56,608 56,631 56,596 56,462 56,325 56,811 56,700 56,817 56,576 56,325 56,333 53,369 53,369 55,462 56,325 55,369 56,811 56,700 56,817 56,761 57,351 56,905 56,917 34,167 34,061 33,833 55,339 53,339 53,416 57,351 56,905 56,608 56,618 56,517 56,573 52,412 54,905 64,810 64,829 64,863 64,863 64,64 64,340 52,464 52,335 52,314 52,408 52,416 52,711 65,754 52,443 53,354 53,421 53,416 64,340 53,415 52,409 52,820 52,883 52,408 52,711 65,754 53,445 53,421 53,421 53,416 52,711 65,749 53,443 <th>1950</th> <th>58,828</th> <th>58,785</th> <th>58,857</th> <th>58,928</th> <th>58,914</th> <th>58,828</th> <th>58,578</th> <th>65,613</th> <th>65,444</th> <th>65,490</th> <th>59,773</th> <th>58,214</th>	1950	58,828	58,785	58,857	58,928	58,914	58,828	58,578	65,613	65,444	65,490	59,773	58,214
56,677 56,508 56,631 56,531 56,566 56,462 66,750 56,811 56,720 56,817 56,761 56,627 56,325 56,811 56,730 56,817 56,611 56,627 56,837 55,369 53,329 53,370 55,366 56,647 56,697 58,302 58,332 53,370 56,817 34,061 33,833 52,902 52,810 53,4167 56,464 54,340 52,903 52,820 52,830 52,830 52,830 52,412 52,403 52,820 52,830 52,830 52,831 52,711 66,749 52,403 52,820 52,830 52,831 52,408 52,314 53,050 52,443 53,350 63,474 62,973 62,973 51,982 52,403 52,841 52,414 53,475 53,445 53,050 53,443 53,475 53,475 53,444 53,046 56,749 53,475	1951	52,888	52,808	52,818	52,884	52,836	52,706	52,471	65,625	65,444	65,490	65,090	60,900
56,811 56,720 56,817 56,761 56,627 56,325 53,369 53,329 53,339 53,406 53,351 53,220 52,927 28,995 28,334 27,851 27,616 27,351 53,220 52,927 34,302 34,225 34,214 34,167 34,167 34,061 33,833 52,902 52,813 52,813 52,813 52,813 52,416 52,412 52,464 52,375 52,833 52,406 53,456 64,340 52,412 52,464 52,375 53,443 52,418 52,416 52,711 65,744 53,443 53,456 63,474 62,973 62,385 57,006 65,749 53,443 53,377 53,424 53,474 52,373 51,982 53,474 53,474 62,973 62,385 57,006 65,749 53,475 53,377 53,428 53,744 53,794 56,714 53,5709 65,474 62,973	1952	56,677	56,595	56,608	56,631	56,596	56,462	65,750	65,598	65,444	65,490	65,090	65,646
53,369 53,329 53,339 53,406 53,351 53,220 52,927 28,995 28,354 27,851 27,616 27,351 26,905 26,697 34,302 34,225 34,214 34,218 34,167 34,061 33,833 52,902 52,813 52,823 52,890 52,835 52,418 52,412 54,405 54,810 64,829 64,863 64,664 64,340 52,464 52,375 52,384 52,408 52,375 52,413 55,764 52,465 53,474 52,375 53,344 53,450 65,749 55,744 53,473 53,356 53,474 53,475 53,371 53,373 53,345 53,473 53,337 53,444 53,0790 55,749 55,749 53,377 53,373 53,444 53,790 55,749 55,749 53,377 53,373 53,475 53,344 53,700 55,749 53,373 53,347 53,474	1953	56,811	56,720	56,790	56,817	56,761	56,627	56,325	65,618	65,444	65,490	65,090	53,558
28.995 28,354 27,851 27,351 26,905 26,697 34,302 34,225 34,214 34,167 34,061 33,833 52,902 52,813 52,823 52,890 52,835 52,704 52,412 52,902 52,813 52,823 52,890 52,835 52,704 52,412 52,464 52,375 52,384 52,408 52,352 52,733 51,982 52,464 52,375 52,384 52,408 52,344 53,050 65,749 52,464 52,375 52,344 53,475 52,344 53,050 65,749 53,473 53,377 53,474 65,744 52,719 52,949 37,845 53,473 53,377 53,473 53,475 53,344 53,050 53,474 53,377 53,475 53,344 53,050 55,449 53,475 53,344 53,050 53,344 53,050 53,473 53,473 53,475 53,344 53,050	1954	53,369	53,329	53,339	53,406	53,351	53,220	52,927	63,439	62,912	62,433	47,240	45,423
34,302 34,225 34,214 34,167 34,061 33,833 52,902 52,813 52,823 52,835 52,704 52,412 52,902 52,813 52,823 52,890 52,835 52,704 52,412 52,902 52,813 52,823 52,890 52,835 52,704 52,412 52,464 52,375 52,830 52,810 52,813 52,814 53,421 53,443 53,356 63,456 63,474 52,318 53,475 53,344 53,377 53,337 53,421 53,475 53,344 53,050 53,456 63,474 62,973 62,973 62,973 65,749 53,377 53,346 53,475 53,344 53,050 64,644 33,135 31,398 53,421 53,443 53,050 65,749 53,377 53,342 53,423 53,422 53,044 53,050 33,135 31,398 53,428 53,428 53,044 54,04	1955	28,995	28,354	27,851	27,616	27,351	26,905	26,697	40,478	45,605	45,228	39,937	34,433
52,902 52,813 52,823 52,890 52,835 52,704 52,412 52,464 52,375 52,384 52,408 52,352 52,273 51,982 52,403 52,8130 52,897 52,841 52,711 65,749 52,443 53,354 53,421 53,448 53,444 53,050 64,664 64,340 53,443 53,354 53,421 53,448 53,475 53,344 53,050 53,443 53,356 63,474 62,973 62,373 52,242 52,949 53,475 53,337 53,448 53,474 52,385 57,106 65,749 53,475 53,377 53,387 53,443 53,475 53,344 53,050 53,475 53,377 53,443 53,474 52,793 65,749 57,449 53,413 53,413 53,443 38,271 89,391 37,845 56,714 38,273 38,244 53,443 38,271 86,671 65,749 57,445 </th <th>1956</th> <th>34,302</th> <th>34,225</th> <th>34,214</th> <th>34,218</th> <th>34,167</th> <th>34,061</th> <th>33,833</th> <th>65,675</th> <th>65,443</th> <th>64,950</th> <th>59,236</th> <th>53,090</th>	1956	34,302	34,225	34,214	34,218	34,167	34,061	33,833	65,675	65,443	64,950	59,236	53,090
64,905 64,810 64,829 64,805 64,664 64,340 52,464 52,375 52,384 52,408 52,352 52,273 51,982 52,403 52,820 52,830 52,837 53,441 53,050 65,749 53,443 53,354 53,421 53,488 53,475 53,344 53,050 53,377 53,337 53,404 53,428 53,733 53,242 52,949 53,377 53,337 53,404 53,428 53,770 53,373 53,445 53,377 53,377 53,373 30,311 29,790 26,701 26,494 53,470 38,279 38,271 53,444 53,626 65,749 38,279 38,271 53,444 53,626 65,749 65,749 53,313 53,433 38,251 38,199 38,088 37,845 65,769 65,671 65,671 65,740 55,793 51,974 53,770 53,714 55,273 51,443	1957	52,902	52,813	52,823	52,890	52,835	52,704	52,412	65,625	65,444	65,490	65,583	65,244
52,464 52,334 52,408 52,352 52,273 51,982 53,443 53,354 53,421 53,488 53,475 53,344 53,050 53,443 53,354 53,421 53,488 53,475 53,344 53,050 63,550 63,456 63,474 62,973 62,385 57,006 65,749 53,377 53,337 53,428 53,373 53,242 52,949 53,377 53,337 53,428 53,373 53,242 52,949 53,377 53,373 53,428 53,373 53,242 52,949 53,31 53,413 53,428 53,373 53,242 52,949 33,135 31,398 30,311 29,790 26,701 26,494 33,135 53,474 65,728 65,719 55,793 51,413 33,135 31,398 30,311 29,790 26,701 26,494 33,470 39,243 65,773 51,423 51,413 51,614	1958	64,905	64,810	64,829	64,863	64,805	64,664	64,340	65,601	65,444	64,951	59,236	52,650
52,909 52,820 52,830 52,837 52,344 53,475 53,344 53,050 53,443 53,354 53,421 53,475 53,344 53,050 53,475 53,475 53,475 53,344 53,050 53,377 53,373 53,474 62,973 62,385 57,006 65,749 53,377 53,377 53,373 53,474 53,475 53,373 53,242 52,949 53,377 53,373 53,474 62,973 62,373 53,242 52,949 53,371 53,373 33,429 30,873 30,311 29,790 26,701 26,494 33,135 31,354 65,674 65,674 65,674 65,671 65,528 65,203 38,270 39,470 39,434 39,444 39,434 39,339 40,705 51,974 51,974 51,917 51,862 51,917 51,862 51,614 53,824 53,735 51,944 55,739 51,713 51,614 <th>1959</th> <th>52,464</th> <th>52,375</th> <th>52,384</th> <th>52,408</th> <th>52,352</th> <th>52,273</th> <th>51,982</th> <th>65,626</th> <th>65,444</th> <th>65,490</th> <th>61,628</th> <th>53,221</th>	1959	52,464	52,375	52,384	52,408	52,352	52,273	51,982	65,626	65,444	65,490	61,628	53,221
53,443 53,354 53,421 53,488 53,475 53,344 53,050 63,550 63,456 63,474 62,973 62,385 57,006 65,749 53,377 53,377 53,404 53,428 53,373 53,242 52,949 53,377 53,377 53,404 53,428 53,373 53,242 52,949 53,377 53,373 53,423 53,423 53,242 52,949 33,135 31,354 53,404 53,428 53,373 53,242 52,949 33,135 31,347 38,251 38,199 30,873 30,311 29,790 26,701 26,494 38,279 38,243 39,434 53,031 39,278 40,705 51,917 51,894 51,917 51,894 51,917 51,894 51,414 55,633 61,514 53,042 53,025 53,710 53,714 53,633 61,514 55,608 53,042 53,726 53,770 53,714 53,633 61,5	1960	52,909	52,820	52,830	52,897	52,841	52,711	65,754	65,585	65,444	65,490	59,752	53,632
63,550 63,476 62,973 62,385 57,006 65,749 53,377 53,337 53,428 53,373 53,242 52,949 53,377 53,337 53,428 53,373 53,242 52,949 33,135 31,398 30,873 30,311 29,790 26,701 26,494 38,279 38,249 38,243 38,251 38,199 38,088 37,845 65,769 65,674 65,694 65,728 65,671 65,528 65,203 39,470 39,433 39,444 39,391 39,278 40,705 51,974 51,885 51,894 51,917 51,876 65,746 53,824 53,745 53,770 53,714 53,633 61,514 53,824 53,735 53,745 53,770 53,714 53,633 61,514 53,824 55,373 51,842 51,917 59,298 55,391 52,608 53,824 55,386 53,770 53,714 53,673	1961	53,443	53,354	53,421	53,488	53,475	53,344	53,050	65,624	65,444	64,951	53,683	54,305
53,377 53,404 53,428 53,373 53,404 53,428 53,373 53,242 52,949 33,135 31,398 30,873 30,311 29,790 26,701 26,494 33,135 31,398 30,873 30,311 29,790 26,701 26,494 38,279 38,249 38,243 39,433 30,311 29,790 26,701 26,494 38,276 65,674 65,694 65,728 65,671 65,528 65,203 39,470 39,439 39,434 39,391 39,278 40,705 51,974 51,885 51,894 51,917 51,862 51,733 51,443 53,824 53,745 53,770 53,714 53,633 61,514 53,824 53,775 53,714 53,633 61,514 53,042 52,963 53,714 53,633 61,514 53,025 54,366 53,770 53,714 53,691 55,568 53,026 54,421 64,421	1962	63,550	63,456	63,474	62,973	62,385	57,006	65,749	65,598	65,444	65,490	65,090	56,228
33,135 31,398 30,873 30,311 29,790 26,701 26,494 38,279 38,249 38,243 38,251 38,199 38,088 37,845 65,769 65,674 65,694 65,728 65,671 65,528 65,203 39,470 39,439 39,434 39,391 39,278 40,705 51,974 51,894 51,917 51,862 51,733 51,443 53,824 53,745 53,770 53,714 53,633 61,514 53,042 52,963 52,986 52,931 52,801 52,508 53,042 53,745 53,770 53,714 53,633 61,514 53,042 53,745 53,770 53,714 53,633 61,514 53,042 53,745 53,714 53,633 61,514 53,026 53,714 53,693 61,514 53,026 54,421 64,421 64,421 64,222 64,414 64,318 54,223 52,553	1963	53,377	53,337	53,404	53,428	53,373	53,242	52,949	65,624	65,444	59,597	51,053	48,233
38,279 38,249 38,243 38,251 38,199 38,088 37,845 65,769 65,674 65,694 65,728 65,671 65,528 65,203 39,470 39,439 39,434 39,391 39,278 40,705 51,974 51,885 51,894 51,917 51,862 51,733 51,443 53,824 53,745 53,770 53,714 53,633 61,514 53,824 53,745 53,770 53,714 53,633 61,514 53,042 52,963 52,986 52,931 52,601 52,508 59,254 59,177 59,206 59,149 59,013 65,746 64,414 64,369 64,421 64,6363 54,222 63,979 55,245 55,144 55,265 56,110 52,608 55,746 55,436 55,345 55,316 55,739 55,739 55,746 55,436 55,318 52,771 52,773 52,659 56,110	1964	33,135	31,398	30,873	30,311	29,790	26,701	26,494	43,339	50,859	50,445	45,286	38,423
65,769 65,674 65,694 65,728 65,671 65,528 65,203 39,470 39,439 39,434 39,391 39,278 40,705 51,974 51,885 51,917 51,862 51,733 51,443 53,824 53,745 53,770 53,714 53,633 61,514 53,824 53,735 53,745 53,770 53,714 53,633 61,514 53,824 53,735 53,745 53,770 53,714 53,633 61,514 53,824 53,735 53,745 53,770 53,714 53,633 61,514 53,804 52,963 52,986 52,931 52,801 52,508 59,266 59,177 59,206 59,149 53,079 55,379 59,265 54,421 64,421 64,363 64,222 63,979 55,436 55,345 55,346 55,318 55,739 55,565 56,110 55,436 53,216 53,2739 55,255 54,953	1965	38,279	38,249	38,243	38,251	38,199	38,088	37,845	65,664	65,443	65,490	65,174	64,837
39,470 39,439 39,434 39,444 39,391 39,278 40,705 51,974 51,885 51,917 51,862 51,733 51,443 53,824 53,745 53,770 53,714 53,633 61,514 53,824 53,745 53,770 53,714 53,633 61,514 53,824 53,735 53,745 53,770 53,714 53,633 61,514 53,042 52,953 52,963 52,986 52,931 52,801 52,508 59,254 59,162 59,177 59,206 59,149 59,013 65,746 64,414 64,369 64,421 64,363 64,222 63,979 55,436 55,345 55,346 55,346 55,379 55,379 55,436 55,345 55,346 55,379 55,252 54,953 55,436 55,318 53,279 53,265 54,953 56,110 52,830 52,329 53,218 53,265 53,051 52,659	1966	65,769	65,674	65,694	65,728	65,671	65,528	65,203	65,599	65,444	64,951	45,850	39,742
51,974 51,885 51,917 51,862 51,733 51,443 53,824 53,735 53,745 53,770 53,714 53,633 61,514 53,824 53,735 53,745 53,770 53,714 53,633 61,514 53,042 52,953 52,963 52,986 52,931 52,801 52,508 59,254 59,162 59,177 59,206 59,149 59,013 65,746 64,414 64,369 64,421 64,423 64,222 63,979 55,436 55,345 55,348 55,384 55,252 54,953 55,436 55,345 55,348 55,739 52,659 56,110 55,436 55,348 53,273 52,659 56,110 52,850 52,771 52,773 52,739 52,659 56,110 53,318 53,229 53,278 53,265 53,051 52,970 53,450 53,210 53,265 53,061 52,970 53,450 53,210 53,266 53,051 52,970 53,450 53,210 </th <th>1967</th> <th>39,470</th> <th>39,439</th> <th>39,434</th> <th>39,444</th> <th>39,391</th> <th>39,278</th> <th>40,705</th> <th>61,512</th> <th>65,456</th> <th>65,490</th> <th>61,625</th> <th>53,803</th>	1967	39,470	39,439	39,434	39,444	39,391	39,278	40,705	61,512	65,456	65,490	61,625	53,803
53,824 53,735 53,745 53,770 53,714 53,633 61,514 53,042 52,953 52,963 52,986 52,931 52,801 52,508 53,042 52,9162 59,177 59,206 59,149 59,013 65,746 53,042 52,9162 59,177 59,206 59,149 59,013 65,746 59,254 59,162 59,177 59,206 59,149 59,013 65,746 64,414 64,369 64,388 64,421 64,363 64,222 63,979 55,436 55,345 55,345 55,345 55,346 55,379 52,659 56,110 55,436 52,711 52,753 52,739 52,659 56,110 52,970 53,318 53,229 53,216 53,273 52,256 53,051 52,970 53,450 53,318 53,229 53,210 52,306 53,051 52,070 53,030 53,318 53,210 53,219 53,265 53,051<	1968	51,974	51,885	51,894	51,917	51,862	51,733	51,443	64,464	65,447	65,490	65,583	59,112
53,042 52,953 52,963 52,986 52,931 52,801 52,508 59,254 59,162 59,177 59,206 59,149 59,013 65,746 64,414 64,369 64,388 64,421 64,363 64,222 63,979 55,436 55,345 55,414 55,398 55,384 55,252 54,953 55,436 55,345 55,414 55,398 55,384 55,252 54,953 55,436 55,345 55,345 55,345 55,3739 52,659 56,110 53,318 53,229 53,273 52,739 52,659 56,110 53,318 53,229 53,276 53,396 53,366 53,071 53,318 53,229 53,410 53,396 53,051 52,659 56,110 53,450 53,218 53,273 52,3266 53,051 52,051 53,014 53,306 53,306 53,061 52,051 52,051 53,021 53,014 53,061	1969	53,824	53,735	53,745	53,770	53,714	53,633	61,514	65,607	65,444	65,490	62,196	53,230
59,254 59,162 59,177 59,206 59,149 59,013 65,746 64,414 64,369 64,388 64,421 64,363 64,222 63,979 55,436 55,345 55,414 55,398 55,384 55,252 54,953 55,436 55,345 55,414 55,398 55,384 55,252 54,953 52,850 52,771 52,753 52,739 52,659 56,110 53,318 53,229 53,296 53,184 52,970 53,318 53,229 53,278 53,265 53,051 53,318 53,229 53,274 53,061 52,051 53,410 53,396 53,266 53,051 52,688 53,030 52,941 53,008 53,074 52,061 52,688 20,914 20,821 20,812 20,763 22,136 52,269 52,189 52,719 52,070 51,858 52,269 52,189 52,199 52,070 51,858 <th>1970</th> <th>53,042</th> <th>52,953</th> <th>52,963</th> <th>52,986</th> <th>52,931</th> <th>52,801</th> <th>52,508</th> <th>65,625</th> <th>65,444</th> <th>65,490</th> <th>59,773</th> <th>59,456</th>	1970	53,042	52,953	52,963	52,986	52,931	52,801	52,508	65,625	65,444	65,490	59,773	59,456
64,414 64,369 64,388 64,421 64,363 64,222 63,979 55,436 55,345 55,414 55,398 55,384 55,252 54,953 55,436 55,345 55,414 55,398 55,384 55,252 54,953 52,850 52,761 52,771 52,753 52,739 52,659 56,110 53,318 53,229 53,296 53,278 53,265 53,184 52,970 53,450 53,229 53,2796 53,278 53,266 53,051 53,051 53,450 53,206 53,274 53,2061 52,981 52,688 53,030 52,941 53,074 53,061 52,981 52,688 20,914 20,821 20,812 20,812 20,763 22,136 52,269 52,189 52,129 52,139 52,070 51,858	1971	59,254	59,162	59,177	59,206	59,149	59,013	65,746	65,598	65,444	65,490	65,090	64,752
55,436 55,345 55,414 55,398 55,384 55,252 54,953 52,850 52,761 52,771 52,753 52,739 52,659 56,110 53,318 53,229 53,296 53,278 53,265 53,184 52,970 53,318 53,229 53,296 53,278 53,265 53,184 52,970 53,450 53,360 53,296 53,278 53,396 53,266 53,051 53,450 53,360 53,428 53,410 53,396 53,266 53,051 53,450 53,308 53,074 53,061 52,981 52,688 20,914 20,821 20,812 20,763 20,673 22,136 52,269 52,180 52,189 52,070 51,858	1972	64,414	64,369	64,388	64,421	64,363	64,222	63,979	65,602	65,444	65,490	57,826	55,629
52,850 52,761 52,771 52,753 52,739 52,659 56,110 53,318 53,229 53,296 53,278 53,265 53,184 52,970 53,318 53,229 53,296 53,278 53,265 53,184 52,970 53,450 53,360 53,428 53,410 53,396 53,051 52,981 52,051 53,030 52,941 53,008 53,074 53,061 52,981 52,688 20,914 20,821 20,812 20,763 22,136 52,136 52,269 52,180 52,189 52,212 52,199 52,070 51,858	1973	55,436	55,345	55,414	55,398	55,384	55,252	54,953	65,620	65,444	65,490	65,135	59,099
53,318 53,229 53,296 53,278 53,265 53,184 52,970 53,450 53,360 53,428 53,410 53,396 53,051 53,051 53,450 53,360 53,428 53,410 53,396 53,051 53,051 53,030 52,941 53,008 53,074 53,061 52,981 52,688 20,914 20,821 20,812 20,763 22,136 52,269 52,180 52,129 52,199 52,070 51,858	1974	52,850	52,761	52,771	52,753	52,739	52,659	56,110	65,618	65,444	65,490	59,773	53,630
53,450 53,360 53,428 53,410 53,396 53,266 53,051 53,030 52,941 53,008 53,074 53,061 52,981 52,688 20,914 20,821 20,812 20,763 20,673 22,136 52,269 52,180 52,189 52,212 52,199 52,070 51,858	1975	53,318	53,229	53,296	53,278	53,265	53,184	52,970	65,624	65,444	65,490	65,090	53,638
53.030 52,941 53,008 53,074 53,061 52,981 52,688 20,914 20,844 20,821 20,812 20,763 22,136 52,269 52,180 52,189 52,212 52,199 52,070 51,858	1976	53,450	53,360	53,428	53,410	53,396	53,266	53,051	65,624	65,444	65,490	59,773	53,218
20,914 20,844 20,821 20,812 20,763 20,673 22,136 52,269 52,180 52,189 52,212 52,199 52,070 51,858	1977	53,030	52,941	53,008	53,074	53,061	52,981	52,688	52,355	51,890	46,123	40,170	39,864
52,269 52,180 52,189 52,212 52,199 52,070 51,858 52,070 51,858	1978	20,914	20,844	20,821	20,812	20,763	20,673	22,136	51,363	65,485	65,490	59,770	52,455
	1979	52,269	52,180	52,189	52,212	52,199	52,070	51,858	65,626	65,444	65,490	65,090	53,226

Wolford Mountain Reservoir Simulated End-Of-Month Contents No Action Alternative

WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ากเ	AUG	SEP
1980	53,038	52,998	53,008	53,032	52,976	52,846	52,633	65,625	65,444	65,490	59,773	53.217.
1981	53,030	52,941	53,007	53,074	53,061	52,931	52,638	65,625	65,444	62,972	48,380	46.444
1982	31,415	31,340	31,327	31,327	31,276	31,174	30,957	59,605	65,462	65,490	65,090	64,752
1983	64,538	64,443	64,462	64,496	64,438	64,297	63,975	65,602	65,444	65,490	65,583	62,952
1984	62,618	62,574	62,591	62,623	62,566	62,476	62,238	65,606	65,444	65,490	65,583	65,244
1985	65,769	65,939	65,985	65,985	65,970	65,877	65,737	65,598	65,444	65,490	65,090	64,752
1986	65,429	65,939	65,959	65,985	65,970	65,892	65,737	65,598	65,444	65,490	65,090	64,752
1987	65,755	65,939	65,959	65,985	65,928	65,785	65,737	65,598	65,444	65,202	64,803	53,433
1988	53,245	53,156	53,166	53,190	53,134	53,004	54,638	65,621	65,444	65,490	59,773	53,630
1989	53,441	53,352	53,419	53,487	53,431	53,300	64,120	65,594	65,444	64,951	54,177	53,098
1990	52,911	52,822	52,831	52,898	52,843	52,713	52,421	64,714	65,446	64,953	53,373	51,747
1991	51,439	51,351	51,416	51,481	51,468	51,340	51,052	65,629	65,444	65,490	59,773	53,629
1992	53,441	53,351	53,362	53,386	53,330	53,200	52,985	65,624	65,444	64,951	50,849	46,666
1993	45,405	45,320	45,322	45,338	45,284	45,164	44,977	65,646	65,444	65,490	65,090	64,340
1994	64,003	63,909	63,927	63,960	63,903	63,762	63,520	65,603	65,444	59,647	49,162	48,886
1995	48,615	48,531	48,582	48,597	48,550	48,425	48,211	65,637	65,444	65,490	65,090	64,752
1996	64,442	64,356	64,376	64,405	64,354	64,213	65,739	65,598	65,444	65,490	59,773	59,456
1997	59,158	59,075	59,090	59,115	59,065	58,958	64,813	65,600	65,444	65,490	65,090	64,752
1998	64,999	65,330	65,364	65,409	65,352	65,209	65,738	65,598	65,444	65,490	65,090	59,466
1999	59,169	59,086	59,158	59,182	59,133	58,997	58,704	65,613	65,444	65,490	65,090	64,280
2000	54,952	54,871	54,939	54,961	54,912	54,780	55,693	65,619	65,444	64,951	53,171	52,024
2001	51,839	51,759	51,768	51,787	51,739	51,610	51,378	65,628	65,444	64,951	54,183	47,212
2002	46,947	46,871	46,874	46,887	46,837	46,715	46,523	46,224	45,807	39,507	29,043	27,665
· 2003	19,790	19,724	19,699	19,684	19,639	19,551	19,386	48,920	65,495	65,002	59,044	52,632
2004	52,445	52,365	52,375	52,394	52,346	52,245	51,969	59,728	63,639	63,156	47,168	46,430
2005	29,760	29,694	29,680	29,675	29,632	29,531	29,374	57,516	65,467	65,490	65,090	58,353
AVERAGE:	52,204	52,113	52,118	52,121	52,055	51,783	52,909	63,127	64,162	63,598	58,573	54,526
MINIMUM	19,790	19,724	19,699	19,684	19,639	19,551	19,386	40,478	45,605	39,507	29,043	27,665
MAXIMUM:	65,769	65,939	65,985	65,985	65,970	65,892	65,754	65,675	65,495	65,490	65,583	65,646

Williams Fork Reservoir Simulated End-Of-Month Contents No Action Alternative

1950 66,230 61,473 1951 61,460 58,237 1953 72,660 68,402 1955 71,991 67,956 1955 31,759 28,592 1955 31,759 28,592 1955 31,759 28,592 1955 31,759 28,592 1955 24,874 20,956 1956 24,874 20,956 1957 27,720 24,605 1958 72,530 68,315 1959 68,867 65,875 1950 56,450 51,262 1961 75,280 70,148 1961 75,280 70,148 1963 76,701 71,095 1964 29,389 26,709 1965 19,686 16,423 1965 19,686 16,423 1966 19,686 16,423 1967 33,293 30,854 1968 36,292 32,885 1969 36,292 32,885 1969 36,		NHO						201	504	SEP
61,460 62,937 71,991 71,991 24,874 24,874 24,874 72,530 68,867 56,450 75,720 75,720 19,686 62,782 19,686 62,782 33,293 33,293 748 748 748	59,007	58,061	56,473	54,174	59,260	68,579	86,429	90,030	73,597	66,382
62,937 72,660 31,759 24,874 27,720 68,867 68,867 56,450 72,530 63,014 76,701 29,389 19,686 33,293 33,293 36,292 36,292 29,389 76,701 49,748	56,028	54,784	53,948	51,500	50,874	66,035	96,052	96,303	89,843	72,487
72,660 71,991 31,759 24,874 22,720 68,867 56,450 75,280 63,014 75,280 76,701 76,701 29,389 19,686 33,293 33,293 33,293 748 49,748	55,994	53,371	51,689	49,386	57,503	82,436	96,289	96,302	89,842	79,610
71,991 31,759 24,874 27,720 68,867 56,450 75,280 75,280 75,280 19,686 82,782 33,293 33,293 33,293 34,748 49,748	64,261	60,058	58,428	56,518	55,835	65,976	87,680	91,515	83,922	77,315
31,759 24,874 24,874 72,530 68,867 56,450 75,280 75,280 19,686 19,686 33,293 33,293 33,293 33,293 34,748 49,748	64,038	60,058	59,434	57,595	56,718	60,661	63,080	59,818	53,045	47,623
24,874 27,720 68,867 56,450 75,280 75,280 75,701 29,389 19,686 82,782 33,293 33,293 33,292 33,292 34,748	26,430	24,588	23,516	22,038	27,090	34,373	43,012	45,767	40,682	30,764
27,720 72,530 68,867 56,450 75,280 63,014 63,014 19,686 29,389 19,686 33,293 33,293 33,293 36,292 36,292 36,292 36,292 36,292	18,580	16,797	15,016	12,650	18,516	33,887	43,618	45,617	37,495	32,617
72,530 68,867 56,450 75,280 63,014 76,701 29,389 19,686 83,293 36,292 36,292 36,292 36,292 36,292 36,292 36,292	23,270	21,693	20,219	18,915	18,664	30,274	70,295	96,360	89,890	83,586
68,867 56,450 75,280 63,014 76,701 29,389 19,686 62,782 33,293 36,292 36,292 36,292 36,292 36,292 36,292	64,218	60,058	57,917	55,640	55,210	82,436	96,069	96,303	80,310	73,830
56,450 75,280 63,014 29,389 19,686 82,782 33,293 33,293 36,292 21,555 49,748	62,996	60,057	58,529	56,341	55,694	63,247	72,184	73,314	66,954	60,012
75,280 63,014 76,701 29,389 19,686 33,293 33,293 36,292 36,292 21,555 49,748	46,402	43,953	41,843	39,863	49,419	63,666	91,097	95,961	86,484	80,628
63,014 76,701 19,686 62,782 33,293 36,292 21,555 49,748	65,135	60,058	59,048	57,985	54,879	63,197	80,052	77,057	65,626	64,238
76,701 29,389 62,782 62,782 33,293 36,292 21,555 49,748	56,942	54,709	53,188	51,415	66,434	92,205	96'099	96,303	88,551	82,519
29,389 19,686 62,782 33,293 36,292 21,555 49,748	65,609	60,058	58,571	56,236	55,926	56,258	57,961	54,409	53,358	43,400
19,686 62,782 33,293 36,292 21,555 49,748	25,182	23,721	22,211	19,930	16,057	26,229	32,254	32,168	28,783	23,165
62,782 33,293 36,292 21,555 49,748	13,747	11,356	9,228	7,021	11,309	20,056	50,163	66,660	65,236	63,928
33,293 36,292 21,555 49,748	56,941	54,849	53,607	51,253	50,735	55,217	58,677	59,878	42,551	37,579
36,292 21,555 49,748	29,483	28,310	27,062	24,951	29,155	34,394	51,615	57,891	48,543	41,459
21,555 49,748	31,049	29,500	27,688	25,588	21,489	26,139	38,706	43,038	45,531	29,598
49,748	15,039	12,342	10,337	7,748	14,130	27,849	55,299	64,177	57,831	48,157
	46,084	43,241	40,942	38,310	37,972	62,658	96,182	96,303	89,842	83,548
77,466	65,863	60,058	57,133	53,599	62,280	76,916	96,049	96,303	88,852	79,758
	63,615	60,057	57,766	53,966	58,120	62,602	71,934	72,080	55,015	50,257
48,491	42,496	40,441	38,901	37,286	36,826	52,726	86,198	96,326	89,267	80,738
75,363	65,162	60,058	58,418	56,201	61,638	82,209	96,016	96,303	83,411	76,044
	61,995	60,057	58,207	55,872	55,200	59,191	69,310	83,859	76,012	66,031
60,679	54,572	52,412	50,413	47,704	51,416	57,569	65,612	68,964	62,236	55,050
47,016	41,322	40,196	38,940	37,092	36,522	37,790	42,149	33,067	15,849	11,186
3,042	1,145	1,043	941	831	5,929	13,760	31,247	35,092	30,574	23,356
1979 19,976 17,144	14,700	11,833	9,494	6,309	10,439	22,377	49,540	60,199	54,529	48,680

Williams Fork Reservoir Simulated End-Of-Month Contents No Action Alternative

WATER												
YEAR	100	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUS	JUL	AUG	SEP
1980	43,654	40,421	37,588	34,085	31,068	29,388	29,750	43,117	64.424	67.635	61.115	51 982
1981	46,010	42,978	40,855	39,521	38,289	36,600	31,028	35,587	43,181	41,611	24.277	13,414
1982	8,552	5,914	4,017	2,091	761	651	642	7,977	31,192	43,271	40,479	40.557
1983	40,239	36,407	32,125	29,510	26,154	24,852	19,647	31,556	95,107	96,305	89,844	80,869
1984	73,252	68,796	63,824	59,887	57,760	53,651	52,950	90,996	96,267	96,302	89.842	83.548
1985	77,466	71,604	65,863	60,058	58,166	55,099	65,494	88,839	96,273	96,302	89,412	81,975
1986	76,289	70,820	65,471	60,058	59,466	63,499	70,808	87,296	96,210	96,302	89,842	83.548
1987	77,466	71,604	65,863	60,058	57,260	54,631	59,608	70,530	84,110	86,390	77,305	71,431
1988	66,479	63,026	59,771	55,928	52,872	51,171	57,682	71,697	96,089	96,303	76,271	69,720
1989	65,001	61,721	59,349	57,566	55,711	52,958	58,874	66,970	72,130	68,901	66,823	59,199
1990	54,694	51,129	47,881	45,542	43,376	40,201	39,593	45,797	52,460	53,807	35,776	26,562
1991	17,941	13,502	10.684	8,441	6,864	4,294	3,779	20,255	43,875	46,193	43,169	39.774
1992	34,434	29,602	26,430	23,885	21,115	16,765	21,665	36,591	48,980	53,931	28,741	18.573
1993	6,856	2,245	1,265	1,163	1,061	950	938	28,058	64,108	78,288	74,891	64,502
1994	56,070	52,068	48,681	45,555	43,076	39,836	43,734	58,240	69,754	66,721	55,560	45,804
1995	40,427	37,127	34,613	32,464	29,736	26,075	19,526	28,177	69,051	96,363	89,892	74.980
1996	67,435	63,137	58,650	53,607	49,558	45,392	53,128	84,229	96,091	96,303	89.108	79.043
1997	70,586	64,512	59,331	54,847	50,182	46,059	51,503	78,448	96,148	96,303	89,842	83,548
1998	77,466	71,604	65,863	60,058	56,272	52,283	55,973	65,502	74,095	83,622	79,319	63.558
1999	55,003	49,916	46,885	43,289	40,232	35,407	34,760	43,602	61,972	69,439	67,544	51.351
2000	42,884	38,934	35,146	31,202	27,657	23,439	29,112	52,083	67,151	70,807	51,279	38,472
2001	31,224	27,556	23,539	20,340	17,563	13,797	13,379	27,336	37,825	43,441	19,238	7,747
2002	1,422	1,321	1,225	1,124	1,022	911	668	4,561	5,499	912	892	742
2003	734	634	536	433	331	224	220	33,075	70,763	76,719	67,872	54,659
2004	47,995	44,111	41,104	38,305	35,546	31,498	30,918	40,891	46,375	49,333	26,825	17,922
2005	10,018	6,403	4,288	1,690	1,059	948	8,323	29,940	51,315	59,668	54,090	47,737
AVERAGE:	49,056	45,291	42,110	39,259	37,344	35,080	37,414	50,933	67,881	71,581	62,731	54,728
	734	634	536	433	331	224	220	4,561	5,499	912	892	742
MAXIMUM:	77,466	71,604	65,863	60,058	59,466	63,499	70,808	92,205	96,289	96,363	89,892	83,586

Dilton Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

WATER	OCT	NON	DEC	JAN	EB	MAR	APR	MAV	NI			
TEAH										100	504	
1950	224,767	221,933	215,493	211,963	208,859	201,987	193,145	207,430	255,969	255,968	229.238	209.214
1951	191,575	185,278	178,652	173,050	166,179	161,068	160,907	190,082	256,006	255,968	255,546	241.566
1952	233,784	228,119	221,002	216,059	211,400	206,901	212,208	256,257	255,871	255,969	256.162	236,564
1953	221,102	213,985	208,513	206,004	202,410	194,486	186,797	200,889	255,983	255,968	255,624	229.777
1954	208,947	201,080	193,604	188,931	181,917	175,666	151,882	152,589	146,591	126,052	112,858	102,028
1955	96,663	91,937	88,255	82,605	78,542	73,113	73,481	90,754	118,424	114,114	112.951	112,350
1956	106,429	102,675	98,523	89,594	83,748	76,914	77,925	120,303	171,495	168.051	141.849	115,776
1957	103,232	95,029	87,523	77,484	71,291	64,175	63,535	94,470	192,616	256,087	255,698	255,827
1958	255,929	255,473	253,474	249,843	247,162	246,420	246,027	256,208	255,871	255,969	236,525	216,087
1959	201,314	196,177	191,130	188,132	184,990	181,598	183,383	205,164	255,974	255,968	235,793	217.463
1960	216,941	214,780	209,907	204,381	199,282	197,805	201,526	228,282	255,928	255,969	228,347	202.909
1961	191,288	187,837	183,058	177,916	172,864	167,722	160,278	179,388	219,151	224,544	218,041	230,075
1962	242,135	240,249	239,921	239,969	239,892	238,681	251,687	256,200	255,871	255,969	238,477	213,451
1963	197,757	191,984	186,064	179,811	175,304	170,864	156,668	151,039	148,555	121,678	107,508	98.021
1964	89,787	87,478	83,271	80,575	77,336	73,569	71,101	92,718	120,297	118,116	101,300	90,561
1965	83,669	79,568	76,145	69,665	65,741	60,385	61,745	93,825	193,244	256,085	255,610	255,739
1966	255,996	255,541	254,343	253,941	251,308	250,712	246,078	252,702	255,878	233,546	213,935	196,865
1967	186,807	180,816	172,885	166,575	160,565	152,352	143,301	165,445	214,182	231,183	220,282	219,581
1968	213,140	207,752	199,367	192,318	186,202	180,802	181,445	193,810	251,014	255,978	255,950	243.589
1969	235,574	229,494	223,679	220,495	214,493	209,089	203,083	241,877	255,900	255,969	243,989	238,550
0/61	238,876	238,426	238,198	237,482	234,772	233,820	235,862	256,223	255,871	255,969	255,468	246,407
1261	246,878	246,426	243,264	241,482	240,196	239,301	245,664	256,209	255,871	255,969	245,465	242,245
19/2	238,548	235,272	230,999	228,823	225,372	223,223	220,929	245,172	255,894	255,969	237,119	221,944
19/3	207,589	202,065	196,140	189,405	181,714	174,268	174,494	202,119	255,981	255,968	254,277	241,352
19/4	237,240	233,861	230,625	229,404	228,654	228,440	231,773	256,229	255,871	255,969	237,983	218,619
1975	211,138	204,077	196,490	191,614	188,366	185,118	185,507	202,765	255,979	255,968	250,282	230,827
19/6	215,522	212,332	208,338	205,561	202,662	201,146	193,236	214,392	239,443	241,477	229,771	221,155
1971	219,931	215,611	208,045	200,824	194,140	189,714	196,192	204,115	211,003	184,847	166,489	146,726
1978	137,872	134,006	128,644	121,697	118,315	113,587	112,108	135,754	224,425	244,137	219,232	190,675
1979	174,158	167,500	160,015	151,453	147,432	145,820	149,464	181,026	256,026	255,968	255,652	235,037

Dillon Reservoir Simulated End-Of-Month Contents No Action Alternative

234,808 227,017 219,856 234,517 249,229 240,983 235,569 115,733 213,124 216,180 251,706 237,743 245,137 113,703 174,746 127,082 210,230 256,244 142,785 250,949 256,244 256,116 220,458 233,610 245,073 235,667 243,857 230,031 90,561 SEP 251,898 131,006 187,146 248,732 248,994 143,427 226,177 249,728 249,346 244,316 254,173 245,723 222,829 101,300 231,348 155,891 248,591 256,118 255,989 238,440 239,017 254,182 256,162 245,795 256,162 256,162 248,027 128,444 256,162 AUG 255,969 255,969 255,969 255,969 255,969 255,969 255,969 171,747 141,497 233,049 255,969 252,955 255,969 255,969 255,969 255,969 253,804 205,009 161,154 114,114 255,969 167,840 255,969 255,969 255,969 255,980 238,772 256,087 235,097 JUL 253,875 255,954 255,875 255,896 193,713 157,508 118,424 255,922 255,871 255,871 255,901 178,232 255,877 255,893 255,871 189,471 150,738 231,840 256,026 202,413 255,871 255,871 255,871 255,871 255,953 249,834 255,930 255,894 255,871 NN 152,988 35,890 256,194 256,235 256,232 198,097 205,648 69,457 256,215 231,156 197,711 226,945 228,912 253,580 245,536 215,270 254,263 244,088 241,475 118,491 09,056 256,257 256,170 256,196 256,193 256,217 90,754 244,776 215,501 MAY 112,363 229,769 255,876 193,674 143,895 256,486 177,861 200,522 217,463 218,201 71,946 241,276 206,940 198,969 240,214 229,656 227,199 208,492 185,058 256,486 213,471 169,514 247,598 254,495 186,176 96,768 211,171 81,832 61,745 APR 115,275 173,430 208,069 223,322 211,235 197,126 253,960 234,039 189,768 220,449 195,997 246,372 233,212 231,194 148,891 71,532 85,468 60,385 253,960 176,245 244,650 249,782 223,502 201,567 201,508 204,003 219,798 81,785 210,771 MAR (AF) 178,836 189,955 179,401 213,096 150,444 254,192 201,762 244,875 205,279 225,454 202,856 77,805 188,839 254,192 210,973 120,406 239,228 223,713 208,697 212,888 222,868 247,150 232,950 65,741 250,011 198,220 233,430 221,332 88,063 Ë 235,346 224,455 256,565 224,373 228,088 216,005 207,797 153,365 208,194 200,544 24,275 253,404 241,338 202,030 193,991 184,154 214,939 226,079 248,159 233,824 83,080 93,339 92,468 256,565 184,253 245,123 216,991 211,420 69,665 JAN 212,890 189,428 242,399 238,056 227,319 196,302 226,537 211,664 126,819 190,129 221,359 235,127 230,609 218,818 88,579 256,508 211,476 254,508 256,508 202,820 198,794 228,940 204,179 156,602 245,821 221,761 248,896 97,314 76,145 DEC 130,949 230,878 206,843 250,675 241,770 232,390 198,107 216,154 207,971 215,757 194,231 248,410 243,577 233,190 236,220 234,929 219,516 95,649 61,282 03,410 200,952 256,726 255,204 256,726 204,638 226,867 79,568 228,751 222,461 NOV 251,129 234,349 235,318 238,990 65,376 107,744 204,805 83,669 255,659 212,258 205,678 232,679 219,314 228,746 237,195 236,668 102,089 256,372 220,524 198,052 34,664 250,597 256,372 243,772 209,492 211,067 226,787 225,981 243,977 50 MAXIMUM: AVERAGE: MINIMUM: WATER YEAR 1990 1992 1993 1994 1995 1996 1998 1999 2000 2002 2003 2004 1980 1981 982 1983 984 1985 1986 1987 1988 1989 1991 1997 2001 2005

Upper Blue Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

YEAR 1950 0 1951 0 1953 0 1955 0 1956 0 1958 0 1950 0 1960 0 1961 0	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0000			0	592	2,066	2,046	1,221	188
		000000000000000000000000000000000000000	0000	00	00	0	592	2,066	2,046	1,221	188
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	000	С	C						
1952 1953 1954 1955 1956 1958 1960 1961 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	00	•	>	0	592	2,066	2,046	2,059	1,008
1953 1954 1955 1956 1958 1958 1960 1961 0 0		00000000000	0	0	0	0	592	2,066	2,046	2,059	1,056
1954 0 1955 0 1956 0 1958 0 1960 0 1961 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000	,	0	0	0	592	2,066	2,046	2,059	1,930
1955 1956 0 1957 0 1958 0 1960 0 1961 0		0000000000	0	0	0	0	592	2,053	1,269	0	0
1956 0 1957 0 1958 0 1960 0 1961 0		00000000	0	0	0	0	592	2,066	2,046	2,059	913
1957 0 1958 0 1960 0 1961 0	0000000	000000	0	0	0	0	592	2,066	2,046	1,762	1.723
1958 0 1959 0 1960 0 1961 0	000000	00000	0	0	0	0	592	2,066	2,046	2,059	2,067
1959 0 1960 0 1961 0	00000	0000	0	0	0	0	592	2,066	2,046	1,993	1,949
1960 0 1961 0	0000	0000	0	0	0	0	592	2,066	2,046	2,059	2,014
1961 0	000	000	0	0	0	0	592	2,066	2,046	1,935	1,893
	00	0 0	0	0	0	0	592	2,066	2,046	0	2,090
1962 0	0	<	0	0	0	0	592	2,066	2,046	2,059	2,000
1963 0		D	0	0	0	0	592	1,290	2,059	0	0
1964 0	0	0	0	0	0	0	592	2,066	2,046	319	312
1965 0	0	0	0	0	0	0	592	2,066	2,046	2,059	2,067
1966 0	0	0	0	0	0	0	592	2,066	2,046	0	0
	0	0	0	0	0	0	170	1,308	2,058	1,125	322
1968 0	0	0	0	0	0	0	0	1,752	2,051	2,059	1,084
	0	0	0	0	0	76	765	1,811	2,050	1,722	230
1970 0	0	0	0	0	0	0	409	2,019	2,047	2,059	2,067
1971 0	0	0	0	0	0	0	0	1,470	2,056	2,059	493
1972 0	0	0	0	0	0	0	0	1,593	2,054	649	0
- 1973 0	0	0	0	0	0	0	0	1,350	2,058	2,059	188
1974 0	0	0	0	0	0	0	0	1,897	2,049	2,059	179
1975 0	0	0	0	0	0	0	0	774	2,067	2,059	642
1976 0	0	0	0	0	0	0	0	894	2,065	2,059	745
1977 0	0	0	0	0	0	Ö	243	1,020	832	0	0
1978 0	0	0	0	0	0	0	160	1,805	2,050	2,059	212
1979 0	0	0	0	0	0	0	328	1,629	2,053	2,059	251

Upper Blue Reservoir Simulated End-Of-Month Contents No Action Alternative

(AF)

SEP AUG 2,059 2,058 2,058 2,058 2,046 2,046 2,046 2,052 2,046 2,056 2,046 2,056 2,046 2,056 2,046 2,056 2,046 2,046 2,046 2,048 3,050 2,046 2,058 2,046 2,058 2,058 2,058 2,058 2,058 2,046 2,058 2,046 2,058 2,046 2,058 2,046 2,058 2,046 2,058 2,046 2,058 2,046 2,046 2,058 2,046 2,058 2,046 2,058 2,046 2,058 2,046 2,058 2,046 2,058 2,056 2,046 2,056 2,056 2,046 2,056 2,046 2,056 ,665 847 JUL 560 560 1,720 1,954 1,955 1,955 1,955 1,955 1,955 1,955 1,955 1,955 1,955 1,955 1,955 1,955 1,955 1,955 1,955 2,074 2,074 2,074 2,075 2,074 2,075 2,074 2,075 2,077 NN MAY APR MAR FEB JAN DEC Nov oct **MAXIMUM:** AVERAGE: **MINIMUM:** WATER YEAR 1988 1989 1990 1992 1994 1995 1996 1997 1998 2000 2001 2003

Green Mountain Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

WATER												
YEAR	001	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP
1950	103,699	93,313	87,557	81,774	75,873	69,926	78,823	111,439	153,974	153.965	130.399	119.934
1951	94,171	87,293	80,538	73,756	66,866	59,933	56,099	93,613	154,012	153,965	154,093	140.197
1952	114.777	103,771	92,906	82,008	70,991	59,932	68,927	104,551	153,988	153,965	154,093	140.911
1953	115,403	105,271	95,282	85,260	75,116	64,928	60,713	85,104	154,030	153,965	152,807	140.524
1954	115,050	105,989	97,071	88,121	79,046	69,925	66,043	89,460	93,965	77,201	76,866	75.603
1955	74,492	73,556	72,729	71,880	70,927	69,928	75,878	100,003	123,247	120,612	119,703	111.501
1956	86,108	81,845	77,699	73,529	69,252	64,930	70,550	131,540	153,938	140,766	126.978	117.008
1957	91,561	85,206	78,972	72,711	66,343	59,933	57,587	66,456	131,262	153,999	154,093	140,911
1958	127,987	115,335	102,835	90,299	77,635	64,927	61,545	154,244	153,902	151,743	121,678	113,190
1959	87,361	82,847	78,452	74,031	69,503	64,930	58,615	80,383	142,228	153,983	138,066	127,204
1960	103,534	95,780	88,158	80,508	72,740	64,929	75,123	94,618	154,009	153,965	136,849	126,877
1961	101,490	95,146	88,933	82,691	76,332	69,926	63,234	87,022	116,111	100,820	100,000	93,947
1962	88,084	82,425	76,885	71,319	65,647	59,934	78,475	150,073	153,908	153,965	149,755	122.003
1963	96,615	91,247	86,007	80,739	75,356	69,926	72,996	88,105	106,641	80,969	80,214	78.464
1964	76,872	75,459	74,157	72,833	71,404	69,928	64,574	85,782	107,138	120,951	112,092	104.281
1965	82,245	77,756	73,380	68,980	64,478	59,934	64,474	86,563	137,742	153,990	154,093	141.624
1966	129,413	117,475	105,692	93,873	81,922	69,924	75,031	95,141	116,317	102,887	90,014	86,126
1967	78,329	75,624	73,030	70,414	67,695	64,931	69,260	86,907	124,080	144,369	120,945	107.961
1968	84,841	80,832	76,939	73,022	68,998	64,931	56,027	67,332	111,791	129,697	145,304	133,394
1969	107,962	99,321	90,816	82,281	73,627	64,929	71,125	88,304	151,149	153,969	138,773	127,095
1970	115,658	104,475	93,434	82,360	71,167	59,932	63,448	134,799	153,933	153,965	138,843	127,155
1971	115,708	104,515	93,464	82,380	71,177	59,932	71,130	108,445	153,980	153,965	147,168	121,567
1972	97,956	91,319	84,811	78,274	71,624	64,929	72,022	90,115	154,019	153,965	134,122	123,831
1973	113,775	103,969	94,305	84,608	74,791	64,928	56,238	80,212	140,425	153,985	154,093	123,850
1974	97,843	90,229	82,742	75,226	67,601	59,933	66,701	128,520	153,943	153,965	143,386	131,754
1975	106,319	98,007	89,830	81,623	73,298	64,929	67,563	82,741	125,504	154,008	154,093	133,866
1976	108,366	100,644	93,059	85,445	77,708	69,925	75,260	92,668	125,704	146,565	135,844	126,017
1977	100,631	94,458	88,417	82,347	76,160	69,926	56,147	61,866	77,307	70,061	69,750	68,096
1978	66,584	65,232	63,980	62,709	61,343	59,935	65,247	78,081	133,183	153,996	143,684	131.295
1979	105,573	96,410	87,381	78,322	69,148	59,932	65,340	90,813	146,782	153,976	150,469	137,811

Green Mountain Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

WATER	100	NON										
YEAR	222		הנל			UMM		MAT	NOC	JUL	AUG	SEP
1980	112,319	102,805	93,431	84,026	74,499	64,928	68,704	89,851	154,020	153,965	135,676	125,874.
1981	100,436	94,302	88,300	82,269	76,121	69,926	57,467	68,109	91,801	86,067	85,701	82,440
1982	76,519	74,177	71,944	69,690	67,333	64,931	58,030	78,320	120,346	154,016	154,093	140,197
1983	126,560	113,194	99,978	86,726	73,349	59,931	51,767	81,884	154,037	153,965	154,093	116,303
1984	90,885	84,665	78,566	72,440	66,208	59,934	63,304	154,241	153,902	153,965	154,093	140,197
1985	126,560	113,194	99,978	86,726	73,349	59,931	80,978	154,212	153,902	153,965	151,401	137,894
1986	124,644	111,662	98,828	85,959	72,966	59,931	70,986	115,888	153,964	153,965	154,093	141,624
1987	129,413	117,475	105,692	93,873	81,922	69,924	76,751	112,939	153,970	153,965	145,895	101,853
1988	86,224	81,937	77,769	73,576	69,275	64,930	72,138	96,510	154,005	153,965	126,748	118,239
1989	92,237	87,746	83,379	78,986	74,480	69,926	79,918	96,981	125,793	133,293	124,669	116,460
1990	90,996	86,753	82,634	78,489	74,231	69,927	59,153	71,171	104,542	117,623	103,981	98,063
1991	79,587	76,630	73,786	70,918	67,947	64,931	59,533	84,097	154,032	153,965	129,544	120,629
1992	95,200	90,115	85,157	80,173	75,073	69,926	75,607	98,970	115,243	108,557	108,113	100,881
1993	82,726	78,140	73,669	69,173	64,574	59,934	56,661	91,336	154,016	153,965	145,325	134,126
1994	123,174	112,485	101,947	91,374	80,673	69,924	75,470	101,148	138,825	116,904	94,295	89,071
1995	81,566	77,213	72,973	68,708	64,342	59,934	50,164	64,851	154,075	153,965	154,093	140,197
1996	126,560	113,194	99,978	86,726	73,349	59,931	69,456	154,231	153,902	153,965	110,987	103,337
1997	95,894	88,671	81,572	74,446	67,211	59,933	67,957	135,846	153,931	153,965	154,093	140,911
1998	127,987	115,335	102,835	90,299	77,635	64,927	70,901	94,207	151,936	153,968	147,389	115,148
1999	89,754	84,760	79,888	74,990	69,982	64,930	68,409	83,482	154,033	153,965	154,093	140,911
2000	115,583	105,415	95,390	85,332	75,152	64,928	71,907	133,674	153,935	148,883	128,925	118,673
2001	93,176	86,497	79,941	73,358	66,666	59,933	57,536	86,255	125,264	113,150	109,864	103,804
2002	79,631	77,665	75,813	73,938	71,956	69,927	58,507	67,163	56,896	54,937	75,348	73,593
. 2003	65,071	64,490	64,021	63,523	63,007	63,115	70,506	108,895	151.435	143,170	116,455	109,438
2004	83,191	80,512	77,950	75,364	72,669	69,927	70,485	88,396	104,876	89,882	89,459	85,652
2005	80,089	77,032	74,087	71,119	68,047	64,931	72,765	98,476	133,397	152,975	141,360	130,021
AVERAGE:	99,364	92,336	85,517	78,670	71,710	64,718	66,772	98,322	136,327	138,092	129,965	117,849
	65,071	64,490	63,980	62,709	61.343	59,931	50,164	61,866	56,896	54,937	69,750	68,096
MAXIMUM:	129,413	117,475	105,692	93,873	81,922	69,928	80,978	154,244	154,075	154,016	154,093	141,624

Montgomery Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

YEAR	ocT	NON	DEC	JAN	FEB	MAR	АРН	MAY	NNr	JUL	AUG	SEP
1950	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4.545	4.444	4.369
1951	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,444	4.369
1952	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4.444	4.369
1953	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,444	4.369
1954	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	2,859	2,784
1955	2,601	2,254	1,714	1,175	662	662	662	1,382	4,155	4,545	4,444	4.369
1956	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,444	4,369
1957	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,444	4.369
1958	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,444	4,369
1959	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,444	4.369
1960	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,444	4.369
1961	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,138	4.064
1962	3,881	3,534	2,994	2,455	1,876	1,124	662	1,382	4,155	4,545	4,444	4,369
1963	3,182	2,630	2,060	1,573	1,142	665	243	1,085	2,968	3,066	2,548	2,190
1964	1,144	590	206	206	206	206	206	1,673	3,791	4,388	4,604	4,421
1965	4,230	4,044	3,853	3,658	2,793	1,547	352	82	3,284	4,574	4,227	4,641
1966	3,230	2,491	1,954	3,848	3,494	2,743	2,223	3,032	3,330	4,355	3,318	2,272
1967	1,996	1,737	1,488	1,241	1,032	942	161	435	2,366	4,628	4,206	3,637
1968	3,189	2,590	2,100	1,679	1,229	672	307	155	4,145	4,901	4,852	4.353
1969	4,756	3,795	3,342	2,994	2,585	1,476	334	3,799	4,851	4,826	4,031	4.718
1970	4,927	4,754	3,859	2,333	1,315	961	629	2,072	4,739	4,742	4,739	4,584
1971	4,807	3,743	2,828	2,027	1,538	1,058	515	1,190	4,555	4,640	4,644	4,690
1972	4,466	3,926	3,350	2,427	1,776	866	164	1,421	4,264	4,423	4,263	4,379
1973	3,815	3,595	3,047	2,427	1,843	1,218	665	1,845	4,842	4,713	4,286	4,446
1974	3,706	3,274	2,754	2,174	1,881	1,344	944	1,967	4,906	4,653	4,198	4,213
1975	3,024	2,571	2,128	1,675	1,232	550	233	395	3,870	4,524	4,368	4.392
1976	4,072	3,565	3,058	2,581	2,143	1,691	920	1,683	4,374	4,534	4,668	4,306
1977	3,516	2,685	2,210	1,862	1,566	1,249	961	1,553	3,777	4,190	3,568	3.586
1978	3,153	2,690	2,210	1,731	1,124	725	725	1,016	4,815	4,948	4,542	4.737
1979	3,797	3,175	2,288	1,913	1,548	1,045	556	1,049	4,803	4,730	4,826	4,758

Montgomery Reservoir Simulated End-Of-Month Contents No Action Alternative (AF)

WATER YEAR	ост	NOV	DEC	JAN	FEB	MAR	APH	МАҮ	NNC	JUL	AUG	SEP
1980	4,430	3,810	3,196	2,523	1,817	1,286	626	1,087	4,643	4,423	3,299	3.407
1981	3,147	3,007	2,758	2,514	1,957	1,370	1,320	1,962	4,354	4,227	2,637	2,269
1982	2,074	1,508	757	443	443	443	443	309	2,986	4,731	4,322	4,230
1983	4,112	3,526	2,596	2,293	2,033	1,737	751	959	4,780	4,854	4,956	3,828
1984	3,969	3,051	2,080	1,537	1,101	829	611	2,140	4,499	4,805	4,856	4,584
1985	4,682	4,477	3,722	2,932	2,654	2,019	667	1,478	4,822	4,865	4,155	4,237
1986	2,914	2,361	1,858	1,678	1,479	1,248	666	366	4,222	4,947	4,811	4,742
1987	4,788	4,031	3,590	3,041	2,557	1,838	953	3,238	4,824	4,901	4,655	4,815
1988	4,416	4,178	3,347	2,585	2,104	1,505	208	1,031	4,694	4,592	4,840	4,907
1989	4,777	4,531	3,765	2,687	1,742	1,132	516	1,035	2,281	4,407	4,945	4,879
1990	4,805	4,631	3,618	2,952	2,420	1,869	1,347	783	3,258	4,398	4,805	4,513
1881	4,354	4,213	3,258	2,569	2,288	1,980	546	736	3,397	4,741	4,814	4,861
1992	4,787	4,685	3,839	2,959	2,177	1,353	449	1,397	4,695	4,540	4,936	4,980
1993	4,899	4,770	4,286	3,796	3,346	2,051	307	1,289	4,914	4,671	4,617	4,954
1994	5,030	4,825	4,295	3,747	2,877	1,699	573	1,276	4,414	4,159	3,715	4,405
1995	4,871	4,802	4,504	4,213	3,632	1,800	408	202	4,870	5,069	4,851	3,847
1996	4,041	4,949	4,783	4,610	4,449	2,847	815	502	4,907	4,976	4,196	4,993
1997	4,898	3,978	2,978	2,821	2,041	1,209	744	752	4,965	4,910	4,888	4,465
1998	4,819	4,772	4,673	3,801	2,861	1,815	829	1,582	2,458	4,889	4,386	4,463
1999	4,612	4,520	3,835	2,925	2,046	1,082	389	788	4,733	4,893	4,903	4,778
2000	4,991	4,991	4,929	4,086	3,183	2,133	1,327	2,600	4,827	4,733	4,884	4,884
2001	4,882	4,882	4,863	4,123	2,711	814	387	1,532	2,481	2,794	2,998	3,961
2002	4,918	4,909	4,827	3,890	2,800	1,585	644	1,321	2,971	2,966	1,050	1,050
2003	1,045	1,045	965	965	965	965	965	2,732	4,801	4,727	4,726	4,697
2004	4,873	4,949	4,363	2,923	1,236	562	529	1,978	4,447	4,714	3,817	3,835
2005	3,832	3,813	3,713	3,253	2,895	1,119	699	1,882	4,737	4,686	4,092	2,935
AVERAGE:	4,009	3,662	3,127	2,611	2,050	1,335	662	1,382	4,155	4,545	4,266	4,192
MINIMUM:	1,045	590	206	206	206	206	161	82	2,281	2,794	1,050	1,050
MAXIMUM:	5,030	4,991	4,929	4,610	4,449	2,847	2,223	3,799	4,965	5,069	4,956	4,993

Elevenmile Canyon Reservoir Simulated End-Of-Month Contents No Action Alternative

	0CT			IAN		d V M	DOV		TIN			
YEAR			2						100	JUL	POR	207
1950	96,676	96,674	96,680	96,679	96,679	96,679	96,679	96,656	96,661	96,699	96,702	96,682
1951	96,664	96,559	96,579	96,492	96,666	96,673	96,673	96,631	96,249	96,689	96'93	96,624
1952	96,673	96,670	96,674	96,626	96,673	96,673	96,678	96,680	97, 193	97,156	96,710	96,679
1953	96,666	96,685	96,874	96,644	96,673	96,673	96,677	96,612	96,663	96,716	96,705	96,628
1954	96,673	96,673	96,675	96,647	96,673	96,673	96,666	96,639	96,621	96,626	96,356	94,422
1955	92,192	90,217	87,030	80,783	75,210	70,279	66,691	64,262	63,941	61,373	57,776	56,192
1956	53,976	51,725	49,308	43,660	40,945	37,425	35,700	34,596	34,444	34,276	34,148	33,677
1957	32,724	31,757	30,446	29,500	29,109	29,020	29,016	29,013	35,121	72,539	97,710	97,619
1958	96,534	96,715	96,668	96,522	96,668	96,679	96,679	96'669	97,128	97,056	96,701	96,651
1959	96,579	96,646	96,663	96,527	96,656	96,672	96,676	96,626	96,636	96,702	96,704	96,668
1960	96,687	96,672	96,669	96,627	96,668	96,672	96,459	96,632	96,920	96,638	96,663	96,626
1961	96,670	96,658	96,665	96,596	96,669	96,674	96,674	96,618	96,590	96,720	96,732	96,697
1962	96,673	96,672	96,677	96,643	96,675	96,679	96,679	96,655	96,714	96,756	96,693	96,659
1963	96,670	96,678	96,680	96,665	96,669	96,672	96,671	96,641	96,642	96,624	96,591	96,641
1964	96,577	96,192	95,642	94,565	93,049	91,446	90,532	89.774	89,544	91,144	91,294	87,802
1965	82,919	76,848	75,797	70,514	66,484	63,105	61,737	61,541	63,213	86,657	96,834	96,691
1966	96,668	96,674	96,680	96,679	96,679	96,677	96,672	96,640	96,641	96,556	96,655	96,457
1967	95,679	95,428	95,467	95,068	95,491	96,229	96,651	96,633	96,609	96,702	96,707	96,685
1968	96,681	96,664	96,669	96,609	96,868	96,668	96,677	96,640	96,631	96,694	96,712	96,690
1969	96,674	96,666	96,669	96,591	96,668	96,668	96,672	96,650	97,237	97,709	96,668	96,680
1970	96,683	96,667	96,679	96,679	96,679	96,679	96,679	96,682	97 413	97,039	96,725	96,690
1971	96,673	96,676	96,675	96,679	96,679	96,679	96,676	96,608	96,809	96,725	96,708	96,613
1972	96,679	96,675	96,680	96,679	96,679	96,679	96,679	96,654	96,679	96,696	96,704	96,692
1973	96,675	96,669	96,680	96,679	96,679	96,679	96,677	96,700	97,364	97,307	96,991	96,683
1974	96,873	96,672	96,680	96,679	96,679	96,679	96,662	96,464	96,585	96,715	96,700	96,682
1975	96,675	96,672	96,680	96,679	96,679	96,679	96,679	96,655	96,782	96,733	96,711	96,685
1976	96,675	96,678	96,680	96,679	96,679	96,679	96,679	96,661	96,669	96,710	96,713	96,709
1977	96,684	96,674	96,680	96,679	96,679	96,679	96,679	96,648	96,639	96,674	96,659	96,515
1978	96,192	96,555	96,676	96,666	96,666	96,666	96,364	95,834	96,356	96,682	96,692	96,601
1979	96,518	96,636	96,649	94,033	93,009	92,682	94,172	96,327	96,919	97,439	96,711	96,684
1980	96,674	96,672	96,673	96,650	96,670	96,671	96,673	96,689	97,394	97,362	96,710	96,672
1981	96,626	96,674	96,676	96,634	96,670	96,677	96'679	96,650	96,654	96,655	96,659	96,646
1982	96,613	96,649	96,666	96,480	96,668	96,667	96,663	96,659	96,666	96,694	96,706	96,698

Elevenmile Canyon Reservoir Simulated End-Of-Month Contents No Action Alternative
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(AF)

YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP
1983	96,674	96,673	96,674	96,634	96,669	96,675	96,661	96,605	96.817	97.630	97.201	96.652
1984	96,650	96,674	96,679	96,679	96,679	96,679	96,679	96,649	97,067	97.517	96.875	96.689
1985	96,696	96,666	96,596	96,658	96,679	96,679	96,679	96,679	97.215	97,050	96,695	96,692
1986	96,670	96,683	96,680	96,679	96,679	96,679	96,625	96,581	96,663	96,933	96.723	96.687
1987	96,679	96,688	96,680	96,679	96,679	96,679	96,675	96,680	97,276	97.366	96.716	96.681
1988	96,663	96,676	96,680	96,679	96,679	96,679	96,679	96,654	96,665	96.785	96.715	96,686
1989	96,667	96,675	96,680	96,679	96,679	96,679	96,679	96,652	96,687	96.710	96.709	96,687
1990	96,665	96,672	96,680	96,679	96,679	96,679	96,676	96,653	96,659	96.719	96.715	96.690
1991	96,673	96,674	96,680	96,679	96,679	96,679	96,679	96,666	96,687	96,728	96.735	96.689
1992	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
1993	93,651	93,432	93,186	92.633	92,307	91,996	91,846	91,758	92,097	93,593	94.201	93.957
1994	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94.201	93.957
1995	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93.957
1996	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93.957
1997	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93.957
1998	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93.957
1999	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94.201	93.957
2000	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93.957
2001	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93.957
2002	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
2003	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94.201	93.957
2004	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94.201	93.957
2005	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
AVERAGE:	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
MINIMUM	32,724	31,757	30,446	29,500	29,109	29,020	29,016	29,013	34,444	34,276	34,148	33.677
MAXIMUM:	96,696	96,715	96,680	96,679	96,679	96,679	96,679	96,700	97.413	97.709	97,710	97 619

Source: Elevenmile Reservoir end-of-month contents from Denver Water's PACSM model for the Existing System Existing Demand simulation (Base285). Data from PACSM from 1950 through 1991. EOM contents from 1992 through 2005 were assumed to be the average of 1950 through 1991.

NO ACTION ALTERNATIVE

Diversions

Simulated Homestake Tunnel Deliveries No Action Alternative (AF)

WATER	7.7.7												
YEAR	5			NHO	160	MAH	АРН	MAY		JUL	AUG	SEP	TOTAL
1950	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1.187	49	25.789
1951	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1952	2,335	0	0	0	1,806	8,765	12,642	3,667	2,862	2,471	850	468	35,866
1953	2,578	747	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	26,779
1954	2,335	0	0	0	0	4,942	7,339	1,710	1,506	156	1,146	1,715	20,849
1955	61	170	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	23,685
1956	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1957	2,335	0	0	0	1,806	8,765	3,782	3,667	2,862	2,471	850	468	27,006
1958	2,578	747	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	26,779
1959	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1960	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1961	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1962	2,335	0	0	0	0	5,661	6,162	781	3,110	3,786	1,187	49	23,071
1963	2,335	0	0	0	0	5,661	8,547	781	3,110	3,786	1,187	49	25,456
1964	2,335	0	0	0	0	2,308	0	781	3,110	3,786	1,187	49	13,556
1965	2,335	0	0	0	0	4,299	0	781	3,110	3,786	1,187	49	15,547
1966	2,335	0	0	0	0	4,942	7,339	1.710	1,506	156	1,146	1,715	20,849
1967	61	170	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	23,685
1968	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1969	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1970	2,335	0	0	0	0	5,661	8,343	781	3,110	3,786	1,187	49	25,252
1971	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1972	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1973	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1974	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1975	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1976	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1977	2,335	0	0	0	0	4,942	7,339	1,710	1,506	156	1,146	1,715	20,849
1978	61	170	0	0	0	5,661	8,697	781	3,110	3,786	1,187	49	23,502
1979	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1980	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1981	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789
1982	2,335	0	0	0	0	5,661	8,880	781	3,110	3,786	1,187	49	25,789

Simulated Homestake Tunnel Deliveries No Action Alternative

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TOTAL 9,843 38,577 0 5,596 SEP 468 468 49 AUG 850 850 850 1,187 JUL 2,862 2,862 3,110 3,110 3,110 3,110 3,110 3,110 3,110 3,110 4,146 6,702 6,702 6,702 9,843 9,843 9,843 9,843 9,843 NUL MAY 12,642 8,880 8,880 8,880 8,880 8,880 8,880 8,880 8,880 8,880 10,462 10,462 11,712 7,616 11,712 7,510 14,712 7,508 9,488 8,706 0 5,088 8,706 0 0 APR MAR FEB 808, 806 AN 000 DEC 0 0 0 0 0000 14,010 0 C J AVERAGE: MINIMUM: MAXIMUM: WATER YEAR 1987 1988 1988 1989 1999 1994 1994 1995 1996 1998 1998 1998 1998 1998 1998 2002 2002 2002 2003 2005 2005 2005 1983 1984 **985** 986

Simulated Hoosier Tunnel Deliveries No Action Alternative

(AF)

12,876 5,892 5,442 7,558 10,213 8,834 8,834 8,484 10,445 10,224 8,088 13,179 7,921 9,262 8,364 8,715 10,224 8,088 13,179 7,921 7,921 7,921 9,262 8,715 10,584 10,584 10,584 10,584 9,446 5,729 11,094 9,646 10,084 6,664 10,084 TOTAL 8,656 8,580 SEP AUG 1,046 1,046 646 646 646 1,870 492 0 0 315 315 315 0 1,224 1,224 1,598 809 809 809 1,598 809 1,598 809 1,598 1,222 1,222 1,598 809 1,598 1, 1,691 1,691 1,691 1,691 1,691 1,691 1,496 1,843 2,080 2,471 2,471 2,471 98 3,087 98 3,457 1,396 1,536 1,536 1,536 1,595 1,993 2,074 2,074 1,993 1,595 1,595 1,595 3,370 3,370 JUL NUC MAY 1,231 1,234 1,334 688 688 688 374 489 901 1,1060 1,524 1,524 1,524 1,524 644 651 1,524 651 1,720 780 1,529 651 1,727 780 1,529 651 1,013 1,529 651 1,524 644 644 651 1,522 1,529 651 1,524 644 1,013 1,529 651 1,522 651 1,522 651 1,522 651 1,522 651 1,522 1,522 651 1,522 651 1,522 1,522 1,522 651 1,522 APR MAR 0000 FEB 00 0000000000 JAN 00 0000 DEC 0000000000000 0000 NOV 00000 0000 oct WATER YEAR 1950 952 1956 1957 1958 1959
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Simulated Hoosier Tunnel Deliveries No Action Alternative

(AF)

TOTAL 13,124 9,825 10,353 11,029 11,951 11,951 11,951 11,959 9,230 9,230 9,407 5,533 5,533 5,533 5,533 5,533 8,903 2,920 13,274 7,405 7,651 8,549 9,945 ,898 SEP 739 970 1,809 1,450 761 1,450 761 1,204 1,768 1,768 1,768 1,768 1,768 1,768 1,768 1,965 1,965 1,965 1,965 1,965 1,965 1,965 1,803 1,803 1,809 1,800 1,900 1,90 AUG 2,068 1,745 1,451 147 147 0 79 0 0 958 741 741 720 720 720 1,691 1,691 1,422 791 1,422 791 1,422 791 1,422 791 1,422 791 1,422 791 1,422 791 1,727 1,791 1,686 1,727 791 1,686 1,727 1,727 1,727 1,727 1,686 1,727 1,727 1,686 1,727 1,727 1,686 1,727 1,727 1,686 1,727 1,727 1,686 1,727 1,727 1,686 1,727 1,72 3,973 JUL NUL 968 965 965 996 11,212 1,299 996 1,299 631 631 631 631 631 631 631 631 1,522 531 831 852 631 1,552 1,556 631 1,556 631 1,556 631 0 0 3,042 2,232 2,123 1,156 1 MAY APR MAR FEB JAN DEC NOV 2,067 2,067 342 342 342 342 0 0 1,799 587 587 587 587 345 869 345 587 586 629 629 345 0 1,189 0 0 2,090 **MAXIMUM:** AVERAGE: **MINIMUM:** WATER YEAR 1988 1989 1990 1991 1996

NO ACTION ALTERNATIVE

Substitution Summary

Simulated Springs Utilities Total Substitution Bill Repayment No Action Alternative

(AF)

Simulated Springs Utilities Total Substitution Bill Repayment No Action Alternative (AF)

TOTAL SEP 000 AUG JUL 000 NUL MAY 000 APR MAR FEB JAN 000 DEC 0 Nov 00 001 $\circ \circ \circ$ 000 **MAXIMUM:** AVERAGE: MINIMUM: WATER YEAR $\begin{array}{c} 1\,985\\ 1\,986\\ 1\,986\\ 1\,988\\ 1\,986\\ 1\,990\\ 1\,992\\ 1\,995\\ 1\,995\\ 1\,996\\ 1\,997\\ 1\,996\\ 1\,997\\ 1\,996\\ 1\,997\\ 2\,000\\ 2\,00\\$ 1982 1983 1984

NO ACTION ALTERNATIVE

Streamflows

Simulated Flows at Homestake Creek below Homestake Project at USGS Gage 09064000

No Action Alternative (AF)

1,242 833 738 615 444 430 703 2,375 5,588 1 336 308 228 240 205 215 5,588 1 2 5	WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	МАҮ	NNr	JUL	AUG	SEP	TOTAL
353 300 332 236 277 750 237 748 743 743 743 750 523 306 230 237 230 236 273 237 7597 742 754 500 314 215 240 276 233 577 127 743 754 500 210 217 246 247 740 754 507 127 556 754 500 7546 1277 137 753 754 500 7546 7420 754 500 7547 1272 1416 736 757 1272 7115 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275 1153 275	1950	1,242	833	738	615	44	430	703	2.375	5.588	1.432	719	624	15 743
676 389 237 230 215 238 233 247 242 127 1301 242 251 211 210 237 211 275 242 275 336 240 255 241 251 211 275 211 275 242 275 336 240 255 241 277 211 276 216 200 217 242 275 390 241 277 211 276 276 276 127 275 390 241 277 216 306 279 276 476 127 275 390 2203 716 130 271 222 141 151 441 2303 271 222 442 275 450 1266 1266 1267 1476 1517 441 2303 241 272 251 1300 2741	1951	353	308	325	228	194	277	750	2,927	6.575	4,428	1.380	523	18.278
386 246 226 221 239 754 242 715 332 10112 527 413 230 237 711 739 746 556 715 332 2101 517 415 415 200 245 759 746 556 716 550 716 550 716 550 716 550 716 550 716 550 716 550 716 550 716 550 716 753 560 716 727 416 757 550 710 751 740 751 740 756 750 740 756 750 740 756 750 741 751 741 751 741 756 741 756 750 741 756 750 741 756 750 741 756 751 741 751 741 751 751 751 751 751 751	1952	676	369	338	277	230	215	218	2,112	7,965	2,632	1.476	1.321	17,829
242 286 234 230 194 207 1903 3183 7.997 2.402 7.44 600 314 415 413 326 413 326 473 2408 255 531 537 211 273 2355 129 6.77 11272 1153 533 221 438 200 406 400 405 473 144 2233 239 1517 435 435 2408 255 337 308 205 164 172 168 477 1272 144 233 355 340 253 680 230 254 157 415 304 360 256 1022 243 329 244 1577 145 466 307 2545 360 1232 445 1772 145 466 1576 1476 566 1576 146 146 <t< th=""><th>1953</th><th>398</th><th>249</th><th>228</th><th>240</th><th>205</th><th>231</th><th>658</th><th>2,029</th><th>7,546</th><th>2,432</th><th>1,215</th><th>392</th><th>15,823</th></t<>	1953	398	249	228	240	205	231	658	2,029	7,546	2,432	1,215	392	15,823
1012 521 213 216 215 216 <th>1954</th> <th>242</th> <th>286</th> <th>234</th> <th>230</th> <th>194</th> <th>207</th> <th>1,903</th> <th>3,183</th> <th>7,997</th> <th>2,402</th> <th>754</th> <th>069</th> <th>18,322</th>	1954	242	286	234	230	194	207	1,903	3,183	7,997	2,402	754	069	18,322
314 415 916 300 405 403 346 300 405 403 346 300 405 111 222 1181 275 1181 275 541 517 517 516 307 203 271 273 1131 223 236 743 1517 485 149 275 1135 223 326 184 171 218 482 1722 5133 1491 1217 5134 485 1247 2533 489 1517 485 984 985 746 1237 446 983 244 1207 1476 584 495 560 1267 1476 584 1307 1476 584 1307 1476 584 507 1476 584 507 1476 584 507 1476 584 507 1476 584 507 1476 584 507 1476 526 1436 50	1955	1,012	521	413	292	215	262	1,209	1,816	3,326	4,739	2,408	556	16,769
230 237 211 216 205 778 1511 7.423 6.757 1.272 1.152 223 224 187 241 550 706 1.032 444 223 230 271 233 271 235 4,355 1.551 1,456 983 223 230 168 100 191 244 1,132 2,566 706 1,032 444 403 233 587 480 1,132 2,566 706 1,032 444 403 233 587 489 1,332 2,567 1,456 589 461 560 1,766 5,702 1,537 2,591 1,307 1,476 753 261 2,702 2,456 5,60 1,366 1,307 1,476 753 263 2,303 3,737 3,948 1,702 1,476 1,557 1,476 755 720 2,901	1956	314	415	408	346	300	405	402	4,092	4,537	2,242	1,181	275	14.917
231 517 436 367 309 321 555 1,356 706 1,032 414 223 238 716 776 703 705 706 1,032 449 224 1,517 438 204 103 447 2,186 3,056 2,301 1,476 983 227 308 160 171 228 433 451 746 1032 446 224 361 2333 469 536 2631 1,476 984 364 361 233 282 236 284 1,732 2469 1,377 364 377 244 1,322 1,456 1,266 1,377 364 773 247 2,471 1,266 1,377 1,476 1,226 3744 461 1,032 2,443 3,091 1,776 1,466 1,661 1,476 1,226 1,476 1,226 1,476 <t< th=""><th>1957</th><th>230</th><th>237</th><th>211</th><th>216</th><th>205</th><th>278</th><th>738</th><th>1,511</th><th>7,423</th><th>6,757</th><th>1,272</th><th>1,153</th><th>20,231</th></t<>	1957	230	237	211	216	205	278	738	1,511	7,423	6,757	1,272	1,153	20,231
	1958	541	517	436	367	309	321	627	3,551	4,356	706	1,032	414	13,177
	1959	223	224	187	204	168	199	642	1,884	5,506	1,036	1,253	480	12,006
327 308 205 194 171 218 487 2.186 3,056 2,301 1,456 983 461 381 233 1867 483 180 2,102 2,309 5,100 2,547 7,41 461 381 233 286 602 2,493 2,301 1,456 583 461 381 233 286 602 2,493 3,299 5,100 2,547 7,41 552 247 212 235 233 288 1,307 1,476 569 1,307 1,478 566 1,307 1,476 567 1,307 1,476 567 1,307 1,476 567 1,307 1,476 1,401 1,501 1,401 1,501 1,506 1,506 1,506 1,556 1,507 1,567 1,506 1,566 1,566 1,567 1,567 1,561 1,402 1,567 1,566 1,566 1,566 1,566 1,566	1960	1,306	716	330	271	232	423	482	1,722	5,153	1,434	1,517	485	14.071
828 1,153 857 493 456 533 680 2,309 4,778 2,697 1,476 584 461 381 233 385 346 533 285 2561 2,309 4,778 2,697 1,476 5,674 1,307 384 360 356 340 266 284 1,032 2,661 2,309 1,476 5,674 1,428 660 384 366 236 283 422 313 368 477 2,661 3,256 5,677 1,476 1,295 5,677 1,476 1,365 5,677 1,476 1,365 5,677 1,476 1,365 5,677 1,461 1,681 1,307 2,566 1,561 1,307 2,555 5,677 1,365 5,677 3,555 5,677 3,555 5,677 1,365 5,677 1,476 1,265 5,677 1,405 1,555 1,405 1,555 1,405 5,561 1,565 5	1961	327	308	205	184	171	218	487	2,186	3,056	2,301	1,456	983	11,862
403 239 168 190 191 344 1,132 2,531 2,702 2,426 2,591 1,307 304 360 366 394 1,132 2,631 2,702 2,426 2,591 1,307 304 360 366 286 286 286 286 287 7,122 2,537 2,201 3,256 567 552 247 212 235 508 255 3,091 4,560 1,520 1,906 1,355 557 559 427 212 235 521 313 1,666 1,766 1,355 1,468 1,681 1,681 1,681 1,468 1,681 1,468 1,681 1,468 1,681 1,468 1,681 1,468 1,681 1,468 1,681 1,468 1,681 1,468 1,681 1,468 1,468 1,468 1,468 1,468 1,468 1,468 1,468 1,468 1,468 1,468 1,468	1962	829	1,153	857	493	458	533	680	2,309	4,778	2,697	1,476	584	16,847
461 381 233 282 236 256 602 2,429 3,299 5,100 2,547 741 738 467 360 356 340 266 2202 6,010 5,071 1,229 5,67 741 552 247 212 255 340 256 5,010 1,476 6,01 5,60 1,365 5,67 738 467 298 256 1,022 2,202 6,010 5,701 1,226 1,926 1,355 5,67 3,69 1,681 <td< th=""><th>1963</th><th>403</th><th>238</th><th>168</th><th>180</th><th>191</th><th>344</th><th>1,132</th><th>2,631</th><th>2,702</th><th>2,426</th><th>2,591</th><th>1,307</th><th>14,314</th></td<>	1963	403	238	168	180	191	344	1,132	2,631	2,702	2,426	2,591	1,307	14,314
394 360 356 340 266 284 1,032 2,202 6,010 5,074 1,428 6,00 578 547 213 223 223 233 3,091 4,560 1,306 1,406 1,355 5,57 3,091 4,560 1,306 1,408 1,355 578 559 422 313 368 741 4,611 6,696 1,876 1,402 835 967 559 422 313 368 741 4,611 6,696 1,876 1,402 835 967 559 422 313 368 741 4,611 6,696 1,876 1,402 835 987 727 1298 1,313 368 748 1,296 1,402 835 1,456 824 521 1,396 3,667 1,522 1,296 1,428 1,456 824 233 160 3,462 5,198 1,412 6	1964	461	381	233	282	236	256	602	2,429	3,299	5,100	2,547	741	16,567
1476 649 489 363 222 1,129 2,072 1,537 2,201 3,256 567 552 247 212 235 508 255 3,091 4,560 1,520 1,906 1,355 738 767 559 422 313 368 741 4,611 6,606 1,376 1,468 1,681 967 559 422 380 313 368 741 4,611 6,606 1,376 1,468 1,681 1,476 983 720 412 396 536 911 1,909 6,776 1,276 1,292 922 593 725 176 328 366 731 1,646 4,256 1,476 1,296 1,476 1,296 1,428 533 188 124 19 366 2,091 1,225 4,888 5,247 592 687 533 188 124 19 366	1965	394	360	356	340	266	284	1,032	2,202	6,010	5,074	1,428	600	18.346
552 247 212 235 223 508 255 3,091 4,560 1,520 1,906 1,355 738 467 298 271 240 329 490 658 5,960 1,366 1,468 1,661 1,176 755 573 501 392 444 390 3,787 3,848 1,702 1,468 1,681 1,476 983 720 412 367 521 313 3,68 731 1,646 4,296 1,376 1,475 1,272 1,475 1,272 1,292 1,292 1,292 1,295 1,475 1,476 1,476 1,476 1,272 1,476 1,272 1,476 1,296 1,476 1,296 1,476 1,428 1,475 1,476 1,428 1,476 1,428 1,476 1,426 1,426 1,426 1,426 1,426 1,426 1,426 1,428 1,428 1,428 1,428 1,428 1,428 <td< th=""><th>1966</th><th>1,476</th><th>649</th><th>489</th><th>363</th><th>283</th><th>422</th><th>1,129</th><th>2,072</th><th>1,537</th><th>2,201</th><th>3,256</th><th>567</th><th>14,444</th></td<>	1966	1,476	649	489	363	283	422	1,129	2,072	1,537	2,201	3,256	567	14,444
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1967	552	247	212	235	223	508	255	3,091	4,560	1,520	1,906	1,355	14.864
	1968	738	467	298	271	240	329	490	658	5,960	1,366	1,468	1,681	13,966
967 559 422 380 313 368 741 4,611 6,696 1,876 1,476 1,292 922 599 405 720 412 367 521 313 1,646 4,296 1,528 1,292 922 1,476 983 720 412 367 521 313 1,646 4,296 1,522 1,292 922 1,459 824 655 275 176 3,966 1,676 1,476 729 983 233 188 124 19 362 160 1,776 5,981 1,412 98 1,428 622 983 1,412 983 5,247 5,92 687 5,189 1,546 1,4176 749 838 50 2177 633 2,460 8,416 4,203 2,829 697 5,43 592 687 838 50 2177 233 1,939 1,417 2,923	1969	1,176	765	730	501	392	444	390	3,787	3,848	1,792	1,402	835	16,062
	1970	967	559	422	380	313	368	741	4,611	6,698	1,876	1,476	1,296	19,705
599 405 472 389 536 536 911 1,989 6,776 1,522 1,259 1,428 1,458 824 655 206 20 309 718 2,001 6,360 3,954 813 652 235 275 176 328 496 233 160 3,462 5,189 1,546 1,412 98 235 275 176 328 496 233 160 3,462 5,189 1,546 1,412 98 602 201 6,193 166 3,462 5,189 1,546 1,412 98 602 217 232 193 680 881 2,171 5,891 1,612 1,476 749 814 547 232 373 1,33 2,460 8,416 4,129 6,67 891 1,175 303 410 491 233 1,356 1,33 2,546 8,11 <td< th=""><th>1971</th><th>1,476</th><th>983</th><th>720</th><th>412</th><th>367</th><th>521</th><th>313</th><th>1,646</th><th>4,296</th><th>1,528</th><th>1,292</th><th>922</th><th>14,476</th></td<>	1971	1,476	983	720	412	367	521	313	1,646	4,296	1,528	1,292	922	14,476
	1972	599	405	472	389	369	536	911	1,989	6,776	1,522	1,259	1,428	16,655
235275176328496233160 $3,462$ $5,189$ $1,546$ $1,412$ 98333188124193621581776332,9864,0981,6121,4767496023,441461031091776332,9864,0981,6121,476749814502172321936808812,1715,8911,5428815688145484,332952493293132,4608,4164,2032,8296928145484,332952493293132,4608,4164,2032,829692303410491286162,331,3561,3723,814667836303410491286162931,3561,9243,8651,1755804505523132,124233681,9243,8651,1757486154732,8655,7023,8146678361,1757486154732,8266,1333,6551,1753431,1947736341,8266,1333,6551,1758361,1947736381,9243,8651,9243,8651,1751,1258166133,132,2667,133,6321,7558991,1258166,7	1973	1,458	824	655	206	20	309	718	2,001	6,360	3,954	813	652	17,970
333188124193621589081,2254,8885,2475926876023441461031091776332,9864,0981,6121,476749814502172321936808812,1715,8911,5428815688145484332952493293132,4608,4164,2032,8296928145484332952493293132,4608,4164,2032,829692303410491286162931,3561,9243,814667836303410491286162931,3581,9243,8651,175303410491286162931,3561,9243,8651,1753034104702934681,8365,1682,1031,77558045057023,8146678,8652,6119941,17574861547332631,9243,8651,9243,8651,7757486154732283072934681,8266,1333,6321,7757486157735381,9243,8651,9243,8651,7758941,17571,1258166775384,1296,8654,8742,9081,7754,129	1974	235	275	176	328	496	233	160	3,462	5,189	1,546	1,412	98	13,610
602 344 146 103 109 177 633 $2,986$ $4,098$ $1,612$ $1,476$ 749 838 50 217 232 193 680 881 $2,171$ $5,891$ $1,542$ 881 568 814 548 4.33 2955 249 329 313 $2,460$ $8,416$ $4,203$ $2,829$ 692 814 548 4.33 295 249 329 313 $2,460$ $8,416$ $4,203$ $2,829$ 692 303 410 491 286 16 2256 $5,702$ $3,814$ 667 836 303 410 491 286 16 2293 $1,358$ $1,924$ $3,865$ $2,611$ 994 $1,175$ 580 450 5702 $3,814$ 667 836 $1,726$ 836 $1,726$ 836 748 615 $4,73$ 2293 307 293 468 $1,836$ $2,611$ 994 $1,175$ 748 615 $4,73$ 228 307 293 468 $1,826$ $6,133$ $3,632$ $1,726$ $1,194$ 773 6345 $1,222$ 895 $6,786$ $6,133$ $3,632$ $1,776$ $1,125$ 816 $6,733$ $3,635$ $1,276$ $8,768$ $1,775$ 899 $1,126$ 816 $6,786$ $4,768$ $1,768$ $1,727$ 899 $1,101$ 704 406 $5,716$ <	1975	333	188	124	19	362	158	908	1,225	4,888	5,247	592	687	14,731
B38 50 217 232 193 680 881 2,171 5,891 1,542 881 568 814 548 433 295 249 329 313 2,460 8,416 4,203 2,829 692 814 548 433 295 249 329 313 2,460 8,416 4,203 2,829 692 303 410 491 286 16 329 313 2,460 8,416 4,203 2,829 692 303 410 491 286 16 329 313 2,450 8,416 4,203 2,829 692 580 456 56 5702 3,814 667 836 1,755 836 1,755 748 615 473 2865 1,853 6,880 2,561 1,775 743 773 6393 1,224 895 6,786 2,611 994 1,775 <t< th=""><th>1976</th><th>602</th><th>A46</th><th>146</th><th>103</th><th>109</th><th>171</th><th>633</th><th>2,986</th><th>4,098</th><th>1,612</th><th>1,476</th><th>749</th><th>13,035</th></t<>	1976	602	A46	146	103	109	171	633	2,986	4,098	1,612	1,476	749	13,035
814 548 433 295 249 329 313 2,460 8,416 4,203 2,829 692 428 232 375 359 1,039 1,47 2,956 5,702 3,814 667 836 303 410 491 286 16 293 1,358 1,924 3,814 667 836 303 410 491 286 16 293 1,358 1,924 3,814 667 836 580 450 552 313 212 423 368 1,924 3,865 1,175 748 615 473 2,865 5,611 994 1,175 748 615 473 3,632 1,269 1,759 1,194 773 6346 1,836 5,168 2,103 1,728 1,125 816 67 835 6,895 4,874 2,908 1,775 1,125 816	1977	838	50	217	232	193	680	881	2,171	5,891	1,542	881	568	14,144
428 232 375 359 381 1,039 147 2,956 5,702 3,814 667 836 303 410 491 286 16 293 1,358 1,953 6,880 2,256 1,310 775 580 450 552 313 212 423 368 1,924 3,865 2,611 994 1,175 748 615 473 212 423 368 1,924 3,855 1,729 1,729 1,194 773 634 620 274 320 122 895 6,133 3,632 1,729 1,194 773 634 620 274 320 122 895 6,133 3,632 1,759 1,125 816 677 538 4,88 605 786 4,129 6,865 4,874 2,908 1,768 1,101 704 441 405 574 2,519 12,750	BYBL	814	548	433	285	249	329	313	2,460	8,416	4,203	2,829	692	21,581
303 410 491 286 16 293 1,358 1,953 6,880 2,256 1,310 775 580 450 552 313 212 423 368 1,924 3,865 2,611 994 1,175 748 615 473 229 307 293 468 1,836 6,133 3,632 1,259 1,726 1,194 773 634 620 274 320 122 895 6,133 3,632 1,259 1,726 1,125 816 677 538 488 605 786 4,129 6,865 4,874 2,908 1,080 1,101 704 441 405 376 613 318 4,561 9,268 4,768 1,155 899 4,160 911 826 544 2,519 12,750 8,651 1,427 4,427 1,405 808 765 544 2,519 12,750 </th <th>8/81</th> <th>42B</th> <th>232</th> <th>375</th> <th>359</th> <th>381</th> <th>1.039</th> <th>147</th> <th>2,956</th> <th>5,702</th> <th>3,814</th> <th>667</th> <th>836</th> <th>16,936</th>	8/81	42B	232	375	359	381	1.039	147	2,956	5,702	3,814	667	836	16,936
580 450 552 313 212 423 368 1,924 3,865 2,611 994 1,175 748 615 473 229 307 293 468 1,636 6,133 3,632 1,259 1,726 1,194 773 634 620 274 320 122 895 6,786 5,168 2,103 1,343 1,125 816 677 538 488 605 786 4,129 6,865 4,874 2,908 1,080 1,101 704 441 405 376 613 318 4,561 9,268 4,768 1,155 899 4,16 911 826 640 567 715 544 2,519 12,750 8,651 1,427 1,405 808 767 544 2,519 12,750 8,651 1,427 473 1,405 544 4,60 3,611 3,562 1,000 1,21	1980	303	410	491	286	16	293	1,358	1,953	6,880	2,256	1,310	775	16,331
748 615 473 229 307 293 468 1,636 6,133 3,632 1,259 1,728 1,194 773 634 620 274 320 122 895 6,786 5,168 2,103 1,343 1,125 816 677 538 488 605 786 4,129 6,865 4,874 2,908 1,080 1,101 704 441 405 376 613 318 4,561 9,268 4,768 1,155 899 4,16 911 826 640 567 715 544 2,519 12,750 8,651 1,427 1,405 808 767 544 2,519 12,750 8,651 1,427 472 1,405 808 767 544 4,60 3,611 3,562 1,000 1,217 473	1981	580	450	552	313	212	423	368	1,924	3,865	2,611	<u> 9</u> 94	1,175	13,467
1,194 773 634 620 274 320 122 895 6,786 5,168 2,103 1,343 1,125 816 677 538 488 605 786 4,129 6,865 4,874 2,908 1,080 1,101 704 441 405 376 613 318 4,561 9,268 4,768 1,155 899 416 911 826 640 567 715 544 2,519 12,750 8,651 1,427 1,405 808 767 544 2,519 12,750 8,651 1,427 1,427 1,405 808 767 544 4,60 3,611 3,562 1,000 1,217 473	1982	748	615	473	229	307	293	468	1,636	6,133	3,632	1,259	1,728	17,521
1,125 816 677 538 488 605 786 4,129 6,865 4,874 2,908 1,080 1,101 704 441 405 376 613 318 4,561 9,268 4,768 1,155 899 1,101 704 441 405 376 613 318 4,561 9,268 4,768 1,155 899 416 911 826 640 567 715 544 2,519 12,750 8,651 14 1,427 1,405 808 767 544 460 3,611 3,552 1,000 1,217 473	1983	1,194	773	634	620	274	320	122	895	6,786	5,168	2,103	1,343	20,232
1.101 704 441 405 376 613 318 4,561 9,268 4,768 1,155 899 416 911 826 640 567 715 544 2,519 12,750 8,651 14 1,427 1,405 808 767 544 460 3,611 3,562 1,000 1,217 473	1984	1.125	816	677	538	488	605	786	4,129	6,865	4,874	2,908	1,080	24,691
416 911 826 640 567 715 544 2,519 12,750 8,651 14 1,427 1,405 808 767 544 406 544 460 3,611 3,562 1,000 1,217 473	1985	1,101	704	441	405	376	613	318	4,561	9,268	4,768	1,155	899	24,609
11,405 808 767 544 406 544 460 3,611 3,562 1,000 1,217 473	1986	416	911	826	640	567	715	544	2,519	12,750	8,651	14	1,427	29,980
	1987	1,405	808	767	544	406	544	460	3,611	3,562	1,000	1,217	473	14,797

Simulated Flows at Homestake Creek below Homestake Project at USGS Gage 09064000 No Action Alternative (AF)

YEAR VCI NOV UEC JAN FEB MAR APH MAY JUN JUL AUG SEP TOTAL 1980 586 287 48 553 1476 1,025 357 97 11,650 1990 58 287 48 245 151 300 1,355 5,455 1,766 1,635 17,65 377 97 11,650 1991 503 912 280 235 3,511 1,756 1,756 1,635 1,164 12,220 1992 500 416 377 349 437 7,033 4,055 6,455 1,766 1,637 16,473 1993 1090 156 241 465 377 349 437 16,873 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455 16,455	WATER			010										
218 242 434 659 140 325 331 1,872 5,404 863 924 1,461 58 265 199 155 151 546 3,166 3,253 1,476 1,025 300 503 912 280 243 229 318 497 3,306 5,455 1,766 1,635 1,130 503 9112 280 243 513 703 4,056 6,499 3,902 1,476 1,473 500 418 513 703 4,056 6,499 3,902 1,476 1,476 642 465 545 1,766 6,493 3,902 1,476 1,476 1,302 866 671 631 5,30 3,511 2,905 1,476 1,476 1,302 658 671 631 7,03 3,511 7,03 4,051 880 761 642 2406 6,493 3,501	YEAR	001	NON	DEC	NAL	FEB	MAR	АРЯ	МΑΥ	NUL	JUL	AUG	SEP	TOTAL
B69287482242457815463,1663,2531,4761,025300582651991551513081,1362,1105,3381,4763,57975039122802432293184973,3065,4551,5901,1645039122801952063,3155,5311,5901,1645039122802137034,0566,4993,9021,7661,6351,0328455985137034,0566,4993,9021,4761,0811,0328455985137034,5077,5182,4661,4761,0818807614652401922214056111,1818,30010,4242,3021,42887264246554453228834,5077,5182,4661,4761,08182854524019222719130717792,9965,13010,4242,3021,4281,33065867163512,2071,4651,4761,0811,9611,9611,3306586723442,3061,7661,4761,0811,9611,33065828656111,1872,9068,945,6661,4261,3325482172684,5177,5182,4661,4261	1988	218	242	434	629	140	325	331	1,872	5,404	863	924	1.461	12.873
5.8 2.65 199 155 151 308 1,136 2,110 5,338 1,476 357 97 5.00 418 309 155 151 308 1,136 2,110 5,338 1,476 357 97 5.00 418 309 195 206 321 1,845 3,906 3,355 5,531 1,590 1,164 1.092 845 599 573 498 513 703 4,056 6,499 3,902 1,476 1,476 1,478 8100 761 455 5,130 3,405 5,433 1,476 1,476 1,478 1,300 656 671 631 5,44 532 288 2,400 1,476 1,478 1,476 1,681 1,300 656 647 631 5,44 532 2899 10,796 3,511 2,277 1,463 1,300 658 544 528 4,517 <t< th=""><th>1989</th><th>869</th><th>287</th><th>48</th><th>224</th><th>245</th><th>781</th><th>546</th><th>3,166</th><th>3,253</th><th>1,476</th><th>1.025</th><th>300</th><th>12.220</th></t<>	1989	869	287	48	224	245	781	546	3,166	3,253	1,476	1.025	300	12.220
503 912 280 243 229 318 497 3.306 5,455 1,766 1,635 1,130 500 418 309 195 206 321 1,845 3,906 3,355 5,531 1,590 1,164 500 418 309 195 206 321 1,845 3,906 3,355 5,531 1,590 1,164 1092 845 599 525 498 513 703 4,056 6,499 3,902 1,476 1,476 1,476 642 465 240 132 221 405 611 1,181 8,300 10,434 2,305 1,476 1,476 1,463 1,332 642 544 522 543 252 1,466 1,476 1,463 1,332 642 341 4,517 2,518 2,466 1,476 1,463 1,332 642 331 175 2,217 1,458	1990	88	265	199	155	151	308	1,136	2,110	5,338	1,476	357	97	11.650
500 418 309 195 206 321 1,845 3,906 3,355 5,531 1,590 1,164 1,032 845 599 525 498 513 703 4,056 6,499 3,902 1,476 1,473 880 761 465 377 349 435 1,088 3,811 4,288 2,207 942 852 642 465 240 192 221 405 611 1,181 8,300 10,434 2,305 1,428 1,300 656 6,499 3,511 2,426 1,476 1,463 1,332 645 405 611 1,181 8,300 10,434 2,305 1,463 1,332 645 345 230 10,796 3,511 2,759 1,081 1,332 645 3,71 3,560 1,765 1,463 1,332 545 3,34 2,528 1,689 1,707 769	1991	503	912	280	243	229	318	497	3,306	5,455	1,766	1,635	1,130	16.274
	1992	500	418	309	195	206	321	1,845	3,906	3,355	5,531	1,590	1,164	19,340
880 761 465 377 349 435 1,088 3,811 4,288 2,207 942 852 642 465 240 192 221 405 611 1,181 8,300 10,434 2,305 1,428 1,300 656 671 631 544 532 283 4,507 7,518 2,466 1,476 1,081 828 545 420 377 52 543 252 3,899 10,796 3,511 2,277 1,463 1,332 642 337 52 543 2,596 5,130 3,560 1,776 7,69 828 502 314 145 266 461 890 2,768 1,707 769 929 485 286 211 263 1,193 4,516 4,165 3,369 1,707 769 929 485 211 215 266 1,896 3,217 1,068	1993	1,092	845	599	525	498	513	703	4,056	6,499	3,902	1,476	1.473	22,181
642 465 240 192 221 405 611 1,181 8,300 10,434 2,305 1,428 1,300 658 671 631 544 532 283 4,507 7,518 2,466 1,476 1,081 828 545 420 377 52 543 252 3,899 10,796 3,511 2,277 1,463 1,332 642 347 52 543 252 3,899 10,796 3,511 2,277 1,463 1,332 642 347 52 543 252 3,899 10,796 3,511 2,727 1,463 1,332 642 346 1,793 2,130 3,560 1,707 769 804 698 502 314 145 2,689 6,354 2,528 1,695 1,428 714 415 2,394 1,476 1,276 1,437 706 1,437 714 <td< th=""><th>1994</th><th>880</th><th>761</th><th>465</th><th>377</th><th>349</th><th>435</th><th>1,088</th><th>3,811</th><th>4,288</th><th>2,207</th><th>942</th><th>852</th><th>16.455</th></td<>	1994	880	761	465	377	349	435	1,088	3,811	4,288	2,207	942	852	16.455
1,300 658 671 631 544 532 283 4,507 7,518 2,466 1,476 1,081 828 545 420 377 52 543 252 3,899 10,796 3,511 2,277 1,463 828 545 420 377 52 543 252 3,899 10,796 3,511 2,277 1,463 1.332 642 344 237 191 307 179 2,996 5,130 3,560 1,789 804 698 502 314 145 268 461 890 2,689 6,354 2,528 1,428 929 485 286 211 263 1,193 4,518 4,165 3,389 1,707 769 929 485 231 1,508 10,452 6,051 884 508 867 714 415 289 3,304 1,355 5,263 1,476 1,276 <th>1995</th> <th>642</th> <th>465</th> <th>240</th> <th>192</th> <th>221</th> <th>405</th> <th>611</th> <th>1,181</th> <th>8,300</th> <th>10,434</th> <th>2.305</th> <th>1.428</th> <th>26.424</th>	1995	642	465	240	192	221	405	611	1,181	8,300	10,434	2.305	1.428	26.424
828 545 420 377 52 543 252 3,899 10,796 3,511 2.277 1,453 1.332 642 344 237 191 307 179 2,996 5,130 3,560 1,789 804 698 502 314 145 268 461 890 2,689 6,354 2,528 1,428 929 485 286 247 270 310 487 5,906 8,886 3,217 1,068 1,091 714 415 285 265 211 263 1,193 4,518 4,165 3,389 1,707 769 455 334 34 190 189 321 1,508 10,452 6,051 884 508 867 455 334 34 190 189 320 4,355 5,263 1,476 1,276 1,437 458 549 508 10,452 6,051	1996	1,300	658	671	631	544	532	283	4,507	7,518	2,466	1,476	1.081	21,667
1.332 642 344 237 191 307 179 2.996 5,130 3.560 1,789 804 698 502 314 145 268 461 890 2,689 6,354 2.528 1,695 1,428 929 485 286 247 270 310 487 5,906 8,886 3,217 1,068 1,091 714 415 285 265 211 263 1,193 4,518 4,165 3,389 1,707 769 455 334 34 190 189 321 1,508 10,452 6,051 884 508 867 455 334 34 190 189 321 1,508 10,452 6,051 864 508 867 457 295 3,327 3,198 3,809 908 676 676 676 676 676 676 676 676 676 743 371	1997	828	545	420	377	52	543	252	3,899	10,796	3,511	2,277	1.463	24,963
698 502 314 145 268 461 890 2,689 6,354 2,528 1,695 1,428 929 485 286 247 270 310 487 5,906 8,886 3,217 1,068 1,091 929 485 286 247 270 310 487 5,906 8,886 3,217 1,068 1,091 714 415 295 265 211 263 1,193 4,518 4,165 3,389 1,707 769 455 334 34 190 189 321 1,508 10,452 6,051 884 508 867 455 334 34 190 189 321 1,330 4,355 5,263 1,476 1,276 1,437 4,28 508 805 5,327 3,198 3,809 908 676 437 295 3,327 3,198 3,809 908 676	1998	1,332	642	344	237	191	307	179	2,996	5,130	3,560	1,789	804	17,511
929 485 286 247 270 310 487 5,906 8,886 3,217 1,068 1,091 714 415 295 265 211 263 1,193 4,518 4,165 3,389 1,707 769 455 334 34 190 189 321 1,508 10,452 6,051 884 508 867 455 334 34 190 189 321 1,508 10,452 6,051 884 508 867 437 295 304 251 208 4,355 5,263 1,476 1,276 1,437 437 295 304 251 208 433 1,936 3,327 3,198 3,809 908 676 684 549 288 3441 4,709 1,726 1,437 3,011 1,429 898 731 510 390 319 274 393 706 1,	1999	698	502	314	145	268	461	890	2,689	6,354	2,528	1,695	1,428	17,972
714 415 295 265 211 263 1,193 4,518 4,165 3,389 1,707 769 455 334 34 190 189 321 1,508 10,452 6,051 884 508 867 455 334 34 190 189 321 1,508 10,452 6,051 884 508 867 1,289 805 297 185 166 281 1,330 4,355 5,263 1,476 1,276 1,437 437 295 304 251 208 433 1,936 3,327 3,198 3,809 908 676 437 295 304 251 208 4,02 409 3,441 4,708 1,726 1,437 684 540 393 713 2,943 5,716 3,011 1,429 898 731 510 390 316 122 658 1,537	2000	929	485	286	247	270	310	487	5,906	8,886	3,217	1,068	1.091	23,182
455 334 34 190 189 321 1,508 10,452 6,051 884 508 867 1,289 805 297 185 166 281 1,330 4,355 5,263 1,476 1,276 1,437 437 295 304 251 208 433 1,936 3,327 3,198 3,809 908 676 437 295 304 251 208 433 1,936 3,327 3,198 3,809 908 676 684 549 288 344 546 402 409 3,441 4,708 1,726 1,689 397 731 510 390 319 274 383 713 2,943 5,716 3,011 1,429 898 58 50 347 1,22 658 1,537 706 14 97 1,476 1,153 857 659 567 1,039 1,936<	2001	714	415	295	265	211	263	1,193	4,518	4,165	3,389	1,707	769	17,904
1,289 805 297 185 166 281 1,330 4,355 5,263 1,476 1,276 1,437 437 295 304 251 208 433 1,936 3,327 3,198 3,809 908 676 437 295 304 251 208 433 1,936 3,327 3,198 3,809 908 676 684 549 288 344 5,716 1,785 1,689 397 731 510 390 319 274 383 713 2,943 5,716 3,011 1,429 898 58 50 34 19 16 158 1,22 658 1,537 706 14 97 1,476 1,153 857 659 567 1,039 1,936 10,452 12,750 10,434 3,256 1,728	2002	455	334	8	190	189	321	1,508	10,452	6,051	884	508	867	21,793
4.37 2.95 304 251 208 4.33 1,936 3,327 3,198 3,809 908 676 684 549 288 344 546 402 409 3,441 4,708 1,785 1,689 397 731 510 390 319 274 393 713 2,943 5,716 3,011 1,429 898 731 510 390 319 274 393 713 2,943 5,716 3,011 1,429 898 58 50 34 19 16 158 122 658 1,537 706 14 97 1,476 1,153 857 659 567 1,039 1,936 10,452 12,750 10,434 3.256 1,728	2003	1,289	805	297	185	166	281	1,330	4,355	5,263	1,476	1,276	1,437	18,160
684 549 288 344 546 402 409 3,441 4,708 1,785 1,689 397 731 510 390 319 274 393 713 2,943 5,716 3,011 1,429 898 731 510 390 319 274 393 713 2,943 5,716 3,011 1,429 898 58 50 34 19 16 158 122 658 1,537 706 14 97 1.476 1,153 857 659 567 1,039 1,936 10,452 12,750 10,434 3.256 1,728	2004	437	295	304	251	208	433	1,936	3,327	3,198	3,809	908	676	15,782
731 510 390 319 274 393 713 2,943 5,716 3,011 1,429 898 58 50 34 19 16 158 122 658 1,537 706 14 97 1476 1,153 857 659 567 1,039 1,936 10,452 12,750 10,434 3,256 1,728	2005	684	549	288	344	546	402	409	3,441	4,708	1,785	1,689	397	15,242
58 50 34 19 16 158 122 658 1,537 706 14 97 1.476 1,153 857 659 567 1,039 1,936 10,452 12,750 10,434 3,256 1,728	AVERAGE:	731	510	390	319	274	393	713	2,943	5,716	3,011	1,429	898	17,327
1.476 1,153 857 659 567 1,039 1,936 10,452 12,750 10,434 3.256 1,728	MINIMUM:	58	50	33	19	16	158	122	658	1,537	706	14	97	11.650
	MAXIMUM:	1,476	1,153	857	659	567	1,039	1,936	10,452	12,750	10.434	3.256	1.728	29.980

Simulated Flows at Homestake Creek below Homestake Project at USGS Gage 09064000 No Action Alternative (CFS)

1950 150 154 150 154 150 154 150 154 150 154 150 154 150 154 150 154 150 154 150 154 150 150 151 150 151 150 151 152 150 151 152 151 152 151 152 151 152 151 152 151 152 151 152 151 152 151 152 151 152 151 152 151 152 152 151 152 151 152 152 151 152 152 151 152 152 151 152 152 151 152 152 151 151 152 152 151 152 152 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 <th>WATER YEAR</th> <th>ост</th> <th>NON</th> <th>DEC</th> <th>NAL</th> <th>FEB</th> <th>MAR</th> <th>APR</th> <th>MAY</th> <th>NUL</th> <th>JUL</th> <th>AUG</th> <th>SEP</th> <th>ANNUAL</th>	WATER YEAR	ост	NON	DEC	NAL	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	ANNUAL
$ \begin{bmatrix} 5 & 5 & 5 & 5 & 4 & 3 & 5 \\ 5 & 5 & 5 & 5 & 4 & 3 & 5 & 5 & 4 \\ 5 & 5 & 5 & 4 & 5 & 5 & 4 & 3 & 5 & 5 & 4 & 5 & 5 & 4 & 5 & 5 & 4 & 5 & 5$	1950	20	14	12	10	8	2	12	6E	94	ឍ	12	10	22
$ \begin{bmatrix} 1 & 6 & 5 & 7 & 7 & 7 & 6 & 5 & 7 & 7 & 7 & 6 & 5 & 7 & 7 & 7 & 6 & 5 & 7 & 7 & 7 & 5 & 5 & 7 & 7 & 7 & 5 & 5$	1951	9	ഹ	ß	4	ი	2	13	48	110	72	55	- 0	25
6 4	1952	:	9	с С	5	4	e	4	성	134	43	24	22	25
$ \begin{bmatrix} 4 & 5 & 7 & 4 & 7 & 7 & 7 & 5 & 4 & 4 & 3 & 3 & 5 & 5 & 7 & 4 & 7 & 7 & 7 & 7 & 5 & 7 & 4 & 7 & 7 & 7 & 7 & 7 & 7 & 7 & 7$	1953	9	4	4	4	4	4	11	g	127	40	20	7	22
16 9 7 7 8 7 9	1954	4	5	4	4	ო	ო	32	52	134	39	12	12	25
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1955	16	6	7	5	4	4	20	30	56	4	39	6	R
4 5 5	1956	S	7	7	9	5	7	7	67	76	36	19	5	21
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1957	4	4	ო	4	4	5	5	25	125	110	21	18	28
4 4 5 7 7 4 7 7 4 7	1958	6	6	7	9	9	5	:	58	73	11	17	7	18
21 12 1 12 1 12 1 12 1 12 1 12 1 15 <th>1959</th> <th>4</th> <th>ব</th> <th>ო</th> <th>ო</th> <th>Ю</th> <th>ო</th> <th>:</th> <th>31</th> <th>63</th> <th>17</th> <th>20</th> <th>80</th> <th>17</th>	1959	4	ব	ო	ო	Ю	ო	:	31	63	17	20	80	17
$ \begin{bmatrix} 5 & 5 & 5 & 5 & 3 & 3 & 3 & 4 & 8 & 8 & 5 & 5 & 1 & 3 & 7 & 4 & 5 & 5 & 3 & 3 & 3 & 4 & 8 & 8 & 5 & 5 & 1 & 3 & 5 & 5 & 1 & 3 & 5 & 5 & 1 & 3 & 5 & 5 & 1 & 3 & 5 & 5 & 1 & 1 & 1 & 2 & 5 & 1 & 1 & 1 & 2 & 5 & 1 & 1 & 1 & 2 & 5 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1$	1960	54	42	ى ك	4	4	7	8	28	87	23	25	8	19
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1961	Ŋ	Ŋ	ო	ო	n	4	60	36	51	37	24	17	16
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1962	13	19	14	œ	8	6	11	38	80	44	24	10	23
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1963	7	4	ო	n	ო	9	19	43	45	<u> 68</u>	42	ក្ត	20
$ \begin{bmatrix} 6 & 6 & 6 & 6 & 5 & 5 & 17 \\ 2 & 4 & 11 & 8 & 6 & 5 & 5 & 17 \\ 1 & 2 & 4 & 1 & 8 & 6 & 5 & 5 & 17 \\ 1 & 2 & 4 & 1 & 8 & 6 & 5 & 7 & 7 & 19 \\ 1 & 3 & 5 & 5 & 4 & 4 & 8 & 8 & 11 & 100 & 22 & 24 & 28 \\ 2 & 7 & 7 & 7 & 7 & 7 & 7 & 7 & 7 & 7 &$	1964	7	9	4	5	4	4	10	40	55	83	41	12	23
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1965	g	9	6	9	ى ك	5	17	36	101	83	23	10	25
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1966	24	11	8	9	ى ک	7	19	¥	26	36	53	10	20
$ \begin{bmatrix} 12 \\ 13 \\ 16 \\ 13 \\ 13 \\ 12 \\ 12 \\ 12 \\ 13 \\ 12 \\ 12$	1967	6	4	ო	4	4	8	4	50	77	25	31	53	20
$ \begin{bmatrix} 19 \\ 16 \\ 16 \\ 16 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10$	1968	12	ø	ى ک	4	4	5	æ	11	100	22	24	28	19
16 9 7 6 6 6 7 13 31 24 14 31 24 14 28 13 31 24 14 31 31 24 14 31 31 31 31 31 32 32 113 31 31 25 23 114 25 23 114 25 25 23 114 25 23 114 25 23 114 25 25 23 114 25 25 23 114 25 25 23 114 25 25 23 114 25 25 23 114 25 25 23 114 25 25 23 114 25 25 23 114 25 26 24 15 33 31 15 31	1969	19	13	12	8	7	7	7	62	65	29	23	14	ស
24 17 12 7 7 8 5 27 72 25 21 15 5 21 15 23 114 25 21 15 25 21 15 23 114 25 23 114 25 23 114 25 23 114 25 25 21 15 33 15 33 114 25 23 114 25 23 114 25 25 23 114 25 25 23 114 25 26 87 25 26 87 25 26 87 25 26 27 25 23 114 25 26 26 27 13 11 15 114 25 26 27 12 26 27 12 26 27 12 26 27 13 11 11 15 114 10 114 10 114 10 114 10 11 11 11 11 11 11 11 11 11 <th>1970</th> <th>16</th> <th>თ</th> <th>7</th> <th>9</th> <th>9</th> <th>9</th> <th>12</th> <th>75</th> <th>113</th> <th>31</th> <th>24</th> <th>22</th> <th>27</th>	1970	16	თ	7	9	9	9	12	75	113	31	24	22	27
$ \begin{bmatrix} 10 & 7 & 8 & 6 & 7 & 24 & 14 & 11 & 3 & 0 & 7 & 64 & 13 & 11 & 25 & 23 & 107 & 64 & 13 & 11 & 25 & 23 & 107 & 64 & 13 & 11 & 25 & 23 & 107 & 64 & 13 & 11 & 25 & 23 & 107 & 64 & 13 & 11 & 25 & 23 & 21 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & $	1971	24	17	12	7	7	8	5	27	72	25	21	15	20
24 14 11 3 0 5 13 107 64 13 1 5 5 3 5 5 3 5 5 11 3 1 5 5 3 5 5 11 3 1 5 5 1	1972	10	7	80	9	7	¢,	15	32	114	25	20	24	23
4 5 5 5 6 87 25 23 2 5 5 5 3 5 8 5 5 23 2 2 2 2 2 2 2 2 2 2 2 3 2 10 12 11 14 1 <td< th=""><th>1973</th><th>24</th><th>14</th><th>1</th><th>ო</th><th>0</th><th>ى ك</th><th>12</th><th>g</th><th>107</th><th>5</th><th>13</th><th>11</th><th>25</th></td<>	1973	24	14	1	ო	0	ى ك	12	g	107	5	13	11	25
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1974	4	S	ო	5	6	4	ო	56	87	25	23	N	19
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1975	5	ო	N	0	7	ന	15	20	82	85	10	12	20
$\begin{bmatrix} 14 & 1 & 4 & 4 & 3 \\ 7 & 1 & 4 & 6 & 6 & 7 & 11 \\ 5 & 7 & 4 & 6 & 6 & 7 & 17 & 2 & 48 & 96 & 62 & 11 \\ 9 & 8 & 9 & 5 & 7 & 7 & 8 & 5 & 40 & 141 & 68 & 46 & 12 \\ 9 & 8 & 9 & 5 & 7 & 7 & 7 & 23 & 32 & 116 & 37 & 21 & 134 \\ 19 & 13 & 10 & 10 & 5 & 5 & 23 & 32 & 116 & 37 & 21 & 134 \\ 11 & 9 & 9 & 5 & 6 & 7 & 103 & 59 & 20 & 29 \\ 12 & 11 & 9 & 9 & 10 & 13 & 67 & 116 & 37 & 21 & 13 \\ 13 & 12 & 7 & 7 & 7 & 7 & 103 & 59 & 20 & 29 \\ 13 & 12 & 11 & 9 & 9 & 10 & 13 & 67 & 116 & 37 & 21 & 13 \\ 23 & 14 & 12 & 9 & 7 & 7 & 7 & 7 \\ 15 & 13 & 10 & 10 & 12 & 9 & 41 & 214 & 14 & 12 \\ 7 & 15 & 13 & 10 & 10 & 5 & 74 & 156 & 78 & 19 & 15 \\ 23 & 14 & 12 & 9 & 7 & 7 & 7 & 7 & 7 \\ 23 & 14 & 12 & 9 & 41 & 214 & 14 & 0 & 29 \\ 24 & 13 & 10 & 16 & 16 & 15 & 16 & 15 \\ 20 & 16 & 16 & 16 & 13 & 16 & 16 & 17 \\ 10 & 10 & 10 & 10 & 5 & 74 & 156 & 78 & 34 & 23 \\ 20 & 10 & 10 & 12 & 9 & 41 & 214 & 14 & 0 \\ 21 & 14 & 12 & 9 & 19 & 15 & 18 \\ 20 & 16 & 14 & 0 & 0 & 24 & 34 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 14 & 0 & 0 & 24 & 34 \\ 21 & 214 & 214 & 214 & 214 & 214 \\ 21 & 214 & 214 & 214 & 214 & 214 & 214 \\ 21 & 214 & 214 & 214 & 214 & 214 & 214 \\ 21 & 214 & 214 & 214 & 214 & 214 & 214 & 214 \\ 21 & 214 & 21$	1976	10	Q	0	2	0	ო	11	49	69	26	24	13	18
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1977	14	~	4	4	ო	1	15	35	66	25	14	10	20
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1978	13	o '	7	ß	4	S	ъ	40	141	68	46	12	30
$ \begin{bmatrix} 5 & 7 & 8 & 5 & 0 & 5 & 23 & 32 & 116 & 37 & 21 & 13 \\ 9 & 8 & 9 & 5 & 4 & 7 & 6 & 31 & 65 & 42 & 16 & 20 \\ 19 & 13 & 10 & 10 & 5 & 5 & 8 & 27 & 103 & 59 & 20 & 29 \\ 18 & 14 & 11 & 9 & 9 & 10 & 13 & 67 & 114 & 84 & 34 & 23 \\ 7 & 15 & 13 & 10 & 10 & 12 & 9 & 41 & 214 & 141 & 0 & 24 \\ 23 & 14 & 12 & 9 & 7 & 9 & 8 & 59 & 60 & 16 & 20 & 29 \\ 23 & 14 & 12 & 9 & 7 & 9 & 8 & 59 & 60 & 16 & 20 & 8 \\ 23 & 14 & 12 & 9 & 7 & 9 & 8 & 59 & 60 & 16 & 20 & 8 \\ \end{bmatrix} $	6261	7	4	9	9	7	17	N	48	96	62	11	14	23
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1960	5	7	8	2 2	0	ŝ	23	32	116	37	21	13	23
12 10 8 4 6 5 8 27 103 59 20 29 19 13 10 10 5 5 2 15 114 84 34 23 18 14 11 9 9 10 13 67 115 76 47 18 7 15 13 10 12 9 41 214 14 0 24 23 14 12 9 7 9 8 59 60 16 20 24	1981	Ø	8	თ	5	4	7	9	31	65	42	16	20	19
19 13 10 10 5 5 2 15 114 84 34 23 18 14 11 9 9 10 13 67 115 76 47 18 7 15 13 10 10 5 7 115 76 47 18 7 15 13 10 10 12 9 41 214 141 0 24 23 14 12 9 7 9 8 59 60 16 20 8	1982	12	10	8	4	9	5	80	27	103	59	20	29	24
18 14 11 9 9 10 13 67 115 76 47 18 18 12 7 7 7 10 13 67 115 76 47 18 18 12 7 7 7 10 5 74 156 78 19 15 7 15 13 10 10 12 9 41 214 141 0 24 23 14 12 9 8 59 60 16 20 8	1983	19	13	10	0	5	S	N	15	114	84	8	23	28
18 12 7 7 7 10 5 74 156 78 19 15 7 15 13 10 10 12 9 41 214 141 0 24 23 14 12 9 7 9 8 59 60 16 20 8	1984	18	14	11	6	თ	10	13	67	115	76	47	18	8
7 15 13 10 10 12 9 41 214 141 0 24 23 14 12 9 8 59 60 16 20 8	1985	18	12	7	7	7	10	ъ	74	156	78	19	15	34
23 14 12 9 7 9 B 59 60 16 20 8	1966	7	15	13	10	10	12	თ	41	214	141	0	24	41
	1987	23	14	12	თ	7	თ	68	59	60	16	20	8	20

Simulated Flows at Homestake Creek below Homestake Project at USGS Gage 09064000 No Action Alternative	(CFS)
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YEAR	OCT	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	
1988	4	4	7	:		5	9	30	91	14	15	25	18
1969	14	ŋ	٣	4	4	13	6	51	55	24	17	с	17
1990		4	ო	e	e	ഹ	19	34	06	24	9	Q	16
1991	80	15	£	4	4	ъ	8	54	92	29	27	19	8
1992	80	7	5	ო	4	ۍ	31	2	56	06	26	20	27
1993	18	14	10	6	ŋ	8	12	66	109	63	24	25	31
1994	14	13	8	9	9	7	18	62	72	36	15	14	ន
1995	10	8	4	ი	4	7	10	19	139	170	37	24	36
1996	21	11	11	10	10	6	с	73	126	40	24	18	8
1997	13	8	7	8	-	6	4	ß	181	57	37	25	\$
1998	প্ন	11	9	4	ო	υ,	ო	49	86	58	29	14	24
1999	11	8	ъ	N	5	7	15	44	107	41	28	24	25
2000	15	ø	S	4	ъ	Ω	æ	96	149	52	17	18	32
2001	12	7	£	4	4	4	20	73	70	55	28	13	25
2002	7	9	-	ო	ო	с	25	170	102	14	8	15	8
2003	21	14	5	ო	ო	ъ	23	71	88	24	21	24	25
2004	7	ъ	υ,	4	4	7	ее ЭЭ	54	54	62	15	÷	22
2005	11	6	5	9	6	7	7	56	79	29	27	7	21
AVERAGE:	12	6	9	5	5	9	12	48	96	49	23	15	24
MUMINIA:	-	-	-	0	0	ო	N	11	26	11	0	N	16
TAXIMUM:	24	19	14	÷	¢,	77	60	02.4		170	5	0	

Simulated Flows at Blue River below Green Mountain Reservoir No Action Alternative	(640)
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1950						5	АРН	MAT		JUL	AUG	SEP	AVG
	554	278	171	163	205	211	92	61	509	567	595	310	311
1951	515	229	198	196	208	196	226	113	525	1.762	598	397	433
952	552	315	301	292	311	286	06	134	2,311	982	411	384	530
953	522	276	261	272	284	296	241	67	347	767	324	337	334
954	523	264	256	427	172	257	254	70	240	669	185	178	295
955	152	132	110	66	101	115	92	61	173	411	500	292	187
956	505	192	183	175	183	187	06	120	568	539	610	312	306
957	513	219	221	213	209	208	202	76	64	1,179	337	498	381
958	378	360	325	298	330	323	210	166	2,055	524	683	292	494
959	507	171	166	177	175	173	279	67	142	366	689	361	274
960	635	272	216	216	244	263	06	91	583	663	631	303	352
961	516	222	206	192	211	218	269	65	169	634	545	402	305
962	327	340	205	221	242	260	06	151	1,936	1,082	341	588	481
963	584	194	272	190	202	210	63	64	171	833	493	229	297
964	138	137	123	124	126	139	242	88	152	178	613	246	183
965	440	191	182	181	181	179	93	85	138	840	677	605	343
966	456	357	307	306	337	338	100	61	164	672	511	207	319
967	242	165	147	141	144	173	8	61	124	178	748	396	218
968	474	184	165	159	160	154	259	62	144	178	156	353	204
696	516	242	241	242	251	237	06	225	157	847	620	351	337
	358	362	329	284	297	283	102	150	2,150	1,283	552	412	546
	364	360	302	286	308	319	06	94	1,586	1,067	350	586	475
26	504	244	240	226	245	265	94	6 6	822	511	570	377	350
576	318	297	275	270	285	276	293	87	176	1,130	243	629	357
576	531	255	225	233	240	257	06	63	1,312	629	393	337	383
976	534	259	238	248	258	250	120	61	98	1,240	299	462	341
976	485	246	223	216	245	234	94	151	107	176	447	371	250
116	562	190	187	184	197	203	412	133	166	499	216	146	259
879	199	169	168	154	155	178	16	140	169	362	550	405	229
616	511	230	237	235	249	244	92	119	118	1,215	438	374	341
080	515	264	254	257	283	293	92	61	1,351	1,020	634	319	446
981	481	212	200	189	203	208	400	123	162	414	156	209	247
982	190	150	139	143	142	183	276	86	130	182	370	498	207
983	393	329	294	301	325	366	266	62	1,828	2,330	1,029	1,039	715
984	585	286	239	208	229	219	104	581	3,306	2,391	1,393	845	868
985	632	490	453	398	398	403	6	204	2,339	1,139	358	444	611

Simulated Flows at Blue River below Green Mountain Reservoir No Action Alternative (CFS)

WATER												ſ	
YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NNC	JUL	AUG	SEP	ANNUAL
1986	443	396	337	331	372	414	90	103	1.695	1.279	274	427	513
1987	385	371	299	282	308	317	06	61	547	339	504	874	364
1988	374	177	157	155	163	195	06	61	547	606	628	248	285
1989	522	204	173	179	188	211	06	150	142	341	629	301	262
1990	548	186	161	153	162	171	344	63	165	342	424	246	0.1.4
1991	443	209	179	178	169	152	247	151	191	667	826	443	323
1992	508	201	172	170	177	181	95	121	168	420	158	255	220
1993	377	185	202	200	222	248	214	128	1,283	1.273	408	355	425
1994	305	296	271	271	291	292	100	61	181	696	521	222	293
1995	235	191	165	161	179	202	317	84	907	2.655	701	418	521
1996	393	361	330	328	359	338	06	728	2,929	1,132	666	324	693
1997	292	277	240	233	247	267	91	141	2,995	1,227	554	473	585
1998	381	353	310	326	344	345	06	61	173	760	358	668	348
1999	553	211	173	175	187	213	95	137	873	1,176	351	360	377
2000	533	292	265	265	287	279	90	61	1,137	532	494	317	379
2001	499	233	216	216	229	238	225	61	213	652	279	276	620
2002	520	203	175	169	164	195	357	97	508	293	191	199	256
2003	308	181	149	141	140	177	101	75	173	495	841	298	258
2004	537	185	166	162	169	192	175	61	190	681	162	214	242
2005	253	186	159	159	184	192	06	87	136	172	602	343	214
AVERAGE:	440	250	224	221	230	240	160	119	744	808	519	389	363
MINIMUM:	138	132	110	66	101	115	06	61	64	172	156	146	187
MAXIMUM:	635	490	453	427	398	414	412	728	3.306	2.655	1 393	1 039	868
												2221	200

Simulated Flows at Blue River below Green Mountain Reservoir No Action Alternative

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254,756 220,916 348,267 214,801 139,403 248,513 231,037 158,034 147,729 243,991 395,650 344,125 253,156 246,717 180,987 313,458 517,646 TOTAL 224,911 383,627 213,830 221,868 275,820 357,704 198,458 258,656 277,167 187,325 165,858 246,772 322,974 150,124 628,403 442,694 241,510 135,732 178,657 12,466 29,662 61,843 50,277 26,441 SEP 20,945 30,329 60,066 31,687 45,993 9,563 33,102 33,917 21,492 23,497 13,278 33,811 33,811 36,580 36,800 25,251 19,900 11,374 30,749 37,515 57,606 41,978 42,364 38,769 33,528 26,954 39,002 9,599 22,761 63,274 85,666 22,004 AUG 34,838 108,339 60,383 47,192 42,950 66,540 51,194 51,194 41,316 10,938 51,646 51,646 51,033 52,062 65,632 65,632 65,632 65,632 65,632 74,019 866 56,632 10,803 30,654 10,803 30,655 42,719 62,748 62,748 62,748 72,719 62,748 72,719 77,71 43,243 47,048 70,022 25,268 33,114 72,518 32,208 32,208 22,488 40,773 38,981 JUL 196,697 139,186 NN 3,761 6,937 6,937 6,937 7,405 7,405 7,405 7,405 7,405 9,309 9,309 3,709 8,574 7,557 5,7175 MAΥ 5,489 13,425 14,3342 15,111 15,111 15,382 12,002 12,028 15,382 5,382 5,582 15,489 15,418 15,418 15,460 5,581 5,582 5,581 5,582 АРН 12,984 12,039 15,580 15,789 15,789 11,490 11,490 11,490 12,787 15,997 15,997 15,997 15,997 15,997 16,283 16,114 11,014 15,995 16,632 16,632 16,632 16,632 17,419 17,419 17,419 17,419 16,616 16,283 16,632 16,632 17,419 17 13,481 24,787 MAR 11,397 15,773 15,597 15,595 15,636 10,162 10,162 11,519 11,519 11,713 11,713 11,217 11,217 11,217 11,217 11,217 11,217 11,217 11,217 11,217 11,217 11,210 11,2,83 11,2,83 11,5,812 11,3,636 11,3,631 11,3,551 11,551 11,5551 11,55551 11,55551 11,55551 11,55551 11, 13,856 15,718 11,265 11,265 11,265 18,049 18,049 18,049 12,695 22,094 FEB 10,045 12,047 16,772 6,110 10,736 10,736 10,736 13,090 13,090 13,574 11,784 11,784 11,784 11,784 11,784 11,784 11,784 11,789 11,899 11,899 11,899 11,806 11,606 11,706 11, 15,258 13,255 11,331 9,477 4,450 5,806 1,605 8,518 12,761 24,448 8,784 JAN 6,770 11,248 13,567 13,567 12,5915 12,5915 12,545 12,545 12,545 12,545 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,797 14,690 11,4,66411,1,664 11,1,66411,1,664 11,1,664 11,1,66411,1,664 11,1,664 11,1,66411,1,664 11,1,664 11,1,66411,1,664 11,1,664 11,1,66411,1,664 11,1,66411,1,664 11,1,66411,1,664 11,1,66411,1,664 11,1,66411,1,664 11,1,66411,1,664 11,1,66411,1,664 14,716 27,830 14,582 15,631 12,319 0,497 2,177 8,514 6,023 6,023 8,080 8,520 DEC 15,737 12,636 8,911 17, 152 29, 145 9,566 Nov 34,047 31,645 33,645 32,096 32,096 32,032 31,043 31,04431,044 31,044 31,044 31,044 31,04431,044 31,044 31,044 31,044 31,04431,044 31,044 31,04431,044 31,044 31,04431,044 31,044 31,04431,044 31,04431,044 31,044 31,04431,044 31,04431,044 31,04431,044 31,04431,044 31,04431,044 31,04431,044 31 29,172 31,732 22,017 22,354 30,990 19,551 32,668 32,832 29,818 34,535 12,222 31,429 31,658 29,551 11,707 24,170 35,982 38,839 oct WATER YEAR 1950 1952 1956 1957 1958 1959 1960 1961 1963 1964 1965 1968 1970 1973 1973 1974 1974 1975 1976 1978 1978 1980 1980 1983 1951 1953 1955 1962 1966 1967 1969 989

Simulated Flows at Blue River below Green Mountain Reservoir No Action Alternative (AF)

WATER												ſ	
YEAR	ост	NOV	DEC	JAN	FEB	MAR	АРВ	MAY	NUL	JUL	AUG	SEP	TOTAL
1986	27,232	23,562	20,723	20,365	20,673	25,452	5,382	6.352	100.840	78.648	16.842	25,395	371 466
1987	23,650	22,087	18,384	17,366	17.122	19,504	5,382	3,760	32.546	20.868	31.019	52.023	263,713
1988	22,983	10,562	9,644	9,532	9,044	11,963	5,382	3,760	32,557	37,266	38,636	14.773	206.102
1989	32,099	12,126	10,630	10,988	10,458	12,991	5,382	9,241	8,459	20,938	38,684	17,915	189.911
1990	33,716	11,065	9,899	9,412	6,977	10,534	20,497	5,698	9,844	21,002	26,087	14,643	181.374
1991	27,215	12,447	11,004	10,839	9,369	9,352	14,709	9,261	11,382	40,997	50,762	26.353	233,690
1992	31,253	11,932	10,579	10,434	9,819	11,100	5,680	7,455	9'696	25,845	9.739	15,194	159,026
1993	23,209	11,012	12,442	12,310	12,354	15,224	12,726	7,855	76,368	78,265	25,072	21,154	307,991
1994	18,756	17,614	16,636	16,693	16,150	17,978	5,964	3,760	10,742	42,799	32,038	13,233	212,363
1995	14,479	11,375	10,134	9,874	9,932	12,421	18,877	5,153	53,988	163,267	43,093	24,872	377,465
1996	24,154	21,494	20,320	20,170	19,928	20,799	5,382	44,736	174,295	69,633	61,422	19,282	501,615
1997	17,981	16,511	14,740	14,305	13,732	16,399	5,401	8,657	178,188	75,467	34,082	28.141	423,804
1998	23,440	21,026	19,050	20,027	19,122	21,191	5,382	3,760	10,268	46,708	22,034	39,746	251.754
1999	34,002	12,553	10,623	10,760	10,370	13,071	5,638	8,421	51,965	72,332	21,582	21.418	272.735
2000	32,790	17,347	16,300	16,303	15,937	17,145	5,382	3,760	67,661	32,717	30,389	18.835	274.566
2001	30,689	13,857	13,303	13,257	12,730	14,611	13,372	3,761	12,678	40,085	17,138	16,399	201,880
2002	31,949	12,096	10,749	10,385	9,123	11,981	21,245	5,992	30,249	18,029	11,720	11.843	185.361
2003	18,910	10,788	9,140	8,644	7,803	10,864	6,008	4,592	10,272	30,452	51,719	17.707	186,899
2004	33,047	11,020	10,235	9,991	9,410	11,790	10,438	3,760	11,306	41,845	9,981	12,734	175,557
2005	15,574	11,093	9,795	9,798	10,194	11,810	5,382	5,376	8,094	10,560	36,987	20,438	155,101
AVERAGE:	27,032	14,858	13,789	13,581	12,772	14,738	9,550	7,300	44,250	49,657	31,917	23,119	262,562
WINIMUM:	8,456	7,657	6,770	6,110	5,636	7,100	5,382	3,760	3,786	10,560	9,563	8.705	135.732
MAXIMUM:	39,074	29,145	27,830	26,277	22,094	25,452	24,537	44,736	196,697	163,267	85,666	61.843	628,403

Simulated Flows at Blue River below Dillon Reservoir at USGS Gage 09050700 No Action Alternative

(CFS)

Simulated Flows at Blue River below Dillon Reservoir at USGS Gage 09050700 No Action Alternative (cFS)

WATER													ANDITAL
YEAR	100	ADN	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	ANNUAL
1985	228	117	101	82	50	61	167	755	1.283	516	50	50	280
1986	4	62	50	50	50	74	50	374	1.430	678	50		200
1987	67	61	50	50	50	60	50	258	823	162	220		170
1988	50	50	50	50	50	53	50	50	697	304	50	205	197
1989	50	50	50	50	50	56	50	50	131	114	245	20	54
1990	50	50	50	52	50	50	50	50	50	220	50	20	65
1991	50	50	50	50	50	50	50	50	597	301	245	155	141
1992	50	50	50	50	50	50	50	50	50	50	50	20	50
1993	50	50	82	80	94	123	50	50	1.385	616	50	50	203
1994	50	50	50	50	50	50	50	50	336	186	20	20	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
1995	50	50	50	50	50	62	50	50	1,349	1,615	326	20	314
1996	62	57	50	50	50	50	50	1,357	1,824	598	160	20	364
1997	50	58	50	50	50	54	50	582	2,111	651	219	20	331
1998	50	50	50	50	50	50	50	50	654	351	50	202	125
1999	50	50	50	50	50	50	50	50	1.372	705	124		221
2000	50	50	50	50	50	50	50	485	851	189	50	20	165
2001	50	50	50	50	50	50	50	50	347	165	50	50	84
2002	68	107	92	68	82	101	50	50	50	136	455	8	116
2003	104	95	79	75	75	100	50	50	50	50	248		2 00
2004	50	50	50	50	50	50	50	50	50	159	20	50	50
2005	50	20	50	50	71	81	50	50	50	50	224	20	69
AVERAGE:	63	59	54	\$	54	60	52	183	612	364	170	67	149
MINIMUM:	50	50	50	50	50	50	50	50	50	50	50	. 04	205
MAXIMUM:	228	142	101	68	94	123	167	1,357	2.111	1.615	840	ECE	405

Simulated Flows at Blue River below Dilłon Reservoir at USGS Gage 09050700 No Action Alternative (AF)

WATEH YEAR	ост	NOV	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	TOTAL
1950	3,074	2,975	3,074	4,190	2,777	3,074	2,975	3,074	18,481	9.534	3.074	2.975	59.277
1951	3,074	2,975	3,074	3,645	3,935	3,074	2,975	3,074	33,538	56,844	17,764	2,975	136.947
1952	3,074	2,975	3,074	3,074	2,777	3,074	2,975	7,734	115,426	28,726	6,763	2,975	182,647
1953	3,074	2,975	3,074	3,074	2,777	3.074	2,975	3,074	29,530	21,237	4,833	2,975	82,672
1954	3,074	2,975	3,074	3,074	3,787	3,074	2,975	3,074	2,975	15,131	3,074	2,975	49,262
1955	3,074	2,975	3,074	3,192	3,036	3,824	2,975	3,074	2,975	3,074	15,341	2,975	49,589
1956	3,074	2,975	3,074	3,074	2,777	3,825	2,975	3,074	2,975	3,074	13,408	2,975	47,280
1957	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	2,975	24,027	36,522	9,261	96,882
1958	4,916	4,992	3,074	3,074	2,777	3,074	2,975	42,703	73,096	14,962	3,074	2,975	161,692
1959	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	16,276	13,639	13,161	2,975	70,148
1960	7,504	2,975	3,074	3,074	2,777	3,074	2,975	3,074	43,733	20,870	11,981	2,975	108,086
1961	3,074	2,975	3,074	3,074	2.777	3,074	2,975	3,074	2,975	9,553	17,711	2,975	57,311
1962	3,074	8,459	3,074	3,738	3,640	4,924	2,975	44,850	68,118	27,403	3,074	2,975	176,304
1963	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	2,975	12,562	14,990	2,975	57,599
1964	3,074	2,975	3,074	3,074	2,777	3,824	2,975	3,074	2,975	3,074	17,642	2,975	51,513
1965	3,074	2,975	3,074	3,074	2,777	3,824	2,975	3,074	2,975	8.241	34,390	13,897	84,350
1966	8,578	4,556	3,074	3,074	2,777	3,074	2,975	3,074	9,484	11,434	9,441	2,975	64,516
1967	3,074	2,975	3,074	3,074	2,777	3,825	2,975	3,074	2,975	3,074	12,116	3,889	46,902
1968	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	2,975	5,718	10,748	2,975	46,513
1969	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	39,071	28,030	14,334	2,975	108,507
1970	4,964	5,262	5,314	3,074	2.777	3,074	2,975	41,894	89,102	44,112	4,216	2,975	209,739
1971	4,829	4,879	3,074	3,074	2,777	3,074	2,975	23,214	81,681	31,796	3,074	2,975	167,422
1972	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	56,691	8,924	3,074	2,975	95,761
1973	3,074	2,975	3,074	3,074	2.777	3,074	2,975	3,074	23,441	43,370	3,074	2,975	96,957
1974	3,074	2,975	3,074	3,074	2,777	3,785	2,975	25,572	51,779	12,476	3,074	2,975	117,610
1975	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	10,634	56,103	3,074	2,975	96,883
1976	3,074	2,975	3,074	3,074	2.777	3,074	2,975	3,074	2,975	3,074	3,074	2,975	36, 195
1977	3,542	2,975	3,074	3,153	2,777	3,074	2,975	3,074	2,975	12,287	3,074	2,975	45,955
1978	6,962	4,494	4,913	4,495	3,866	5,558	2,975	3,074	2,975	3,074	7,036	2,975	52,397
1979	3,074	3,135	3,074	3,074	2,913	3,074	2,975	3,074	7,207	40,417	7,749	2,975	82,741
1980	3,074	2,975	3,074	3,074	2,777	4,356	2,975	3,074	89,905	33,910	10,698	2,975	162,867
1981	3,074	2,975	3,074	3,074	2.777	3,074	2,975	3,074	2,975	3,074	3,074	2,975	36,195
1982	3,074	2,975	3,074	3,074	2,939	5,154	2,975	3,074	2,975	3,074	3,074	6,700	42,162
1983	5,688	2,975	3,074	3,897	3,749	7,258	2,975	13,870	101,820	74,359	28,254	10,980	258,899
1984	5,108	5,198	3,074	3,074	2,777	3,274	2,975	65,247	114,759	82,259	51,626	19,216	358,587

Simulated Flows at Blue River below Dillon Reservoir at USGS Gage 09050700 No Action Alternative (AF)

WATER												ſ	
YEAR	001	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	TOTAL
1985	14,024	6,983	6,241	5,066	2,777	3,723	9,962	46,404	76.342	31.733	3.074	2.975	209 304
1986	4,710	3,698	3,074	3,074	2,777	4,575	2,975	23,008	85,071	41,681	3.074	2.975	180.692
1987	4,136	3,629	3,074	3,074	2,777	3,679	2,975	15,881	48,946	9,949	13,547	2,975	114,642
1988	3,074	2,975	3,074	3,074	2,777	4,504	2,975	3,074	41,469	18,678	3.074	2,975	91.723
1989	3,074	2,975	3,074	3,074	2,777	3,420	2,975	3,074	7,789	6,995	15,043	2.975	57.245
1990	3,074	2,975	3,074	3,210	2,777	3,074	2,975	3,074	2,975	13,508	3,074	2,975	46,765
1991	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	35,527	18,499	15,038	9,196	102,357
1992	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	2,975	3,074	3,074	2,975	36,195
1993	3,074	2,975	5,057	4,934	5,243	7,551	2,975	3,074	82,411	37,896	3,074	2,975	161,239
1994	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	19,993	11,425	3,074	2,975	61,564
1995	3,074	2,975	3,074	3,074	2,777	3,825	2,975	3,074	80,278	99,295	20,025	2,975	227.421
1996	3,806	3,409	3,074	3,074	2,777	3,074	2,975	83,456	108,538	36,773	9,854	2,975	263.785
1997	3,074	3,426	3,074	3,074	2,777	3,307	2,975	35,764	125,597	40,018	13,471	2,975	239,532
1998	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	38,934	21,577	3,074	2,975	90.657
1999	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	81,621	43,373	7,610	2.975	159.676
2000	3,074	2,975	3,074	3,074	2,777	3,074	2,975	29,849	50,662	11,641	3,074	2.875	119.224
2001	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	20,652	10,151	3,074	2,975	60.949
2002	4,176	6,394	5,684	5,457	4,539	6,228	2,975	3,074	2,975	8,350	27,958	5,899	83,709
2003	6,376	5,638	4,855	4,589	4,146	6,157	2,975	3,074	2,975	3.074	15.251	2.975	62,095
2004	3,074	2,975	3,074	3,074	2.777	3,074	2,975	3,074	2,975	9,755	3.074	2.975	42,876
2005	3,074	2,975	3,074	3,074	3,930	4,963	2,975	3,074	2,975	3,074	13,787	2,975	49,950
AVERAGE:	3,846	3,502	3,317	3,301	2,998	3,693	3,100	11,224	36,430	22,376	10,466	3.961	108.214
MINIMUM:	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	2,975	3,074	3,074	2.975	36.195
MAXIMUM:	14,024	8,459	6,241	5,457	5,243	7,551	9,962	83,456	125.597	99,295	51.626	19.216	358 587
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WATER YEAR	ост	NON	DEC	NAL	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	
1950	35	52	16	11	12	13	26	74	171	82	40	R	45
1951	24	16	13	11	12	13	19	117	239	203	1	4	99
1952	29	20	14	11	12	10	38	125	216	67	37	5 62	205
1953	26	17	15	13	12	12	16	83	250	97	47	24	51
1854	18	14	13	12	12	1	2	9 8	28	47	45	26	24
1955	27	17	15	12	11	:	28	58	99	4	54	47	8
1956	24	20	16	15	13	£1	20	150	128	44	80 80	27	\$
1957	17	17	16	15	15	11	18	67	219	237	125	50	8
1956	8	23	17	15	12	12	15	137	184	51	45	33	48
1959	21	16	4	15	15	12	15	67	135	56	44	35	37
1960	27	6	16	13	12	12	ଚ	48	103	59	R	26	8
1961	21	18	.	12	10	9	13	37	56	61	94	20	30
1962	42	25	17	15	15	13	6 E	105	92	72	17	÷	39
1963	15	15	41	12	11	12	19	5	6	31	67	38	21
1964	18	16	13	12	11	10	12	6 4	4 6	37	8	14	25
1965	13	15	1.0 1.0	13	11	10	15	84	234	244	117	27	67
1996	ж	20	18	15	14	12	19	33	29	19	<u>8</u>	21	55
1967	15	15	12	11	10	11	17	30	2	25	50	28	24
1968	17	17	15	13	12	0	13	36	102	56	81	R	8
1969	31	19	16	13	12	11	20	58	127	86	49	51	41
1970	ន	21	17	14	13	13	15	153	248	164	45	19	62
1971	R	23	19	16	14	13	30	2	157	103	29	8	46
1972	32	16	17	14	13	14	ສ	62	150	50	36	31	88
1973	16	17	16	13	12	12	13	82	180	124	88	22	45
1974	18	11	15	14	13	13	16	112	97	53	29	25	37
1975	23	18	4	11	12	12	14	61	115	129	51	31	41
B/81	24	<u>80</u> i	16	4	13	12	19	65	75	51	8	32	31
1361	0e E	17	4		11	11	21	56	49	37	6 3	21	27
1978	16	12	11	10	ŋ	10	20	75	203	135	32	25	47
8/81	21	17	15	12	12	12	18	66	172	132	50	31	47
1980	52	R	18	4	12	12	15	8 8	252	117	42	\$	55
1981	25	2	18	14	12	13	19	27	47	6 E	51	38	27
1962	25	20	18	17	16	15	19	70	137	86	68	ຮ	4
1983	8	27	21	18	19	17	16	61	299	238	109	70	78
1984	46	90	28	21	18	16	19	167	276	192	121	4	8
1885	51	88	26	19	16	15	41	166	186	109	45	41	8
1996	8	26	18	†5 5	14	15	27	78	101	88	24	7	ÿ
1987	28	21	16	14	F	13	24	78	120	59	44	25	38
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Simulated Flows at Blue River below Continental-Hoosier Project No Action Alternative (CFS)

WATER													ANNUAL
YEAR	50	NON	DEC	JAN	FEB	MAR	APR	MAY	NDD	JUL J	AUG	SEP	
1968	19	17	14	15	16	14	25	65	104	72	48	31	37
1969	26	ສ	18	15	15	13	R	8	101	36	67	5.6	58
1990	26	20	14	12	12	1	24	52	8	8	42	5 8	3 8
1991	4 3	25	20	17	16	17	23	00	122	96	50	36	42
1992	26	16	13	10	6	10	55	4	89	35	65	8	18
1993	8	16	12	6	10	11	16	105	162	06	22	8 8	3 \$
1994	18	18	17	13	:	11	31	67	20	27	14	3 5	5
1995	ស	17	12	6	10	თ	16	89	314	331	116	5 6	4 8
1996	36	20	21	18	17	13	32	233	203	115	36	35	4 7 7 7
1997	33	25	20	17	14	15	30	147	290	145	98	8 8	38
1998	31	ស្ត	16	13	12	13	16	8	82	47	84	3 2	1 6
1999	29	ស	20	15	4	12	18	80	199	121	42	5 8	ۍ (
2000	25	17	15	13	12	16	27	118	87	43	34	8 8	37
2001	53	16	15	12	1	11	23	102	141	102	55	8 8	4
2002	24	18	14	12	11	10	18	ŝ	17	25	35	17	<u></u>
2003	18	13	13	11	10	10	20	118	183	92	20	8	48
2004	22	15	15	12	12	13	18	25	20	59	29	8	2
2005	21	18	16	12	10	11	17	50	74	æ	46	18	RC RC
AVERAGE:	26	19	16	13	13	12	21	81	137	68	54	6	49
MINIMUM	13	12	÷	6	6	6	12	o,	σ	19	17		₽₽
MAXIMUM:	51	98	28	21	19	17	41	233	314	331	125	- F	- a
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(AF)

TOTAL 36,543 32,320 36,996 (17,445) (17,4 SEP 5867 2.5467 1.737 1.737 1.737 1.737 1.737 1.737 1.737 1.737 1.737 1.737 1.737 1.737 1.737 1.758 1.597 1. 2,439 2,439 2,591 2,291 2,291 2,291 2,291 2,292 2,292 2,292 2,292 2,7772 2,77722 2,7772 2,7772 2,7772 2,7772 2,77722 2,7772 2,7772 2,7772 2,7 AUG 5,046 5,046 5,988 2,888 2,888 2,888 3,117 5,988 3,125 3,465 3,465 3,465 3,465 3,465 3,465 3,465 3,465 3,465 3,465 3,465 3,465 3,465 1,993 4,457 1,993 4,457 1,993 4,457 1,993 4,457 1,993 3,722 3,749 5,289 8,089 8,089 5,289 8,089 8,089 8,080 1,00800 1,0080 1,0080 1,0080 1,0080 1,00800 1,00800 1,00 Ę 10,156 14,224 14,224 14,285 3,952 3,952 3,952 3,952 13,056 6,154 6,154 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,565 6,154 11,785 5,996 6,157 5,996 5,906 5,906 5,906 5,906 5,905 5,005 NUL MAY APR MAR Ē AN
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Simulated Flows at Blue River below Continental-Hoosier Project No Action Alternative (AF)

YEAR	ост	NON	DEC	JAN	FE8	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	TOTAL
1963	1,192	1,030	869	947	880	883	1,472	3,971	6.199	4.449	2.971	1.832	26.695
1969	1,608	1,346	1,108	950	844	780	1.980	5.780	5.999	2.21B	3 024	1 874	27 F11
1990	1,599	1,176	850	765	639	673	1,440	3,204	5,509	2352	0 573	2.045	30,050
1991	2,649	1.478	1.227	1.044	877	1.038	1.346	6 164	7 957	2 416	2006	0.115	202.06
1992	1,615	954	818	620	525	598	1 322	547 A		0 + 00 0 + 00			20,00
1983	1.361	959	208	554	545	506 606	900			21/20		10112	200,02
1994	1 006	1 040	1 025	000		100				200'0	CBO, 1	162'1	166'02
1004					3		170'1	4,115	4,1/4	3,315	2,490	1,864	23,081
1000	1001	120,1	124	553	545	560	931	4,151	18,684	20,340	7,123	3,050	59,039
1996	2,216	1,203	1,300	1,090	963	830	1,885	14,350	12,060	7,051	2.212	2,086	47.246
1997	1,942	1,487	1,213	1,022	171	953	1,813	9,011	17,245	8,910	5,931	2.054	52,352
1998	1,936	1,356	997	612	693	804	939	3,708	4,860	2.874	2.964	2.027	23,970
1999	1,799	1,305	1,201	920	800	736	1,084	4,945	11,870	7.437	2.590	2 261	36.948
2000	1,543	1,013	894	780	689	962	1,626	7,231	5.187	2.673	2.071	2 095	26 764
2001	1,325	943	932	757	604	646	1,351	6,302	8.391	6.291	3,378	2.245	33 185
2002	1,457	1,059	882	725	629	623	1,099	1,391	1,034	1.529	2.166	1.007	13.601
2003	1,078	792	824	663	541	594	1,190	7,232	10,887	5,661	3.063	1.923	34,448
2004	1,371	912	895	748	665	782	1,073	1,538	1,203	1,784	3.635	1.289	15.8R5
2005	1,276	1,096	955	767	563	674	<u>995</u>	3,059	4,422	2,101	2.804	1.387	20,099
AVERAGE:	1,600	1,157	986	829	703	756	1,262	4,988	8,176	5,482	3.319	1.876	31,134
WINIMOW:	808	740	702	553	525	560	719	527	564	1,160	1.074	413	13.601
MAXIMUM:	3,160	2,314	1,741	1,301	1,051	1,055	2,437	14,350	18,684	20,340	7,666	4,149	59 569

Simulated Flows at Muddy Creek below Wolford Mountain Reservoir No Action Alternative (CFS)

91 10 11 20 91 10 7 9 10 7 9 7 923 73 11 20 14 8 14 17 20 164 20 17 20 73 933 73 21 23 23 24 15 24 25 24 26 27 30 25 24 15 25 25 25 25 25 25 25 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26 27 30 46 75 36 27 30 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26 13 26	WATER YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	
	1950	91	10	10	7	6	15	130	147	320	56	104	33	PAN L
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1951	96	12	14	ø	12	18	77	245	396	122	25	3 F	. 0
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1952	79	16	14	8	14	17	09	614	606	87	26	119	130
$ \begin{bmatrix} 11 & 20 & 11 & 20 & 11 & 20 & 17 & 20 & 17 & 20 & 17 & 20 & 17 & 20 & 17 & 20 & 27 & 30 & 22 & 23 & 20 & 20 & 20 & 20 & 20$	1953	171	35	28	27	15	29	77	132	388	5 89	3 5	10R	8
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1954	11	20	11	12	6	17	06	57	139	64	256	33	65
$ \begin{bmatrix} 13 & 19 & 16 & 12 & 9 & 24 & 150 & 88 & 237 & 60 & 108 & 107 \\ 11 & 25 & 20 & 15 & 14 & 12 & 19 & 16 & 16 & 26 & 78 & 603 & 304 & 58 & 235 & 53 & 74 & 145 \\ 13 & 28 & 28 & 21 & 14 & 73 & 102 & 355 & 53 & 74 & 145 \\ 13 & 28 & 28 & 21 & 14 & 73 & 102 & 355 & 53 & 74 & 145 \\ 13 & 28 & 28 & 21 & 14 & 73 & 102 & 355 & 53 & 74 & 145 \\ 28 & 28 & 28 & 21 & 14 & 23 & 102 & 355 & 53 & 74 & 145 \\ 28 & 28 & 28 & 21 & 14 & 23 & 102 & 355 & 53 & 74 & 145 \\ 28 & 28 & 28 & 21 & 14 & 23 & 102 & 355 & 53 & 74 & 145 \\ 29 & 21 & 20 & 18 & 12 & 15 & 116 & 17 & 217 & 218 & 233 & 162 & 355 & 53 & 74 & 145 \\ 29 & 21 & 20 & 21 & 14 & 23 & 56 & 112 & 236 & 51 & 2037 & 66 & 108 & 165 \\ 29 & 21 & 21 & 20 & 21 & 14 & 23 & 56 & 118 & 25 & 210 & 157 \\ 29 & 22 & 21 & 7 & 7 & 16 & 9 & 337 & 156 & 93 & 373 & 155 & 116 \\ 11 & 18 & 28 & 22 & 17 & 16 & 9 & 337 & 156 & 93 & 357 & 166 & 93 & 327 & 166 \\ 20 & 21 & 21 & 21 & 21 & 21 & 216 & 113 & 24 & 353 & 316 & 123 & 115 \\ 11 & 20 & 22 & 21 & 7 & 7 & 13 & 55 & 124 & 533 & 344 & 353 & 341 & 111 & 28 & 171 \\ 11 & 19 & 22 & 22 & 17 & 13 & 26 & 88 & 527 & 246 & 307 & 100 & 100 \\ 11 & 19 & 23 & 21 & 12 & 21 & 13 & 354 & 343 & 316 & 134 & 313 & 134 \\ 11 & 19 & 23 & 21 & 12 & 21 & 23 & 316 & 133 & 341 & 313 & 332 & 115 \\ 11 & 10 & 23 & 24 & 333 & 344 & 353 & 361 & 113 & 338 & 115 \\ 11 & 10 & 23 & 24 & 333 & 344 & 353 & 361 & 110 & 107 & 107 \\ 11 & 10 & 23 & 24 & 23 & 216 & 248 & 300 & 113 & 144 \\ 11 & 10 & 23 & 24 & 338 & 44 & 352 & 124 & 333 & 116 \\ 11 & 10 & 23 & 24 & 23 & 318 & 211 & 328 & 116 & 100 & 100 & 100 \\ 11 & 10 & 23 & 24 & 23 & 318 & 211 & 328 & 100 & 326 & 100 & 308 & 116 \\ 11 & 10 & 23 & 24 & 338 & 44 & 326 & 100 & 308 & 116 & 100 & 100 & 100 \\ 11 & 10 & 23 & 24 & 23 & 318 & 211 & 338 & 318 & 211 & 338 & 116 \\ 11 & 12 & 22 & 10 & 23 & 24 & 338 & 300 & 300 & 300 & 300 & 100 &$	1955	275	26	22	16	13	20	122	57	82	73	100	96	20 76
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1956	13	19	16	12	6	24	150	68	297	60	108	104	75
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1957		20	15	14	12	19	77	195	682	225	35	21	110
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1958	23	90	20	16	16	26	78	603	304	58	109	128	118
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1959	11	25	20	15	:	14	73	102	355	63	74	145	75
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1960	20	ଷ :	13	15	14	72	69	469	307	67	105	105	107
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1961	13	23	17	18	6	19	56	152	208	66	198	24	67
	1962	£1	57	39	40	37	130	461	747	378	125	31	157	185
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1963	59	26	21	17	14	29	68	74	211	145	156	55	75
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1964	252	2	24	22	15	60	53	56	81	82	103	121	77
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1965	თ (21	20	18	12	15	116	67	559	145	31	19	85
9 13 17 16 9 34 80 57 166 93 85 141 33 27 20 16 12 14 58 57 398 79 33 155 141 33 27 20 16 12 14 58 57 398 79 33 115 16 15 25 13 26 88 434 363 86 113 16 17 17 17 56 88 434 33 33 14 16 17 13 26 12 14 53 136 43 16 17 13 16 17 27 70 153 361 16 17 11 19 23 16 93 343 134 33 100 73 116 11 11 26 16 73	1966	25	37	26	ম	11	37	06	333	182	59	320	104	105
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1961	Б	13	17	16	თ	34	80	57	166	93	85	141	60
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1968	39	27	20	16	12	14	58	57	398	79	ŝ	115	72
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1969	94	24	ส	20	12	19	13	954	245	100	79	158	147
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1970	18	39	90 OE	25	13	26	88	434	363	68	113	14	105
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1971	20	29	21	17	17	50	121	469	474	111	28	17	115
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1972	15	25	ଷ	17	23	55	124	637	361	53	136	49	127
115 27 20 17 16 46 76 812 294 82 107 105 15 24 16 16 17 26 19 19 19 18 527 276 66 100 103 10 16 17 26 19 19 19 18 35 88 527 276 66 100 103 10 316 15 10 11 99 300 88 527 276 66 102 116 10 316 15 10 11 99 300 88 527 276 66 102 116 103 10 103 10 103 10 103 10 103 10	1973	18	26	21	18	15	25	65	499	343	134	33	109	109
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1974	115	27	20	17	16	46	76	812	294	82	107	105	141
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	G/8L	15	24	16	16	17	27	70	153	386	126	30	200	06
$ \begin{bmatrix} 16 & 17 & 13 & 12 & 10 & 11 & 99 & 300 & 88 & 140 & 103 & 10 \\ 316 & 15 & 10 & 12 & 9 & 24 & 133 & 44 & 320 & 111 & 107 & 129 \\ 11 & 19 & 23 & 19 & 15 & 20 & 25 & 92 & 287 & 499 & 73 & 111 & 115 \\ 13 & 21 & 12 & 12 & 7 & 13 & 78 & 318 & 211 & 96 & 249 & 35 \\ 252 & 255 & 17 & 13 & 10 & 23 & 60 & 37 & 446 & 109 & 25 & 23 \\ 17 & 20 & 24 & 23 & 24 & 266 & 767 & 261 & 44 & 54 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 660 & 180 & 36 & 35 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 660 & 180 & 36 & 22 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 660 & 180 & 36 & 22 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 660 & 180 & 36 & 22 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 660 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 23 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 \\ 17 & 20 & 24 & 27 & 82 & 856 & 650 & 180 & 36 & 25 & 23 & 24 \\ 17 & 20 & 24 & 27 & 20 & 261 & 261 & 261 & 261 & 261 & 261 & 261 & 261 \\ 20 & 20 & 20 & 20 & 20 & 20 & 20 & 20$	1976	17	26	19	19	18	35	88	527	276	66	102	116	110
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1197	16	17	10 0	12	10	11	66	300	88	140	103	10	69
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1978	316	15	10	12	6	24	133	4	320	111	107	129	103
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1979	11	19	23	16	6	23	107	391	495	95	24	206	118
13 21 12 12 7 13 78 318 211 96 249 35 252 25 17 13 10 23 60 37 446 109 25 23 21 21 21 18 15 16 23 60 37 446 109 25 23 21 21 21 18 15 16 24 66 767 281 44 54 17 20 24 23 24 27 82 856 660 180 36 22 23	1980	10	23	19	15	20	25	92	287	499	73	111	115	107
252 25 17 13 10 23 60 37 446 109 25 23 21 21 21 18 15 16 24 64 366 767 281 44 54 17 20 24 23 82 856 660 180 36 25 23	1981	13	21	12	12	7	13	78	318	211	96	249	35	06
21 21 18 15 16 24 64 366 767 281 44 54 17 20 24 23 24 27 82 856 660 180 36 22	1982	252	25	17	13	10	23	60	37	446	109	25	23	87
1 17 20 24 23 24 27 82 856 660 180 36 22	2981	12	5	18	15	16	24	64	366	767	261	4	42	139
	1984	17	20	24	23	24	27	82	856	660	180	36	ধ	165

Simulated Flows at Muddy Creek below Wolford Mountain Reservolr No Action Alternative (CFS)

\mathbf{v}_{1} \mathbf{v}_{2} \mathbf{v}_{2} \mathbf{v}_{2} \mathbf{v}_{2} \mathbf{v}_{2} \mathbf{v}_{1} $\mathbf{v}_$	WATER	TUC	NON				1							ANNIAT
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	YEAR	3		2	JAN	LED	MAH	APR	MAY	NUL	JUL	AUG	SEP	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1985	25	24	25	24	25	47	241	785	302	76	47	•	001
	1986	13	23	31	25	41	88	302	730	388	110	: 6	ų ç	10.1
	1987	15	21	17	16	2	30	201				3 ;	2	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1089	α	; ;	: ;	2 ;	- 1	000		500	2/1	\$	11	199	60
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1 1 2 0 0	o ;	2 2	2 !	5	с Г	32	183	356	334	<u>65</u>	101	107	103
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	6961	5	3	17	16	16	82	1 3	307	198	72	193	29	82
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0661	11	14	თ	æ	Ξ	25	130	g	173	109	234	25	67
$ \begin{bmatrix} 8 & 13 & 9 & 8 & 11 & 25 & 100 & 66 & 139 & 63 \\ 27 & 13 & 9 & 11 & 114 & 28 & 74 & 185 & 426 & 90 \\ 24 & 16 & 13 & 10 & 13 & 27 & 121 & 338 & 163 & 136 \\ 11 & 11 & 8 & 11 & 14 & 20 & 54 & 41 & 607 & 119 \\ 25 & 18 & 13 & 18 & 27 & 37 & 178 & 699 & 448 & 83 \\ 22 & 21 & 17 & 17 & 20 & 68 & 46 & 780 & 622 & 90 \\ 23 & 21 & 13 & 18 & 21 & 24 & 65 & 86 & 332 & 218 & 89 \\ 19 & 18 & 11 & 14 & 19 & 26 & 148 & 395 & 190 & 68 \\ 16 & 18 & 11 & 14 & 19 & 26 & 148 & 395 & 190 & 68 \\ 137 & 11 & 6 & 7 & 8 & 20 & 129 & 50 & 133 & 79 \\ 137 & 11 & 6 & 7 & 8 & 20 & 129 & 50 & 133 & 79 \\ 137 & 11 & 6 & 7 & 8 & 20 & 129 & 56 & 133 & 79 \\ 137 & 11 & 6 & 7 & 8 & 20 & 129 & 56 & 133 & 79 \\ 280 & 15 & 8 & 18 & 12 & 18 & 138 & 316 & 314 & 323 & 96 \\ 12 & 13 & 106 & 57 & 33 & 40 & 41 & 130 & 461 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 461 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 461 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 461 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 461 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 461 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 39 & 40 & 41 & 130 & 451 & 954 & 767 \\ 281 & 57 & 59 & 50 & 514 & 767 & 767 \\ 281 & 57 & 59 & 50 & 514 & 767 & 767 \\ 281 & 57 & 59 & 50 & 514 & 767 & 767 \\ 281 & 57 & 59 & 50 & 514 & 767 & 767 \\ 281 & 57 & 59 & 50 & 514 & 767 & 767 \\ 281 & 58 & 514 & 516 & 516 & 516 & 516 & 516 & 516 \\ 281 & 58 & 58 & 58 & 58 & 58 & 58 & 58 & $	1881	12	17	æ	9	80	32	86	187	393	82	104	108	78
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1992	ω	13	ი	ø	11	25	100	99	139	8	239	20.	5 6
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1993	27	13	6	11	14	28	74	185	426	06	21	5 5	3 F
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1894	24	16	13	10	13	27	121	338	163	136	176		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1995	=	11	80	11	14	20	54	41	607	119	2 6		000
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1996	25	18	13	18	27	37	178	699	448) c a	201	y ç	0,1
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1997	ম	21	17	17	20	68	46	780	622	89	<u></u>	<u>°</u> c	₹
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1998	21	13	18	21	24	65	a A A	332	100		38	n (<u>6</u>
163 18 11 14 19 24 67 243 445 86 9 17 15 11 14 19 26 148 395 190 68 9 17 15 10 14 25 81 88 174 69 12 15 11 10 10 14 25 81 88 174 69 137 11 6 7 8 20 129 64 151 137 11 6 7 8 20 129 50 133 79 9 22 9 11 12 18 129 56 133 79 280 15 8 18 12 18 128 38 155 76 280 15 8 18 12 18 138 38 155 76 18 10 6 6 4 9 96 84 96 96	1999	91	18	10		i Ŧ	3 5	86	ŝ	517	00	22	F 6	5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0000	54	2 9	4 7	<u> </u>	<u> </u>	- 1	2	293	45	86	25	21	6
9 17 15 10 14 25 81 88 174 69 12 15 11 10 10 18 69 129 64 151 137 11 6 7 8 20 129 50 133 79 9 22 9 11 12 49 99 68 49 68 280 15 8 11 12 18 133 79 280 15 8 11 12 18 136 50 133 79 280 15 8 11 12 18 129 56 168 151 1 54 22 17 16 15 33 106 314 323 96 1 8 10 6 7 11 13 37 49 49 49 1 316 57 33 106 314 323 96 761 954 767 761		<u>3</u> (<u>ו</u> מ	= {	4	19	26	148	395	190	68	203	27	108
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2002	, ת	21	15	10	14	25	81	88	174	69	188	124	68
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		21	15	11	10	10	18	69	129	2	151	174	28	58
9 22 9 11 12 49 99 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 49 68 76 76 76 76 76 76 76 76 76 76 76 76 76 49 49 49 49 49 40 41 130 461 954 767 261 261	2003	137	1	9	7	ø	20	129	50	133	79	115	100	
280 15 8 18 12 18 138 38 155 76 54 22 17 16 15 33 106 314 323 96 6 6 7 11 13 37 49 49 316 57 39 40 41 130 461 954 767 261	2004	6	23	თ	1	12	49	66	68	49	89	020	200	8 8
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2005	280	15	8	18	12	18	138	38	175	20			
8 10 6 6 7 11 13 37 36 49 40 41 130 461 954 767 261	AVERAGE:	54	22	17	16	ر بر	33	108	214	200		N		0
316 57 39 40 41 130 461 954 767 261	MINIMIM	α	9	; u	; a	<u>}</u> r	3 7	29	10	523	99	66	78	98
461 954 767 261	AA VIANINA.		2 [5 8	o :	- :	=	13	37	49	49	17	7	58
		310	/0	33	₽	41	130	461	954	767	261	320	206	185

Simulated Flows at Muddy Creek below Wolford Mountain Reservoir No Action Alternative (AF)

WATER YEAR	ocr	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	TOTAL
1950	5,614	573	596	407	474	913	7,706	9.038	19.059	3.421	6.370	1 934	56 105
1951	5,873	731	838	484	652	1,087	4,578	15,066	23,571	7.532	1.520	4.595	66.527 ·
1952	4,831	925	856	500	767	1,048	3,593	37,724	36,048	5,319	1.600	7.094	100.305
1953	10,491	2,086	1,728	1,655	806	1,605	4,602	8,109	23,116	4,151	1.267	11.775	71.591
1954	664	1,179	704	748	494	1,032	5,343	3,505	8,262	3,033	15.753	1.969	42.686
1955	16,931	1,554	1,370	968	715	1,213	7,286	3,505	4,886	4,486	6,144	5.726	54.764
1956	111	1,101	954	751	485	1,460	8,914	5,493	17,683	3,701	6,618	6.190	54,127
1957	649	1,206	915	875	650	1,185	4,591	11,984	40,607	13,816	2,136	1 223	79,837
1958	1,397	1,799	1,207	998	896	1,586	4,647	37,062	18,074	3,552	6,685	7,631	85,534
1959	667	1,501	1,213	006	606	840	4,356	6,249	21,139	3,887	4,563	8,629	54.550
1960	1,223	1,312	787	951	751	4,426	4,100	28,828	18,249	4,143	6,441	6,250	77,461
1961	CB/	1,397	1,031	1,128	515	1,155	3,314	9,364	12,378	4,068	12,166	1,427	48,728
1962	66/	3,419	2,426	2,436	2,046	8,009	27,433	45,926	22,521	7,670	1,877	9,358	133,920
2001	3,626	1,529	1,265	1,054	768	1,762	5,291	4,521	12,529	8,905	9,615	3,297	54,162
1904	15,472	3,243	1,470	1,360	847	3,686	3,182	3,431	4,835	5,019	6,349	7,180	56.074
1965	555	1,251	1,217	1,130	646	914	6,909	4,089	33,269	8,895	1,861	1,131	61.887
1966	1,518	2,181	1,615	1,376	634	2,296	5,347	20,495	10,822	3,640	19,656	6,185	76,765
1967	533	772	1,063	998	490	2,062	4,782	3,505	9,860	5,734	5,198	8,419	43 416
308	2,396	1,624	1,258	686	664	849	3,466	3,505	23,706	4,882	2,051	6,835	52.25
1909	687,6	1,422	1,355	1,241	661	1,180	774	58,681	14,606	6,145	4,828	9,399	106.077
19/0	1,084	2,350	1,830	1,536	698	1,584	5,217	26,673	21,603	5,480	6,958	816	75.829
1970	1,216	1,738	1,305	1,024	955	3,082	7,182	28,849	28,190	6,819	1,737	1,000	83,097
19/2	934	1,516	1,377	1,046	1,269	3,377	7,407	39,145	21,470	3,260	8,347	2,938	92.086
5261	1,078	1,532	1,293	1,106	831	1,536	3,842	30,713	20,383	8,229	2,002	6,507	79.052
18/4	090'/	1,628	1,221	1,032	606	2,848	4,532	49,915	17,506	5,052	6,595	6,263	104,651
C/81	6 5 5 7 7 7	1,439	983	116	953	1,646	4,150	9,438	22,950	7,755	1,872	11,892	65.000
8/6I	10,1	1,569	1,152	1,144	973	2,134	5,237	32,432	16,440	4,050	6,290	6,912	79,350
1.22	c/6	1,00,1	821	755	565	703	5,905	18,436	5,226	8,595	6,359	584	49.931
8/61	19,441	668	614	731	489	1,501	7,939	2,717	19.013	6,821	6,589	7,698	74.452
6/81	666	1,157	1,393	987	500	1,408	6,366	24,032	29,447	5,833	1,474	12.247	85.510
1980	636	1,386	1,150	933	1,113	1,565	5,445	17,634	29,708	4,467	6,813	6.818	77,668
1981	1	1,222	726	768	413	828	4,615	19,579	12,582	5,923	15.295	2.079	64,801
1982	15,502	1,517	1,052	812	528	1,442	3,543	2,253	26,549	6,705	1,528	1,343	62.774
1983	1,318	1,247	1,067	953	910	1,461	3,829	22,515	45,612	16,037	2,680	3.218	100.867
1984	1,055	1,163	1,486	1,438	1,322	1,633	4,881	52,618	39,295	11,056	2,186	1,303	119.436

Simulated Flows at Muddy Creek below Wolford Mountain Reservoir No Action Alternative (AF)

WATER													
YEAR	OCT	NON	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1985	1,552	1,418	1,522	1,463	1,367	2,874	14.319	47,008	17 967	4 694	1 007	500	00.000
1986	662	1,361	1.893	1.521	2,303	5 419	17 041	AE 427	00 00		1000	250	20,303
19.87	915 215	1 270	1 020	040					000'02	7171	1,360	118	109,525
1000	0.0		6001	3/0	101,1	1,835	11,951	20,870	10,247	3,923	1,026	11,819	67,031
900		2	218	111	808	1,945	10,864	21,877	19,889	4,015	6,235	6.390	74,722
ADA I	218	1,286	1,044	971	873	5,029	774	18,884	11,811	4,427	11,839	1,732	59 487
1990	969	B40	579	494	619	1,556	7,754	2,383	10,300	6,685	14,383	2002	48 211
1991	722	1,022	472	374	465	1,968	5,129	11,489	23,414	5.018	6.423	6 441	82 927
1992	466	786	562	495	600	1,512	6,937	4,046	8.300	3.881	14 675	4 379	45 820
1993	1,836	773	536	681	789	1,739	4,397	11.403	25.337	5 556	1 3 1 1		
1994	1,472	949	777	618	708	1.681	7 206	20 779	0 685	00000			660,00
1995	689	671	513	678	770	1.200	3 188	2 E01	26126	000	10,040	410	03,4/3
1996	1.558	1 078	800	1070				12012		1,330	1,431	1,306	56,441
10.07			770			2,264	10,592	43,007	26,677	5,075	6,449	1,049	101,177
10001	0101	R07'I	1,0/4	9/0/	1,115	4,196	2,754	47,973	37,010	5,509	1,329	529	105,163
9661	0/2'1	774	1,122	1,276	1,332	3,984	5,115	20,413	12,949	5,501	1.348	5,885	60 969
6681	1,150	1,089	743	851	986	2,875	5,198	18,002	26,478	5.307	1.543	1 236	65 460
2000	10,039	1,097	695	838	1,033	1,619	8,806	24.263	11.312	4 201	12 478	1 581	
2001	582	984	927	596	763	1,553	4.837	5.398	10.339	4 267	11 500	1000	205,77
2002	734	903	671	59 9	580	1,118	4.084	7 916	2 810	0.005	10201	760'	49,228
2003	8,436	649	379	439	433	1001	7 ROF	101 0		2021	12/101	/00'1	42,0/8
2004	559	1 2 R R	A A A	REG					Ene' /	4,001	9GU, 1	7,295	49,474
2006				000	700	2,989	5,866	4,157	2,915	4,163	16,625	1,191	41,629
AVEDAOC.	24211	120,	770	1,089	647	1,130	8,220	2,320	9,222	4,646	1,257	7.012	54,198
	145.5	1,309	1,045	959	830	2,053	6,302	19,290	19,214	5,929	6.079	4.647	71 006
	466	573	379	374	413	703	774	2,253	2.915	3.033	1.026	a15	41,820
MAXIMUM:	19,441	3,419	2,426	2,436	2,303	8,009	27,433	58,681	45,612	16.037	19.656	12 247	122 020
													240,000

Simulated Flows at Williams Fork River below Williams Fork Reservoir No Action Alternative (CFS)

YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	ANNUAL
1950	204	136	78	ß	11	97	15	29	247	55	321	159	124
1951	133	116	92	76	59	86	102	48	186	422	232	356	160
1952	208	127	102	96	84	88	15	54	799	273	256	256	196
1953	176	140	108	132	75	79	76	26	180	62	235	154	120
1954	128	134	112	102	52	73	90	8	37	106	142	110	8
1955	908	107	76	76	60	2	15	32	8 8	4	182	201	105
1956	119	125	68	71	79	85	15	78	237	46	186	104	103
1957	110	104	65	71	68	68	76	21	162	273	275	184	124
1958	250	138	123	115	86	89	79	59	398	70	287	142	155
1959	128	103	97	0 6	63	73	79	35	203	65	145	149	102
1960	140	157	127	85	85	66	27	38	164 1	63	183	125	108
1961	128	135	118	114	57	ß	121	24	107	116	252	158	116
1962	186	121	137	87	71	81	21	6 6	657	336	203	131	178
1963	4	1	132	126	69	93	3 8	40	51	103	58	179	103
1964	264	34	23	59	63	72	132	28	127	55	104	118	86
1965	88	111	96	88	79	74	15	26	166	118	186	97	8
1968	63	86	119	1	52	3 8	103	49	68	8	316	109	101
1967	124	83	69	60	61	91	15	g	102	70	197	157	06
1968	145	117	82	70	77	80	136	15	264	S	19	301	113
1969	172	114	92	93	76	75	15	61	40	61	149	210	97
0/61	41	81	57	8	83	82	83 83	73	134	222	162	161	106
1971	171	177	154	149	66	128	15	39	499	343	203	226	184
2/61	199	132	117	107	63	129	27	45	257	59	317	130	135
1973	88	109	100	78	72	71	84	28	100	205	196	183	110
1974	134	150	131	129	71	94	15	69	441	183	267	163	154
9/6L	165	117	106	7	76	ß	96	ង	180	125	192	204	120
1976	145	100	86	76	4	8	8	37	140	69	159	175	86
1181		121	81	82	63	70	86	28	50	206	319	95	114
1978	190	80	49	4	43	54	15	46	214	101	112	146	91
6/61	16	98	87	88	78	91	15	43	143	73	164	122	92
0861	114	115	101	105	95	67	8	27	130	73	145	179	103
1981	140	105	87	59	58	69	159	21	155	117	311	207	124
1982	131	86	60	80	2	48	60	18	121	120	132	65	83
1983	8	120	126	89	108	72	162	15	26	841	326	211	181
1984	186	22	147	T T T	č	1		ſ					

Simulated Flows at Williams Fork River below Williams Fork Reservoir No Action Alternative

(CFS)

Simulated Flows at Williams Fork River below Williams Fork Reservoir No Action Alternative (AF)

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	WATER YEAR	OCT	NOV	DEC	NAL	FEB	MAR	APR	MAY	NN	JUL	AUG	SEP	TOTAL	
8,187 6,824 5,862 4,666 5,324 6,524 5,861 5,375 5,366 5,365 5,365 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 2,375 1,473 3,798 1,473 3,798 1,473 5,474 4,375 4,471 1,473 3,798 1,473 5,474 4,773 5,577 2,724 1,173 3,798 1,447 1,475 4,714 4,716 4,717 4,718 4,718 4,718 4,718 4,718 4,718 4,718 4,718 4,718 4,718 4,718 4,718 4,718 4,719 7,224 1,173 3,714 1,173 3,714 1,173 3,716 1,173 3,716 1,173 3,716 1,173 3,716 1,173 3,716 1,173 3,716 1,113 3,716 1,113 3,716 1,113 3,716 1,113 3,716 1,113 3,716 <th< th=""><th>1950</th><th>12,555</th><th>8,093</th><th>4,797</th><th>3,844</th><th>4.293</th><th>5.970</th><th>893</th><th>1 778</th><th>14 705</th><th>3 350</th><th>10 718</th><th>0 460</th><th>00 160</th><th></th></th<>	1950	12,555	8,093	4,797	3,844	4.293	5.970	893	1 778	14 705	3 350	10 718	0 460	00 160	
12.766 7.544 6.247 5,911 4,640 5,384 893 3,335 4,756 6,600 5,749 7,894 8,327 5,497 5,016 2,036 4,535 16,99 1,731 3,798 14,47 7,339 7,415 5,497 4,501 3,308 3,493 4,555 2,543 11,73 3,798 14,45 7,339 7,416 4,661 3,308 3,496 4,752 2,649 4,752 2,649 14,745 7,538 8,196 7,614 4,755 5,444 4,772 4,887 2,3706 4,302 16,948 7,538 8,196 7,614 3,555 4,480 4,772 4,887 2,3706 4,302 17,648 7,634 8,607 3,150 3,150 3,150 3,169 1,170 2,124 1,170 8,607 9,164 4,755 5,444 4,772 4,887 2,706 4,145 6,160 6,100 7,644	1951	8,187	6,924	5,682	4,686	3,270	5,305	6.055	2.928	11.079	25 965	14 279	21 203	115 563	-
10,044 8,324 6,621 8,127 4,148 4,535 1,569 10,731 3,796 1,421 18,942 5,537 5,904 5,577 5,557 5,557 5,557 6,173 18,942 5,548 4,014 4,366 5,224 893 4,997 14,104 2,822 11,445 7,538 6,119 5,934 5,544 3,523 5,4169 4,752 2,139 1,764 2,823 11,445 7,852 6,119 5,934 5,544 3,523 5,446 4,772 2,139 1,764 1,773 7,852 6,110 5,934 5,544 3,523 4,461 4,776 2,139 1,764 1,233 7,845 8,645 5,844 5,712 5,806 2,443 7,866 3,864 1,233 7,844 7,175 8,411 5,359 3,975 5,445 5,577 5,447 5,564 5,564 5,564 5,564 5,564 5,564 <t< th=""><th>1952</th><th>12,766</th><th>7,544</th><th>6,247</th><th>5,911</th><th>4,640</th><th>5,384</th><th>893</th><th>3,335</th><th>47.536</th><th>16.800</th><th>15.749</th><th>15.256</th><th>142 061</th><th></th></t<>	1952	12,766	7,544	6,247	5,911	4,640	5,384	893	3,335	47.536	16.800	15.749	15.256	142 061	
7,843 7,843 5,97 6,901 6,290 2,895 4,473 5,376 2,064 2,212 6,516 8,745 7,8392 6,196 4,014 4,565 7,243 7,557 2,723 1,441 15,536 6,196 4,014 4,566 3,775 4,169 4,557 2,724 1,145 15,536 6,119 5,741 4,773 5,494 4,772 5,498 2,054 1,445 7,552 6,116 7,816 5,244 4,772 5,498 7,744 1,475 6,396 7,145 7,685 8,116 7,284 5,493 3,497 4,433 7,661 1,123 7,846 5,916 5,494 4,775 5,805 3,150 3,935 7,174 1,475 6,365 3,151 7,846 5,916 5,740 5,740 5,740 5,740 5,740 2,796 3,155 3,155 7,551 7,526 4,817 4,817 4,813<	1953	10,844	8,324	6,621	8,127	4,148	4,838	4,535	1,589	10,731	3.798	14.421	9.155	87.131	
18,992 6,353 4,645 3,308 3,948 803 1,957 5,557 2,724 11,173 7,339 7,413 5,497 4,308 7,597 5,557 2,724 11,173 15,338 8,186 7,588 7,141 5,344 4,552 4,887 23,706 4,302 17,674 15,338 8,186 7,588 7,119 5,712 4,753 5,444 4,752 4,887 23,706 4,302 17,674 16,538 8,186 7,244 7,535 3,813 7,174 1,475 6,365 7,124 15,698 8,911 23,53 7,848 8,049 7,244 7,035 3,893 7,174 1,475 6,395 7,124 15,593 7,848 8,049 7,244 7,535 3,813 7,756 3,833 7,124 1,455 7,758 8,556 5,880 5,444 4,473 7,666 3,866 1,465 6,231 5,541 <t< th=""><th>1954</th><th>7,843</th><th>7,957</th><th>6,901</th><th>6,290</th><th>2,895</th><th>4,473</th><th>5,376</th><th>2,064</th><th>2,212</th><th>6,516</th><th>8.745</th><th>6.559</th><th>67,831</th><th></th></t<>	1954	7,843	7,957	6,901	6,290	2,895	4,473	5,376	2,064	2,212	6,516	8.745	6.559	67,831	
7.339 6.197 4.349 4.366 5.224 883 4.797 14.104 2.823 11.445 7.539 6.196 6.101 5.544 5.446 4.552 1.285 3.988 8.910 7.582 6.119 5.934 5.544 3.523 4.480 4.708 2.139 12.055 3.988 8.910 7.582 6.119 5.934 5.544 3.523 4.480 4.708 2.139 12.055 3.988 8.910 7.586 6.114 5.544 5.544 3.573 5.446 4.708 2.133 9.764 11.435 7.586 8.166 7.174 6.102 5.002 2.315 3.893 7.174 1.452 3.564 14.452 5.740 5.105 7.335 5.416 4.473 7.861 1.776 5.764 12.495 5.740 5.105 7.335 3.417 4.415 5.336 5.712 5.606 2.465 3.724 2.865 <td< th=""><th>1955</th><th>18,992</th><th>6,353</th><th>4,648</th><th>4,651</th><th>3,308</th><th>3,948</th><th>893</th><th>1,957</th><th>5,557</th><th>2,724</th><th>11,173</th><th>11.955</th><th>76.159</th><th></th></td<>	1955	18,992	6,353	4,648	4,651	3,308	3,948	893	1,957	5,557	2,724	11,173	11.955	76.159	
6,789 6,196 4,014 4,366 3,775 4,169 4,552 1,285 9,191 16,754 7,852 6,119 5,584 5,743 5,755 5,444 4,772 4,867 3,056 4,11,233 7,852 6,119 5,584 5,443 4,772 4,868 7,174 1,475 6,365 7,124 15,503 7,1648 8,1049 7,715 8,116 7,735 3,813 5,712 5,139 12,055 3,936 1,1233 7,144 7,155 8,155 5,513 3,813 5,712 5,139 12,055 3,378 6,412 3,022 2,644 1,523 5,742 5,593 3,813 5,712 5,193 3,022 2,644 1,233 6,616 7,174 1,477 7,817 1,475 6,365 7,124 1,523 5,742 5,593 3,693 3,417 4,433 7,861 1,770 7,417 7,397 1,4165 6,412	1956	666,7	7,413	5,497	4,349	4,366	5,224	893	4,797	14,104	2,823	11.445	6.211	74,461	
15.358 8,1166 7,588 7,041 4,753 5,494 4,722 4,887 23,706 4,302 17,574 7,862 6,119 5,994 5,554 3,553 3,983 7,174 1,475 6,365 7,124 15,034 7,848 8,049 7,244 7,036 3,150 3,893 7,174 1,475 6,365 7,124 15,034 8,601 5,700 5,105 7,724 7,756 3,571 5,402 2,395 12,497 8,655 5,880 5,414 4,415 4,575 893 1,624 9,896 7,278 1,412 5,540 5,510 3,893 5,712 5,569 3,895 1,170 5,542 5,558 3,411 5,533 2,414 4,415 4,575 893 1,640 4,412 5,740 5,105 7,124 4,575 893 1,610 2,706 1,412 5,540 5,414 4,715 4,575 893 <th>1957</th> <th>6,769</th> <th>6,196</th> <th>4,014</th> <th>4,366</th> <th>3,775</th> <th>4,169</th> <th>4,552</th> <th>1,285</th> <th>9,653</th> <th>16,817</th> <th>16.924</th> <th>10.975</th> <th>89.495</th> <th></th>	1957	6,769	6,196	4,014	4,366	3,775	4,169	4,552	1,285	9,653	16,817	16.924	10.975	89.495	
7,882 6,119 5,834 5,544 3,523 4,460 4,708 2,139 12,055 3,988 11,233 7,848 8,047 7,417 6,775 8,411 5,359 3,950 4,972 1,475 6,102 3,082 7,124 15,554 8,855 8,126 7,755 3,813 5,712 5,806 2,462 3,0322 6,542 12,497 8,855 8,805 5,806 2,413 7,861 1,750 7,576 3,378 6,412 5,740 5,105 7,335 4,733 7,861 1,750 7,576 3,378 6,412 5,525 4,237 4,533 7,861 1,710 9,226 1,212 5,740 5,105 7,335 4,724 4,533 3,618 1,170 5,525 4,237 4,415 5,034 4,917 7,926 1,8415 5,526 5,525 4,237 7,848 893 2,144 4,155 1,170 <t< th=""><th>1958</th><th>15,358</th><th>8,186</th><th>7,588</th><th>7,041</th><th>4,753</th><th>5,494</th><th>4,722</th><th>4,887</th><th>23,706</th><th>4,302</th><th>17,674</th><th>8,422</th><th>112,133</th><th></th></t<>	1958	15,358	8,186	7,588	7,041	4,753	5,494	4,722	4,887	23,706	4,302	17,674	8,422	112,133	
8,601 9,316 7,810 5,712 4,751 6,006 1,630 2,313 9,766 3,854 11,233 7,848 7,036 3,150 3,893 7,174 1,750 7,576 3,847 4,475 8,855 8,126 7,755 3,813 5,712 5,806 2,462 3,022 6,326 3,558 5,540 5,591 3,907 3,598 3,477 4,575 893 1,620 7,276 1,452 5,740 5,556 3,817 4,575 893 1,624 2,497 1,452 7,557 5,586 5,487 4,575 893 2,166 1,452 7,556 4,337 4,513 4,575 8,983 1,170 9,996 1,452 7,556 5,694 4,317 4,575 8,993 2,186 1,452 1,452 7,556 5,694 5,497 7,848 8,93 2,186 1,170 8,925 6,584 5,497	1959	7,852	6,119	5,934	5,544	3,523	4,480	4,708	2,139	12,055	3,988	8,910	8,847	74 099	
7,848 8,049 7,244 7,036 3,150 3,893 7,174 1,475 6,365 7,124 15,504 11,448 7,175 8,411 5,359 3,813 5,712 5,806 3,425 3,902 20,654 12,497 8,855 5,591 3,907 3,593 3,415 4,575 803 1,622 3,002 2,0564 12,497 5,742 5,595 5,800 5,414 4,415 4,575 803 1,622 3,002 2,0564 12,497 5,740 5,105 7,335 4,715 4,575 803 1,610 2,066 19,415 7,557 5,525 5,644 4,511 5,034 4,611 5,034 4,611 2,066 19,415 7,556 5,164 4,511 4,613 803 3,744 2,381 3,177 8,922 6,648 4,611 5,034 4,947 7,977 13,670 9,913 10,531 10,506 5,4	1960	8,601	9,316	7,810	5,212	4,731	6,068	1,630	2,313	9,786	3,854	11,233	7,412	77,966	
11,444 7,175 8,411 5,359 3,950 4,972 1,254 6,102 39,082 20,654 12,497 16,231 5,563 5,806 5,414 4,415 5,806 5,412 3,558 3,578 1,442 5,740 5,105 7,335 5,712 5,569 3,907 5,566 3,661 3,412 5,569 3,072 6,326 1,472 5,740 5,105 7,335 4,728 3,619 5,414 4,415 4,575 893 1,624 9,986 1,472 5,740 5,105 7,335 5,556 8933 2,118 2,997 4,041 2,056 9,137 8,922 6,981 5,691 4,233 4,611 5,034 4,847 4,477 7,977 13,670 9,951 10,578 6,728 5,640 5,613 4,033 7,244 16,102 3,744 2,391 3,725 9,137 2,495 6,718 893 2,118 8	1961	7,848	8,049	7,244	7,036	3,150	3,893	7,174	1,475	6,365	7,124	15,504	9,389	84,251	
8.855 8.126 7.765 3,813 5,712 5,806 2,462 3,526 6,326 3,558 5,742 5,555 4,235 5,714 5,414 4,415 5,712 5,806 7,576 3,376 6,412 5,742 5,555 4,235 5,726 4,337 6,031 6,037 4,041 2,078 11,452 5,740 5,105 7,335 4,728 3,609 6,031 6,103 2,2997 4,041 2,056 13,415 7,597 5,525 4,231 4,261 5,034 4,911 922 15,696 3,885 1,170 10,551 10,506 5,497 7,844 893 2,181 3,755 9,137 2,281 6,504 6,113 7,344 1,617 2,371 13,670 9,137 2,5381 6,504 6,129 4,611 7,793 2,440 1,770 2,5381 6,504 5,497 7,844 1,617 2,771 1,4	7061	11,448	7,175	8,411	5,359	3,950	4,972	1,254	6,102	39,092	20,654	12,497	7,778	128,692	
	1963	8,855	8,563	8,126	7,765	3,813	5,712	5,806	2,462	3,022	6,326	3,558	10,668	74,676	
5,424 6,595 5,880 5,414 4,415 4,575 893 1,624 9,896 7,278 11,452 5,5740 5,515 4,728 5,699 6,031 6,108 2,997 4,041 2,066 19,415 7,597 5,525 4,728 3,412 5,569 8,031 6,108 2,996 1,170 7,597 5,526 4,317 3,412 5,569 8,031 3,743 2,385 1,170 10,578 6,783 5,640 5,691 4,513 893 3,744 2,331 3,755 9,137 2,495 4,810 3,535 5,758 4,611 5,034 4,947 4,477 7,977 13,670 9,137 2,496 9,169 5,497 7,848 893 2,338 2,363 12,125 2,2381 6,504 6,194 7,397 13,670 9,144 1,0,535 8,949 7,744 1,617 2,776 1,316 1,205 <t< th=""><th>1904</th><th>16,231</th><th>5,591</th><th>3,907</th><th>3,598</th><th>3,487</th><th>4,433</th><th>7,861</th><th>1,750</th><th>7,576</th><th>3,378</th><th>6,412</th><th>6,994</th><th>71,218</th><th></th></t<>	1904	16,231	5,591	3,907	3,598	3,487	4,433	7,861	1,750	7,576	3,378	6,412	6,994	71,218	
5,740 5,740 5,700 5,700 5,700 5,700 5,700 5,701 2,066 19,415 7,597 5,525 4,235 5,569 893 2,1185 6,048 4,295 1,170 7,597 5,525 4,317 4,613 5,569 893 2,1185 6,048 4,295 1,170 10,578 6,783 5,640 5,591 4,611 5,034 4,947 7,977 13,670 9,951 10,551 10,561 10,563 5,191 7,944 1,617 2,776 15,696 3,851 1,770 2,486 5,191 7,944 1,617 2,776 15,313 3,623 12,480 10,551 10,506 9,491 1,617 2,776 15,313 3,623 16,407 10,531 10,506 5,191 7,944 1,617 2,776 13,670 9,616 10,533 10,506 5,191 7,944 1,617 2,776 1,2,716 1,2,169	1965	5,424	6,595	5,880	5,414	4,415	4,575	893	1,624	9,896	7,278	11,452	5.755	69.201	
7,597 5,525 4,238 3,610 3,412 5,569 893 2,185 6,048 4,295 1,170 10,578 6,783 5,640 5,691 3,412 5,569 893 2,144 2,381 3,755 9,137 10,578 6,783 5,640 5,691 3,412 5,563 4,901 8,111 922 15,696 3,885 1,170 2,056 6,783 5,640 5,691 5,933 3,744 2,381 6,709 9,951 2,056 8,481 7,784 893 4,978 1,776 2,940 1,770 10,531 10,506 9,169 5,799 893 4,271 7,814 2,3623 19,407 12,247 7,884 7,794 3,983 4,378 1,776 2,440 2,986 1,770 5,381 6,504 6,129 4,784 3,983 4,271 7,814 2,346 2,460 1,770 8,255 8,948 8,778	1966	5,740	5,105	7,335	4,728	2,909	6,031	6,108	2,997	4,041	2,066	19,415	6,491	72,966	
8.922 6,981 5,054 4,317 4,263 4,901 8,111 922 15,696 3,885 1,170 10,578 6,783 5,640 5,691 4,234 4,613 893 3,744 2,381 3,755 9,137 2,495 4,810 3,535 5,758 4,611 5,034 4,947 7,977 13,670 9,951 10,531 10,506 9,499 9,169 5,497 7,848 893 2,398 29,706 21,099 12,460 12,247 7,884 7,164 6,590 5,191 7,944 1,617 2,776 15,313 3,623 19,484 12,612 6,129 4,773 7,977 13,670 9,951 1,272 12,612 12,026 8,2381 6,504 5,191 7,944 1,617 2,776 15,313 3,623 16,407 10,1305 6,952 6,547 4,705 7,944 1,617 2,776 12,612 12,612 12,026	1967	7,597	5,525	4,238	3,698	3,412	5,569	893	2,185	6,048	4,295	12,125	9,332	64,917	
10,578 6,783 5,640 5,691 4,234 4,613 893 3,744 2,381 3,755 9,137 2,495 4,810 3,535 5,758 4,611 5,034 4,947 7,977 13,670 9,951 10,531 10,506 9,169 5,497 7,848 893 2,398 29,706 21,099 12,460 12,531 10,506 9,169 5,497 7,848 893 2,338 29,706 21,099 12,460 12,525 6,129 4,774 3,920 5,191 7,944 1,617 2,776 15,313 3,623 16,407 8,255 6,931 6,504 6,129 4,784 5,125 5,705 1,373 10,701 7,690 11,792 8,255 6,931 5,725 3,803 5,125 5,705 1,373 10,701 7,290 10,792 8,886 5,931 5,725 3,803 2,178 1,936 5,333 12,640 19,610	1968	8,922	6,981	5,054	4,317	4,263	4,901	8,111	922	15,696	3,885	1,170	17,907	62,129	
2,495 4,810 3,535 5,758 4,611 5,034 4,947 4,477 7,977 13,670 9,951 10,531 10,506 9,499 9,169 5,497 7,848 893 2,398 29,706 21,099 12,460 12,247 7,884 7,164 6,590 5,191 7,944 1,617 2,776 15,313 3,623 19,484 5,381 6,504 6,129 4,784 3,988 4,378 1,739 5,933 12,612 12,026 8,255 8,948 8,072 7,950 3,920 5,705 1,373 10,701 7,690 11,792 8,253 5,931 5,292 4,684 4,268 5,705 1,373 10,701 7,690 11,792 8,296 5,931 5,292 4,684 4,243 5,125 5,705 1,373 10,701 7,690 11,792 11,674 4,726 5,931 2,268 5,178 5,1333 10,701 7,690 <th>1969</th> <th>10,578</th> <th>6,783</th> <th>5,640</th> <th>5,691</th> <th>4,234</th> <th>4,613</th> <th>883</th> <th>3,744</th> <th>2,381</th> <th>3,755</th> <th>9,137</th> <th>12,503</th> <th>69,952</th> <th></th>	1969	10,578	6,783	5,640	5,691	4,234	4,613	883	3,744	2,381	3,755	9,137	12,503	69,952	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	0/61	2,495	4,810	3,535	5,758	4,611	5,034	4,947	4,477	7,977	13,670	9,951	9,584	76,849	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1971	10,531	10,506	9,499	9,169	5,497	7,848	893	2,398	29,706	21,099	12,460	13,446	133,052	
5,381 6,504 6,129 4,784 3,988 4,338 4,978 1,739 5,933 12,612 12,026 8,255 8,948 8,072 7,950 3,920 5,799 893 4,219 26,261 11,273 16,407 10,138 6,952 6,547 4,705 4,243 5,125 5,705 1,373 10,701 7,690 11,792 8,886 5,931 5,292 4,684 4,268 5,178 1,936 2,6261 11,273 16,407 11,306 7,185 4,962 3,840 3,514 4,324 5,096 1,716 2,988 12,718 4,481 10,056 11,306 7,185 4,962 3,840 3,514 4,322 5,993 2,619 8,610 11,782 13,306 7,185 4,739 2,919 4,324 5,096 1,716 2,983 12,610 11,792 15,74 4,739 2,926 5,178 2,133 2,326 8,465	2/61	12,247	7,884	7,164	6,590	5,191	7,944	1,617	2,776	15,313	3,623	19,484	7,732	97.565	
B,255 B,948 B,072 7,950 3,920 5,799 B93 4,219 26,261 11,273 16,407 10,1139 6,952 6,547 4,705 4,243 5,125 5,705 1,373 10,701 7,690 11,792 8,886 5,931 5,292 4,684 4,268 5,178 1,936 2,263 8,317 4,236 9,803 11,306 7,185 4,962 3,840 3,514 4,324 5,096 1,716 2,988 12,640 19,610 11,674 4,739 2,989 2,711 2,413 3,313 B93 2,847 12,718 6,184 6,865 5,942 5,826 5,409 4,322 5,595 893 2,6565 8,486 6,926 6,979 6,854 6,228 6,403 3,513 2,655 8,496 1,0,056 6,979 6,854 5,326 5,403 4,322 9,436 1,2712 4,465 6,926 <t< th=""><th>1979</th><th>5,381</th><th>6,504</th><th>6,129</th><th>4,784</th><th>3,988</th><th>4,338</th><th>4,978</th><th>1,739</th><th>5,933</th><th>12,612</th><th>12,026</th><th>10,910</th><th>79,322</th><th></th></t<>	1979	5,381	6,504	6,129	4,784	3,988	4,338	4,978	1,739	5,933	12,612	12,026	10,910	79,322	
10./138 6.952 6.547 4,705 4,243 5,125 5,705 1,373 10,701 7,690 11,792 8,886 5,931 5,292 4,684 4,268 5,178 1,936 2,263 8,317 4,236 9,803 11,306 7,185 4,962 3,840 3,514 4,324 5,096 1,716 2,988 12,640 19,610 11,574 4,739 2,989 2,711 2,413 3,313 893 2,847 12,718 6,184 6,865 5,942 5,826 5,409 4,322 5,595 893 2,847 12,718 6,184 6,865 5,942 5,826 5,409 4,322 5,595 893 2,665 8,481 10,056 6,979 6,854 6,228 6,463 5,302 4,150 4,392 1,687 7,712 4,465 6,926 8,618 6,228 6,463 3,500 4,232 9,486 1,294 9,216 <td< th=""><th>1974</th><th>8,255</th><th>8,948</th><th>8,072</th><th>7,950</th><th>3,920</th><th>5,799</th><th>893</th><th>4,219</th><th>26,261</th><th>11,273</th><th>16,407</th><th>9,713</th><th>111,710</th><th></th></td<>	1974	8,255	8,948	8,072	7,950	3,920	5,799	893	4,219	26,261	11,273	16,407	9,713	111,710	
B,886 5,931 5,292 4,684 4,268 5,178 1,936 2,263 8,317 4,236 9,803 11,306 7,185 4,962 3,840 3,514 4,324 5,096 1,716 2,988 12,640 19,610 11,306 7,185 4,962 3,840 3,514 4,324 5,096 1,716 2,988 12,640 19,610 11,674 4,739 2,989 2,711 2,413 3,313 893 2,847 12,718 6,184 6,865 5,942 5,826 5,326 5,409 4,322 5,595 893 2,687 10,056 6,979 6,854 6,228 6,463 5,302 4,150 4,992 1,687 7,712 4,465 6,926 8,618 6,223 3,801 3,500 4,232 9,486 1,294 8,265 6,926 8,618 6,223 3,801 3,574 2,294 3,556 1,114 8,063 5,6	6/6L	10,138	6,952	6,547	4,705	4,243	5,125	5,705	1,373	10,701	7,690	11,792	12,118	87,090	
11,306 7,185 4,962 3,840 3,514 4,324 5,096 1,716 2,988 12,640 19,610 11,674 4,739 2,989 2,711 2,413 3,313 893 2,847 12,718 6,184 6,865 5,942 5,826 5,409 4,322 5,595 893 2,847 12,718 6,184 6,865 6,979 6,854 6,228 6,463 5,302 4,150 4,992 1,687 7,712 4,465 6,926 8,618 6,273 5,322 3,801 3,200 4,232 9,486 1,294 8,216 7,201 19,114 8,618 6,273 5,322 3,801 3,574 2,924 3,556 1,118 7,201 19,114 8,063 5,617 3,682 3,574 2,924 3,556 1,118 7,219 7,359 8,117 3,941 7,168 7,718 5,447 5,314 20,053 33,344 20,053	9/61	8,886	5,931	5,292	4,684	4,268	5,178	1,936	2,263	8,317	4,236	9,803	10,414	71,208	
11.674 4,739 2,989 2,711 2,413 3,313 893 2,847 12,718 6,184 6,865 5,942 5,826 5,326 5,409 4,322 5,595 893 2,655 8,496 4,481 10,056 6,979 6,854 6,228 6,463 5,302 4,150 4,992 1,687 7,712 4,465 6,926 8,618 6,273 5,322 3,801 3,200 4,232 9,496 1,294 8,216 7,201 19,114 8,618 6,273 5,322 3,801 3,200 4,232 9,496 1,294 8,216 7,201 19,114 8,063 5,617 3,682 3,574 2,924 3,556 1,118 7,219 7,359 8,117 3,941 7,188 5,447 5,988 4,409 9,650 922 1,556 51,726 20,053 11,412 9,168 7,718 5,447 5,988 4,409 9,650 92	1161	11,306	7,185	4,962	3,840	3,514	4,324	5,096	1,716	2,988	12,640	19,610	5,670	82,851	
5.942 5,826 5,409 4,322 5,595 893 2,655 8,496 4,481 10,056 6,979 6,854 6,228 6,463 5,302 4,150 4,992 1,687 7,712 4,465 6,926 8,618 6,273 5,322 3,801 3,200 4,232 9,486 1,294 9,216 7,201 19,114 8,618 6,273 5,322 3,801 3,200 4,232 9,486 1,294 9,216 7,201 19,114 8,063 5,617 3,682 4,895 3,574 2,924 3,556 1,118 7,359 8,117 3,941 7,168 7,718 5,447 5,988 4,409 9,650 922 1,556 51,726 20,053 11,412 9,168 9,066 7,033 5,244 7,113 5,374 4,832 60,035 33,344 20,359	8/61	11,674	4,739	2,989	2,711	2,413	3,313	693	2,847	12,718	6,184	6,865	8,662	66,008	
6.979 6,854 6,228 6,463 5,302 4,150 4,992 1,687 7,712 4,465 6,926 8,618 6,273 5,322 3,801 3,200 4,232 9,486 1,294 9,216 7,201 19,114 8,618 6,273 5,322 3,801 3,200 4,232 9,486 1,294 9,216 7,201 19,114 8,063 5,617 3,682 4,895 3,574 2,924 3,556 1,118 7,219 7,359 8,117 3,941 7,163 7,718 5,447 5,928 4,409 9,650 922 1,556 51,726 20,053 11,412 9,168 9,066 7,033 5,244 7,113 5,374 4,832 60,035 33,344 20,359	6/61	5,942	5,826	5,326	5,409	4,322	5,595	893	2,655	8,496	4,481	10,056	7,259	66,260	
B,618 6,273 5,322 3,801 3,200 4,232 9,486 1,294 9,216 7,201 19,114 8,063 5,617 3,682 4,895 3,574 2,924 3,556 1,118 7,219 7,359 8,117 3,941 7,169 7,718 5,447 5,988 4,409 9,650 922 1,556 51,726 20,053 11,412 8,168 9,066 7,033 5,244 7,113 5,374 4,832 60,035 33,344 20,359	1980	6,979	6,854	6,228	6,463	5,302	4,150	4,992	1,687	7,712	4,465	6,926	10,625	74.383	
8,063 5,617 3,682 4,895 3,574 2,924 3,556 1,118 7,219 7,359 8,117 3,941 7,169 7,718 5,447 5,988 4,409 9,650 922 1,556 51,726 20,053 11,412 8,168 9,066 7,033 5,244 7,113 5,374 4,832 60,035 33,344 20,359	1981	5,618 5,555	6,273	5,322	3,801	3,200	4,232	9,486	1,294	9,216	7,201	19,114	12,327	89,884	
1 3,941 7,189 7,718 5,447 5,988 4,409 9,650 922 1,556 51,726 20,053 11,412 9,168 9,066 7,033 5,244 7,113 5,374 4,832 60,035 33,344 20,359	2861	8,063	5,617	3,682	4,895	3,574	2,924	3,556	1,118	7,219	7,359	8,117	3,879	60,203	
11,412 8,168 9,066 7,033 5,244 7,113 5,374 4,832 60,035 33,344 20,359	1983	1961)	7,169	7,718	5,447	5,988	4,409	9,650	922	1,556	51,726	20,053	12,582	131,161	
	1984	11,412	9,168	9'066	7,033	5,244	7,113	5,374	4,832	60,035	33,344	20,359	12,506	185,506	

Simulated Flows at Williams Fork River below Williams Fork Reservoir No Action Alternative (AF)

WATER													
YEAR	ост	NOV	DEC	JAN	FEB	MAR	APR	МАҮ	NN	JUL	AUG	SEP	TOTAL
1985	14,221	10,458	9,095	9,484	4,850	6,660	893	4.239	27 125	8 452	10.037	10 264	116 770
1986	11,091	10,031	9,138	8,546	3.882	1,280	893	3 506	33 665	15 702	0.254		
1987	10.626	9.937	8,885	8 446	5 641	F 707					102.01	10,77	118,03/
1088	7 204	000 9	0,000			1210	090	3,400	4,024	1,994	10,502	6,844	77,607
0001		0,000	100'0	0,993	5,820	4,816	893	3,636	14,094	4,688	21,571	7,865	90,594
ABEL	6,094	6,728	5,853	5,152	4,741	6,404	883	3,444	7,809	7,715	4,434	9.676	69.543
1990	606'9	6,485	5,932	4,983	4,624	6,610	4,824	1,967	13,641	2,834	19,356	11.551	89.716
1991	12,034	7,666	5,446	4,611	3,972	5,527	5,620	2,959	11,849	3,836	7 438	6.083	7,041
1892	7.769	8,641	6,083	5,357	5,354	7,648	893	4,009	5,293	2,863	27.571	13,698	95.179
1993	15,128	8,398	4,392	3,029	2,659	3,422	4,164	922	10,019	6.905	7.753	14.547	81 336
1994	12,719	7,877	6,725	6,085	5,044	6,986	1,852	3,711	5,873	7.073	12.586	10,906	87 437
1995	8,101	6,346	5,202	4,595	4,757	6,554	9,792	922	13,136	17.204	16.736	19 160	110 505
1996	12,881	8,019	7,928	8,701	6,994	7,008	921	8,417	38.235	13.990	8.630	13 186	134 010
1997	12,812	10,192	8,636	4,933	14,041	4,915	893	3,934	39.528	17.445	13,232	9 963	140 524
1998	10,435	9,613	8,910	8,934	6,411	8,374	893	1,929	4.951	3.450	8 479	16 401	88 870
1999	12,530	8,859	6,023	6,594	5,697	8,991	5,827	1,876	6.267	2.629	7,349	19401	01510
2000	12,350	7,346	7,007	7,084	6,189	7,776	893	4,675	6.502	1.320	21636	15.471	08 240
2001	10,250	7,249	7,579	6,236	5,372	7,114	5,503	3,180	5,370	1.827	27,434	13 131	100 245
2002	9,157	3,736	3,200	2,764	2,353	3,246	4,462	1.029	2.523	6,606	1301	1 782	40,240
2003	2,849	3,495	2,986	2,676	2,201	2,907	6.463	1.117	13.296	3,603	13 183	17 407	70,000
2004	9,926	7,914	6,621	6,258	5,612	8,758	7.252	2.275	4 724	1 376	95 50M	11 247	
2005	13,203	8,053	5,916	5,957	3,284	3,209	893	2,829	200 6	000	10.255	111	100'10
AVERAGE:	9,727	7,335	6,271	5,680	4,502	5,381	3.583	2.729	13.342	8 679	13.055	10 676	10/020
	2,495	3,495	2,986	2,676	2,201	1.280	893	666	1 556	1 220	1 170	1 700	80'800
MAXIMUM:	18,992	10,506	9,499	9,484	14,041	8,991	9,792	8.417	60.035	51.726	27,571	21 202	42,249 185 506
												201	000,001

Simulated Flows at Colorado River Below the Confluence with the Eagle River No Action Alternative (CFS)

100 1,242 800 550 550 551 561 1,261	WATER YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	МАҮ	νης	JUL	AUG	SEP	
1/15 060 015 770 1/15 1/15 2/15 2/15 1/	1950	1,242	860	583	552	655	694	1 265	1 014	1044	t Foo	1007	000	AVG
	1951	1 154	RED	815 815	700	ŝĒ		007'1	1.8.4	4,241	520,1	115,1	968	1,319
1,202 1,000 961 7,75 863 1,057 2,962 7,765 1,863 1,100 913 944 967 777 967 7,195 1,964 7,77 911 940 7,77 967 7,17 967 7,195 1,964 7,77 912 840 7,77 967 7,17 960 1,195 1,964 1,77 914 747 1,976 1,967 7,73 7,00 1,796 1,967 7,70 914 7,73 7,63 1,145 1,447 1,705 1,967 7,71 9,67 1,919 9,71 7,00 1,470 1,110 7,03 1,441 1,735 2,666 1,717 1,401 7,71 1,967 1,470 1,107 1,066 1,616 1,466 1,216 1,317 1,967 1,526 7,73 7,66 1,617 1,625 2,666 1,616 1,317 1,417	1065	020					211	1,130	2'37B	4,226	3,893	1,486	1,366	1,636
		6/0 ¹	000	71 A	2/8	5	838	1,383	4,668	10,579	2,962	1,785	1,883	2.429
1,100 303 644 503 733 700 119 719 710 951 840 777 677 771 667 1196 1196 1199 651 701 951 840 777 677 777 733 766 1616 1206 1777 1207 1206 1(64 1(87 1.057 687 756 566 5746 1580 1700 1378 1206 1(701 962 755 706 1666 1705 1580 1206 1206 1777 1207 1378 1207 1580 1701 3007 1077 3007 1077 1007 3078 1667 1216 1491 727 1207 <	204	592		965	974	861	955	1,097	1,548	4,625	2,063	1,264	1.058	1.475
1/10 741 565 563 562 1441 1/78 2.061 1/77 1/29 1/77 1/29 1/27 1/29 1/27 1/29 1/27 1/29 1/27 1/29 1/27 1/29 1/27 1/29 1/27 1/29 1/	40A	200	983	844	898	698	769	1,092	1,196	1,159	1,199	951	710	096
921 840 777 687 671 690 106 2007 3656 1206 1207 677 691 677 691 677 691 677 691 677 691 677 691 677 691 777 700 1110 5.065 6.746 1200 1213 901 1778 1200 1213 901 1216 1216 1216 1217 1200 1216 1216 1216 1217 1200 1216 1216 1217 1200 1217 1200 1216 1217 1200 1217 1200 1217 1200 1217 1200 1217 1201	1955	1,189	741	595	562	563	632	1,141	1,786	2,081	1.172	1.281	1.006	1 066
962 183 743 707 749 763 1008 2.745 8.767 6.612 2.386 1.276 963 802 755 756 766 1100 2.086 6.746 1.218 2.085 1.277 1.277 1.278 9.01 1,147 963 753 752 714 5.446 4.385 1.260 1.313 9.01 1,289 7243 755 911 0.70 3.009 5.971 8.810 4.355 1.277 1.227 973 756 556 556 556 556 556 556 556 556 556 556 556 556 1.677 1.469 1.483 1.427 1.427 1.427 1,284 1,070 981 965 1.070 3.009 5.971 8.400 1.220 1.427 1.222 1,140 1,772 1.289 1.070 3.009 5.911 8.705 5.206 3.7	1956	351	840	<u>1-1</u>	687	671	840	1,196	3,207	3,636	1.209	1.470	824	1 362
1/64 1/107	1957	902	836	743	707	749	783	1,099	2.745	8.767	6.612	2 383	1 278	
863 802 725 709 666 1118 2.066 4.000 1.300	1958	164	1 187	1,057	887	956	964	1,100	5,085	6.746	1218	1 395	0.51	2000,2
1,479 1,119 850 713 765 1,445 1,446 4,365 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,220 1,007 3001 5171 1,230 1,007 3001 5171 1,230 1,007 3001 1,007 3001 1,007 3001 1,007 <th>1959</th> <th>863</th> <th>802</th> <th>763</th> <th>725</th> <th>708</th> <th>686</th> <th>1,118</th> <th>2.086</th> <th>4 000</th> <th>1300</th> <th>1.378</th> <th>1 067</th> <th></th>	1959	863	802	763	725	708	686	1,118	2.086	4 000	1300	1.378	1 067	
1,047 962 756 733 720 766 1,023 1,560 1,475 1,477 1,479 1,491 973 763 556 566	1960	1,479	1,119	850	713	765	1,145	1,445	2,446	4,383	1 520	1 313	100	1 500
1588 1243 926 844 959 1070 3009 5971 6810 4.335 1277 1283 1277 1283 1277 1283 1277 1283 1070 3009 5971 16810 4.335 1277 1282 1070 3009 5971 1681 1682 1681 1682 1681 1682 1681 1682 1681 1682 1681 1683 1070 1680 1683 1681 1683 1681 1683 1681 1683 1681 1683 1681 1683 1681 1683 1681 1683 1683 1681 1683 1681 1683 1681 1683 1681 1683 1681 1683 1681 1683 1681 1683 1681 1683 1681 1681 1683 1681 1683 1681 1683 1681 1683 1683 1683 1683 1683 1683 1683 1683 1683 1683 <th< th=""><th>1961</th><th>1,047</th><th>962</th><th>765</th><th>733</th><th>720</th><th>766</th><th>1.023</th><th>1,680</th><th>2.176</th><th>1 215</th><th>1 427</th><th>1 404</th><th>90C'-</th></th<>	1961	1,047	962	765	733	720	766	1.023	1,680	2.176	1 215	1 427	1 404	90C'-
1228 972 752 585 586 584 627 1,667 1,580 1,482 1,371 1,321 1,331	1962	1,589	1,243	926	844	959	1,070	3,009	5.971	8.810	4 335	1 277	1 020	101'1
973 763 556 556 549 627 1,061 1,982 2,582 1,187 1,420 1,197 911 752 627 610 615 1,167 1,481 1,491 1,197 911 752 627 610 612 914 1,200 1,481 1,491 1,197 911 752 627 610 612 914 1,200 1,481 1,491 1,197 1,041 694 608 861 1,020 1,465 3,367 2,387 1,491 1,197 1,244 982 917 1,090 1,367 3,342 2,561 1,270 1,291 1,195 1,216 1,216 1,266 2,346 5,236 1,371 1,367 1,411 1,197 1,196 1,066 883 810 1,061 1,567 3,242 2,516 1,270 1,211 1,196 1,066 1,040 5,337 <td< th=""><th>1963</th><th>1,228</th><th>972</th><th>795</th><th>752</th><th>811</th><th>902</th><th>1,087</th><th>1.580</th><th>1.492</th><th>1 489</th><th>1 331</th><th>1 007</th><th>4 1 20</th></td<>	1963	1,228	972	795	752	811	902	1,087	1.580	1.492	1 489	1 331	1 007	4 1 20
872 778 725 692 655 1.167 2.400 5.350 3.367 2.358 1.401 17.041 664 1.068 861 1.072 1.065 1.853 1.765 1.891 1.491 722 17.041 664 1.068 823 668 625 1.105 1.823 3.075 2.368 1.401 1.997 1.041 664 1.068 863 810 803 1.395 2.305 2.341 1.465 1.411 1.997 1.241 1.070 881 803 817 1.081 1.885 3.342 2.365 1.411 1.997 1.241 1.241 1.076 833 817 1.081 1.665 3.342 2.365 1.411 1.997 1.241 1.241 1.241 1.241 1.241 1.241 1.241 1.997 1.241 1.246 1.241 2.256 3.345 2.2906 3.347 2.365 <	1964	979	763	556	566	549	627	1.061	1.992	2.582	1 187	1 422	020	
	1966	872	778	725	692	656	855	1,167	2.400	5.350	3.367	2 359	1 404	1 705
911 752 627 610 612 914 1,20 1,465 3,076 1,493 1,411 1,197 1,041 094 1,068 625 1,105 1,829 4,716 1,326 1,200 1,206 1,041 094 0,68 625 1,105 1,829 4,716 1,326 1,200 1,206 1,264 982 983 972 1,066 5,336 5,210 1,365 1,312 1,312 1,316 1,706 1,128 888 883 972 1,066 5,336 5,210 1,365 1,312 1,3	1966	1,264	1,099	066	880	861	1,072	1.050	2.015	1 469	1 241	1 491	76.0	
1,041 064 1,068 625 1,105 1,829 4,716 1,526 1,200 1,001 1,249 10,070 891 883 972 1,040 1,557 1,610 1,556 1,610 1,240 1,216 908 9133 913 913 913 913 914 914 1,557 1,610 1,515 1,420 1,611 1,275 1,138 818 825 887 1,060 1,567 1,305 1,427 1,210 1,206 1,023 818 825 887 1,060 1,065 2,386 5,210 1,427 1,211 1,208 918 815 1,066 1,277 2,386 5,176 1,326 1,427 1,410 1,244 973 913 1,143 1,113 2,250 1,427 1,410 1,190 1,234 855 847 6,016 1,267 2,413 1,757 1,404 1,190	1967	911	752	627	610	612	914	1,220	1,465	3.076	1.493	1441	1 197	1,100
1,291 1,070 891 803 810 803 1,385 2,906 3,342 2,574 1,365 1,401 1,400 1,216 906 1,040 5,531 7,230 3,390 1,515 1,420 1,400 1,216 908 872 1,061 1,567 3,243 5,553 3,223 1,277 1,418 1,400 1,216 908 1,113 3,267 5,913 4,802 1,316 1,420 1,308 933 972 1,066 2,346 5,270 5,312 1,326 1,316 1,326 1,316 1,327 1,316 1,326 1,316 1,326 1,316 1,327 1,316 1,326 1,316 1,327 1,316 1,326 1,316 1,326 1,316 1,326 1,316 1,326 1,316 1,326 1,316 1,326 1,326 1,316 1,326 1,316 1,326 1,316 1,316 1,316 1,316 1,316 1,316	1968	1,041	694	1.068	628	668	625	1,105	1,829	4.716	1.526	1 270	000	1 265
1,244 982 969 917 848 906 1,040 5,335 7,230 3,330 1,515 1,420 1,196 1,065 853 863 972 1,065 5,210 1,327 1,416 1,196 1,065 853 863 1,066 1,040 5,335 5,210 1,327 1,418 1,196 1,065 853 863 863 863 1,066 1,427 1,211 1,200 1,065 855 867 1,056 1,165 1,325 1,326 1,327 1,249 970 855 867 1,165 1,165 1,326 1,327 1,211 1,243 744 652 853 1,165 1,165 1,327 1,416 1,165 1,327 1,416 1,127 1,327 1,326 1,327 1,316 1,327 1,326 1,327 1,326 1,327 1,316 1,327 1,316 1,327 1,416 1,419 <t< th=""><th>1963</th><th>1,291</th><th>1,070</th><th>891</th><th>883</th><th>810</th><th>803</th><th>1,385</th><th>2,906</th><th>3,342</th><th>2,574</th><th>1.365</th><th>1.161</th><th>1.545</th></t<>	1963	1,291	1,070	891	883	810	803	1,385	2,906	3,342	2,574	1.365	1.161	1.545
1,400 1,216 908 883 972 1,061 1,567 3.249 8,558 3,923 1,327 1,416 1,275 1,086 1,086 883 872 1,060 1,113 2,267 5,310 1,346 1,277 1,211 1,306 1,026 883 855 1,090 1,115 2,386 5,210 1,346 1,427 1,211 1,306 1,026 831 913 803 855 1,056 1,357 1,410 1,190 1,229 1,013 869 857 839 933 1,157 2,410 2,800 1,367 1,366 1,303 1,393 <td< th=""><th>0/61</th><th>1,244</th><th>982</th><th>969</th><th>917</th><th>848</th><th>306</th><th>1,040</th><th>5,385</th><th>7,230</th><th>3,390</th><th>1,515</th><th>1.420</th><th>2 159</th></td<>	0/61	1,244	982	969	917	848	306	1,040	5,385	7,230	3,390	1,515	1.420	2 159
1/275 1/138 888 825 887 1,090 1,055 5,216 5,210 5,346 5,210 5,346 5,211 1,211 1,196 1,065 858 863 853 809 1,113 3,257 5,913 4,802 1,312 1,326 1,208 1,038 855 847 807 854 1,016 1,855 6,143 2,250 1,427 1,333 1,229 1,013 869 857 5,913 4,802 1,336 1,326 1,229 1,013 869 857 5,303 1,157 2,410 1,190 5,65 1,103 869 857 839 933 1,157 2,410 1,190 5,65 1,034 968 839 933 1,174 1,175 1,369 1,102 1,103 866 744 1,202 2,541 5,765 2,428 1,903 1,027 1,036 933 1,361		1,400	1,216	908	893	972	1.061	1,567	3.249	8,558	3,923	1.327	1.418	2 207
1,196 1,065 858 863 853 809 1,113 3,257 5,177 6,143 2,256 1,420 939 1,208 1,078 855 847 807 1,556 1,227 5,177 6,143 2,256 1,420 939 1,208 1,078 855 847 807 854 1,015 1,377 1,404 1,190 1,229 1,013 869 857 5,913 4,677 1,303 1,190 1,334 824 676 597 839 862 1,147 1,147 1,119 1,119 1,119 5,125 1,303 1,119 5,625 5,428 1,027 1,190 1,127 1,119 1,110 1,119 5,625 2,428 1,119 5,625 5,625 5,625 1,190 1,102 1,027 1,027 1,027 1,027 1,027 1,027 1,027 1,027 1,027 1,027 1,027 1,027 1,027 1,027 <th>2781</th> <th>1,275</th> <th>1,138</th> <th>888</th> <th>825</th> <th>887</th> <th>1,090</th> <th>1,065</th> <th>2,386</th> <th>5,210</th> <th>1.346</th> <th>1.427</th> <th>1.211</th> <th>1561</th>	2781	1,275	1,138	888	825	887	1,090	1,065	2,386	5,210	1.346	1.427	1.211	1561
1,308 1,029 931 918 856 1,056 1,227 5,127 6,143 2,250 1,420 999 1,248 878 855 847 807 854 1,016 1,856 4,982 4,457 1,383 1,329 1,229 1,013 869 857 889 933 1,157 2,410 2,890 1,119 562 1,334 824 657 6597 653 653 666 1,149 1,190 562 1,334 884 915 839 808 774 855 1,301 1,100 562 1,066 984 915 862 1,120 2,2541 5,765 2,428 1,027 1,080 903 774 856 1,120 3,025 1,120 1,307 1,027 1,080 903 774 856 1,120 3,025 1,102 1,027 1,150 1,060 2,196 2,1120	6/61	1,196	1,065	858	863	853	608	1,113	3,267	5,913	4,802	1.312	1.356	1 955
1,248 978 855 847 907 854 1,016 1,956 4,957 1,333 1,327 1,333 1,327 1,333 1,327 1,333 1,327 1,333 1,327 1,336 1,119 562 1,336 1,119 562 1,336 1,119 562 1,336 1,119 562 1,336 1,119 562 1,336 1,119 562 1,336 1,119 562 1,336 1,119 562 1,336 1,119 562 1,336 1,119 562 1,336 1,106 1,119 562 1,336 1,002 1,336 1,106 1,119 562 1,107 1,002	1874	1,308	1,029	931	918	858	1,056	1,227	5,127	6,143	2,250	1.420	686	1 843
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0/A1	1,248	B/8	855	847	807	854	1,016	1,956	4,982	4,457	1,383	1.329	1.737
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0/81	RZZ I	1,013	869	857	889	933	1,157	2,410	2,899	1,357	1,404	1,190	1.352
1,143 744 652 638 726 2,541 5,765 2,428 1,397 1,027 1,084 968 839 808 774 852 1,202 2,541 5,765 2,428 1,397 1,027 1,086 984 915 958 924 902 1,174 1,318 2,707 1,397 1,027 1,080 903 788 663 670 686 1,174 1,318 2,707 1,321 1,027 1,169 1,107 1,107 1,014 883 930 957 1,115 2,355 10,747 8,949 3,222 1,854 1,178 1,107 1,108 873 930 957 1,115 2,355 10,747 8,949 3,222 1,854 1,470 1,178 1,089 873 930 957 1,115 2,355 10,747 8,949 3,222 1,854 1,479 1,449 1,183 1,086	1970	455	828	6/6	597	639	862	1,148	1,149	1,175	1,380	1,119	562	941
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8/A	1.143	794	447	652	638	786	1,202	2,541	5,765	2,428	1,398	1,082	1.600
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2000	480,1	968	839	808	774	852	1,230	3,781	6,047	3,610	1,397	1.027	1.872
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0081	960	984	915 	958	924	902	1,120	3,022	6,606	2,928	1,470	1,102	1,833
1,131 855 696 704 648 734 1,060 2,198 4,654 2,620 1,321 1,225 1,159 1,107 1,014 883 930 957 1,115 2,355 10,747 8,949 3,222 1,854 1,412 1,178 1,089 873 930 957 1,115 2,355 10,747 8,949 3,222 1,854 2,004 1,505 1,244 1,130 1,074 1,205 1,875 5,532 8,657 3,350 1,218 1,225 1,479 1,449 1,183 1,086 1,177 1,295 2,124 4,752 9,541 4,750 1,225 1,428 1,301 1,041 939 953 1,005 1,380 2,867 3,350 1,216 1,256 1,428 1,301 1,041 939 9531 1,074 1,285 1,366 1,400 8,36 1,420 1,301 1,041 823	196	1,080	200	188	663	670	686	1,174	1,318	2.707	1,321	1.074	879	1.105
1,159 1,107 1,014 883 930 957 1,115 2,355 10,747 8,949 3,222 1,854 1,412 1,178 1,089 873 930 957 1,115 2,355 10,747 8,949 3,222 1,854 1,412 1,178 1,089 873 934 856 1,036 8,598 15,098 8,056 3,699 2,167 2,004 1,505 1,244 1,130 1,074 1,205 1,875 5,532 8,657 3,350 1,218 1,221 1,479 1,449 1,183 1,086 1,177 1,295 2,124 4,752 9,541 4,750 1,285 1,428 1,301 1,041 939 953 1,005 1,380 2,863 2,842 1,440 8,36 1,428 1,301 1,041 825 841 1,175 2,329 4,144 1,440 8,34 934 948 750 7,293	2007	181,1	355	696	704	648	734	1,060	2,198	4,654	2,620	1,321	1.225	1.489
1,412 1,178 1,089 873 934 858 1,036 8,598 15,098 8,056 3,698 2,167 2,004 1,505 1,244 1,130 1,074 1,205 1,875 5,532 8,657 3,350 1,218 1,221 1,479 1,449 1,183 1,086 1,177 1,295 2,124 4,752 9,541 4,750 1,292 1,356 1,429 1,301 1,041 939 953 1,005 1,380 2,863 2,842 1,184 1,438 882 993 829 811 1,175 2,329 4,144 1,440 834 934 948 750 753 7,189 2,393 2,200 1,354 749	200	801	107	1.014	883	930	957	1,115	2,355	10,747	8,949	3,222	1,854	2.864
Z.004 1,505 1,244 1,130 1,074 1,205 1,875 5,532 8,657 3,350 1,218 1,221 1,479 1,449 1,183 1,086 1,177 1,295 2,124 4,752 9,541 4,750 1,292 1,356 1,429 1,301 1,041 939 953 1,005 1,380 2,863 2,842 1,194 1,436 882 993 829 811 825 841 1,175 2,329 4,144 1,440 834 934 948 750 753 758 1,065 1,149 2,393 2,200 1,264 749	404 1004	1,412	8/1,1	1,089	873	934	858	1,036	8,598	15,098	8,058	3,698	2.167	3.761
1,4/3 1,449 1,183 1,086 1,177 1,285 2,124 4,752 9,541 4,750 1,282 1,356 1,428 1,301 1,041 939 953 1,005 1,380 2,863 2,842 1,184 1,436 882 993 829 811 825 841 1,175 2,329 4,144 1,440 834 934 948 750 753 758 1,065 1,149 2,333 2,200 1,264 749	1900	2,004	1,505	1,244	1,130	1,074	1,205	1,875	5,532	8,657	3,350	1,218	1.221	2.504
1,428 1,301 1,041 939 953 1,005 1,380 2,863 2,842 1,194 1,438 882 993 829 811 825 841 1,175 2,329 4,144 1,440 834 934 948 750 753 758 1,065 1,149 2,333 2,200 1,264 1,430 834		6/4/1	1,449	1 183	1,086	1.177	1,295	2,124	4,752	9,541	4.750	1.282	1.356	2 625
934 948 750 753 758 1,065 1,148 2,329 4,1448 1,440 834 934 934 948 750 753 758 1,065 1,149 2,393 2,200 1,281 1,354 749	1981	428	1,301	1.041	839	953	1,005	1,380	2,863	2,842	1,204	1,184	1.438	1.466
934 948 750 753 758 1,065 1,149 2,393 2,200 1,281 1,354 749		299	566	829	811	825	841	1,175	2,329	4,144	1,448	1.440	834	1 379
	1989	934	948	750	753	758	1,065	1,149	2,393	2,200	1,281	1.354	749	1 197

Simulated Flows at Colorado River Below the Confluence with the Eagle River No Action Alternative (CFS)

1500 997 803 738 668 652 810 1,240 1981 1,164 887 696 672 690 746 1,078 1982 1,068 1,018 759 691 730 867 1,078 1983 940 887 696 672 690 746 1,078 1983 940 880 735 747 856 1,175 1984 1,176 1,106 858 783 604 1,047 1,175 1996 1,248 1,212 925 913 971 1,027 1,465 1997 1,130 1,121 986 965 1,155 1,165 1996 1,248 1,212 986 971 1,027 1,465 1997 1,130 1,212 986 971 1,027 1,465 1998 1,333 1,212 986 1,223 1,917 1,027	WATER	oct	NON	DEC	NAL	FEB	MAR	APR	MAY	NNr	JUL	AUG	SEP	ANNUAL
1,164 887 696 672 690 746 1,068 1,018 759 691 730 867 940 880 722 735 747 858 940 880 722 735 747 858 940 880 722 735 747 858 834 828 693 639 711 876 834 828 693 639 711 876 834 1,212 985 971 1,047 876 1,130 1,121 986 985 1,027 871 1,071 1,338 1,275 985 1,024 985 1,027 1,438 1,275 985 1,024 985 1,027 1,438 1,275 985 1,024 985 1,027 1,438 1,024 881 822 945 1,071 1,393 1,027 867 73	1990	266	803	738	668	652	810	1.240	1,223	2.858	1,261	1.272	799	1,110
1,068 1,018 759 691 730 867 940 880 722 735 747 858 940 880 722 735 747 858 834 828 693 639 711 876 1,176 1,106 858 783 604 1,047 834 828 693 639 711 876 1,212 985 971 1,047 876 1,130 1,121 988 886 985 1,155 1,130 1,121 988 886 985 1,027 1,130 1,121 988 886 985 1,027 1,333 1,024 881 822 945 1,071 1,393 1,027 867 791 804 871 1,011 1,027 867 736 845 760 1,011 1,027 867 584 583 760<	1991	1,164	887	696	672	690	746	1,078	2,377	3,780	1,857	1,569	1,137	1,390
940 880 722 735 747 858 1,176 1,106 858 783 604 1,047 834 828 693 639 711 876 1,212 925 913 971 1,027 1,238 1,212 985 604 1,047 1,130 1,121 986 985 1,155 1,130 1,121 986 985 1,155 1,130 1,121 986 985 1,027 1,338 1,275 985 1,024 985 1,155 1,438 1,877 709 810 831 1,071 1,438 1,027 867 791 804 871 1,011 1,027 867 714 601 736 1,070 830 633 617 610 736 1,071 881 822 945 705 1,070 830 617	1992	1,068	1,018	759	691	730	867	1,078	2,465	2,044	1,309	1,346	905	1,193
1,176 1,106 858 783 604 1,047 834 828 693 639 711 876 1,248 1,212 925 913 971 1,027 1,130 1,121 986 985 1,155 913 971 1,027 1,130 1,121 986 886 985 1,155 913 971 1,027 1,130 1,121 986 886 985 1,155 913 971 1,027 1,130 1,275 985 1,024 985 1,232 945 1,438 1,275 985 1,024 981 822 945 1,393 1,027 867 791 804 871 707 1,071 830 631 1,071 804 871 705 859 714 601 584 583 760 705 1,074 881 728 666 655	1983	940	880	722	735	747	858	1,108	3,948	6,942	3,587	1,254	1,167	1,910
834 828 693 639 711 876 1,248 1,212 925 913 971 1,027 1,130 1,121 986 985 1,155 913 971 1,027 1,130 1,121 986 985 1,024 985 1,155 1,130 1,121 986 886 985 1,155 1,130 1,275 985 1,024 985 1,232 1,393 1,027 867 709 810 831 1,071 1,393 1,027 867 791 804 871 1,011 1,027 867 791 804 871 1,070 830 631 610 736 859 714 601 584 583 760 1,074 887 728 666 655 705 1,074 991 835 783 890 705 1,179	1994	1,176	1,106	858	783	604	1.047	1,175	2,394	2,093	1,372	1,271	798	1,243
1,248 1,212 925 913 971 1,027 1,130 1,121 986 985 1,155 913 971 1,027 1,130 1,121 986 985 1,024 985 1,155 1,130 1,121 986 886 985 1,155 1,130 1,275 985 1,024 985 1,232 1,393 1,027 867 709 810 831 1,071 1,393 1,027 867 791 804 871 871 1,011 1,027 867 791 804 871 760 859 714 601 584 583 760 736 1,074 887 728 663 663 663 705 705 1,079 991 835 784 583 705 705 1,179 991 835 784 793 890 705	1895	834	828	693	639	711	876	1,115	1,622	7,810	7,683	2,159	1,291	2,194
1,130 1,121 988 886 965 1,155 1,338 1,275 985 1,024 985 1,232 1,438 1,275 985 1,024 985 1,232 1,438 1,087 709 810 831 1,071 1,393 1,027 867 791 822 945 1,011 1,027 867 791 804 871 1,070 830 637 791 804 871 859 714 601 584 583 760 1,070 830 6367 728 663 687 1,047 1,074 981 728 663 655 705 1,179 991 835 764 705 705	1996	1,248	1,212	925	913	971	1.027	1,465	6,677	9,180	2,941	1,732	1,121	2,454
1,338 1,275 985 1,024 985 1,232 1,438 1,087 709 810 831 1,071 1,438 1,087 709 810 831 1,071 1,393 1,027 867 791 822 945 1,011 1,027 867 791 804 871 1,070 830 639 617 610 736 859 714 601 584 583 760 1,074 887 728 663 687 1,047 1,024 887 728 663 655 705 1,179 991 835 784 793 890	1997	1,130	1,121	988	886	965	1,155	1,165	6,050	12,031	3,791	2,093	1,420	2,736
1,438 1,087 709 810 831 1,071 1,393 1,024 821 881 922 945 1,011 1,027 867 791 804 871 1,010 1,027 867 791 804 871 1,070 830 639 617 610 736 859 714 601 584 583 760 1,024 887 728 663 687 1,047 1,024 891 728 663 655 705 1,179 991 835 784 793 890	1998	1,338	1,275	985	1,024	985	1,232	1,191	2,937	2,875	2,314	1,201	1,395	1,566
1,393 1,024 821 881 922 945 1,011 1,027 867 791 804 871 1,011 1,027 867 791 804 871 1,070 830 639 617 610 736 859 714 601 583 760 1,024 887 728 663 687 1,047 1,024 891 728 663 653 687 1,047 1,047 991 835 784 793 890	1999	1,438	1.087	209	810	831	1,071	1,106	2,427	4,913	2,750	1,282	1,190	1,638
1,011 1,027 867 791 804 871 1,070 830 639 617 610 736 859 714 601 583 760 1,024 887 728 663 687 1,047 1,024 887 728 663 687 1,047 1,395 924 696 692 655 705 1,179 991 835 784 793 890	2000	1,393	1,024	821	881	922	945	1,223	3,876	3,751	1,237	1,479	1,130	1,560
1,070 830 639 617 610 736 859 714 601 584 583 760 1,024 887 728 663 687 1,047 1,024 887 728 663 687 1,047 1,395 924 696 692 655 705 1,179 991 835 784 793 890	2001	1,011	1,027	867	791	804	871	1,067	2,651	2,235	1,291	1,344	1,046	1,253
859 714 601 584 583 760 1,024 887 728 663 697 1,047 1,024 887 728 663 697 1,047 1,395 924 696 692 655 705 1,179 991 835 784 793 890	2002	1,070	830	639	617	610	736	1,097	1,206	1,109	749	515	554	812
1,024 887 728 663 697 1,047 1,395 924 696 692 655 705 1,179 991 835 784 793 890	2003	859	714	601	584	583	760	1,124	2,933	3,985	1,251	1,655	1,239	1,359
1,395 924 696 692 655 705 : 1,179 991 835 784 793 890	2004	1,024	887	728	663	687	1,047	1,103	1,703	1,634	1,282	1,243	956	1,082
: 1,179 991 835 784 793 890	2005	1,395	924	696	692	655	705	1,098	2,572	3,593	1,448	1,235	1,010	1,337
	AVERAGE:	1,179	991	835	784	293	890	1,225	2,939	4,989	2,573	1,483	1,141	1,654
694 556 552 549 625	MUMINIM:	834 24	694	556	552	549	625	1,016	1,149	1,109	749	515	554	812
1,505 1,244 1,130 1,177 1,295	MAXIMUM:	2,004	1,505	1,244	1,130	1,177	1,295	3,009	8,5.98	15,098	8,949	3,698	2,167	3,761

Simulated Flows at Colorado River Below the Confluence with the Eagle River No Action Alternative (AF)

WATER YEAR	oct	NON	DEC	NAL	FEB	MAR	APH	MAY	NUL	٦C	AUG	SEP	TOTAL
1950	78,376	51,167	36,804	33,941	36,377	42,680	75,302	117.712	252.374	93.636	80.975	57 581	054 075
1951	70,951	51,163	50,098	44,298	42,829	47,485	67.618	146.212	251 497	239 400	91 349	81 250	1 1 04 1 60
1952	84,779	62,750	56,069	53,628	47,287	51,528	82,286	287.054	829.484	182.130	109 761	112 007	1 758 701
1963	78,908	59,964	59,327	59,877	47,812	58,714	65.260	95.192	275,183	126 830	7706	R2 062	1067 796
1954	61,614	58,513	51,903	55,205	38,766	47,254	64,969	73,549	68.961	73.742	58 490	42.260	605 208
1955	73,738	44,101	36,579	34,565	31,250	38,886	67,882	109,810	123,838	72.063	79.387	59,864	771 963
1956	58,496	49,959	47,758	42,285	37,240	51,678	71,194	197,167	216,354	74,345	90.363	49.044	985,863
1957	55,482	49,785	45,692	43,457	41,605	48,127	65,373	188,774	521,705	406.545	146.532	76.025	1 669 082
1958	71,558	70,646	64,975	54,521	53,067	59,288	65,444	312,847	401,399	74.921	85.765	55,130	1 360 350
1959	59,217	47,708	46,930	44,565	39,311	42,173	66,548	128,252	238,039	79.945	84.702	63,520	940 90B
1960	90,913 E1 100	66,565	52,245	43,844	42,489	70,391	85,976	150,411	260,784	93,459	80,713	53,633	1.091.423
1991	54,400	57,238	47,037	45,069	40,013	47,117	60,882	103,281	129,483	74,730	87,749	83,533	840.532
1962	97,726	73,946	56,983	51,883	53,272	65,765	179,022	367,129	524,247	266,522	78,536	73,293	1.888.304
	150,07	108,10	48,900	46,253	45,048	55,450	64,706	97,155	88,762	91,541	81,832	65,275	818,308
		40,3/5	40Z 45	34,811	30,487	36,532	83,148	122,488	153,647	73,013	87,459	51,752	795,106
5061 1 2 2 2 2	2012	46,277	44,553	42,574	36,423	40,265	89.465	147,555	318,357	207,043	145,023	83,549	1,234,716
1900	10/1/	65,409	60,852	54,127	47,826	65,919	62,461	123,880	87,436	76,327	91,660	44,727	858.325
1041	20,034	44,769	38,564	37,514	34,006	56,184	72,573	90'098	183,022	91,774	88,581	71,254	864,373
1000		41,290	85,671	38,805	37,125	38,428	65,771	112,481	280,603	93,830	78,090	71,940	987,871
ADA I	20, 27	899'59	54,784	54,280	44,965	49,360	83,038	178,658	198,882	158,246	83,908	89,084	1,118,241
1074	10,45/	20,432	795'AS	56,404	47,088	55,690	61,886	331,120	430,222	208,432	93,128	84,526	1,562,982
1/81		5/5/2/	55,837	54,882	53,964	65,233	93,217	199,794	509,229	241,210	81,598	84,367	1,597,810
7/81	795,342	67,728 55,000	54,632	50,746	49,263	67,051	63,375	146,739	310,000	82,739	87,740	72,031	1,130,426
E/BL	73,545	63,388	52,743	53.072	47,374	49,754	66,210	200,867	351,880	295,280	80,700	80,701	1.415.514
5/AL	80,415 20 20 20	61,242	57,220	56,426	47,546	64,933	72,990	315,237	365,539	138,352	87,318	59,433	1.406.651
e/AL	/6,/61	58,204	52,551	52,101	50,368	52,498	60,475	120,247	296,436	274,078	85,039	79.057	1.257.815
	/5,546 10,246	60,285	53,407	52,677	49,349	57,378	68,646	148,198	172,501	83,430	86,330	70,814	978.761
LIRI	82,010	49,014	41,536	36,729	35,469	40,687	68,333	70,624	69,905	84,867	68,790	33,459	681.423
8/61	10,277	47,245	45,778	40,085	35,443	48,960	71,523	156,261	343,030	149,292	85,978	64,408	1,158,278
R/RL	059'02	57,627	51,617	49,673	42,986	52,402	73,175	232,493	359,801	221,999	85,881	61,102	1 355 386
1980	64,943	58,563	56,272	58,894	51,317	55,450	66,671	185,816	393,103	180,067	90,382	65.598	1.327.076
1941	50,423	53,714	48,438	40,791	37,210	42,203	69,862	81,049	161,084	81,201	66,020	52,316	800.289
1982	69,558 24 024	50,849	42.779	43,283	35,979	45,116	63,066	135,165	276,961	161,111	81,223	72,923	1.078.013
ESH1	1/2/1/	65,851	62,326	54,311	51.644	58,846	66,346	144,807	639,488	550,264	198.089	110.311	2 073 554
1984	86,845	70,114	66,971	53,689	51,853	52,781	81,675	528,662	898,409	495,457	227.369	128.923	2.722.747
1965	123,243	69,527	76,522	69,471	59,644	74,065	111,567	340,173	515,121	205,962	74.917	72.626	1 812 838
	80,913	86,230	72,726	66,762	65,390	79,655	126,366	292,185	567,757	292,068	79.445	80.718	1 900 211
1987	87,785	77,397	63,984	57,742	52,944	61,767	B2,123	176,012	169,115	74,008	72.784	85,558	1 061 219
1988	273	59,105	51,002	49,856	45,811	51,734	69,931	143,184	246,587	89,050	B8,522	49,622	998.633
5061	57,453	56,411	46,090	46,311	42,097	65,500	68,342	147.134	130,696	78,797	83,235	44,577	866,843

Simulated Flows at Colorado River Below the Confluence with the Eagle River No Action Alternative (AF)

YEAR	ост	NOV	DEC	NAU	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1990	61,307	47,757	45,387	40,952	36,234	49,830	73,807	75,185	170,085	77,513	78,214	47,561	803,832
1891	71,588	52,784	42,800	41,348	38,347	45,887	64,134	146,145	224,941	114,177	96,497	67,637	1,006,285
1992	65,680	60,594	46,642	42,460	40,519	53,290	64,121	151,574	121,633	80,471	82,775	53,864	663,623
1983	57,798	52,356	44,373	45,202	41,490	52,781	65,961	242,754	413,057	220,547	77,086	69,457	1,382,862
1994	72,327	65,615	52,811	48,132	44,666	64,360	69,931	147,226	124,566	84,389	78,150	47,512	899,685
1995	51,259	49,143	42,622	39,314	39,515	53,849	66,339	99,764	464,717	472,413	132,738	76,813	1,588,486
1996	76,711	72,133	56,850	56,137	53,929	63,173	87,169	410,528	546,234	180,850	106,475	66,700	1,776,889
1997	69,489	66,716	60,774	54,503	54,678	71,019	69,321	372,011	715,930	233,112	128,676	64,488	1,980,717
1998	82,241	75,872	60,577	62,948	54,702	75,747	70,851	180,591	171,101	142,298	73,845	83,005	1,133,778
1996	88,290	64,699	43,584	49,824	46,164	65,861	65,795	149,259	292,336	169,089	78,851	70,810	1,184,562
2000	85,626	60,909	50,477	54,185	51,232	58,118	72,756	238,313	223,205	76,081	90,972	67,238	1,129,112
2001	62,195	61.110	53,305	48,652	44,671	53,541	63,511	162,979	132,997	79,407	82,626	62,242	907,236
2002	65,772	48,402	39,312	37,913	33,884	45,236	65,273	74,162	65,982	46,062	31,661	32,987	587,666
2003	52,804	42,505	36,976	35,920	32,355	46,748	66,894	180,347	237,143	76,904	101,734	73,742	984,072
2004	62,957	52,803	44,771	40,769	38,169	64,358	65,624	104,729	97,217	78,858	76,451	56,891	783,597
2005	85,798	54,955	42,789	42,571	36,390	43,344	65,238	158,154	213,808	89,036	75,957	60,119	968,159
AVERAGE:	72,523	58,946	51,353	48,215	44,051	54,715	72,886	180,696	296,894	158,195	91,175	67,890	1,197,540
MINIMUM:	51,259	41,290	34,204	33,941	30,487	36,428	60,475	70,624	65,982	46,062	31,681	32,987	587,666
MAXIMUM:	123,243	89,527	76,522	69,471	65,390	79,655	179,022	528,662	898,409	650,264	227,369	128,923	2.722.747

Simulated Flows at Colorado River Above the Confluence with the Eagle River No Action Alternative (CFS)

				502	MAH	АРК	MAY	NUL	JUL	AUG	SEP	
	598	402	383	480	518	873	884	1,896	846	1.102	719	805
	626	607	535	595	585	859	1,172	1,988	2.445	978	1,105	1 097
	800	702	675	699	659	839	2,946	6,957	1,966	1.144	1,501	1 663
	766	726	753	675	753	858	773	2,040	1,253	855	851	276
	22	548	722	536	619	808	484	469	881	745	493	666
	519	417	404	417	477	808	837	913	596	929	797	672
	610	576	513	499	630	820	1,302	1,738	748	1,203	652	842
	023	565	535	582	608	843	1,819	5,149	3,832	1,648	885	1.492
	BBB	807	677	745	768	853	3,026	4,434	803	1,196	209	1.317
	585	589	548	544	532	869	1,206	1,489	659	1,095	844	813
	22	099	541	593	006	917	1,331	2,020	863	1,062	690	965
	167	569	565	561	604	832	827	856	832	1,137	816	767
		689	623	730	851	2,189	4,164	6,133	2,983	882	88 8	1.856
	217	602	564	630	727	829	790	673	1,136	969	806	785
	561 202	986	414	400	485	861	957	1,095	462	1,037	838	679
	220	ន៍	525	503	514	864	1,347	2,527	1,535	1,584	986	1.021
		8/1	689	687	863	730	895	562	830	1,235	544	798
	222	424 1	452	459	718	658	725	1,198	638	1,201	839	725
	640 1	548 248	489	546	548	910	1,022	2,134	652	629	997	838
	181	040 100	800	619	625	764	1,585	1,954	1,599	1,052	925	1.024
	020	20/	18/	117	547	887	3,116	5,038	2,300	1,134	813	1,490
	000 671	740	121		825	936	2,279	5,674	2,748	922	1,045	1,536
		017	040	040 10	006	847	1,457	2,851	878	1,248	<u>1-1</u>	1,059
	36	1,0	100	040 000	680	1,005	1,936	3,264	3,403	683	1,123	1,332
	101	017	60 (C	000	838	897	2,937	3,864	1,480	1,083	762	1,317
_	7+7	908		742	680	795	1,267	2,496	2,549	982	1,082	1,142
	111	5/0	2/9	692	748	914	1,381	1,179	532	1,012	920	872
		5	447	496	513	934	642	339	1,156	944	388	674
			264	494	616	B33	1,487	2,551	1,009	990	839	952
			519	298	656	912	2,433	2,738	2,029	940	784	1.162
		- PO	21/2	715	687	835	1,992	3,981	2,042	1,177	869	1,281
	2/0	292	493	514	550	920	725	1,418	847	860	632	757
	879	205	523	488	568	827	1,185	1,926	994	812	814	846
	645 0-0	505	696	763	786	838	1,557	6,890	6,411	2,319	1.523	2,033
	8/2	812	627	708	646	762	5,989	11,067	5,609	2,585	1.533	2,699
	1,118	971	905	862	956	1,257	3,532	5,734	2,255	808	871	1 732
	1,113	932	864	924	997	1,555	3,342	6,699	3.324	852	550	1 895
	991	814	742	ĥ	011	100			-			3

Simulated Flows at Colorado River Above the Confluence with the Eagle River No Action Alternative

(CFS)

ANNUAL AVG 875 730 11,139 822 822 1,1381 1,1381 1,1381 1,1381 1,064 1,064 1,026 1,026 1,085 534 2,699 534 832 693 954 787 812 õ 625 647 647 647 647 846 812 1,110 1,110 1,110 1,110 864 861 864 861 865 861 863 857 957 747 747 747 736 SEP 1,230 1,115 1,115 1,115 1,243 1,226 1,026 1,027 386 1,027 386 1,028 1,00 AUG 1,016 742 642 642 1,094 1,041 1,948 1,948 1,948 1,948 1,948 1,948 1,948 1,948 1,948 1,948 1,948 1,826 801 556 801 556 801 556 801 1,605 6411 6,411 6,411 6,411 Ę 2,305 904 1,050 1,050 683 683 683 6,181 8,187 6,187 8,187 8,187 8,187 8,187 1,332 768 1,332 768 1,968 768 768 758 4,94 1,067 716 2,776 339 JUN 1,343 549 549 1,150 971 1,150 906 906 1,784 1,103 1,918 1,918 1,296 5,989 5,989 5,989 MAY 2,189 APR 861 713 988 876 898 893 893 893 893 893 893 8915 781 781 783 785 883 815 883 863 863 865 865 865 865 865 MAR FEB JAN DEC Nov 725 787 812 936 936 936 936 936 1,147 1,147 1,147 1,143 952 952 887 887 887 887 887 887 918 918 918 499 S MAXIMUM: AVERAGE **MINIMUM:** WATER YEAR 2005

Simulated Flows

No Action Alternative (AF)

1950 59.012 35.557 24.707 23.526 26.680 31.826 51.872 54.327 1951 66.736 37.264 37.324 33.333 35.66 51.135 72.045 1955 55.316 45.603 44.407 23.303 35.064 51.136 77.304 1955 55.016 34.801 35.010 44.407 23.911 37.403 50.104 111.873 1955 57.81 35.303 31.527 27.700 36.715 48.161 29.730 1956 57.616 37.483 46.306 37.403 50.164 111.87 1957 47.216 37.403 30.701 33.828 33.723 30.200 37.733 50.164 111.87 1960 70.211 30.704 33.773 30.313 40.368 50.717 74.166 1961 77.211 30.704 30.713 30.704 30.714 45.561 50.714 110.77 1962 54.433 3	WATER YEAR	OCT	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
56/765 37,334 32,870 37,334 32,870 33,039 55,965 51,135 68,543 47,600 49,135 37,146 40,492 37,146 40,492 34,912 68,543 36,600 49,135 31,577 29,351 48,061 51,068 50,746 45,610 24,818 23,157 29,351 48,061 57,837 30,887 25,610 24,818 23,157 29,351 48,061 57,837 30,887 25,610 24,818 23,157 29,351 48,061 57,837 30,817 35,309 31,527 23,306 37,119 49,024 57,610 24,817 35,308 37,313 49,032 56,193 44,161 70,211 50,170 40,569 33,200 37,113 49,33 56,773 52,875 54,473 33,316 24,379 36,144 26,444 27,106 34,41 70,211 50,176 33,316 24,379 31,136	1950	59,012	35,557	24,707	23,526	26,680	31,826	51,972	54,329	112,816	52.022	67.789	42.782	583.018
685,543 47,600 43,156 41,513 37,146 40,482 49,912 65,316 45,603 44,407 29,788 36,054 48,161 57,837 30,877 25,810 44,407 29,788 36,054 48,161 57,837 30,877 35,810 31,577 29,351 48,064 48,161 57,837 30,877 35,809 31,577 29,351 48,161 37,403 50,184 48,161 57,837 30,817 35,309 31,577 37,170 38,775 49,493 54,677 37,418 27,100 38,773 31,136 37,119 49,493 52,875 42,477 34,988 33,770 34,133 37,119 49,493 52,875 42,477 34,988 34,777 34,988 37,113 49,433 52,875 54,577 34,988 37,113 37,119 49,493 36,141 50,761 33,322 34,777 34,914 37,113 37,314 </th <th>1951</th> <th>56,795</th> <th>37,267</th> <th>37,334</th> <th>32,870</th> <th>33,039</th> <th>35,985</th> <th>51,135</th> <th>72,045</th> <th>118,173</th> <th>150.324</th> <th>60.166</th> <th>65.743</th> <th>750.876</th>	1951	56,795	37,267	37,334	32,870	33,039	35,985	51,135	72,045	118,173	150.324	60.166	65.743	750.876
65,316 45,603 44,821 45,290 37,484 48,306 51,068 50,746 43,617 33,830 44,677 23,515 23,515 23,515 23,516 51,068 50,746 43,617 35,309 31,527 27,706 37,403 50,184 54,616 52,831 49,636 31,527 27,010 32,711 48,027 54,616 52,831 49,636 31,527 27,010 32,711 48,161 54,616 52,831 49,636 31,326 32,713 48,161 74,7216 37,403 33,328 32,913 31,336 51,710 54,616 54,247 39,319 32,713 49,314 56,796 54,247 39,319 47,736 51,710 56,766 54,247 39,319 27,719 49,314 56,773 34,817 33,328 32,913 51,610 56,773 34,817 33,328 32,413 30,414 56,766	1952	68,543	47,600	43,136	41,513	37,146	40,492	49,912	181,134	413,954	120.880	70.332	89,322	1 203 064
50,746 43,618 39,830 44,407 29,788 38,064 48,161 57,787 30,887 55,100 24,407 29,515 29,351 48,054 57,837 30,887 55,100 24,407 29,351 28,054 50,170 47,216 57,403 36,271 35,004 33,753 30,171 51,710 54,616 52,831 27,700 38,715 54,577 59,355 54,557 54,616 52,831 37,713 36,711 32,306 37,413 30,314 54,616 52,831 37,713 37,713 37,711 94,493 54,616 52,831 37,701 34,981 74,136 44,133 50,761 37,364 37,701 34,981 74,136 50,761 33,364 24,379 37,119 46,169 50,761 33,364 47,313 49,334 44,141 50,761 33,364 44,169 37,413 37,414 50,761	1953	65,316	45,603	44,621	46,290	37,484	46,306	51,068	47,506	121,404	1044	52.551	50.652	685.845
57,837 30,887 25,610 24,818 23,157 29,351 48,054 54,616 52,831 49,556 32,730 32,717 51,710 51,710 54,616 52,831 49,556 33,730 33,746 50,787 50,787 54,616 52,831 49,556 33,288 32,956 55,335 54,557 56,736 34,817 35,009 31,277 31,136 47,331 49,433 56,736 34,817 35,004 33,288 32,956 55,335 54,557 56,736 52,831 49,556 33,288 30,200 32,141 43,441 50,761 33,368 24,379 34,131 33,142 34,131 33,144 50,761 33,368 47,012 34,731 33,144 34,41 34,41 50,761 33,366 47,616 34,331 35,1216 44,731 44,73 44,731 45,395 50,761 33,616 47,616 36,164 33,616	1954	50,746	43,618	39,830	44,407	29,788	38,064	48,161	29,739	27,900	54,780	45,788	29.341	482.162
49,037 36,271 35,399 31,527 27,700 38,715 48,822 47,216 37,468 34,77 31,136 37,403 50,184 47,216 37,468 34,77 31,136 37,403 50,184 47,216 37,468 34,77 31,136 37,403 50,184 47,216 51,70 38,715 51,710 38,735 54,557 52,875 54,265 37,403 33,319 47,236 50,184 50,787 37,012 37,012 37,403 37,403 51,710 56,786 54,265 42,347 39,319 40,566 53,304 43,731 56,738 42,347 33,368 27,012 34,737 31,136 37,119 49,314 56,738 42,347 33,319 42,566 53,305 51,305 51,316 56,738 56,738 33,3682 30,306 37,408 54,41 34,41 56,738 56,169 27,918 42,366	1955	57,837	30,887	25,610	24,818	23,157	29,351	48,054	51,440	54,351	36,621	57,125	47,455	486.706
47,216 37,488 34,730 32,911 32,306 37,403 50,184 54,616 52,831 40,5506 41,607 41,336 37,119 49,493 54,616 52,831 40,5506 32,913 37,119 49,493 56,796 54,285 42,347 34,981 32,136 37,119 49,493 50,761 53,286 42,347 32,319 40,560 52,297 130,245 50,787 54,863 33,388 32,956 55,004 33,14 43,731 49,314 50,787 54,877 31,136 41,731 49,314 34,41 50,787 54,619 25,444 25,468 34,41 34,41 55,618 55,002 33,704 51,703 34,669 52,810 56,738 47,081 39,355 40,446 34,381 51,57 53,364 56,573 38,682 33,682 31,689 31,689 51,710 56,610 27,911 25,866	1956	49,037	36,271	35,399	31,527	27,700	38,715	46,822	80,051	103,423	45,966	73,951	38,807	609,669
54,616 52,831 49,635 41,607 41,380 47,236 50,787 51,710 70,211 50,170 40,569 33,733 31,136 37,119 51,710 70,211 50,170 40,569 33,733 31,136 37,119 51,710 70,211 50,170 40,569 33,733 30,200 32,711 51,710 70,211 50,717 34,913 37,119 47,533 54,557 54,557 50,761 33,369 24,379 39,319 40,560 52,291 130,245 50,761 33,368 37,012 34,701 34,91 47,719 51,216 50,778 50,042 47,819 42,947 39,316 51,395 51,216 54,605 50,042 47,81 27,814 25,443 43,441 43,333 34,617 34,318 43,641 43,441 55,738 53,616 34,361 47,561 53,314 55,738 54,616 33,366	1957	47,216	37,468	34,730	32,911	32,306	37,403	50,184	111,874	306,403	235,623	101,325	52,657	1.080.100
49.325 34,817 35,004 33.723 30,200 32,717 51,710 70,211 50,170 40,569 33,739 40,550 52,297 130,245 52,865 54,372 34,908 34,737 31,136 57,119 49,331 50,761 50,761 33,872 37,319 40,560 52,297 130,245 50,761 33,369 24,379 25,444 22,198 31,136 51,216 50,761 33,365 50,042 47,819 42,864 38,157 53,041 43,441 50,761 33,362 37,012 33,701 33,441 27,391 51,216 54,565 50,042 47,804 42,964 38,157 53,041 43,441 42,526 32,368 34,336 24,314 25,395 54,334 56,733 36,629 57,396 31,565 54,336 54,336 56,733 36,629 54,336 24,336 54,336 54,336 56,733	1858	54,616	52,831	49,636	41,607	41,389	47,236	50,787	186,040	263,871	49,358	73,539	42,217	953,127
70,211 50,170 40,569 33,288 32,956 55,335 54,557 52,875 40,472 34,981 37,113 37,119 49,314 50,766 54,285 42,347 39,319 40,560 52,297 130,245 50,761 33,368 23,7012 34,707 34,981 44,731 49,314 50,761 33,368 23,702 25,444 22,198 37,119 49,314 50,761 33,368 24,377 32,916 27,918 24,171 30,245 50,042 47,819 42,944 38,157 53,041 43,441 42,526 50,042 47,814 25,482 44,173 44,173 42,526 32,821 27,981 27,914 25,482 44,173 42,573 8,632 33,682 30,0568 30,306 54,411 42,566 53,327 43,946 25,810 35,421 36,431 55,733 53,464 41,917 34,491 25,414	1959	49,326	34,817	35,004	33,723	30,200	32,717	51,710	74,156	88,616	40,533	67,349	50.250	588.401
52,875 43,472 34,988 34,737 31,136 37,119 49,493 66,796 54,265 42,347 39,319 40,560 52,297 130,245 59,433 42,345 37,012 34,707 34,981 44,731 49,314 50,761 33,358 24,379 25,444 22,198 21,981 51,216 50,761 33,356 50,042 47,819 42,560 52,297 130,245 54,605 50,042 47,819 22,181 22,181 23,169 31,629 51,305 54,605 50,042 47,819 42,964 38,157 33,174 43,441 42,526 32,811 33,355 40,446 34,337 34,06 45,438 58,032 33,656 53,327 43,168 24,917 39,436 45,438 56,169 52,730 39,355 44,947 39,436 45,638 53,704 54,438 56,169 52,730 39,355 44,947 39,496 </th <th>1960</th> <th>70,211</th> <th>50,170</th> <th>40,569</th> <th>33,288</th> <th>32,956</th> <th>55,335</th> <th>54,557</th> <th>81,827</th> <th>120,174</th> <th>53,094</th> <th>65,299</th> <th>41.075</th> <th>698.555</th>	1960	70,211	50,170	40,569	33,288	32,956	55,335	54,557	81,827	120,174	53,094	65,299	41.075	698.555
66.796 54.265 42.347 39.319 40.560 52.297 130,245 59,433 42,345 37,012 34,707 34,981 44,731 49,314 50,761 33,368 24,379 25,444 22,198 51,216 51,395 50,761 33,368 24,379 25,444 22,198 21,395 51,216 55,738 37,012 34,707 34,981 44,41 33,441 43,441 55,738 47,081 33,355 40,446 34,387 33,169 51,57 53,041 45,438 56,169 52,730 45,649 44,947 39,496 45,689 52,703 54,198 54,178 54,178 54,178 54,178 54,178 54,178 54,178 55,361 50,373 36,447 36,447 36,447 36,447 54,438 54,418 55,364 56,56 57,308 54,178 54,418 54,418 56,364 56,57 53,364 56,169 51,557 53,364 56,169	1961	52,875	43,472	34,988	34,737	31,136	37,119	49,493	50,825	50,921	51,158	69,891	48,539	555,154
59,433 42,345 37,012 34,707 34,981 44,731 49,314 50,781 33,369 24,379 25,444 22,198 29,813 51,216 50,781 33,369 24,379 25,444 22,198 31,629 51,395 50,781 33,369 24,379 25,444 22,198 31,629 51,395 54,605 50,042 47,819 42,566 32,704 54,178 34,41 42,526 32,821 27,981 27,814 25,482 44,159 30,169 56,073 39,555 40,446 34,387 33,704 54,178 56,169 55,327 43,168 44,947 39,305 56,802 56,169 55,327 44,141 39,395 56,802 55,315 56,178 56,169 55,327 44,1821 47,0315 56,373 56,802 56,410 56,169 55,313 36,313 56,313 56,313 56,313 56,313 56,169	1962	66,796	54,265	42,347	39,319	40,560	52,297	130,245	256,053	364,942	183,446	54,222	58,879	1.343.391
50,761 33,359 24,379 25,444 22,198 29,813 51,216 54,605 50,042 47,819 42,964 38,157 53,041 43,441 43,328 34,871 33,872 32,287 27,908 31,629 51,395 56,092 38,632 33,682 30,056 30,306 33,704 43,441 42,526 32,821 27,981 27,814 25,482 44,159 39,169 56,092 38,632 33,682 30,056 30,306 33,704 43,441 48,536 53,327 43,169 44,947 38,406 45,438 56,169 52,310 45,649 44,947 39,3955 36,315 59,364 47,746 47,804 41,441 39,3351 36,369 51,557 53,364 65,172 44,133 43,322 36,988 40,770 50,720 56,410 65,172 44,133 43,322 36,988 40,770 50,373 54,410	1963	59,433	42,345	37,012	34,707	34,981	44,731	48,314	48,581	40,042	69,838	59,577	47,970	568,531
43,328 34,871 33,872 32,287 27,908 31,629 51,385 54,605 50,042 47,819 42,526 32,821 27,914 25,482 44,159 39,169 56,042 47,819 42,656 32,821 27,981 27,814 25,482 44,159 39,169 56,169 38,632 30,058 30,306 33,704 54,178 54,41 65,738 47,081 39,355 40,446 34,387 38,408 45,438 65,738 53,327 43,188 44,947 39,496 45,689 52,703 56,169 52,730 45,649 44,698 40,770 50,720 55,703 56,112 44,127 41,141 39,995 35,850 41,821 47,315 65,773 45,653 44,141 39,995 35,865 53,410 65,112 44,127 41,103 41,283 56,880 55,566 65,112 44,127 41,184 41,821 47,315 <th>496</th> <th>50,761</th> <th>33,369</th> <th>24,379</th> <th>25,444</th> <th>22,198</th> <th>29,813</th> <th>51,216</th> <th>58,854</th> <th>65,184</th> <th>28,387</th> <th>63,734</th> <th>37,939</th> <th>491,278</th>	496	50,761	33,369	24,379	25,444	22,198	29,813	51,216	58,854	65,184	28,387	63,734	37,939	491,278
54,605 50,042 47,819 42,864 38,157 53,041 43,441 42,526 32,821 27,811 25,482 44,159 39,169 58,092 38,632 33,555 40,446 34,387 38,408 45,438 56,169 52,730 47,081 39,355 40,446 34,387 38,408 45,438 48,536 53,327 43,158 44,947 39,496 45,669 52,810 56,169 52,730 45,649 44,698 40,770 50,720 55,703 56,169 52,770 39,951 44,141 39,935 35,850 41,835 59,802 55,112 44,127 41,103 41,693 43,325 36,989 51,557 53,364 55,1726 52,730 39,955 44,139 43,325 36,989 51,557 53,441 65,172 39,989 51,575 33,447 45,987 54,410 65,076 31,545 27,445 37,469 42,410 </th <th>1962</th> <th>43,328</th> <th>34,871</th> <th>33,872</th> <th>32,287</th> <th>27,908</th> <th>31,629</th> <th>51,395</th> <th>82,844</th> <th>150,388</th> <th>94,373</th> <th>97,406</th> <th>58,669</th> <th>738,970</th>	1962	43,328	34,871	33,872	32,287	27,908	31,629	51,395	82,844	150,388	94,373	97,406	58,669	738,970
42.52b 32.821 27,981 27,814 25,482 44,159 39,169 58,092 38,632 33,555 40,446 34,387 38,408 45,438 65,738 47,081 39,355 40,446 34,387 38,408 45,438 65,738 53,327 43,158 44,947 39,496 45,689 52,703 56,169 52,730 45,649 44,698 40,770 50,720 55,703 56,169 52,730 45,649 44,698 40,770 50,720 55,703 65,172 39,951 44,141 39,995 35,850 41,835 59,802 65,172 39,951 44,103 41,041 39,995 35,850 41,821 47,315 65,172 39,955 44,127 41,103 41,293 36,447 45,987 54,410 65,076 37,506 31,545 27,455 37,465 47,315 54,216 59,222 45,683 31,693 35,556 41,821 <th>1966</th> <th>54,605</th> <th>50,042</th> <th>47,819</th> <th>42,964</th> <th>38,157</th> <th>53,041</th> <th>43,441</th> <th>55,031</th> <th>33,444</th> <th>51,021</th> <th>75,951</th> <th>32,359</th> <th>577,875</th>	1966	54,605	50,042	47,819	42,964	38,157	53,041	43,441	55,031	33,444	51,021	75,951	32,359	577,875
56,1092 38,632 33,662 30,058 30,306 33,704 54,178 65,738 47,081 39,355 40,446 34,387 38,408 45,438 65,738 47,081 39,355 40,446 34,387 38,408 45,438 55,169 52,730 45,649 44,698 40,770 50,720 55,703 56,169 52,730 45,649 44,698 40,770 50,720 55,703 65,172 39,951 44,141 39,995 35,850 41,835 59,602 65,172 44,127 41,103 41,693 30,447 45,867 53,64 65,172 44,127 41,103 41,184 41,821 47,315 59,262 45,695 31,545 27,445 37,865 54,64 57,934 35,528 31,644 30,237 27,445 37,865 44,6164 51,736 41,729 31,746 37,865 44,6164 54,66 57,934 35,646	1961	42,526	32,821	27,981	27,814	25,482	44,159	39,169	44,549	71,300	39,259	73,837	55,884	524,781
b5,738 47,081 39,355 40,446 34,387 38,408 45,438 48,536 53,327 43,188 44,947 39,496 45,669 52,810 56,169 52,730 45,649 44,698 40,770 50,720 55,703 56,169 52,730 45,649 44,698 40,770 50,720 55,703 65,570 39,951 44,009 39,351 38,031 55,569 52,703 47,746 47,746 47,804 41,441 39,995 35,850 41,835 59,802 65,172 44,127 41,103 41,069 41,184 41,821 47,315 59,262 44,805 41,374 41,283 38,447 45,987 54,410 55,076 37,506 31,545 27,455 27,445 37,865 49,546 57,934 35,678 31,689 33,169 40,317 54,260 57,934 35,678 31,649 37,445 37,865 49,546	1968	58,092	38,632	33,682	30,058	30,308	33,704	54,178	62,840	126,982	40,082	38,675	59,342	606,575
48.536 53.327 43.188 44.947 39.496 45.669 52.810 56,169 52,730 45,649 44,698 40,770 50.720 55,703 65,169 52,730 45,649 44,698 40,770 50.720 55,703 65,5730 45,649 44,698 40,770 50.720 55,703 65,112 44,127 41,103 41,693 30,447 45,885 59,802 65,112 44,127 41,103 41,293 30,447 45,987 54,410 59,262 45,805 31,545 27,455 37,566 55,566 57,934 35,628 34,404 30,237 27,445 37,865 49,546 57,934 35,628 34,404 30,237 27,445 37,865 49,546 53,077 43,661 37,668 37,668 32,766 55,566 53,077 43,683 37,669 33,166 42,232 49,664 53,1736 37,768 37,768	80A1	BE/ '99	47,081	39,355	40,446	34,387	38,408	45,438	96,253	116,285	98,344	64,676	55,039	741,430
56,169 52,730 45,649 44,698 40,770 50,720 55,703 63,570 39,951 44,009 39,351 36,031 55,361 50,373 47,746 47,804 41,441 39,995 35,850 41,835 59,802 65,242 45,653 44,139 43,325 36,989 51,557 53,364 65,112 44,127 41,103 41,069 41,184 41,821 47,315 59,262 45,805 41,374 41,293 36,447 45,987 54,410 59,262 45,805 41,374 41,293 36,447 45,987 54,410 59,262 41,374 41,283 36,447 45,987 54,410 57,934 35,628 31,404 30,237 27,445 37,865 54,546 53,077 43,681 37,608 37,669 32,766 54,546 53,155 53,470 37,865 32,575 30,302 28,521 33,791 54,768	0/RL	48,536	53,327	43,168	44,947	39,496	45,669	52,810	191,590	299,778	141,451	69,739	48,406	1,078,917
65,242 55,361 50,371 55,361 50,373 47,746 47,804 41,441 39,995 35,850 41,835 59,802 65,242 45,653 44,139 43,325 36,989 51,557 53,364 65,112 44,127 41,103 41,069 41,184 41,821 47,315 59,262 45,805 41,374 41,293 36,447 45,987 54,410 59,262 45,805 41,374 41,293 36,447 45,987 54,410 59,262 45,805 41,374 41,293 36,447 45,987 54,410 59,262 45,805 31,545 27,455 27,445 37,865 49,546 53,077 43,661 37,608 37,669 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,686 42,232 49,664 53,077 43,689 37,469 33,186 40,317 54,260 53,155 39,686		50,169	52,730	45,649	44,698	40,770	50,720	55,703	140,105	337,632	168,969	56,715	62,192	1,112,052
47,74b 47,74b 47,804 41,441 39,995 35,850 41,835 59,802 65,242 45,653 44,139 43,325 36,989 51,557 53,364 65,242 45,653 44,139 43,325 36,989 51,557 53,364 65,076 37,506 31,545 27,455 27,569 31,566 55,566 53,077 43,681 37,608 37,669 31,545 27,445 37,865 49,546 53,077 43,681 37,608 37,669 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,688 42,232 49,664 53,077 43,681 37,689 37,169 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,686 42,232 49,664 53,077 43,689 37,489 37,346 37,701 54,260 53,155 53,156 37,702 27,425 33,701 54,768 <th>Z/RI</th> <th>0/070</th> <th>106,85</th> <th>44,009</th> <th>39,351</th> <th>36,031</th> <th>55,361</th> <th>50,373</th> <th>89,619</th> <th>169,641</th> <th>53,967</th> <th>76,726</th> <th>46,239</th> <th>766,838</th>	Z/RI	0/070	106,85	44,009	39,351	36,031	55,361	50,373	89,619	169,641	53,967	76,726	46,239	766,838
b5,242 45,153 44,139 43,325 36,989 51,557 53,364 62,112 44,127 41,103 41,069 41,184 41,821 47,315 59,262 45,805 41,374 41,293 36,447 45,987 54,410 65,076 37,506 31,545 27,455 27,569 31,566 55,566 53,077 43,661 37,608 37,608 37,669 31,566 55,566 53,077 43,661 37,608 37,669 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,688 42,232 49,664 53,077 43,661 37,608 37,669 33,186 40,317 54,260 51,736 44,636 35,677 30,202 28,521 33,791 54,768 53,155 39,982 35,172 27,129 34,851 49,216 53,489 51,912 49,475 42,732 42,768 55,832 53,488	E/AL	47,745	47,804	41,441	39,895	35,850	41,835	59,802	119,017	194,248	209,233	60,419	66,841	964,231
62,112 44,127 41,103 41,069 41,184 41,821 47,315 59,262 45,895 41,374 41,293 38,447 45,987 54,410 65,076 37,506 31,545 27,455 27,569 31,566 55,566 57,934 35,628 34,404 30,237 27,445 37,865 49,546 53,077 43,661 37,608 37,608 37,669 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,688 42,232 49,664 53,077 43,661 37,608 37,689 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,688 42,232 49,664 53,155 39,992 35,172 27,129 34,951 49,216 53,489 37,345 31,199 32,172 27,129 34,951 49,216 53,489 51,912 49,475 42,732 42,330 55,832 664,55 <th>4/R</th> <th>00,242</th> <th>40,053</th> <th>44,139</th> <th>43,325</th> <th>36,989</th> <th>51,557</th> <th>53,364</th> <th>180,579</th> <th>229,951</th> <th>90,991</th> <th>66,565</th> <th>45,343</th> <th>953,698</th>	4/R	00,242	40,053	44,139	43,325	36,989	51,557	53,364	180,579	229,951	90,991	66,565	45,343	953,698
53,702 45,805 41,374 41,293 36,447 45,987 54,410 65,076 37,506 31,545 27,455 27,569 31,566 55,566 53,077 43,661 37,506 31,545 27,445 37,865 49,546 53,077 43,661 37,608 37,669 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,688 42,232 49,664 53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,155 39,992 35,172 27,129 34,851 54,768 53,489 37,345 31,199 32,172 27,129 34,851 49,216 67,488 51,912 49,475 42,732 42,330 55,832 67,488 51,912 49,576 39,346 39,747 45,343 92,159 66,555	5/81	62,112 F0.000	44,127	41,103	41,069	41,184	41,821	47,315	77,901	148,547	156,706	60,375	64,398	826,658
b5,0/7 37,506 31,545 27,455 27,569 31,566 55,566 57,934 35,628 34,404 30,237 27,445 37,865 49,546 53,077 43,661 37,608 37,669 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,688 42,232 49,664 53,077 43,661 37,608 37,689 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,688 42,232 49,664 53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,489 37,345 31,199 32,172 27,129 34,951 49,215 67,488 51,912 49,475 42,782 42,353 48,309 55,832 82,159 66,555 59,688 55,670 47,867 58,747 45,343 82,159 66,555 59,688 55,670 47,867 58,743 46,11 <th>0/R1</th> <th>297'60</th> <th>45,895</th> <th>41,374</th> <th>41,293</th> <th>38,447</th> <th>45,987</th> <th>54,410</th> <th>84,945</th> <th>70,144</th> <th>32,694</th> <th>62,203</th> <th>54,752</th> <th>631,406</th>	0/R1	297'60	45,895	41,374	41,293	38,447	45,987	54,410	84,945	70,144	32,694	62,203	54,752	631,406
51,034 35,528 34,404 30,237 27,445 37,865 49,546 53,077 43,681 37,608 37,669 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,688 42,232 49,664 53,175 39,992 35,757 30,302 28,521 33,791 54,768 53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,489 37,345 31,199 32,172 27,129 34,951 49,215 49,760 50,263 49,475 42,782 42,353 48,309 55,832 67,488 51,912 49,576 39,346 39,747 45,343 92,159 66,555 59,688 55,670 47,867 58,770 74,811 84,911 66,253 57,286 53,113 51,340 51,293 92,545 64,102 58,953 50,077 45,634 42,773 50,284 58,600	1/81	9/0'cg	31,505	31,545	27,455	27,569	31,566	55,566	39,460	20,191	71,064	58,070	23,110	488,178
53,07/ 43,661 37,669 33,186 40,317 54,260 51,736 44,636 42,847 47,475 39,668 42,232 49,664 53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,489 37,345 31,199 32,172 27,129 34,951 49,215 49,760 50,263 49,475 42,782 42,353 48,309 55,832 67,488 51,912 49,576 39,346 39,747 45,343 92,159 66,555 59,688 55,670 47,867 58,770 74,811 84,911 66,253 57,286 53,113 51,340 51,293 92,545 64,102 58,953 50,077 45,634 42,737 50,284 58,600	9/A1	57,944	35,628	34,404	30,237	27,445	37,865	49,546	91,405	151,807	62,031	60,898	49,951	689,151
51,735 44,636 42,847 47,475 39,668 42,232 49,664 53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,489 37,345 31,199 32,172 27,129 34,951 49,215 67,488 51,912 49,475 42,782 42,353 48,309 55,832 67,488 51,912 49,576 39,346 39,747 45,343 92,159 66,555 59,688 55,670 47,867 58,770 74,811 84,911 66,253 57,286 53,113 51,340 61,293 92,545 64,102 58,953 50,077 45,634 42,7737 50,264 58,600	6JAL	1/0,50	43,661	37,608	37,669	33,186	40,317	54,260	149,609	162,935	124,779	57,815	46,623	841,539
53,155 39,992 35,757 30,302 28,521 33,791 54,768 53,489 37,345 31,199 32,172 27,129 34,951 49,215 653,489 37,345 31,199 32,172 27,129 34,951 49,215 67,486 51,912 49,475 42,782 42,353 48,309 55,832 67,486 51,912 49,959 38,576 39,346 39,747 45,343 92,159 66,555 59,688 55,670 47,867 58,770 74,811 84,911 66,253 57,286 53,113 51,340 61,293 92,545 64,102 58,953 60,077 45,634 42,737 50,284 58,600	1980	51,736	44,636	42,847	47,475	39,668	42,232	49,664	122,496	236,869	125,590	72,374	51,723	927,330
53,489 37,345 31,199 32,172 27,129 34,851 49,215 49,760 50,263 49,475 42,782 42,353 48,309 55,832 67,486 51,912 49,555 38,576 39,346 39,747 45,343 92,159 66,555 59,688 55,670 47,867 58,770 74,811 84,911 66,253 57,286 53,113 51,340 61,293 92,545 64,102 58,953 50,077 45,634 42,737 50,284 58,600	Lael	53, 155 10	399,982	35,757	30,302	28,521	33,791	54,768	44,572	84,359	52,055	52,907	37,596	547,775
49./60 50.263 49.475 42.782 42.353 48.309 55,832 67.486 51.912 49,959 38.576 39.346 39.747 45,343 92.159 66.555 59.688 55,670 47,867 58.770 74,811 84.911 66.253 57,286 53,113 51,340 61,293 92,545 64,911 66,253 57,286 53,113 51,340 61,293 92,545 64,102 58,953 50,077 45,634 42,737 50,284 58,600	2961	53,489	37,345	31,199	32,172	27,129	34,851	49,215	72,885	114,613	61,149	49,957	48,456	612,540
67,486 51,912 49,959 38,576 39,346 39,747 45,343 92,159 66,555 59,688 55,670 47,867 58,770 74,811 84,911 66,253 57,286 53,113 51,340 61,293 92,545 64,911 66,253 57,286 53,113 51,340 61,293 92,545 64,917 66,253 57,286 53,113 51,340 61,293 92,545 64,102 58,953 50,077 45,634 42,737 50,284 58,600	29991	49,760	50,263	49,475	42,782	42,353	48,309	55,832	95,737	409,970	394,210	142,598	90,605	1.471.894
92,159 66,555 59,688 55,670 47,867 58,770 74,811 1 64,911 66,253 57,286 53,113 51,340 61,293 92,545 7 64,911 66,253 57,286 53,113 51,340 61,293 92,545 7 64,912 58,953 50,077 45,634 42,737 50,264 58,600	1984	67,486	51,912	49,959	38,576	39,346	39,747	45,343	368,234	658,537	344,872	158,964	91,203	1.954,179
7 64,911 66,253 57,286 53,113 51,340 61,293 92,545 7 64,102 58,953 50,077 45,634 42,737 50,264 58,600	1985	92,159 27,255	66,555	59,688	55,670	47,867	58,770	74,811	217,163	341,209	138,639	49,703	51,846	1,254,080
b4,1U2 58,853 50,077 45,634 42,737 50,264 58,600		116,40	66,253	57,286	53,113	51,340	61,293	92,545	205,469	398,647	204,369	52,393	56,808	1,364,427
	104	D4,102	56,953	P0'01/	45,634	42,737	50,264	58,600	91,806	82,773	44,204	54,434	74,294	717,878

Simulated Flows at Colorado River Below the Confluence with the Eagle River No Action Alternative (AF)

WATER												ĺ	
YEAR	oct	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
1988	44,555	44,674	39,180	39,770	35,538	40.387	51.260	R2.550	137.179	R2 477	75, 827	37 170	000 000
1989	48,368	43,504	34,820	35.559	32,789	52 668	42 430	78 027	53 803	AE EAE			
1990	49,913	36,669	35.348	32,063	28 739	40.618	58 774	33 706			00,010	180'00	10,075
1001	57 504	AD 286		01.001					204,20	13,002	000'90	020'90	529,120
	10001	C07'04	32,240		458,62	36,271	52,120	70,722	89,143	67,270	76,406	50,347	633,416
7.8.8.1	012,56	46,176	36,901	33,317	33,042	43,800	41,408	59,677	40,653	39,499	63,098	37,843	528.624
1863	46,467	39,375	33,547	35,096	33,094	41,729	49,404	118,484	212,172	120.504	46.268	48.345	R24 485
1994	55,767	51,330	41,396	37,610	35,783	53,109	47,913	67,818	39.453	63.996	65,997	34 765	504 027
1995	37,360	36,989	32,190	30,231	30,416	41,543	53,149	55.708	249,726	294 730	82 496	55 162	000 710
1996	54,512	55,670	44,715	43,376	42,404	49.078	58.811	258.358	367 623	119 701	BR OOB		
1997	49,841	48,417	45,722	40.915	42.716	53.403	46.617	255 182	402 028	166147	200 10		
1996	58.512	58,173	46,658	49.543	43 349	AD 786	54 471	100 700	70,005		202.07	82/100	412,285,14
1000		000 21						201,801	CCZ'R/	82,430	43,597	66,052	752,512
0000	00000	A08.14	31,2/0		35,790	50,614	46,490	83,808	155,975	112,249	46,074	51,429	770.288
0002	/0,271	47,089	38,952	42,223	40,118	46,518	49,889	117,946	117.114	46.251	74,992	51,236	742 500
2001	48,366	47,297	41,000	37,414	35,189	42,728	44,559	69.177	45,679	49,240	61 605	4R 03R	E71 100
2002	53,966	38,036	28,291	27,228	25.117	35,255	44,430	72, 327	27 080	24 217	202 000		
2003	40,979	32.280	28.365	27,154	25 159	37 926	47 258	70 677	00.051				000,010
2004	51 80.4	A1 534							107'22	140,24	64,603	36,919	602,698
1007		41,064		32,017	104 RZ	50,035	41,771	36,270	29,406	47,184	62,301	44,450	501,414
2002	1,324	42,306	32,675	32,131	27,344	32,525	46,684	71,434	89,625	38,525	56.016	47.233	587,822
AVEHAGE	56,457	44,449	38,772	37,053	34,300	43,203	52,886	103,290	165,198	98.675	67,366	50,809	792 558
MINIMUM:	37,360	30,887	24,379	23,526	22, 198	29,351	39,169	27.327	20,191	28.387	161 86	01.650	206,215
MAXIMUM:	92,159	66,555	59,688	55,670	51.340	61,293	130 245	368 234	ALR 537	201 210	150.051		
						2		5	100,000	012 +00	100,000	ENZ'IR	B/L,908,1

Simulated Flows at Colorado River near Kremmling at USGS Gage 09058000 No Action Alternative (CFS)

WATER YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	МАУ	NUL	JUL	AUG	SEP	ANNAL
1950	911	494	348	326	410	446	624	517	1.405	854	1 099	708	870
1951	877	530	507	480	483	504	675	577	1.098	2.250	876	1 088	6.01 8.21
1952	1,008	683	604	596	583	584	528	1.858	5,610	1,866	1 019	1 408	1 260
1953	1,021	668	695	620	581	644	677	364	1.364	1,178	752	R56	786
1954	768	627	555	551	510	522	618	223	432	923	747	467	580
1955	874	425	363	356	355	401	653	419	593	557	855	821	549
1958	746	510	475	440	426	539	532	374	1,212	718	1.146	674	650
1957	713	527	494	473	481	517	679	1,011	3,505	3,264	1.441	273	1.160
1958	758	763	705	600	634	663	678	1,967	3,923	782	1.177	203	1112
1959	754	479	484	454	451	454	692	603	980	610	1,011	788	647
1960	959	574	597	479	514	694	416	733	1,421	794	1,044	069	753
1961	96/	624	518	539	490	510	681	314	396	775	1,071	583	609
1962	873	747	598	553	559	679	1,334	2,802	5,227	2,676	782	951	1.483
1962	818	512	477	493	522	909	570	401	512	1,174	921	750	648
1961	764	431	313	341	335	411	707	462	651	421	1,017	616	540
1965	638	461	444	440	406	402	654	663	1,488	1,330	1,437	860	
1966	721	678	640	599	588	728	516	537	489	839	1.205	526	674
1967	816	444	389	367	377	593	415	278	708	529	1,178	875	565
1968	864	547	448	435	460	445	756	447	1,202	519	504	946	630
1969	116	669	547	557	527	511	410	875	1,614	1,473	977	843	834
0/81		745	628	653	578	612	721	1,806	4,290	2,066	1,014	687	1.204
L/AL	23	736	671	811	571	611	597	1,483	4,717	2,474	822	944	1.249
1972	952	566	575	507	551	735	577	894	2,278	802	1,181	677	859
1973	589	616	514	501	498	506	739	1,037	2,594	3,139	806	1.041	1.051
1974	972	660	565	586	521	667	574	1,792	3,321	1,304	975	693	1.054
19/BL	906 1	590	513	510	558	528	592	631	1,435	2,146	840	266	856
9/61	847	605	535	544	526	597	542	718	750	474	945	833	660
1977	946	510	443	357	396	432	787	478	343	1,169	910	369	598
8/61	881	501	458	399	412	525	608	839	1,402	819	958	802	718
6/61	7 6/	591	563	575	521	530	615	1,431	1,711	1,753	880	752	896
0961	761	599	555	631	583	572	662	1,054	3,130	1,921	1,123	775	1.031
1961	788	540	467	401	437	472	791	449	579	808	862	589	600
1982	111	525	418	460	407	428	591	444	1,140	602	693	705	608
1983	664 201	688	701	597	657	874	798	912	5,486	6,020	2,113	1,404	1,731
5051	965 1000	659	653	523	659	496	560	4,926	966'6	5,229	2,363	1,294	2,358
1965	1,302	1,051	881	6//	200	785	814	2,103	4,764	2,008	690	774	1,388

Simulated Flows at Colorado River near Kremmling at USGS Gage 09058000 No Action Alternative

(CFS)

ANNUAL 1,550 890 503 2,358 AVG 614 692 732 7,101 1,101 1,421 1,573 819 819 843 807 . 778 503 706 595 618 715 677 623 g 1,498 SEP AUG 728 845 845 11,169 11,169 727 727 727 727 727 1,003 1,012 866 665 665 1,222 1,023 1,023 1,023 1,023 1,025 1,025 1,025 892 2,363 2,363 3,087 687 687 688 678 678 878 878 1,057 1,054 1,057 1,259 1,606 1,606 1,606 772 8845 8845 8845 8845 805 805 805 805 6,020 6,020 Ŋ 5,705 1,177 1,177 701 811 811 1,066 612 51,066 612 51,066 612 51,066 612 51,066 612 51,066 51 NDS MAY APR MAR 810 686 686 683 688 883 553 688 682 682 682 553 784 682 553 782 828 828 828 828 828 828 FEB JAN DEC 763 678 678 678 678 659 611 4435 653 8639 6533 8614 611 613 899 8633 3399 8645 3313 3313 881 NOV 900 847 772 838 855 855 855 853 833 833 833 740 1,040 764 764 833 833 833 833 833 833 833 833 833 740 1,0400 50 MINIMUM: MAXIMUM: AVERAGE WATER YEAR 1999 2000 2000 2000 2000 2000 2000 2000 986 1986 086 1966 1987 1995 1996 1996 866 1997 **366** 66

Simulated Flows at Colorado River near Kremmling at USGS Gage 09058000 No Action Alternative (AF)

1950 56.021 29.373 21.422 20.053 22.74 27.426 37.138 31.751 1951 53.309 31.556 31.153 29.503 26.816 31.000 40.181 35.504 1955 61.971 40.644 31.153 23.534 21.442 22.327 25.738 1955 62.711 36.141 32.279 35.504 40.340 114.260 1955 45.801 45.601 45.701 33.152 31.632 22.333 1955 45.840 31.752 37.138 31.752 37.132 31.641 32.727 1956 45.840 45.407 43.368 29.912 35.206 40.749 19.723 1956 45.840 45.407 43.368 31.327 31.644 32.939 17.201 1966 47.439 36.912 37.132 31.644 32.939 17.201 1966 47.430 36.912 37.326 41.720 73.339 14.63 3	WATER YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	ากเ	AUG	SEP	TOTAL
53,909 31,526 31,153 29,503 26,816 31,000 40,181 61,971 40,648 37,119 36,641 32,922 35,907 31,440 62,754 33,728 34,127 36,816 31,000 40,181 62,754 33,738 34,132 36,817 33,132 31,659 40,306 62,754 33,326 23,327 36,817 37,132 31,659 40,306 63,711 25,256 30,362 29,061 26,735 31,759 40,370 46,601 46,507 37,152 31,722 31,172 34,444 33,92 53,084 44,439 36,718 37,152 31,723 31,167 33,175 48,950 37,152 31,742 33,118 27,207 31,377 40,499 53,084 44,439 36,753 31,155 35,100 31,167 53,084 34,136 27,207 31,375 4,174 30,392 53,088 36,811	1950	56,021	29,373	21,422	20.053	22.754	27.426	37 138	31 7R1	R2 577	50 595	07 COD	10101	011 101
61,971 40,648 37,119 36,641 32,922 35,907 31,440 62,764 39,750 42,740 36,142 32,279 39,559 40,306 53,711 52,228 56,073 31,753 31,753 31,753 31,659 40,306 53,711 52,728 30,362 29,061 35,236 40,743 40,370 45,865 30,365 29,189 27,043 35,236 40,743 40,370 45,865 31,367 30,362 29,061 35,236 40,743 40,370 46,601 45,407 43,365 30,316 29,010 37,248 33,912 56,617 19,267 20,375 18,618 27,003 31,327 40,370 56,308 34,458 30,315 29,010 37,248 33,912 56,308 37,456 24,741 38,922 36,821 36,921 56,308 37,556 20,373 31,324 31,327 32,466 56,303	1951	53,909	31,526	31,153	29,503	26,816	31.000	40.181	35,504	65.322	128,328	000' /0 53 785	421 124 6.4 774	431,172 601 000
B2,754 39,750 42,740 38,142 32,279 39,599 40,306 47,220 37,288 34,127 33,895 28,337 32,116 38,801 53,711 25,286 22,334 21,867 30,355 31,369 40,370 45,865 31,367 30,365 29,189 27,043 25,574 33,132 41,87 45,865 31,367 33,369 27,043 25,574 27,923 41,187 46,801 45,407 36,827 30,355 29,010 37,728 40,370 56,816 47,738 36,912 35,536 40,743 40,370 56,816 44,778 36,912 35,236 40,743 40,370 56,816 44,478 36,912 35,236 40,743 40,370 56,308 36,748 39,311 27,207 39,393 26,748 39,392 56,308 36,715 20,743 37,566 24,749 36,746 24,749 39,200	1952	61,971	40,648	37,119	36,641	32,922	35,907	31,440	114.260	333,832	114,751	A2 629	80 116	001,000
47,220 37,288 34,127 33,895 28,337 32,115 38,801 53,711 25,286 22,334 21,887 19,711 24,644 32,927 45,865 30,369 29,189 27,043 25,677 33,132 31,759 40,380 45,865 30,368 29,189 27,043 25,677 31,775 40,499 46,601 45,407 43,368 36,912 35,536 40,743 40,499 55,617 30,482 29,116 30,315 27,07 31,377 40,499 55,617 19,277 33,118 27,207 31,377 40,499 55,617 19,267 30,315 27,073 31,377 40,499 55,617 19,277 33,118 27,207 31,377 40,499 55,617 19,267 30,315 26,016 27,939 30,734 55,884 40,370 36,821 30,316 27,207 31,414 30,734 55,884 40,376	1953	62,764	39,750	42,740	38,142	32,279	39,599	40,306	22,397	81.176	72.425	46.237	50 907	568 722
53,711 25,286 22,334 21,887 19,771 24,644 32,927 45,865 30,369 28,189 27,043 23,677 33,132 31,669 45,865 30,369 28,189 27,043 23,677 33,132 31,669 45,840 44,439 36,573 32,175 40,370 47,743 46,340 28,563 30,315 29,061 26,504 47,74 40,399 53,684 44,439 36,763 31,722 31,772 40,399 50,315 29,010 37,248 33,912 56,308 30,482 29,316 30,315 29,010 37,248 33,912 56,308 30,482 29,316 30,315 29,010 37,248 30,734 56,308 30,482 28,316 27,207 31,472 79,399 50,308 30,482 26,316 37,743 36,456 74,09 30,220 27,458 27,207 31,472 74,741 30,734	1954	47,220	37,288	34,127	33,895	28,337	32,115	38,801	13,727	25,733	56.784	45.960	111 12	419 764
45,865 30,369 29,189 27,043 23,577 33,132 31,669 45,801 45,407 43,368 36,912 25,074 27,923 41,187 45,601 45,407 43,368 36,912 25,074 27,923 41,187 45,607 45,407 43,368 36,912 25,074 27,923 41,187 55,804 44,439 36,763 30,315 29,100 37,248 33,912 55,3684 44,439 36,763 30,315 29,010 37,248 33,912 55,3684 44,439 36,763 30,315 29,010 37,248 33,912 55,368 40,743 36,316 30,31,55 29,010 37,248 33,912 55,368 27,607 31,326 21,618 27,008 37,344 30,337 39,207 44,321 30,315 29,010 37,456 44,778 30,337 37,851 26,617 19,266 27,607 31,322 36,466 24,69	1955	53,711	25,286	22,334	21,887	19,711	24,644	32,927	25,738	35,286	34,277	52,558	48,880	397,239
43,852 31,367 30,362 29,061 26,735 31,759 40,380 46,601 45,407 43,368 36,912 35,236 40,743 40,370 46,601 45,407 43,368 36,912 35,236 40,743 40,370 46,601 45,407 43,368 36,912 35,236 41,712 40,377 58,850 37,152 31,742 33,118 27,923 41,774 24,774 58,868 44,472 30,315 29,010 37,269 37,349 39,3912 50,308 30,482 29,316 30,315 29,010 37,269 40,349 51,308 30,482 29,316 30,315 28,514 41,778 30,734 50,308 30,482 29,316 30,315 28,513 36,456 24,697 37,851 26,421 23,393 35,513 36,456 24,697 30,734 37,851 26,421 23,303 37,523 37,328 37,456 34,56 <th>1956</th> <th>45,865</th> <th>30,369</th> <th>29,189</th> <th>27,043</th> <th>23,677</th> <th>33,132</th> <th>31,669</th> <th>22,981</th> <th>72,128</th> <th>44,165</th> <th>70.470</th> <th>40.113</th> <th>470 B01</th>	1956	45,865	30,369	29,189	27,043	23,677	33,132	31,669	22,981	72,128	44,165	70.470	40.113	470 B01
46,601 45,407 43,368 36,912 35,236 40,743 40,377 46,601 45,407 43,368 36,912 35,236 40,743 40,377 46,501 45,407 27,368 36,912 35,560 27,676 24,774 55,684 44,393 36,692 29,462 28,560 41,720 79,399 50,308 30,482 25,617 18,618 27,207 31,377 40,399 50,308 30,482 29,316 30,315 29,010 37,244 39,393 50,308 30,482 29,316 30,315 29,010 37,244 39,393 50,308 30,482 27,524 26,755 22,574 24,741 38,932 37,851 26,421 23,930 22,579 20,938 36,456 24,697 37,851 26,421 23,393 36,516 27,375 45,008 37,345 37,851 26,569 27,524 27,375 24,697 37,345	1957	43,852	31,367	30,362	29,061	26,735	31,759	40,380	62,138	208,562	200,689	88.583	46.015	839.503
46,340 28,507 29,759 27,940 25,074 27,923 41,187 58,950 40,092 36,692 29,462 28,560 42,676 24,774 48,950 37,152 31,742 33,118 27,207 31,377 40,499 55,3684 44,439 36,763 34,030 31,054 41,720 79,399 55,3684 44,439 36,763 30,315 29,010 37,248 33,912 55,0308 30,482 29,316 30,315 29,010 37,248 33,912 46,988 27,456 27,305 27,554 26,574 27,375 46,09 39,220 27,458 39,337 36,851 28,403 36,456 24,409 39,220 27,524 26,757 27,375 24,409 30,734 37,451 26,421 23,303 27,524 27,574 24,741 36,551 39,200 44,327 33,455 37,568 37,456 36,566 47,416	1958	46,601	45,407	43,368	36,912	35,236	40,743	40,370	120,963	233,458	48,105	72,383	41.810	805,356
56,950 40,092 36,692 29,462 28,560 42,676 24,774 48,950 37,152 31,742 33,118 27,207 31,377 40,499 55,3684 44,439 36,763 34,030 31,054 41,720 79,399 56,171 19,267 20,316 30,315 29,010 37,248 33,912 46,988 25,617 19,267 20,975 18,618 25,298 42,098 39,220 27,443 38,217 20,557 22,557 24,741 38,932 39,220 27,458 27,524 27,524 27,375 44,03 37,455 25,574 27,375 44,03 37,456 24,409 39,207 44,321 38,633 40,166 32,093 36,456 42,903 39,207 36,681 31,576 30,751 27,375 44,697 39,207 36,681 37,586 37,455 36,456 46,903 59,130 32,550 31,153	1959	46,340	28,507	29,759	27,940	25,074	27,923	41,187	37,094	58,304	37,490	62,169	46,866	468,653
48,950 37,152 31,742 33,118 27,207 31,377 40,499 50,308 30,482 29,316 30,315 29,010 37,248 33,912 50,308 30,482 29,316 30,315 29,010 37,248 33,912 50,308 30,482 29,316 30,315 29,010 37,248 33,912 50,308 30,482 29,316 30,315 29,010 37,248 33,912 39,220 27,468 27,306 27,052 22,574 24,741 38,932 39,220 27,451 28,821 32,684 44,778 30,734 39,220 27,554 26,765 25,574 24,609 37,456 53,130 32,563 37,685 37,456 24,697 36,510 39,220 27,574 26,7657 27,375 44,099 36,510 39,260 33,553 30,514 37,723 37,456 24,409 39,220 36,568 34,277 31,4166	1960	58,950	40,092	36,692	29,462	28,560	42,676	24,774	45,086	84,562	48,804	64,199	41,042	544,899
53,684 44,439 36,783 34,030 31,054 41,720 79,399 50,308 30,482 29,316 30,315 29,010 37,248 33,912 46,988 25,617 19,267 20,315 30,315 29,010 37,248 33,912 39,220 27,458 27,306 27,052 22,574 24,741 38,932 37,851 26,421 23,930 22,579 20,938 36,456 24,697 37,851 26,421 23,930 22,579 20,938 36,456 24,697 37,851 26,421 23,930 27,524 26,755 25,574 24,471 38,932 37,851 26,633 40,166 32,093 36,456 24,093 37,345 36,0568 38,633 40,166 37,593 31,723 37,562 34,345 36,0568 34,727 31,123 36,563 31,576 34,345 34,345 36,058 34,727 31,153 31,576 37,345<	1961	48,950	37,152	31,742	33,118	27,207	31,377	40,499	19,334	23,488	47,645	65,826	34,675	441,013
50,308 30,482 29,316 30,315 29,010 37,248 33,912 46,988 25,617 19,267 20,975 18,618 25,289 42,098 39,220 27,458 27,306 27,052 22,574 24,741 38,937 39,220 27,458 27,306 27,052 22,579 24,67 30,734 37,851 26,421 23,930 22,579 20,938 36,456 24,6008 53,130 32,553 27,524 26,765 25,574 27,479 30,734 39,207 44,321 33,608 34,276 37,593 31,432 24,409 39,207 44,321 38,633 40,166 32,088 37,582 36,510 39,207 44,321 33,653 30,795 37,582 36,510 37,582 36,645 33,655 33,653 31,153 30,614 45,204 34,345 36,645 37,518 31,572 31,723 37,582 35,510	1962	53,684	44,439	36,763	34,030	31,054	41,720	79,399	172,301	311,060	164,569	48,113	56,566	1.073.698
46,988 25,617 19,267 20,975 18,618 25,289 42,098 39,220 27,458 27,306 27,052 22,574 24,711 38,932 39,220 27,458 27,306 27,052 22,574 24,711 30,734 37,851 26,421 23,930 22,579 20,938 36,456 24,697 53,130 32,553 27,524 26,765 22,574 27,375 45,008 39,207 44,321 38,633 40,166 32,088 37,432 24,409 39,207 44,321 38,633 40,166 32,088 37,432 24,409 39,207 44,321 38,633 40,166 32,088 37,452 36,510 39,207 34,153 30,514 45,204 34,345 36,510 36,053 36,681 31,576 30,795 27,677 31,104 43,976 56,734 35,733 31,5567 36,761 34,144 36,5276 36,519	295	50,308	30,482	29,316	30,315	29,010	37,248	33,912	24,633	30,462	72,180	56,649	44,655	469.170
39,220 27,458 27,306 27,052 22,574 24,771 38,932 37,851 26,421 23,930 22,579 20,938 36,456 24,697 53,130 32,553 27,524 26,765 25,574 27,375 45,008 53,130 32,553 27,524 26,765 25,574 27,375 45,008 53,130 32,553 27,524 26,765 25,574 27,375 45,008 39,207 44,321 38,633 40,166 32,088 37,456 24,409 39,207 44,321 38,633 40,166 32,088 37,456 24,409 39,207 44,321 38,633 40,166 32,088 37,456 24,409 39,207 44,321 38,633 40,166 32,088 37,456 24,409 39,207 34,453 30,614 45,204 34,345 34,345 36,749 31,521 31,521 31,521 34,345 34,345 56,74	1961	46,988	25,617	19,267	20,975	18,618	25,289	42,098	28,385	38,728	25,902	62,561	36,669	391.097
44,326 40,318 39,337 36,821 32,684 44,778 30,734 37,851 26,421 23,930 22,579 20,938 36,456 24,697 53,130 32,553 27,524 26,765 25,574 27,375 45,008 53,130 32,553 27,524 26,765 25,574 27,375 45,008 39,207 44,321 38,633 40,166 32,088 37,856 42,903 39,207 44,321 38,633 40,166 32,088 37,856 42,903 39,207 44,321 38,633 40,166 32,088 37,856 42,903 39,207 44,321 38,633 40,166 32,088 37,582 35,510 39,207 36,681 31,576 30,795 27,677 34,345 36,749 31,521 31,521 31,333 30,514 45,204 34,345 56,734 31,521 31,521 31,521 31,345 34,345 56,74	1965	39,220	27,458	27,306	27,052	22,574	24,741	38,932	40,779	88,550	81,756	88,383	51.158	557,909
37,851 26,421 23,930 22,579 20,938 36,456 24,697 53,130 32,553 27,524 26,755 25,574 27,375 45,008 53,130 32,553 27,524 26,755 25,574 27,375 45,008 39,207 44,321 38,633 40,166 32,088 37,856 42,903 39,207 44,321 38,633 40,166 32,088 37,582 35,510 39,207 44,321 38,633 40,166 32,088 37,582 35,510 39,207 36,681 31,576 30,795 27,677 31,104 43,976 36,749 39,282 35,330 31,153 30,514 45,204 34,345 36,749 39,576 30,795 27,677 31,104 43,976 56,734 35,125 31,527 32,309 37,144 35,727 32,260 56,181 30,576 32,345 29,211 36,727 32,260 36,191	1999	44,326	40,318	39,337	36,821	32,684	44,778	30,734	32,998	29,088	51,561	74,099	31,302	488.046
53,130 32,553 27,524 26,765 25,574 27,375 45,008 39,207 44,321 38,633 40,166 32,088 37,582 24,409 39,207 44,321 38,633 40,166 32,088 37,582 35,510 39,207 44,321 38,633 40,166 32,088 37,582 35,510 39,207 44,321 38,633 40,166 32,088 37,582 35,510 56,545 33,655 35,330 31,153 30,614 45,204 34,345 36,207 36,681 31,576 30,795 27,677 31,104 43,976 36,749 39,282 31,521 31,383 30,970 32,463 35,230 56,734 35,125 31,521 31,383 30,970 32,463 35,230 56,734 35,125 31,521 33,445 29,114 36,727 32,260 56,181 30,3220 27,126 21,979 28,649 47,416	1967	37,851	26,421	23,930	22,579	20,938	36,456	24,697	17,071	42,112	32,552	72,461	52.043	409.111
60,058 39,800 33,608 34,278 29,279 31,432 24,409 39,207 44,321 38,633 40,166 32,088 37,586 42,903 56,545 33,655 35,330 31,153 30,614 45,204 34,345 56,545 33,655 35,330 31,153 30,614 45,204 34,345 36,207 36,681 31,576 30,795 27,677 31,104 43,976 36,749 39,282 34,747 36,053 28,948 41,027 34,144 56,734 35,125 31,521 31,383 30,970 32,463 35,230 58,748 35,125 31,521 31,383 30,970 32,463 35,230 56,734 35,125 31,521 31,383 30,970 32,463 35,230 58,181 30,3220 27,216 21,977 32,309 47,416 54,166 23,333 30,970 32,463 35,191 46,7079 54,166	1968	53,130	32,553	27,524	26,765	25,574	27,375	45,008	27,484	71,517	31,943	31,009	56,269	456,151
39,207 44,321 38,633 40,166 32,088 37,856 42,903 56,545 33,655 35,330 31,153 30,614 45,204 34,345 56,545 33,655 35,330 31,153 30,614 45,204 34,345 36,207 36,681 31,576 30,795 27,677 31,104 43,976 36,207 36,681 31,576 30,795 27,677 31,104 43,976 58,749 39,282 34,747 36,053 28,948 41,027 34,144 55,734 35,125 31,521 31,383 30,970 32,463 35,230 58,181 30,320 27,216 21,977 23,169 47,416 54,168 29,800 28,143 24,542 23,305 36,191 54,168 26,519 37,216 21,991 28,549 47,416 54,168 36,531 34,644 35,305 36,191 36,578 54,168 35,196 21,991	1969	60,058	39,800	33,608	34,278	29,279	31,432	24,409	53,797	96,057	90,602	60,064	50.151	603.535
46,299 43,771 41,276 37,593 31,723 37,582 35,510 56,545 33,655 35,330 31,153 30,614 45,204 34,345 36,207 36,681 31,576 30,795 27,677 31,104 43,976 36,207 36,681 31,576 30,795 27,677 31,104 43,976 59,749 39,282 34,747 36,053 28,948 41,027 34,144 55,734 35,125 31,521 31,383 30,970 32,463 35,230 55,734 35,126 37,455 29,211 36,727 32,260 58,181 30,320 27,216 21,977 24,493 35,305 36,191 54,166 29,800 28,143 24,542 22,901 32,305 36,191 54,166 29,800 28,143 36,305 36,191 36,578 54,166 29,800 28,144 35,305 36,191 36,578 48,779 35,169	0/61	39,207	44,321	38,633	40,166	32,088	37,856	42,903	111,069	255,293	127,059	62,337	40,908	871,640
58,545 33,655 35,330 31,153 30,614 45,204 34,345 36,207 36,681 31,576 30,795 27,677 31,104 43,976 59,749 39,282 34,747 36,053 28,948 41,027 34,144 55,734 35,125 31,521 31,383 30,970 32,463 35,230 55,734 35,125 31,521 31,383 30,970 32,463 35,230 55,734 35,126 37,717 31,383 30,970 32,463 35,230 55,734 35,126 31,345 29,211 36,727 32,260 58,181 30,320 27,216 21,979 21,991 28,549 47,416 54,166 29,800 28,143 24,542 22,901 32,305 36,191 48,779 35,166 27,216 21,979 21,991 28,567 36,578 48,779 35,168 37,619 32,301 32,167 36,578 48,779	1975	46,299	43,771	41,276	37,593	31,723	37,582	35,510	91,167	280,704	152,124	50,555	56,152	904 456
36,207 36,681 31,576 30,795 27,677 31,104 43,976 59,749 39,282 34,747 36,053 28,948 41,027 34,144 55,734 35,125 31,521 31,383 30,970 32,463 35,230 55,734 35,125 31,521 31,383 30,970 32,463 35,230 52,061 35,998 32,907 33,445 29,211 36,727 32,260 58,181 30,320 27,216 21,979 21,991 28,549 47,416 54,168 29,800 28,143 24,542 22,901 32,305 36,191 48,799 35,196 34,644 35,360 28,929 32,567 36,578 48,799 35,196 34,644 35,360 28,191 36,767 36,769 48,779 35,169 37,616 37,202 28,929 35,169 36,578 48,770 37,712 36,786 32,391 35,195 36,759 36,578 <th>1972</th> <th>58,545</th> <th>33,655</th> <th>35,330</th> <th>31,153</th> <th>30,614</th> <th>45,204</th> <th>34,345</th> <th>54,982</th> <th>135,563</th> <th>49,292</th> <th>72,602</th> <th>40,283</th> <th>621.568</th>	1972	58,545	33,655	35,330	31,153	30,614	45,204	34,345	54,982	135,563	49,292	72,602	40,283	621.568
59,749 39,282 34,747 36,053 28,948 41,027 34,144 55,734 35,125 31,521 31,383 30,970 32,463 35,230 55,734 35,125 31,521 31,383 30,970 32,463 35,230 55,734 35,125 31,521 31,383 30,970 32,463 35,230 58,181 30,320 27,216 21,979 21,991 28,649 47,416 54,168 29,800 28,143 24,542 22,901 32,305 36,191 48,799 35,196 34,644 35,360 28,929 32,567 36,578 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 48,7748 31,255 25,690 28,306 28,2429 27,469 37,469<	5/61	36,207	36,681	31,576	30,795	27,677	31,104	43,976	63,741	154,371	193,009	49,537	61,937	760,611
55,734 35,125 31,521 31,383 30,970 32,463 35,230 55,061 35,998 32,907 33,445 29,211 36,727 32,260 58,181 30,320 27,216 21,979 21,991 28,549 47,416 58,181 30,320 27,216 21,979 21,991 28,649 47,416 54,168 29,800 28,143 24,542 22,901 32,305 36,191 48,799 35,196 34,644 35,360 28,929 32,567 36,578 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,728 28,697 24,631 24,297 29,026 47,079 47,748 31,255 25,690 28,306 28,303 35,159 40,833	19/4	59,749	39,282	34,747	36,053	28,948	41,027	34,144	110,185	197,590	80,203	59,950	41,234	763,112
52,001 35,998 32,907 33,445 29,211 36,727 32,260 58,181 30,320 27,216 21,979 21,991 28,549 47,416 54,168 29,800 28,143 24,542 22,901 32,305 36,191 48,799 35,196 34,644 35,360 28,929 32,567 36,578 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 48,360 28,697 24,631 24,297 29,026 47,079 47,748 31,255 25,690 28,306 28,508 41,420 47,469 59,321 39,189 40,141 32,164 31,020 30,481 33,298	9/61	55,734	35,125	31,521	31,383	30,970	32,463	35,230	38,825	85,366	131,968	51,671	59,348	619,604
58,181 30,320 27,216 21,979 21,991 28,549 47,416 54,168 29,800 28,143 24,542 22,901 32,305 36,191 48,779 35,196 34,644 35,360 28,929 32,567 36,578 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 32,137 28,697 24,631 24,297 29,026 47,079 47,748 31,255 25,690 28,308 22,629 26,303 35,159 40,833 40,920 43,112 36,687 36,508 41,420 47,469 59,321 39,189 40,141 32,164 31,020 30,481 33,298 80,046 82,519 54,159 47,898 38,860 48,413 32,298 <th>9/6</th> <th>52,061</th> <th>35,998</th> <th>32,907</th> <th>33,445</th> <th>29,211</th> <th>36,727</th> <th>32,260</th> <th>44,131</th> <th>44,623</th> <th>29,130</th> <th>58,084</th> <th>49,567</th> <th>478,144</th>	9/6	52,061	35,998	32,907	33,445	29,211	36,727	32,260	44,131	44,623	29,130	58,084	49,567	478,144
54,106 29,600 28,143 24,542 22,901 32,305 36,191 48,799 35,196 34,644 35,360 28,929 32,567 36,578 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 46,792 35,631 34,107 38,788 32,391 35,195 39,368 48,360 32,137 28,697 24,631 24,297 29,026 47,079 47,748 31,255 25,690 28,306 22,629 26,303 35,159 40,833 40,920 43,112 36,687 36,508 41,420 47,469 59,321 39,189 40,141 32,164 31,020 30,481 33,298 80,046 82,519 54,159 47,898 38,860 48,245 48,413	1977	58,181	30,320	27,216	21,979	21,991	28,549	47,416	29,385	20,431	71,870	55,960	21,981	433,279
46,799 35,196 34,644 35,360 28,929 32,567 36,578 46,792 35,631 34,107 38,786 32,391 35,195 39,368 46,792 35,631 34,107 38,786 32,391 35,195 39,368 46,792 35,631 34,107 38,786 32,391 35,195 39,368 48,360 32,137 28,697 24,631 24,297 29,026 47,079 47,748 31,255 25,690 28,306 22,629 26,303 35,159 40,833 40,920 43,112 36,687 36,508 41,420 47,469 59,321 39,189 40,141 32,164 31,020 30,481 33,298 80,046 82,519 54,759 47,898 38,860 48,245 48,413	19/6	54,106	29,800	28,143	24,542	22,901	32,305	36, 191	51,592	83,442	50,356	58,936	47,718	520,092
46,/92 35,631 34,107 38,786 32,391 35,195 39,368 48,360 32,137 28,697 24,631 24,297 29,026 47,079 47,748 31,255 25,690 28,306 22,629 26,303 35,159 47,748 31,255 25,690 28,306 22,629 26,303 35,159 40,833 40,920 43,112 36,687 36,508 41,420 47,469 59,321 39,189 40,141 32,164 31,020 30,481 33,298 80,046 82,519 54,159 47,898 38,860 48,245 48,413	R/AL	48,799	35,196	34,644	35,360	28,929	32,567	36,578	87,968	101,820	107,789	54,095	44,773	648,518
46,000 32,137 28,697 24,631 24,297 29,026 47,079 47,748 31,255 25,690 28,306 22,629 26,303 35,159 40,833 40,920 43,112 36,687 36,508 41,420 47,469 1 59,321 39,189 40,141 32,164 31,020 30,481 33,298 1 60,046 62,519 54,159 47,898 38,860 48,413	1960	46,792	35,631	34,107	38,788	32,391	35,195	39,368	64,812	186,264	118,122	69,070	46,133	746,673
4/./48 31,255 25,690 28,306 22,629 26,303 35,159 40,833 40,920 43,112 36,687 36,508 41,420 47,469 1 59,321 39,189 40,141 32,164 31,020 30,481 33,298 1 59,321 39,189 40,141 32,164 31,020 30,481 33,298 1 80,046 82,519 54,159 47,898 38,860 48,245 48,413	1961	48,360	32,137	28,697	24,631	24,297	29,026	47,079	27,615	34,447	49,725	52,981	35,052	434,047
40,853 40,820 43,112 36,687 36,508 41,420 47,469 1 59,321 39,189 40,141 32,164 31,020 30,481 33,298 1 59,321 39,189 40,141 32,164 31,020 30,481 33,298 5 80,046 82,519 54,159 47,898 38,860 48,245 48,413	1962	4/,/48	31,255	25,690	28,306	22,629	26,303	35,159	27,297	67,833	43,618	42,582	41,976	440,396
0.046 82,139 40,141 32,164 31,020 30,481 33,298 8 80,046 82,519 54,159 47,898 38,860 48,245 48,413	1963	40,833	40,920	43,112	36,687	36,508	41,420	47,469	56,092	326,431	370,182	129,912	83,534	1,253,100
0 1 80,046 82,519 54,159 47,898 38,860 48,245 48,413	1904	125,96	39,189	40,141	32,164	31,020	30,481	33,298	302,917	594,902	321,528	145,327	77,023	1,707,311
		80,045	62, 5 19	54,159	47,898	38,860	48,245	48,413	129,308	283,498	123,470	42,440	46,066	1,004,922

Simulated Flows at Colorado River near Kremmling at USGS Gage 09058000 No Action Alternative (AF)

WATER													
YEAR	OCT	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	TOTAL
1986	55,367	55,894	46,932	42,310	40,045	49,785	64.329	144.910	339.464	189.786	44.765	48.374	1 121 061
1987	52,074	48,119	41,713	39,039	36,246	42.207	37,309	50 253	70.031	42 245	51 032	70,010	
1988	39,259	34,362	31.093	29.874	27,173	32 658	38 569	53 084	114 540	50 5A1	71 076	20000	104,407
1989	44,665	35.754	25,728	25.447	24 260	42 000	25,611	ED 24E	002 19			100,00	203,303
1000	A7 AAE	30 4 E 3	00 100						41,130	42,200	04,1/4		456,384
1000			201/302	204'42	805,52	33,211	4/,418	19,032	48,288	41,557	68,191	36,462	446,305
	52,283	31,958	24,441	24,969	24,495	30,120	42,483	37,911	63,416	63,575	74,246	47,965	517,862
1992	49,520	37,891	28,223	25,920	25,423	36,500	30,328	32,519	36,415	41,696	62,317	37,713	444.465
1993	45,494	33,314	26,987	27,022	26,080	34,428	42,234	56,844	153,163	108,283	44.710	47.413	645.972
1994	51,060	44,906	37,679	35,606	33,041	48,231	36,435	44,293	33,764	64,983	65.889	34.087	529.874
1995	32,573	30,906	25,609	25,072	25,130	34,749	42,872	25,915	174,026	258,903	72.442	49.173	797.370
1996	45,614	43,939	36,280	38,121	34,911	37,918	36,029	193,302	330,403	107,968	82,509	42.052	1.029.046
1997	42,042	39,133	38,936	32,993	35,227	41,959	26,705	174,373	428,933	149,196	78,690	50.688	1 138 875
1998	46,986	47,215	41,351	42,764	37,054	50,900	36,094	57,561	51.912	76.780	39,654	64 679	502 050
1999	63,934	38,533	24,694	27,618	28,307	43,757	33,614	48.716	114,139	98,773	40 586	47 674	610 24E
2000	63,813	38,785	34,138	37,681	34,226	40,092	37.737	82.334	104.334	47 485	75 153	020 08	
2001	45,487	40,756	36,673	34,528	30,798	36.717	34.615	32,956	35,306	51 961	65 835	47 060	
2002	51,613	31,237	25,597	25,619	23,709	31,545	36.477	19.862	32.147	38.184	05 DO1	20.270	1000 P30
2003	39,130	27,047	24,564	24,818	22,856	34,898	40,567	44.432	67.635	45.794	85.005	54 658	511 404
2004	50,008	33,823	27,831	25,904	25,586	42,898	33,292	15,624	22,296	49.502	63 527	40 708	080 124
2005	65,589	34,834	27,363	26,825	22,732	26,147	31,045	26,136	57.884	31.204	54.870	46.049	450.67R
AVERAGE:	50,495	36,575	32,525	31,143	28,401	35,749	38,214	61,606	128,311	90.629	63.054	47,390	644 092
WINIMCW:	32,573	25,286	19,267	20,053	18,618	24,644	24,409	13,727	20,431	25,902	25.921	21.981	364 283
MAXIMUM:	80,046	62,519	54,159	47,898	40,045	50,900	79,399	302,917	594,902	370.182	145.327	89.116	1 707 311

Simulated Flows at Colorado River below the Confluence with the Williams Fork River No Action Alternative (CFS)

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224 228 158 252 190 234 252 190 234 270 157 191 270 264 234 270 267 190 271 157 191 270 267 190 271 157 191 271 267 193 271 267 193 271 267 193 288 273 203 281 211 213 283 176 183 193 211 213 286 198 213 281 188 215 285 265 265 213 212 288 213 212 288 214 198 176 286 198 273 281 282 284 213 212 203 214 213 216 213 216 2	148	227	181	389	169	420	282	222
254 246 255 190 256 190 270 267 271 157 270 267 271 157 270 267 271 157 270 267 271 157 271 190 271 267 271 267 271 267 271 267 271 267 273 273 288 273 289 273 281 188 282 199 283 176 284 176 285 265 213 212 284 176 285 233 214 273 286 198 271 273 286 273 287 288 213 212 214 219 214 2	191	361	315	375	557	339	482	302
252 190 234 225 215 157 270 267 157 271 157 199 271 264 277 264 277 267 211 199 167 264 277 267 211 262 308 213 262 308 219 266 199 281 168 273 282 213 216 283 176 211 284 176 233 285 265 265 213 212 273 286 198 175 288 213 212 213 212 285 213 212 286 214 193 167 235 265 233 213 212 203 214 265 273 213 216 214 213 218 2	220	182	555	2,559	486	408	409	510
225 215 215 191 270 267 157 199 271 157 199 167 211 199 267 267 167 211 199 267 267 167 211 292 211 213 229 213 262 308 213 203 214 213 213 203 211 286 198 237 265 293 281 168 176 212 203 286 198 213 213 214 286 198 176 247 233 213 212 213 212 245 213 212 288 213 214 213 212 233 213 214 213 215 233 213 226 214 197 265 232 232 214 213 216 203 206 214 2	206	305	135	315	217	344	232	239
201 157 157 270 264 277 211 199 167 284 277 267 211 199 167 264 277 267 211 199 267 288 237 160 219 262 308 281 160 213 285 210 203 286 198 211 286 198 211 286 198 214 287 265 213 288 213 216 289 213 216 281 188 215 285 188 216 213 212 285 213 212 286 214 197 265 213 216 203 214 219 273 214 293 216 215 212 203 214 216 2	206	247	140	154	222	248	232	202
270 267 267 211 199 267 284 277 263 288 277 263 288 277 263 288 237 160 281 213 203 282 210 213 229 283 150 265 308 167 284 176 260 193 214 285 176 198 213 224 286 1988 216 233 211 285 176 188 215 285 213 215 188 216 193 213 215 218 273 273 213 215 218 273 273 213 215 212 273 273 213 215 285 285 286 214 297 203 216 273 214 297 203 216 273 214	170	213	148	214	174	298	240	216
211 199 163 264 277 264 288 277 213 288 237 160 211 213 203 288 237 160 281 213 203 282 210 213 203 286 199 167 229 281 183 176 224 193 176 260 193 286 198 211 212 286 198 176 224 281 188 211 212 285 213 212 213 213 215 218 174 286 198 175 245 213 212 233 247 239 156 232 233 210 200 203 211 213 216 232 232 214 203 216 145 210 200 203 2	202	178	256	364	175	415	138	238
264 277 264 277 211 213 160 213 229 288 237 160 184 273 286 292 210 213 203 285 210 213 203 214 292 210 203 211 213 293 211 260 198 155 286 198 176 212 234 286 198 216 212 213 286 198 216 273 245 288 213 215 288 214 288 233 212 288 273 213 215 218 273 245 213 192 188 216 273 214 192 265 232 232 210 200 203 216 245 214 197 203 266 191 214 216 232 232 232	174	268	237	1,553	1,215	468	233	420
211 213 213 203 286 237 160 184 282 237 160 184 282 2308 237 167 282 2308 237 167 282 203 211 203 292 210 224 155 193 176 168 215 203 211 260 193 213 265 198 174 285 138 265 273 213 215 188 216 213 215 188 216 213 215 265 273 213 212 265 273 213 212 265 273 214 197 203 266 214 203 161 145 214 203 216 232 214 203 266 191 214 203 266 161 214 <td< th=""><td>228</td><td>234</td><td>1,231</td><td>1,311</td><td>190</td><td>364</td><td>251</td><td>429</td></td<>	228	234	1,231	1,311	190	364	251	429
288 237 167 331 150 237 262 308 237 262 308 231 262 308 211 262 308 211 262 308 211 263 128 254 191 266 198 285 265 198 286 198 174 281 188 212 285 265 273 213 212 265 213 212 273 213 212 265 213 212 273 213 212 273 213 212 273 213 192 188 214 197 203 214 203 161 215 203 266 214 203 266 214 285 167 214 285 161 214 285 1	153	261	153	329	192	246	298	218
331 160 184 262 308 150 262 308 211 262 308 211 262 308 211 263 128 155 191 266 198 266 198 212 285 265 176 281 188 213 285 265 273 213 212 269 213 212 273 213 212 273 213 212 273 213 212 273 213 212 273 213 212 273 213 212 273 213 192 188 214 197 203 214 203 161 213 176 161 214 285 161 214 285 161 214 285 161 214 285 1	249	168	189	573	203	295	201	254
262 308 211 292 210 224 195 128 155 191 260 128 191 260 193 203 211 260 191 260 193 203 211 260 193 285 179 168 174 286 198 176 213 285 265 273 273 213 212 273 245 213 212 273 245 213 192 188 245 213 192 182 245 214 197 203 266 213 176 200 266 214 200 266 191 214 285 163 161 214 285 169 161 214 286 161 161 214 285 161 161 214 285 161 1	182	275	138	232	246	403	391	239
292 210 224 195 128 128 191 260 128 193 179 260 183 179 260 183 179 260 183 179 168 266 198 176 285 265 273 286 198 174 285 265 273 213 212 273 213 212 273 213 212 273 213 212 273 213 212 273 213 212 273 213 212 273 213 192 188 214 230 161 215 230 161 214 285 232 214 285 161 214 285 161 214 285 161 214 285 161 214 285 1	281	301	1,351	2,592	1,349	334	147	651
195 128 155 203 211 260 191 191 260 193 112 183 173 212 193 183 179 168 174 286 198 179 168 285 243 175 245 285 213 212 245 213 215 188 210 213 215 188 210 213 212 265 273 213 212 209 214 213 192 188 211 213 192 182 209 214 197 202 202 213 176 145 202 214 197 202 266 214 200 266 145 214 285 161 273 214 285 186 191 214 285 185 191 214 285 1	240	244	152	170	217	233	431	239
203 211 212 191 260 193 183 179 168 183 179 168 266 198 176 281 188 210 281 188 211 281 188 213 285 265 273 213 212 209 213 212 209 213 212 209 213 192 191 213 192 145 239 156 191 239 156 203 210 200 202 239 156 191 240 167 202 210 200 266 214 285 191 214 285 161 214 285 191 214 285 191 214 285 191 214 285 191 214 285 1	169	289	156	250	172	171	220	200
191 260 193 183 179 168 286 198 174 281 188 210 285 198 174 285 198 210 285 213 245 285 265 273 213 212 245 213 212 209 213 212 209 213 212 209 213 192 191 239 156 145 239 156 145 210 200 202 213 197 232 214 197 232 214 197 232 214 200 266 214 200 266 214 285 191 214 285 191 214 285 191 214 285 191 213 275 232 214 285 1	176	279	185	405	251	295	151	224
183 179 168 286 198 174 281 188 210 285 198 174 285 265 273 285 265 273 286 198 210 285 265 273 213 212 209 213 212 209 213 212 209 213 192 191 239 156 145 239 156 145 240 169 161 210 200 265 214 200 266 213 175 127 214 200 266 214 285 191 214 200 266 214 285 191 214 285 191 214 285 191 214 285 191 214 285 195 213 275 2	257	246	161	185	143	374	180	211
266 198 174 281 188 210 285 265 245 285 265 273 285 265 273 285 265 273 213 212 245 213 212 265 213 212 209 213 192 191 213 192 191 239 156 145 239 156 145 240 197 202 214 200 202 231 230 161 233 156 145 210 200 266 213 175 127 214 200 266 213 175 127 214 285 191 214 285 191 214 285 191 214 285 191 213 275 232 290 325 2	262	136	148	226	204	293	277	211
281 188 210 243 175 245 285 265 245 285 265 245 213 212 245 215 182 213 215 182 213 213 212 209 213 192 191 239 156 145 241 197 202 213 175 232 214 200 266 213 175 127 214 200 266 213 175 185 214 200 266 213 216 232 214 200 266 213 216 191 214 285 185 215 285 185 214 285 185	190	287	140	393	191	143	375	235
243 175 245 285 265 245 213 212 209 215 182 188 213 192 191 226 170 202 239 156 145 239 156 145 241 197 202 214 197 232 214 285 191 214 285 191	166	135	205	963	407	213	294	293
285 265 273 213 212 209 215 182 188 288 231 247 213 192 191 226 170 202 239 156 145 241 197 202 240 159 266 213 175 266 213 175 266 214 285 191 290 325 224	202	308	665	1,297	519	225	226	368
213 212 209 215 182 182 215 182 182 288 231 247 213 192 191 226 170 202 239 156 145 241 197 202 255 230 161 241 197 232 210 200 266 213 175 127 214 200 266 213 175 127 214 285 191 213 232 232 214 200 266 213 232 232 214 285 191 214 285 195 213 275 226	251	215	600	2,434	1,256	369	286	562
215 182 182 288 231 247 213 192 191 226 170 202 239 156 145 255 230 161 241 197 232 213 175 127 214 200 266 213 175 127 214 285 191 213 216 266 214 200 266 213 175 127 214 285 191 213 275 232	313	216	163	793	185	405	201	287
288 231 247 213 192 191 226 170 202 239 156 145 241 197 232 210 200 266 213 175 127 240 169 191 214 285 195 290 325 224	184	240	198	1,611	1,606	342	272	449
213 192 191 226 170 202 239 156 145 255 230 161 241 197 232 210 200 266 213 175 127 214 200 266 213 175 127 214 285 191 214 285 191 213 232 232	243	230	650	1,383	440	381	221	398
226 170 202 239 156 145 255 230 161 241 197 232 210 200 266 213 175 127 240 169 191 214 285 185 290 325 224	175	264	140	303	566	296	245	257
239 156 145 255 230 161 241 197 232 210 200 266 213 175 127 240 169 191 214 285 195 290 325 224	202	201	149	298	201	284	291	216
255 230 161 241 197 232 210 200 266 213 175 127 240 169 191 214 285 195 290 325 224	161	224	177	192	494	502	172	241
241 197 232 210 200 266 213 175 127 240 169 191 214 285 185 290 325 224	202	154	192	374	227	195	228	226
210 200 266 213 175 127 240 169 191 214 285 185 290 325 224	199	212	260	520	355	282	202	252
213 175 127 240 169 191 214 285 185 290 325 224	186	266	195	1,238	671	226	292	342
240 169 191 214 285 195 290 325 224	168	272	224	295	243	405	300	229
214 285 195 290 325 224	186	198	174	347	282	258	136	214
290 325 224	188	303	150	1,984	2,975	957	294	665
	221	286	2,427	5,055	2,323	805	315	1.073
364 280 277	261	145	736	2,051	668	274	258	500

Simulated Flows at Colorado River below the Confluence with the Williams Fork River

No Action Alternative (CFS)

ANNUAL AVG ,073 <u>665</u> 233 331 176 304 215 247 SEP AUG 321 265 265 265 265 265 265 265 265 265 25 2 1,359 178 303 303 275 178 187 1,167 1,167 1,167 1,167 1,167 2,87 2,975 502 2,975 502 2,975 Ę NN 3,200 3,56 356 356 418 345 555 555 557 1,992 1,9 995 197 197 197 177 177 287 1,233 1,233 1,233 1,233 1,233 1,233 1,233 1,233 1,554 1,233 1,554 1, MAY APR MAR FEB JAN DEC ð S :MUMINIM MAXIMUM: AVERAGE: WATER YEAR 992 994 995 8 1986 1987 1988 686 066 88 **66**2 666 2005 2005 2005 2005 2005 2005 **9**9

Simulated Flows at Colorado River below the Confluence with the Williams Fork River

No Action Alternative (AF)

WATER YEAR	ост	NON	DEC	JAN	FEB	MAR	АРК	МАҮ	NUL	lur	AUG	SEP	TOTAL
1950	15425	12265	8395	7328	7004	9100	13537	11145	23144	10410	25817	16810	160380
1951	14451	13352	14007	9696	8561	11734	21476	19392	22344	34238	20833	2RGRR	218775
1952	23506	15086	15117	13785	11594	13500	10843	34120	152249	29908	25101	24310	369119
1963	16227	15022	11679	14405	9478	12665	18130	8310	18743	13355	21165	13790	172969
1954	11629	13402	13250	11721	8167	12646	14695	8618	9187	13677	15224	13785	146001
1955	27830	11985	9648	10259	8340	10479	12682	2097	12737	10719	18347	14300	156423
1956	11487	16040	16439	11653	11487	12402	10578	15724	21643	10770	25511	8212	171946
1957	9463	12582	12219	10028	8950	10700	15954	14571	92394	74706	28756	13878	304201
1958	11612	15124	17046	14102	11844	14037	13923	75688	96677	11673	22394	14926	310264
1959	10589	12529	13118	12482	10330	9386	15511	9420	19572	11782	15108	17748	157575
1960	16456	17111	14579	10249	11765	15285	9982	11607	34077	12496	18113	11958	183678
1961	12911	19701	9826	11314	7732	11208	16353	8490	13790	15136	24809	23274	173154
1962	28427	15599	18926	12985	11020	17266	17906	83041	154222	82968	20512	8770	471642
1963	14976	17352	12921	13795	12072	14744	14544	9329	10124	13349	14301	25644	173151
1904	21229	11581	7867	9519	8030	10396	17191	9602	14852	10577	10527	13120	144491
1965	8742	12082	12958	13022	9785	10839	16609	11373	24092	15425	18119	8964	162010
1966	E//6	11383	15980	11878	9950	15800	14642	9898	10979	8796	23012	10721	152812
/961	1/618	10892	11026	10347	8926	16132	8105	9126	13454	12534	18039	16465	152664
1966	17490	15830	12209	10705	10504	11680	17090	8578	23374	11723	8767	22337	170287
ROAL	1/36/	16/11	11579	12887	9645	10230	8033	12575	57320	25016	13086	17523	211972
0/61	4658	14434	10750	15045	9865	12427	18333	40874	77166	31919	13840	13477	266524
1/61	16684	16933	16316	16759	13185	15414	12765	36921	144863	77206	22704	17032	406782
1972	20081	12680	13047	12874	11521	19243	12870	10048	47170	11364	24920	11964	207782
E/AL	10396	12819	11193	11541	9776	11314	14266	12170	95835	98779	21037	16194	325320
4/81	16501	1/143	14228	15160	10559	14960	13688	39943	82281	27063	23444	13177	288147
C/AL		12672	11779	11749	11832	10775	15691	8621	18009	34827	18171	14600	185797
19/6	18/21	13424	10472	12429	9055	12407	11945	9133	17711	12336	17482	17303	156434
1/61	44671	14245	9620	8887	7509	9887	13328	10864	11440	30368	30882	10259	174643
9/61	194 /5	10291	14141	9887	9569	12419	9173	11816	22284	13984	11960	13585	163504
6/61	2096	14355	12115	14291	8834	12252	12612	15986	30959	21804	17335	11999	182394
1901	10/4/	12468	10521	16327	10632	11443	15853	12011	73653	41229	13879	17375	247938
1961	14021		10/86	1805	6353	10310	16197	13790	17574	14958	24895	17844	165866
1000	C0141	142/3	10408	11725	8865	11443	11770	10676	20637	17338	15853	8112	155205
1963	9676	11/21	17547	11962	13168	11576	18044	9196	118060	182933	58875	17474	481302
1984	20416	17271	19961	13803	13481	13610	16999	149208	300792	142838	49474	18749	776608
CREL	2/431	21651	17229	17035	13149	16025	8600	45262	122041	41056	16826	15331	361636

Simulated Flows at Colorado River below the Confluence with the Williams Fork River No Action Afternative (AF)

WATER	UC1	AQM											
YEAR			20		222	MAH	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
1986	18159	23762	17368	15508	10090	8301	15225	61183	190395	83539	19714	18187	101101
1987	19752	16540	14806	14322	12004	13327	8033	11929	21205	10035	00491		
1988	11795	15529	12800	13821	12130	12101	9000				10000	2000	10093/
1000	10,000						0606	SAU21	COCAC	1804B	29807	12107	220301
80C	20201	11701	C++11	10306	52011	15913	8033	12048	16345	16892	13231	14789	155524
066	10831	12920	11963	9813	9866	15428	15276	8433	24856	10928	29807	18695	178816
1881	21436	16055	10563	10255	8714	12919	16110	10869	20538	11507	13363	12537	164866
1992	12878	18381	12828	11675	10962	16675	13107	15160	13226	14161	40857	10400	
1993	20149	17923	11511	10304	9538	12790	16852	16342	33022	16405	15660	10000	104881
1994	24302	19323	14618	13733	11898	17748	14209	13664	13780	16302			11/002
1995	15674	15239	11004	10453	11093	14929	17884	8457	E3676	7577	04061	60001	1346/4
1996	18991	18052	14453	17911	14854	15853		75027		01111	00007	01222	09/082
1997	21207	18315	17007				0025	12002	506811	360/8	14660	19274	373741
0001	1004		/00/1	14/43	19502	14188	12172	77129	152997	62870	36650	14969	463571
0661	1/390	2/181	15681	16828	12681	16238	13942	8713	12986	18649	14243	17598	183126
6661	24331	21034	11834	14288	12718	20355	14604	9586	33988	17755	16747	04470	221212
2000	19267	14648	12572	15447	14070	16199	15325	44267	19747	00400			11/177
2001	14704	15207	15990	13073	12397	15580	1 3070	14100			00,00	9/077	234023
2002	15820	13128	10806	10310			7170	14130		1204/	ONTRO	18682	193817
2000	10151	1 2010	0020			6/011	9234	9C26	8110	17305	6261	6980	127091
200		01021	0106	CC26	6906	12800	20270	33017	46319	18983	27874	26308	236525
1002	COLCI	60261	14610	13501	12708	22581	16051	9812	11788	14961	37858	22523	210767
2005	31638	19842	13456	13337	9868	11281	12290	13156	27443	17629	16264	14626	200830
AVERAGE:	16,478	15,388	13,166	12,467	10,672	13,452	13,933	22.882	51.766	30.844	21 975	16.977	220.000
WINIMUM:	8,394	10,892	7,867	7,328	6,959	8,301	8.033	8.310	8,110	8 796	6 261		100,001
MAXIMUM:	31,638	23,762	19,961	17,911	20,351	22,581	21,476	149,208	300.792	182,933	58.875	0,300 28,688	778,609
											2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	200124	00000

Simulated Flows at Middle Fork South Platte River below Montgomery Reservoir No Action Alternative (CFS)

WATER YEAR	oct	NON	DEC	JAN	FEB	MAR	АРА	МАУ	NNr	, IL	AUG	SEP	ANNUAL
1950	ε	0	0	0	0	0	-	19	43	39	16	σ	
1951	e	0	0	0	0	0	-	19	43	39	. (0	: -
1952	e	0	0	0	0	0	-	19	43	39	16	0	÷
1953	e	0	0	0	0	0	-	19	43	39	16	۰ D	-
1954	e	0	0	0	0	0	-	19	5 3	39	35	0	12
1955	en 1	0	0	0	0	0	-	19	43	39	16	6	11
1956	e	0	0	0	0	0	-	19	43	39	16	6	11
1957	e .	0	0	0	0	0	-	19	5 3	39	16	6	7
1958	e	0	0	0	0	0	-	19	43	39	16	6	÷
1959	e 1	0	0	0	0	0	-	19	43	39	16	6	11
1960	c	0	0	0	0	0	-	19	43	39	16	6	1
1961	ო	0	0	0	0	0	-	19	43	39	21	6	11
1962	en 1	0	0	0	0	0	-	19	43	39	16	6	=
1963	с (0	0	0	0	0	-	19	43	39	21	თ	11
1964	س	a	0	0	0	0	-	19	43	39	16	თ	:
1965	n -	0	0	0	0	0	Ţ	19	4 3	39	16	6	11
1966	က	0	0	0	0	0	-	19	43	66	21	თ	11
1967	m	0	0	0	0	0	-	19	43	39	16	თ	
1968	e	0	0	0	0	0	-	19	43	39	16	თ	ŧ
1969	en 1	0	0	0	0	0	-	19	4 3	39	16	თ	11
1970	en (0	0	0	0	0	-	19	43	39	16	0	11
1971	(n)	0	0	0	0	0	-	19	43	39	16	ი	ŧ
1972	en i	0	0	0	0	0	-	19	4 3	39	16	6	=
1973	en (0	0	0	0	0	-	19	43	39	16	თ	=
1974	ლ (0	0	0	0	0	-	19	43	39	16	6	11
5781	ლ (0	0	0	0	0	1	19	43	39	16	6	11
19/61		0	0	0	0	0	-	19	43	39	16	6	11
1/61		0 0	0	0	0	0	-	19	43	39	34	6	12
R/RL		0 0	0	0	0	0	-	19	43	39	16	6	11
B/BL		0	0	0	0	0	-	19	43	39	16	6	11
1980		0	0	0	0	0	-	19	43	3 6	16	6	11
1981		0 0	0	0	0	0	-	19	43	<u> 3</u> 6	42	6	13
1982		0 0	0	0	0	0	-	19	43	3 6	16	6	11
1963		0 0	0	0	0	0	-	19	5 3	39	16	6	11
4961		0	0	0	0	0	-	19	6	39	16	6	11
1985	n	5	0	0	0	0	-	19	43	39	16	6	:

Simulated Flows at Middle Fork South Platte River below Montgomery Reservoir No Action Alternative

(CFS)

ANNUAL AVG ဖမ္ 2 Ξ ÷ SEP 6 ~ 9 AUG 16 16 16 JUL JUL NN MAY <u> 6 6 8</u> АРВ oφ 0 MAR 0000000000000 00 0 FEB 000 00 NAU •••••• 00 000 0 DEC 000 0 00 0 Nov 0 00000000000-0000000000 50 ကဝဖ ო 0000, 4 AVERAGE: MINIMUM MAXIMUM: 2005

PROPOSED ACTION ALTERNATIVE

Reservoir Data

Homestake Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

WATER												
YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP
1950	30,020	30,014	30,040	30,068	30,073	24,393	15,996	21,283	32,506	32,299	31.028	30.911
1951	28,540	28,534	28,559	28,586	28,592	22,913	13,995	20,713	34,485	42,008	42,328	42,199
1952	39,822	39,816	39,845	39,877	38,077	29,291	17,172	18,893	36,503	40,700	42,075	41,528
1953	38,908	38,155	38,183	38,215	38,221	32,539	23,613	27,995	41,473	42,951	42,704	42,575
1954	40,197	40,191	40,220	40,252	40,259	35,295	27,907	34,330	32,702	32,424	31,194	29,412
1955	29,315	29,139	29,164	29,191	29,197	23,518	14,600	18,444	23,833	19,947	18,696	18,594
1956	16,232	16,227	16,246	16,267	16,271	10,596	2,731	12,478	21,007	18,236	16,987	16,888
1957	14,527	14,523	14,540	14,560	12,758	3,982	189	418	16,690	31,578	33,932	33,392
1958	30,777	30,024	30,049	30,077	30,083	24,403	15,485	23,807	31,845	29,765	28,498	28,384
1959	26,014	26,009	26,032	26,058	26,064	20,386	11,471	15,497	26,520	25,305	24,045	23,935
1960	21,569	21,564	21,585	21,609	21,614	15,937	8,269	11,883	22,003	21,825	20,570	20,466
1961	18,102	18,098	18,118	18,139	18,143	12,468	3,563	8,384	13,097	9,236	8,001	10,451
1962	10,239	10,235	10,251	10,268	10,272	4,600	185	5,349	14,517	17,614	16,834	16,735
1963	14,374	14,370	14,388	14,407	14,411	8,738	175	6,165	9,974	6,122	4,426	4,347
1964	1,998	1,996	2,004	2,014	2,015	172	170	5,640	10,991	8,111	6,878	6,793
1965	4,440	4,438	4,449	4,462	4,465	169	166	5,053	17,402	26,629	29,056	30,490
1966	28,681	28,675	28,700	28,727	28,733	23,772	16,395	19,946	22,297	22,040	20,826	19,057
1967	18,968	18,793	18,813	18,835	18,839	13,164	4,912	12,029	20,561	20,589	19,336	19,234
1968	16,871	16,867	16,886	16,907	16,911	11,236	2,333	3,209	15,360	15,001	17,529	17,429
1969	15,067	15,063	15,081	15,101	15,105	9,431	1,531	10,446	17,151	17,882	16,634	16,535
1970	14,174	14,170	14,188	14,207	14,211	8,537	179	11,225	25,243	26,170	25,209	25,217
1871	23,408	23,403	23,425	23,450	23,454	17.777	9,669	13,064	20,915	20,962	19,709	19,606
1972	17,243	17,238	17,257	17,279	17,283	11,608	2,703	6,997	21,231	21,258	20,176	20,315
1973	17,951	17,947	17,966	17,988	17,992	12,317	3,412	7,730	20,897	27,171	27,998	27,884
1974	25,515	25,509	25,533	25,558	25,564	19,886	11,382	19,438	29,568	29,641	28,477	28,363
1975	25,993	25,988	26,011	26,037	26,043	20,365	11,450	13,759	23,129	32,719	32,966	32,847
1976	30,474	30,469	30,494	30,522	30,528	24,848	15,929	22,754	30,075	30,320	29,658	29,543
1977	27,172	27,167	27,191	27,218	27,223	22,263	14,887	15,634	17,200	16,955	15,750	13,987
1978	13,901	13,727	13,744	13,763	13,767	8,094	186	5,706	24,159	31,068	29,799	29,683
1979	27,313	27,308	27,332	27,358	27,364	21,685	12,769	19,526	30,970	36,865	37,300	37,176

Homestake Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

WATED												
YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP
1980	34,801	34,795	34,823	34,853	34,859	29,178	20,255	24.418	38.883	40.761	39.481	30,355
1981	36,979	36,973	37,001	37,032	37,038	31,356	22,431	26,515	33,230	29.324	28.058	27,944
1982	25,575	25,569	25,593	25,618	25,624	19,946	11,031	14,398	26,964	32,399	34,364	34,243
1983	31,869	31,864	31,890	31,918	30,118	21,335	8,659	7,242	21,753	32,459	36.927	36.385
1984	33,767	33,015	33,041	33,070	31,270	22,487	9,810	16,699	31,391	40,810	42,996	43.011
1985	41,257	40,504	40,533	40,565	40,572	34,889	26,778	37,629	42,959	42,951	42,268	42.140
1986	40,832	40,825	40,855	40,887	40,894	35,211	27,680	33,287	42,963	42,952	41.705	41,687
1987	39,310	39,304	39,333	39,365	39,371	33,668	25,940	34,353	40,277	38,928	37,650	37,525
1988	35,150	35,144	35,172	35,202	35,208	29,527	21,453	25,406	36,079	34,386	33.113	32,993
1989	30,621	30,615	30,640	30,669	30,674	24,995	17,479	24,763	29,909	28,483	27,218	27,105
1990	24,736	24,731	24,754	24,779	24,784	19,107	10,193	14,778	25,300	23,819	22,560	22,453
LAAL	20,088	20,084	20,104	20,127	20,131	14,455	5,547	13,212	24,038	24,686	23,426	23,318
1992	20,952	20,948	20,968	20,992	20,996	15,330	9,972	19,951	28,473	28,358	25,942	20.288
1883	19,955	19,951	19,971	19,993	19,998	10,960	3,319	13,699	28,202	29,931	30,327	30.238
1994	30,201	30,196	30,221	30,249	30,254	21,701	11,204	20,936	28,933	28,817	28,738	26,342
1895	14,923	14,919	14,936	14,956	14,960	14,634	186	3,202	24,469	38,551	40,698	40,668
1996	40,626	40,619	40,648	40,681	40,687	33,411	19,244	29,025	40,997	40,828	39,889	39.811
1997	39,770	39,763	39,792	39,824	39,831	30,015	15,909	25,862	42,970	42,951	42,994	43.012
1998	42,560	42,553	42,583	42,616	42,623	34,455	34,140	40,791	42,957	42,952	42,995	42.915
1999	42,872	42,865	42,895	42,928	42,935	34,468	19,663	23,202	39,423	42,570	42,995	42.752
2000	42,709	42,702	42,732	42,766	42,772	38,296	29,989	42,994	42,955	42,951	42,472	42.001
1002	41,958	41,951	41,981	42,014	42,021	33,066	16,046	18,598	29,206	29,090	28,502	28,437
2002	27,309	23,568	23,591	23,616	23,620	18,292	7,676	7,626	7,562	7,496	4,449	1,834
E002	1,822	1,820	1,828	1,837	1,839	1,833	1,817	12,972	16,582	19,632	19,567	19.514
2004	5,480	5,478	5,490	5,504	5,507	5,285	184	8,710	16,858	16,770	16,710	16.660
2005	16,633	16,629	16,647	16,668	16,672	8,623	172	8,559	20,588	25,076	25,002	24,940
AVERAGE:	25,903	25,769	25,791	25,817	25,693	19,838	11,432	17,261	26,933	28,595	28,208	27,885
MINIMUM:	1,822	1,820	1,828	1,837	1,839	169	166	418	7,562	6,122	4,426	1.834
MAXIMUM:	42,872	42,865	42,895	42,928	42,935	38,296	34,140	42,994	42,970	42,952	42,996	43,012

Wolford Mountain Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

WATER												
YEAR	001	NON	DEC	NAL	FEB	MAR	APR	МАҮ	JUN	JUL	AUG	SEP
1950	59,701	59,658	59,730	59,802	59,788	59,701	59,448	65,611	65,444	65,490	59.774	58.214
1961	52,892	52,812	52,822	52,889	52,840	52,710	52,475	65,625	65,444	65,490	65,090	60,900
1952	56,677	56,595	56,608	56,631	56,596	56,462	65,750	65,598	65,444	65.490	65.090	65.646
1953	56,811	56,720	56,790	56,817	56,761	56,627	56,325	65,618	65,444	65,490	65,090	53,563
1954	53,375	53,334	53,344	53,412	53,356	53,226	52,932	63,444	62,917	62,438	47,258	45,384
1855	29,037	28,396	27,893	27,658	27,393	26,913	26,705	40,486	45,613	45,236	39,945	34,445
1956	34,313	34,236	34,226	34,230	34,178	34,072	33,845	65,675	65,443	64,950	59,238	53,096
1957	52,909	52,820	52,829	52,896	52,841	52,711	52,418	65,625	65,444	65,490	65,583	65.244
1958	64,905	64,810	64,829	64,863	64,805	64,664	64,340	65,601	65,444	64,951	59,238	52,656
1959	52,470	52,381	52,390	52,414	52,358	52,279	51,988	65,626	65,444	65,490	61,627	53,228
1960	52,916	52,827	52,837	52,904	52,848	52,718	65,754	65,598	65,444	65,490	59,755	53,639
1961	53,450	53,361	53,428	53,496	53,482	53,351	53,058	65,624	65,444	64,951	53,682	54,304
1962	63,549	63,455	63,473	63,057	62,469	57,028	65,749	65,598	65,444	65,490	65,090	56,228
1963	53,383	53,343	53,410	53,434	53,379	53,248	52,954	65,624	65,444	59,598	51,058	48,238
1964	33,054	31,318	30,792	30,230	29,708	26,595	26,388	43,234	50,755	50,342	45,184	38,323
1965	38,179	38,149	38,143	38,151	38,098	37,987	37,746	65,665	65,443	65,490	65,174	64,837
1966	65,769	65,674	65,694	65,728	65,671	65,528	65,203	65,599	65,444	64,951	45,850	39,745
1967	39,473	39,442	39,437	39,446	39,394	39,281	40,708	61,515	65,456	65,490	61,625	53,803
1968	51,977	51,888	51,897	51,920	51,865	51,736	51,447	64,467	65,447	65,490	65,583	59,072
1969	53,829	53,740	53,750	53,775	53,719	53,638	61,519	65,607	65,444	65,490	62,236	53,235
1970	53,047	52,958	52,968	52,992	52,937	52,806	52,514	65,625	65,444	65,490	59,775	59,458
1871	59,256	59,164	59,179	59,208	59,151	59,015	65,746	65,598	65,444	65,490	65,090	64,752
1972	64,414	64,369	64,388	64,421	64,363	64,222	63,979	65,602	65,444	65,490	57,826	55,629
1973	55,436	55,345	55,414	55,398	55,384	55,252	54,953	65,620	65,444	65,490	65,136	59,103
1974	52,857	52,768	52,777	52,759	52,746	52,666	56,116	65,618	65,444	65,490	59,776	53,637
1975	53,325	53,236	53,303	53,285	53,272	53,191	52,977	65,624	65,444	65,490	65,090	53,646
1976	53,457	53,368	53,435	53,417	53,404	53,273	53,059	65,624	65,444	65,490	59,776	53,224
1977	53,037	52,947	53,014	53,081	53,068	52,987	52,695	52,361	51,897	46,131	40,178	39,872
1978	21,193	21,123	21,101	21,092	21,043	20,952	22,414	51,639	65,484	65,490	59,772	52,461
1979	52,275	52,186	52,195	52,218	52,205	52,076	51,864	65,626	65,444	65,490	65,090	53,233

Wolford Mountain Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

WATER	1.20	1014										
YEAR	5	ADN		NAC		MAH	APR	MAY	NUL	JUL	AUG	SEP
1980	53,046	53,006	53,015	53,039	52,984	52,854	52,640	65.625	65.444	65.490	59.776	53 224
1981	53,037	52,947	53,014	53,081	53,068	52,937	52,645	65,625	65.444	62.972	48.384	46.542
1982	31,426	31,351	31,338	31,338	31,287	31,185	30,968	59.616	65.462	65.490	65,090	64 752
1983	64,538	64,443	64,462	64,496	64,438	64,297	63,975	65,602	65.444	65.490	65,583	62 952
1984	62,618	62,574	62,591	62,623	62,566	62,476	62,238	65,606	65.444	65.490	65.583	65,244
1985	65,769	65,939	65,985	65,985	65,970	65,877	65,737	65,598	65,444	65.490	65.090	64.752
1986	65,429	65,939	65,959	65,985	65,970	65,892	65,737	65,598	65,444	65.490	65.090	64.752
1987	65,755	65,939	65,959	65,985	65,928	65,785	65,737	65,598	65,444	65,202	64.803	53.454
1988	53,265	53,176	53,186	53,210	53,155	53,024	54,659	65,621	65,444	65,490	59,776	53,637
1989	53,448	53,359	53,426	53,493	53,438	53,307	64,126	65,601	65,444	64,951	54,177	53,105
1990	52,917	52,828	52,838	52,905	52,849	52,719	52,427	64,720	65,446	64,953	53,379	51,753
1991	51,445	51,356	51,422	51,487	51,474	51,345	51,058	65,629	65,444	65,490	59,776	53,636
1992	53,448	53,358	53,368	53,393	53,337	53,207	52,992	65,624	65,444	64,951	50,849	46.672
1993	45,412	45,327	45,329	45,345	45,291	45,171	44,984	65,646	65,444	65,490	65,090	64,340
1994	64,003	63,909	63,927	63,960	63,903	63,762	63,520	65,603	65,444	59,647	49,166	48.890
1895	48,619	48,534	48,586	48,601	48,554	48,429	48,215	65,637	65,444	65,490	65,090	64.752
1996	64,442	64,356	64,376	64,405	64,354	64,213	65,739	65,598	65,444	65,490	59.776	59.458
1997	59,161	59,078	59,092	59,117	59,068	58,961	64,816	65,600	65,444	65,490	65,090	64.752
1998	64,999	65,330	65,364	65,409	65,352	65,209	65,738	65,598	65,444	65,490	65,090	59,469
1999	59,172	59,089	59,161	59,185	59,136	59,000	58,707	65,613	65,444	65,490	65,090	64.280
2000	54,952	54,871	54,939	54,961	54,912	54,780	55,693	65,619	65,444	64,951	53,176	52,029
2001	51,844	51,764	51,773	51,792	51,744	51,615	51,383	65,628	65,444	64,951	54,185	47.220
2002	46,954	46,878	46,881	46,894	46,844	46,722	46,530	46,231	45,814	39,516	29,073	27,695
2003	19,448	19,382	19,356	19,341	19,296	19,209	19,045	48,582	65,496	65,003	59,045	52,638
2004	52,451	52,371	52,381	52,400	52,352	52,251	51,975	59,734	63,645	63,162	47,127	46.389
2005	29,765	29,700	29,685	29,681	29,637	29,536	29,379	57,522	65,467	65,490	65,090	58,319
AVERAGE	52,220	52,129	52,134	52,138	52,072	51,798	52,924	63,126	64,161	63,597	58,574	54,527
MINIMUM:	19,448	19,382	19,356	19,341	19,296	19,209	19,045	40,486	45,613	39,516	29,073	27,695
MAXIMUM:	65,769	65,939	65,985	65,985	65,970	65,892	65,754	65,675	65,496	65,490	65,583	65,646

Williams Fork Reservoir Simulated End-Of-Month Contents Proposed Action Alternative (AF)

WATER												
YEAR	oct	NON	DEC	JAN	FEB	MAR	APR	MAY	NNC	JUL	AUG	SEP
1950	66,230	61,473	59,007	58,061	56,473	54,174	59,260	68,579	86.429	90.030	73.597	66.382
1951	61,460	58,237	56,028	54,784	53,948	51,500	50,874	66,035	96,052	96,303	89.843	72.487
1952	62,937	58,921	55,994	53,371	51,688	49,386	57,503	82,436	96,289	96.302	89.842	79.610
1953	72,660	68,402	64,261	60,058	58,428	56,518	55,835	65,976	87,680	91,515	83.922	77,315
1954	71,991	67,956	64,038	60,058	59,436	57,596	56,720	60,662	63,081	59,819	53.056	47.690
1955	31,760	28,592	26,431	24,590	23,518	22,040	27,092	34,375	43,015	45,769	40.683	30.766
1956	24,876	20,958	18,582	16,799	15,018	12,651	18,518	33,889	43,620	45,618	37.497	32,618
1957	27,722	24,606	23,272	21,695	20,221	18,916	18,665	30,276	70,296	96,360	89.890	83.586
1958	72,530	68,315	64,218	60,058	57,917	55,640	55,210	82,436	96,069	96,303	80,310	73,830
1959	68,867	65,875	62,996	60,057	58,529	56,341	55,694	63,247	72,184	73,314	66,954	60,012
19981	56,450	51,262	46,402	43,953	41,843	39,863	49,419	63,666	91,097	95,961	86,484	80,628
1961	75,280	70,148	65,135	60,058	59,048	57,985	54,879	63,197	80,052	77,057	65,707	64,303
1962	63,062	61,443	56,990	54,672	53,151	51,378	66,397	92,168	96'039	96,303	88,551	82,519
1963	76,701	71,095	62,609	60,058	58,571	56,236	55,926	56,258	57,961	54,409	53,358	43,400
1964	29,443	26,763	25,238	23,777	22,267	20,494	16,619	26,788	32,811	32,722	29,335	23.714
1965	20,234	16,971	14,295	11,905	9,777	7,569	11,855	20,599	50,703	67,198	65,683	64,284
1966	63,048	61,302	57,207	55,116	53,874	51,519	51,001	55,482	58,941	60,141	42,813	37,840
1967	33,554	31,115	29,744	28,571	27,323	25,212	29,415	34,653	51,873	58,148	48.798	41.714
1968	36,546	33,140	31,303	29,755	27,943	25,842	21,743	26,391	38,958	43,288	45.780	29.847
1969	21,803	18,023	15,287	12,590	10,585	7,996	14,377	28,095	55,544	64,420	58,033	48,359
1970	49,950	47,918	46,285	43,442	41,143	38,511	38,173	62,858	96,182	96,303	89,842	83,548
1261	77,466	71,604	65,863	60,058	57,133	53,599	62,280	76,916	96,049	96,303	88,852	79,758
1972	71,136	67,112	63,615	60,057	57,766	53,966	58,120	62,602	71,934	72,080	55,015	50,257
1973	48,491	45,252	42,496	40,441	38,901	37,286	36,826	52,726	86,198	96,326	89,266	80,738
1974	75,363	70,203	65,162	60,058	58,418	56,201	61,638	82,209	96,016	96,303	83,411	76,044
1975	69,150	65,479	61,995	60,057	58,207	55,872	55,200	59,191	69,310	83,859	76,012	86,031
1976	60,679	57,089	54,572	52,412	50,413	47,704	51,416	57,569	65,612	68,964	62,236	55,050
1977	47,016	43,208	41,322	40,196	38,940	37,092	36,522	37,790	42,149	33,067	15,849	11,186
1978	3,025	1,462	1,145	1,043	941	831	5,928	13,760	31,247	35,092	30,574	23,356
6/61	19,976	17,144	14,700	11,832	9,494	6,309	10,439	22,377	49,540	60,199	54,528	48,680

Williams Fork Reservoir Simulated End-Of-Month Contents Proposed Action Alternative (AF)

WATER												
YEAR	oct	NON	DEC	JAN	FEB	MAR	APR	MAY	NNr	JUL	AUG	SEP
1980	43,654	40,421	37,588	34,084	31,068	29,388	29.749	43.117	64.424	67 635	61 114	51 082 .
1981	46,010	42,978	40,855	39,521	38,288	36,600	31,028	35,587	43,181	41.811	24,400	13 443
1982	8,580	5,942	4,045	2,119	761	651	642	7.977	31,192	43.271	40.479	40.557
1983	40,239	36,407	32,125	29,510	26,154	24,852	19,647	31,556	95,107	96.305	89.844	80,869
1984	73,252	68,796	63,824	59,887	57,760	53,651	52,950	90,996	96,267	96,302	89.842	83.548
1985	77,466	71,604	65,863	60,058	58,166	55,099	65,494	88,839	96,273	96,302	89,412	81,975
1985	76,289	70,820	65,471	60,058	59,466	63,499	70,808	87,296	96,210	96,302	89,842	83,548
1987	77,466	71,604	65,863	60,058	57,260	54,631	59,608	70,530	84,110	86,390	77,305	71,431
1988	66,479	63,026	59,771	55,928	52,872	51,171	57,682	71,697	96,089	96,303	76,271	69,720
1989	65,001	61,721	59,349	57,566	55,711	52,958	58,874	66,970	72,130	68,901	66,823	59,199
1990	54,694	51,129	47,881	45,542	43,376	40,201	39,593	45,797	52,460	53,807	35,776	26,562
1991	17,941	13,502	10,684	8,441	6,864	4,294	3,779	20,255	43,875	46,193	43,169	39,774
1992	34,434	29,602	26,430	23,885	21,115	16,765	21,665	36,591	48,980	53,931	28,741	18,571
1993	6,855	2,244	1,264	1,163	1,061	950	938	28,058	64,108	78,288	74,891	64,502
1994	56,070	52,068	48,681	45,555	43,076	39,836	43,734	58,240	69,754	66,721	55,560	45,804
1895	40,427	37,127	34,613	32,464	29,736	26,075	19,526	28,177	69,051	96,363	89,892	74,980
1996	67,435	63,137	58,650	53,607	49,558	45,392	53,128	84,229	96,091	96,303	89.108	79.043
1997	70,586	64,512	59,331	54,847	50,182	46,059	51,503	78,448	96,148	96,303	89,842	83,548
1998	77,466	71,604	65,863	60,058	56,272	52,283	55,973	65,502	74,095	83,622	79,319	63,558
1999	55,003	49,916	46,885	43,289	40,232	35,407	34,760	43,602	61,972	69,439	67,544	51.351
2000	42,884	38,934	35,146	31,202	27,657	23,439	29,112	52,083	67,151	70,807	51.279	38.472
2001	31,224	27,556	23,539	20,340	17,563	13,797	13,379	27,336	37,825	43,441	19,238	7,747
2002	1,422	1,321	1,225	1,124	1,022	911	668	4,561	5,499	912	892	742
2003	734	634	536	433	331	224	220	33,075	70,763	76,719	67.872	54.659
2004	47,995	44,111	41,104	38,305	35,546	31,498	30,918	40,891	48,375	49,333	26,900	17.997
2005	10,010	6,395	4,279	1,682	1,059	948	8,323	29,941	51,315	59,669	54,090	47,770
AVERAGE:	49,090	45,325	42,144	39,291	37,376	35,122	37,455	50,974	67,919	71,619	62,771	54.766
	734	634	536	433	331	224	220	4,561	5,499	912	892	742
MAXIMUM:	77,466	71,604	65,863	60,058	59,466	63,499	70,808	92,168	96,289	96,363	89,892	83.586

Dillon Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

224,767 271,333 215,463 211,963 206,361 193,145 207,430 255,968 255,546 255,556 255,546 255,556 255,556 255,556 255,556 255,556 255,556 255,556 255,556 255,556 255,556 255,556 255,556 265,557 277,21 10,100 188,137 277,761 10,556 265,566 265,566 265,566 265,566 265,566 265,566 265,566 265,566 265,566 277,21 265,566 <th270< th=""> 256,566 265,566</th270<>	WATER YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP
191,575 165,778 173,050 166,179 16,000 202,401 202,410 206,901 212,028 256,506 255,968 255,548 112,707 112,707 112,707 112,707 112,708 112,707 112,708 112,702 <td< th=""><th>1950</th><th>224,767</th><th>221.933</th><th>215.493</th><th>211.963</th><th>208.859</th><th>201 QR7</th><th>102 1 A E</th><th>004 700</th><th>DEE DEO</th><th>DEE DEO</th><th></th><th>110000</th></td<>	1950	224,767	221.933	215.493	211.963	208.859	201 QR7	102 1 A E	004 700	DEE DEO	DEE DEO		110000
233,784 228,119 221,002 216,003 217,002 216,003 217,002 216,003 217,002 216,003 217,002 216,003 217,002 216,003 217,002 216,003 217,002 216,003 217,002 216,003 217,002 216,003 217,005 116,173 113,186 116,173 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 116,172 113,186 117,248 116,172 113,186 117,248 116,172 113,173 113,186 117,248 113,151 112,202 116,172 117,248 117,248 117,248 113,053 117,248 117,248 113,053 117,248 117,248 117,248 117,248 117,248 117,248 117,248 117,248 <t< th=""><th>1951</th><th>191,575</th><th>185,278</th><th>178,652</th><th>173.050</th><th>166,179</th><th>161.068</th><th>160 007</th><th></th><th>200'909 256 006</th><th>200,300</th><th>229,238</th><th>209, 214</th></t<>	1951	191,575	185,278	178,652	173.050	166,179	161.068	160 007		200'909 256 006	200,300	229,238	209, 214
221,102 213,065 206,102 207,064 15,180 152,567 255,569 255,573 752,569 255,573 755,569 255,573 755,569 255,573 255,569 255,559 255,569 255,559 255,569 255,559 255,573 255,569 256,569 266,569 266,569 266,569 266,569 266,569 266,569 266,569 266,569 266,569 266,569 266,569 266,569 266,569 <td< th=""><th>1952</th><th>233,784</th><th>228,119</th><th>221.002</th><th>216.059</th><th>211 400</th><th>206 201</th><th></th><th></th><th></th><th>2008'CC2</th><th>200,040</th><th>241,565</th></td<>	1952	233,784	228,119	221.002	216.059	211 400	206 201				2008'CC2	200,040	241,565
206,947 201,080 93,604 88,304 88,311 118,115 175,607 155,603 155,603 156,603 112,607 96,412 91,668 88,004 82,353 78,289 75,665 77,676 120,065 111,248 167,805 141,604 102,087 355,473 253,474 89,349 76,665 77,676 120,056 111,244 167,805 141,604 102,087 255,473 253,474 291,310 188,132 184,980 181,558 181,767 256,596 256,547 255,969 256,547 255,969 256,547 256,969 256,547 256,969 256,547 256,969 256,554 277,791 201,314 196,177 191,130 188,132 184,960 177,864 157,656 256,547 256,969 256,543 256,569 258,473 256,969 284,477 191,175 101,055 89,558 81,477 101,055 89,558 81,577 256,969 266,443 177,864 177,864 157,610	1953	221 102	213 985	208 513	206,004				102,002	200,871	200,909	256,162	236,564
56,412 91,686 88,004 80,334 81,915 17,506 17,576 15,603 11,504 106,180 102,426 88,004 80,335 83,499 77,576 19,3647 25,603 255,512 106,180 102,426 88,004 82,353 83,499 77,540 71,047 53,931 53,291 95,374 256,969 255,598 255,5928 255,473 233,490 187,165 177,91 73,256 96,525 73,256 201,314 196,177 191,170 63,490 187,156 70,056 117,248 717,761 211,720 196,177 197,175 191,180 177,91 177,916 177,91	1954	208 047					134,400	180,797	200,889	255,983	255,968	255,624	229,777
39,4; 5,3,23 78,266 73,229 90,502 118,173 113,864 112,702 106,180 102,967 87,273 78,340 71,477 85,51 35,513 35,713 35,619 255,563 111,73 113,864 112,702 255,328 255,473 253,474 29,843 247,162 246,027 256,208 255,913 255,569 266,553 255,713 255,969 266,523 255,969 266,523 255,969 266,523 255,969 266,523 255,969 266,523 255,733 255,733 255,742 256,969 286,523 277,791 277,791 277,791 277,791 277,791 274,173 274,255 255,969 286,596 2	1055	014007		193,004	00,931	181,915	1/5,664	151,880	152,587	146,576	126,037	112,607	101,777
106,180 102,426 98,245 83,499 76,665 77,576 120,056 171,248 167,805 14,505 255,282 255,473 256,206 256,917 256,206 256,969 225,593 225,596 225,596 225,596 225,596 225,596 225,596 225,597 255,596 226,596 226,596 226,596 226,596 226,596 226,596 226,596 226,596 226,596 226,596 226,596 226,596 226,517 237,791 237,791 237,791 237,791 237,791 237,791 237,793 255,541 255,546 236,516 236,516 236,516 235,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,556 236,567 236,567 236,567 236,566 236,567 236,566 236,566 236,566 236,566 236,566 236,567 236,566 </th <th>1900</th> <th>20,412</th> <th>91,686</th> <th>88,004</th> <th>82,353</th> <th>78,289</th> <th>72,860</th> <th>73,229</th> <th>90,502</th> <th>118,173</th> <th>113,864</th> <th>112,702</th> <th>112,101</th>	1900	20,412	91,686	88,004	82,353	78,289	72,860	73,229	90,502	118,173	113,864	112,702	112,101
102.987 94,785 87.279 77,240 71,047 63,931 63,291 94,227 192,374 256,067 255,698 235,598 237,731 117,731 117,731 117,731 117,733 117,734 117,731 117,731 117,7	1956	106,180	102,426	98,274	89,345	83,499	76,665	77,676	120,056	171,248	167,805	141,604	115,532
255,928 255,473 253,474 249,042 246,027 256,208 255,929 235,592 235,592 235,573 201,314 196,177 191,130 188,132 181,538 187,2598 255,969 236,592 235,593 235,733 216,941 214,780 197,864 167,722 160,278 177,916 255,969 236,474 255,969 236,592 236,596 236,733 191,288 187,837 186,064 177,916 177,964 165,668 151,039 146,555 121,678 107,255 89,538 87,229 80,322 56,497 60,141 61,601 93,582 101,055 384,77 89,556 175,902 69,421 65,497 60,141 61,501 93,002 266,068 255,610 255,969 284,77 81,555 150,208 166,356 166,369 160,316 152,107 255,978 255,969 244,98 85,554 255,978 255,918 255,918 255,918 255,918	1957	102,987	94,785	87,279	77,240	71,047	63,931	63,291	94,227	192,374	256,087	255,698	255,827
201,314 196,177 191,130 188,132 184,990 181,538 183,383 205,164 255,968 235,793 216,941 214,780 209,907 204,381 199,286 197,865 197,865 285,928 255,969 228,347 197,757 191,986 186,064 177,916 177,916 177,916 177,916 107,259 197,757 191,986 186,064 177,916 177,636 256,168 235,793 286,590 255,617 255,969 228,347 197,757 191,986 176,966 177,964 167,712 166,5168 170,966 167,751 284,477 101,055 83,558 73,326 73,320 73,320 73,320 73,330 233,487 213,935 230,038 241,451 265,948 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610<	1958	255,928	255,473	253,474	249,843	247,162	246,420	246,027	256,208	255,871	255,969	236,525	216.087
215,941 214,80 209,907 204,361 199,282 197,805 201,526 228,282 255,969 228,347 197,757 191,926 239,966 239,966 239,561 179,388 219,151 224,544 217,791 197,757 191,926 239,966 239,962 239,561 179,384 156,668 151,039 148,555 121,578 101,055 197,757 191,926 255,541 254,343 253,941 55,302 233,546 213,685 101,055 83,425 73,325 75,902 69,421 65,417 65,166 151,039 148,555 101,055 117,689 101,055 83,425 75,902 69,421 65,497 60,141 61,501 93,567 233,546 213,689 255,610 255,541 255,948 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610	1959	201,314	196,177	191,130	188,132	184,990	181,598	183,383	205,164	255,974	255,968	235,793	217,463
191,288 187,837 183,056 177,916 172,864 167,722 160,278 179,388 219,151 224,544 217,791 197,757 191,984 187,657 193,982 239,969 239,882 251,688 256,200 256,871 255,969 238,477 197,757 191,984 186,064 179,811 175,304 170,867 156,103 148,555 121,678 101,055 83,425 79,325 75,902 56,497 60,141 61,501 93,582 139,022 83,456 136,569 101,055 83,425 75,902 56,497 60,141 61,501 93,562 139,368 210,055 186,559 186,559 190,567 172,637 166,316 255,402 255,996 255,448 256,699 255,646 255,648 256,698 256,649 266,648 256,669 269,487 256,948 256,649 266,649 266,649 266,649 266,649 266,649 266,649 266,229 256,648 256,649		216,941	214,780	209,907	204,381	199,282	197,805	201,526	228,282	255,928	255,969	228,347	202,909
242,135 240,250 239,969 239,868 236,688 256,506 256,871 255,969 238,477 197,757 191,984 186,064 175,304 170,864 156,668 151,039 148,555 121,678 107,259 89,538 87,229 83,022 89,0326 77,087 73,320 70,852 92,470 120,050 117,869 101,055 83,425 75,902 69,421 65,497 60,141 61,501 93,682 139,002 255,610 255,610 255,610 255,610 255,948 250,038 250,103 418,555 213,685 214,91 203,081 214,917 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,94	1961	191,288	187,837	183,058	177,916	172,864	167,722	160,278	179,388	219,151	224,544	217,791	230.075
197./57 191./84 186,064 179,164 156,668 151,039 148,555 121,678 107,259 89,538 87.229 83,022 80,326 77,087 73,320 70,852 92,470 120,050 117,869 101,055 89,539 87,229 83,022 80,326 77,087 73,320 70,852 92,470 120,050 117,869 101,055 255,996 255,41 254,343 253,941 251,308 250,712 246,077 252,702 255,948 233,546 213,685 215,897 207,509 199,123 192,074 186,553 181,202 193,567 255,948	1962	242,135	240,250	239,922	239,969	239,892	238,682	251,688	256,200	255,871	255,969	238,477	213,451
B9,538 B7,229 B3,022 B0,326 77,087 73,320 70,852 92,470 120,050 117,869 101,055 B3,425 79,325 75,902 69,421 65,497 60,141 61,501 93,582 193,002 256,086 255,610 255,996 255,541 254,343 253,941 251,308 250,712 246,077 252,702 255,878 230,938 220,038 255,996 255,541 254,343 253,912 180,556 181,202 193,052 265,948 213,665 212,897 207,509 199,123 192,074 185,959 180,556 181,202 193,657 255,948 230,938 255,949 255,949 255,948 234,465 255,948 234,465 255,948 234,465 255,948 234,465 236,468 234,465 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,948 255,9468 254,277 2555,948 <th>1963</th> <th>197,757</th> <th>191,984</th> <th>186,064</th> <th>179,811</th> <th>175,304</th> <th>170,864</th> <th>156,668</th> <th>151,039</th> <th>148,555</th> <th>121,678</th> <th>107.259</th> <th>97.772</th>	1963	197,757	191,984	186,064	179,811	175,304	170,864	156,668	151,039	148,555	121,678	107.259	97.772
B3,425 79,325 75,902 69,421 65,497 60,141 61,501 93,582 193,002 255,616 255,610 260,038 250,038 260,038 260,031 211,020 193,150 265,610 265,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 255,610 266,294 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 255,616 256,217 255,61	1964	89,538	87,229	83,022	80,326	77,087	73,320	70,852	92,470	120,050	117,869	101.055	90,317
255,996 255,541 254,343 250,712 246,077 252,702 255,878 233,546 213,685 186,559 180,567 172,637 166,326 160,316 152,103 143,053 165,197 213,935 230,938 220,038 212,897 207,509 199,123 192,074 185,959 180,558 181,202 193,567 255,978 255,948 212,897 207,509 199,123 192,074 185,959 180,558 181,202 193,567 255,949 255,948 235,572 229,492 233,617 220,493 214,491 209,087 203,081 241,875 255,969 243,668 238,876 238,426 238,198 237,482 234,772 233,820 235,622 255,871 255,969 245,465 238,876 238,486 237,482 234,772 233,820 235,6129 255,811 255,969 245,465 238,676 238,778 235,620 255,871 255,969 255,912 255,969	1965	83,425	79,325	75,902	69,421	65,497	60,141	61,501	93,582	193,002	256,086	255,610	255.739
186,559 180,567 172,637 166,326 160,316 152,103 143,053 165,197 213,935 230,938 220,038 212,897 207,509 199,123 192,074 185,959 180,556 181,202 193,567 255,978 255,948 255,	1966	255,996	255,541	254,343	253,941	251,308	250,712	246,077	252,702	255,878	233,546	213,685	196,616
212,897 207,509 199,123 192,074 185,959 180,558 181,202 193,567 255,978 255,978 255,948 235,572 229,492 223,677 223,677 223,677 223,677 255,969 243,989 235,572 229,492 223,677 220,493 214,491 209,087 203,081 241,875 255,969 243,969 243,969 243,969 243,969 245,468 245,664 256,223 255,969 245,465 255,468 236,465 239,301 245,464 256,209 256,871 255,969 237,119 266,209 255,969 237,119 265,969 237,119 265,361 255,969 237,119 277,119 255,969 237,119 277,119 255,969 237,119 265,969 237,119 265,969 237,119 265,969 237,119 265,969 237,119 265,969 237,119 265,969 237,119 265,969 237,119 265,969 237,119 265,969 237,963 255,969 237,219 255,969 237,219 265,969 237,963 255,969 237,933 211,138 <td< th=""><th>1967</th><th>186,559</th><th>180,567</th><th>172,637</th><th>166,326</th><th>160,316</th><th>152,103</th><th>143,053</th><th>165,197</th><th>213,935</th><th>230,938</th><th>220,038</th><th>219,336</th></td<>	1967	186,559	180,567	172,637	166,326	160,316	152,103	143,053	165,197	213,935	230,938	220,038	219,336
235,572 229,492 223,677 220,493 214,491 209,087 203,081 241,875 255,900 255,969 243,989 255,468 255,468 255,468 255,468 255,468 255,468 255,468 255,468 255,468 255,468 255,468 255,689 243,569 243,689 245,465 255,871 255,969 255,468 237,119 238,876 238,876 238,876 238,876 238,876 238,876 238,876 238,876 233,820 235,862 256,871 255,969 245,465 237,119 237,119 237,119 237,119 237,119 237,119 237,119 237,240 235,861 235,816 237,119 237,119 237,240 235,861 235,816 237,119 237,240 235,817 255,968 237,119 237,240 235,817 255,968 237,119 237,240 235,817 255,969 237,119 237,240 235,817 255,968 237,119 237,246 231,773 255,817 255,968 237,983 231,773 <t< th=""><th>1968</th><th>212,897</th><th>207,509</th><th>199,123</th><th>192,074</th><th>185,959</th><th>180,558</th><th>181,202</th><th>193,567</th><th>250,773</th><th>255,978</th><th>255,948</th><th>243,587</th></t<>	1968	212,897	207,509	199,123	192,074	185,959	180,558	181,202	193,567	250,773	255,978	255,948	243,587
238,876 238,426 238,198 237,482 234,772 233,820 235,862 255,871 255,969 255,468 235,465 235,465 235,465 235,465 235,465 235,465 235,569 235,465 235,465 235,465 235,465 235,465 235,369 235,465 235,369 235,465 235,369 235,465 235,369 235,465 235,369 235,465 235,369 235,465 235,369 235,465 235,465 235,369 235,465 237,119 237,119 235,369 235,465 237,119 237,119 237,119 237,119 235,369 235,369 237,119 237,119 237,240 233,861 230,625 229,404 228,654 228,440 231,773 256,229 255,969 237,119 237,240 233,861 230,625 229,404 255,969 237,119 237,240 233,861 230,625 229,427 255,969 237,119 237,240 231,773 255,979 255,969 237,711 237,232 211,116 185,507 <t< th=""><th>1969</th><th>235,572</th><th>229,492</th><th>223,677</th><th>220,493</th><th>214,491</th><th>209,087</th><th>203,081</th><th>241,875</th><th>255,900</th><th>255,969</th><th>243.989</th><th>238,550</th></t<>	1969	235,572	229,492	223,677	220,493	214,491	209,087	203,081	241,875	255,900	255,969	243.989	238,550
246,878 246,426 241,482 240,196 239,301 245,664 255,871 255,969 245,465 238,548 235,272 230,999 228,823 225,372 223,223 220,929 245,172 255,969 237,119 207,589 202,065 196,140 189,405 181,714 174,268 174,494 202,119 255,969 237,119 207,589 202,065 196,140 189,405 181,714 174,268 174,494 202,119 255,969 237,983 207,589 202,065 196,140 189,405 181,714 174,268 174,494 202,119 255,969 237,983 237,240 233,861 230,625 229,404 228,654 228,440 231,773 256,229 255,969 237,983 211,138 204,077 196,490 191,614 188,366 185,118 185,507 202,765 255,969 256,028 255,969 237,719 211,138 204,077 196,490 191,146 193,236	1970	238,876	238,426	238,198	237,482	234,772	233,820	235,862	256,223	255,871	255,969	255,468	246.407
238,548 235,272 230,999 228,823 225,372 223,223 220,929 245,172 255,964 255,969 237,119 207,589 202,065 196,140 189,405 181,714 174,268 174,494 202,119 255,964 255,968 254,277 207,589 202,065 196,140 189,405 181,714 174,268 174,494 202,119 255,969 237,983 207,589 202,065 196,140 189,405 181,714 174,268 174,494 202,119 255,969 237,983 237,240 233,861 230,625 229,404 228,654 228,440 231,773 256,229 255,969 237,983 211,138 204,077 196,490 191,614 188,366 185,118 185,507 202,765 255,979 255,968 250,282 215,522 215,532 203,338 205,561 202,765 255,979 255,968 250,782 215,522 215,532 206,1135 206,192 206,1919	1971	246,878	246,426	243,264	241,482	240,196	239,301	245,664	256,209	255,871	255,969	245,465	242.245
207,589 202,065 196,140 189,405 181,714 174,268 174,494 202,119 255,981 255,968 254,277 237,240 233,861 230,625 229,404 228,654 228,440 231,773 256,229 255,871 255,969 237,983 211,138 204,077 196,490 191,614 188,366 185,118 185,507 202,765 255,979 255,969 237,983 211,138 204,077 196,490 191,614 188,366 185,118 185,507 202,765 255,979 255,968 250,282 215,522 212,332 208,338 205,561 202,662 201,146 193,236 214,392 239,443 241,477 229,771 215,522 212,332 208,045 200,824 194,140 189,714 196,192 204,115 211,003 184,847 166,239 137,624 133,757 128,395 121,448 118,066 113,338 111,860 135,507 224,178 248,847 166,239 </th <th>19/2</th> <th>238,548</th> <th>235,272</th> <th>230,999</th> <th>228,823</th> <th>225,372</th> <th>223,223</th> <th>220,929</th> <th>245,172</th> <th>255,894</th> <th>255,969</th> <th>237,119</th> <th>221.944</th>	19/2	238,548	235,272	230,999	228,823	225,372	223,223	220,929	245,172	255,894	255,969	237,119	221.944
237,240 233,861 230,625 229,404 228,440 231,773 256,229 255,871 255,969 237,983 211,138 204,077 196,490 191,614 188,366 185,118 185,507 202,765 255,979 255,968 250,282 211,138 204,077 196,490 191,614 188,366 185,118 185,507 202,765 255,968 250,282 215,522 212,332 208,338 205,561 202,662 201,146 193,236 214,392 239,443 241,477 229,771 219,931 215,611 208,045 200,824 194,140 189,714 196,192 204,115 211,003 184,847 166,239 219,931 215,611 208,045 200,824 194,140 189,714 196,192 204,115 211,403 184,847 166,239 137,624 133,757 128,395 121,433 141,860 135,507 224,178 243,892 218,987 173,914 167,256 159,771	. 18/3	207,589	202,065	196,140	189,405	181,714	174,268	174,494	202,119	255,981	255,968	254,277	241,352
211,138 204,077 196,490 191,614 188,366 185,118 185,507 202,765 255,979 255,968 250,282 215,522 212,332 208,338 205,561 202,662 201,146 193,236 214,392 239,443 241,477 229,771 219,931 215,611 208,045 200,824 194,140 189,714 196,192 204,115 211,003 184,847 166,239 137,624 133,757 128,395 121,448 118,066 113,338 111,860 135,507 224,178 243,892 218,987 173,914 167,256 159,771 151,208 147,188 145,576 149,220 180,783 256,026 255,968 255,661	1974	237,240	233,861	230,625	229,404	228,654	228,440	231,773	256,229	255,871	255,969	237,983	218,619
215,522 212,332 208,338 205,561 202,662 201,146 193,236 214,392 239,443 241,477 229,771 219,931 215,611 208,045 200,824 194,140 189,714 196,192 204,115 211,003 184,847 166,239 137,624 133,757 128,395 121,448 118,066 113,338 111,860 135,507 224,178 243,892 218,987 173,914 167,256 159,771 151,208 147,188 145,576 149,220 180,783 256,026 255,968 255,651	1975	211,138	204,077	196,490	191,614	188,366	185,118	185,507	202,765	255,979	255,968	250,282	230,827
219,931 215,611 208,045 200,824 194,140 189,714 196,192 204,115 211,003 184,847 166,239 137,624 133,757 128,395 121,448 118,066 113,338 111,860 135,507 224,178 243,892 218,987 173,914 167,256 159,771 151,208 147,188 145,576 149,220 180,783 256,026 255,968 255,651	1976	215,522	212,332	208,338	205,561	202,662	201,146	193,236	214,392	239,443	241,477	229,771	221,155
137,624 133,757 128,395 121,448 118,066 113,338 111,860 135,507 224,178 243,892 218,987 173,914 167,256 159,771 151,208 147,188 145,576 149,220 180,783 256,026 255,968 255,651 2	1977	219,931	215,611	208,045	200,824	194,140	189,714	196,192	204,115	211,003	184,847	166,239	146.477
173,914 167,256 159,771 151,208 147,188 145,576 149,220 180,783 256,026 255,968 255,651 2	1978	137,624	133,757	128,395	121,448	118,066	113,338	111,860	135,507	224,178	243,892	218,987	190,430
	1979	173,914	167,256	159,771	151,208	147,188	145,576	149,220	180,783	256,026	255,968	255,651	235,036

Dillon Reservoir Simulated End-Of-Month Contents Proposed Action Alternative (AF)

WATER												
YEAR	OCT	NON	DEC	JAN	FEB	MAR	APH	MAY	NUL	JUL	AUG	SEP
1980	220,523	215,756	211,475	211,419	210,972	210,770	213,470	244,775	255.894	255.969	231.099	212.875
1981	197,804	193,983	189,179	184,004	178,587	175,997	169,266	169,210	177,985	167.594	155.369	142.264
1982	134,144	130,429	126,299	123,754	119,913	114,783	111,871	135,400	201,925	234.610	248.106	250.465
1983	250,114	247,928	245,338	244,640	244,392	244,167	247,116	256,170	255,871	255,969	256.125	256,251
1984	255,666	255,211	254,515	253,410	250,018	249,789	254,502	256,196	255.871	255.969	255,989	256,116
1985	256,372	256,726	256,508	256,565	254,192	253,960	256,486	256,193	255,871	255,969	251,898	243,857
1986	243,772	243,577	242,399	241,338	239,228	234,039	241,276	256,215	255,871	255,969	248,732	234,808
1987	234,349	230,878	226,537	224,373	223,713	223,502	229,769	256,232	255,871	255,969	238,440	220,458
1988	209,492	206,843	202,820	202,030	201,762	201,567	206,940	231,156	255,922	255,969	248,994	227,017
1989	212,258	204,638	198,794	193,991	189,955	189,768	186,176	215,501	255,953	255,969	239,017	219,856
1990	205,678	198,107	190,129	184,154	179,401	173,430	177,861	197,711	249,834	255,980	249,728	234,517
1991	232,679	228,751	221,359	214,939	208,697	201,508	196,768	226,945	255,930	255,969	249,346	230,031
1992	219,314	216,154	211,664	208,194	205,279	204,003	200,522	228,912	253,875	252,955	244,316	233,610
1993	228,746	226,867	221,761	216,991	212,888	208,069	211,171	253,580	255,877	255,969	254,182	245,073
1994	237,195	233,190	228,940	226,079	222,868	220,449	217,463	245,536	255,893	238,772	226,177	216,180
1995	211,067	207,971	204,179	200,544	198,220	195,997	198,969	215,270	255,954	255,969	256,162	251,706
1896	251,129	250,675	248,896	248,159	247,150	246,372	255,876	256,194	255,871	255,969	245,795	237.743
1997	236,668	236,220	235,127	233,824	233,430	233,212	240,214	256,217	255,871	255,969	256,162	249,229
1998	243,977	241,770	238,056	235,346	232,950	231,194	229,656	254,263	255,875	255,969	254,173	240,983
1999	235,318	232,390	227,319	224,455	221,332	219,798	218,201	244,088	255,896	255,969	256,162	245,137
2000	238,990	234,929	230,609	228,088	225,454	223,322	227,199	256,235	255,871	255,969	248,027	235,569
2001	226,787	222,461	218,818	216,005	213,096	211,235	208,492	241,475	255,901	253,804	245,723	235,667
2002	225,981	219,516	212,890	207,797	202,856	197,126	193,674	198,097	193,713	171,747	131,119	113,816
2003	102,202	95,762	88,692	83,193	77,918	71,645	72,059	118,603	189,583	205,121	187,257	174,857
2004	165,487	161,393	156,713	153,476	150,555	149,002	144,005	153,098	157,618	141,607	128,304	115,593
2005	107,604	103,270	97,174	93,199	87,924	81,645	81,693	108,916	150,599	161,015	143,289	126,945
AVERAGE	204,744	200,892	196,242	192,407	188,779	185,408	184,998	205,597	231,793	233,015	222,761	210,167
MINIMUM	83,425	79,325	75,902	69,421	65,497	60,141	61,501	90,502	118,173	113,864	101,055	90,317
MAXIMUM:	256,372	256,726	256,508	256,565	254,192	253,960	256,486	256,257	256,026	256,087	256,162	256,251

Upper Blue Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

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SEP 2,059 2,059 2,059 2,059 2,059 2,059 1,935 2,059 2,0559 2,05 AUG 2,046 2,046 2,046 2,046 2,046 2,046 2,046 2,046 2,046 2,046 2,046 2,050 2,055 2,046 2,055 2,046 2,055 2,046 2,055 2,046 2,055 J C 2,066 2,066 2,066 2,066 2,066 2,066 2,066 2,066 2,066 2,066 1,290 1,290 1,5931 NUL MAY APR ooooooooooooooooooooooooooooooooo MAR 0000000000000 FEB 00 NAL $\circ \circ \circ$ 00 DEC 000000000 0 0 Nov 50 CT WATER **YEAR** 1950
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Upper Blue Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

SEP 250 250 250 250 2,059 2,059 760 760 760 760 760 744 760 744 744 744 744 744 744 7530 2,059 2,050 AUG 1,665 847 847 1,565 2,058 2,058 2,046 2,046 2,046 2,046 2,046 2,046 2,046 2,048 2,04 JUL 1,720 560 560 1,092 1,231 1,591 1,595 1,595 1,595 1,505 1,505 1,506 1,936 1,936 1,936 1,936 1,936 1,936 2,074 1,936 1,936 2,074 2,074 2,076 2,07 NN MAY APR MAR 000 0000000 000 EB $\circ \circ \circ$ 000000000000 000 JAN 00000000 00 000 DEC 00000000000 000 Nov 0000000 000 50 **MINIMUM: AVERAGE MAXIMUM:** WATER YEAR 1980 982 983 1988 1989 068 1994 1995 1996 1998 1998 1998 2000 2001 2003 2003 2004 1981 984 985 986 1987 **991** 1992 1993 2005

Green Mountain Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

WATER												
YEAR	oct	NON	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1950	103,699	93,313	87,557	81,774	75,873	69,926	78,823	111.439	153.974	153.965	130.399	110 034
1951	94,171	87,293	80,538	73,756	66,866	59,933	56,099	93.613	154.012	153.965	154 093	140 197
1952	114,777	103,771	92,906	82,008	70,990	59,932	68,927	104.551	153.988	153 965	154.093	140.011
1953	115,403	105,271	95,282	85,260	75,116	64,928	60,713	85,104	154.030	153.965	152 808	140 525
1954	115,050	105,989	97,071	88,121	79,046	69,925	66,043	89,460	93.965	77,201	76,866	75,603
1955	74,492	73,556	72,729	71,880	70,927	69,928	75,878	100,002	123,246	120.625	119.713	111.509
1956	86,116	81,852	77,705	73,533	69,254	64,930	70,550	131,540	153,938	140.766	126.978	117 008
1957	91,561	85,206	78,972	72,711	66,343	59,933	57,587	66,456	131,262	153.999	154.093	140.911
1958	127,987	115,335	102,835	90,299	77,635	64,927	61,545	154,244	153,902	151,743	121.678	113.190
1959	87,360	82,846	78,451	74,031	69,503	64,930	58,615	80,383	142,228	153,983	138,066	127 204
1960	103,534	95,780	88,158	80,508	72,740	64,929	75,123	94,618	154,009	153,965	136,849	126.877
1961	101,490	95,146	88,933	82,691	76,332	69,926	63,234	87,022	116,111	100,820	100,001	93.948
1962	88,085	82,426	76,885	71,319	65,647	59,934	78,475	150,074	153,908	153,965	149,760	122,026
1963	96,639	91,266	86,021	80,749	75,361	69,926	72,996	88,105	106,641	80,969	80.214	78.464
1964	76,872	75,459	74,157	72,833	71,404	69,928	64,574	85,783	107,139	120.952	112.079	104.270
1965	82,245	77,756	73,380	68,980	64,478	59,934	64,474	86,563	137,742	153,990	154.093	141.624
1966	129,413	117,475	105,692	93,873	81,922	69,924	75,032	95,141	116,317	102,887	90,410	86.464
1967	78,330	75,625	73,031	70,415	67,695	64,931	69,260	86,907	124,080	144.369	120.955	108.267
1968	84,844	80,834	76,941	73,023	68,999	64,931	56,027	67,332	111,791	129.456	145.066	133,190
1969	107,759	99,159	90,694	82,199	73,586	64,929	71,125	88,304	151,147	153,969	138.773	127.095
1970	115,658	104,475	93,434	82,360	71,167	59,932	63,448	134,799	153,933	153,965	138,841	127,154
1971	115,707	104,514	93,463	82,380	71,177	59,932	71,130	108,445	153,980	153,965	147,168	121,567
2/61	97,956	91,319	84,811	78,274	71,624	64,929	72,022	90,115	154,019	153,965	134,122	123,831
1973	113,775	103,969	94,305	84,608	74,791	64,928	56,238	80,212	140,425	153,985	154,093	123,845
18/4	97,838	90,225	82,739	75,225	67,600	59,933	66,701	128,520	153,943	153,965	143,386	131.754
1975	106,319	98,007	89,830	81,623	73,298	64,929	67,563	82,741	125,504	154,008	154,093	133,865
1976	108,366	100,644	93,059	85,445	77,708	69,925	75,260	92,668	125,704	146,565	135,844	126.017
1.61	100,631	94,458	88,417	82,347	76,160	69,926	56,147	61,866	77,307	70,061	69,750	68.096
1978	66,584	65,232	63,980	62,709	61,343	59,935	65,247	78,081	133,183	153,996	144.098	131,649
1979	105,926	96,693	87,593	78,463	69,219	59,932	65,340	90,813	146,544	153,976	150,469	137,811

Green Mountain Reservoir Simulated End-Of-Month Contents Proposed Action Alternative (AF)

WATED												
YEAR	OCT	NON	DEC	NAL	FEB	MAR	APR	МАҮ	NNC	ากเ	AUG	SEP
1960	112,319	102,805	93,431	84,026	74,499	64,928	68,704	89.851	154.020	153.965	135.676	125 R74
1981	100,436	94,302	88,300	82,269	76,121	69,926	57,467	68,109	91.801	86.067	85 702	82 441
1982	76,519	74,177	71,944	69,690	67,333	64,931	58,029	78.320	120.346	154.016	154 003	140 107
1983	126,560	113,194	99,978	86,726	73,349	59,931	51.767	81.405	154,038	153.965	154 003	116,303
1984	90,885	84,665	78,566	72,440	66,208	59,934	63,304	154.241	153,902	153.965	154 093	140 197
1985	126,560	113,194	99,978	86,726	73,349	59,931	80,978	154.212	153,902	153.965	151 401	137 894
1986	124,644	111,662	98,828	85,959	72,966	59,931	70,986	115,888	153.964	153,965	154,093	141 624
1987	129,413	117,475	105,692	93,873	81,922	69,924	76,751	112,939	153,970	153.965	145,895	101,853
1988	86,224	81,937	77,769	73,576	69,275	64,930	72,138	96,510	154,005	153,965	126.750	118.240
1989	92,238	87,747	83,380	78,987	74,480	69,926	79,918	96,981	125,793	133,293	124,669	116,460
0661	90,996	86,753	82,634	78,489	74,231	69,927	59,153	71,171	104,542	117,623	103,981	98,063
1991	79,587	76,630	73,786	70,918	67,947	64,931	59,533	84,097	154,032	153,965	129,544	120,629
1992	95,200	90,115	85,157	80,173	75,073	69,926	75,607	98,970	115,243	108,556	108,113	100.881
1993	82,725	78,140	73,868	69,173	64,574	59,934	56,661	91,336	154,016	153,965	145,325	134.126
1994	123,174	112,485	101,947	91,374	80,673	69,924	75,470	101,148	138,825	116,904	94,295	89.071
1995	81,566	77,213	72,973	68,708	64,342	59,934	50,164	64,851	154,075	153,965	154.093	140.197
1996	126,560	113,194	99,978	86,726	73,349	59,931	69,456	154,231	153,902	153,965	110.985	103,335
1997	95,893	88,670	81,571	74,446	67,210	59,933	67,957	135,846	153,931	153,965	154.093	140.911
1998	127,987	115,335	102,835	90,299	77,635	64,927	70,901	94,207	151,936	153,968	147,389	115,148
1999	69,754	84,760	79,888	74,990	69,982	64,930	68,409	83,482	154,033	153,965	154.093	140.911
2000	115,583	105,415	95,390	85,332	75,152	64,928	71,907	133,674	153,935	148,883	128,925	118,673
2001	93,176	86,497	79,941	73,358	66,666	59,933	57,536	86,255	125,264	113,150	109,864	103.804
2002	79,631	77,665	75,813	73,938	71,956	69,927	58,507	67,163	56,896	54,937	75,027	73,319
2003	64,883	64,302	63,833	63,335	62,819	62,927	70,317	108,706	151,248	142,982	116,558	109.525
2004	83,279	80,582	78,002	75,399	72,686	69,927	70,485	88,396	104,876	89,882	89,505	85,691
2005	80,089	77,032	74,087	71,119	68,047	64,931	72,765	98,476	133,397	152,975	141,360	130,021
AVEHAGE	99,366	92,336	85,517	78,669	71,708	64,715	66,769	98,310	136,319	138,085	129,973	117,861
	64,883	64,302	63,833	62,709	61,343	59,931	50,164	61,866	56,896	54,937	69,750	68,096
MAXIMUM:	129,413	117,475	105,692	93,873	81,922	69,928	80,978	154,244	154,075	154,016	154,093	141,624

Montgomery Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

1950 4,186 3,840 3,300 2,760 2,181 1,429 662 1,382 1951 3,936 3,590 3,056 2,510 1,931 1,179 662 1,382 1955 3,936 3,590 3,056 2,510 1,931 1,179 662 1,382 1955 3,936 3,590 3,050 2,510 1,931 1,179 662 1,382 1955 3,936 3,590 3,050 2,510 1,931 1,179 662 1,382 1956 3,590 3,050 2,510 1,931 1,179 662 1,382 1956 3,590 3,050 2,510 1,931 1,179 662 1,382 1956 3,936 3,590 3,050 2,510 1,931 1,179 662 1,382 1956 3,590 3,050 2,510 1,931 1,179 662 1,382 1956 3,590 3,050 2,510	WATER YEAR	oct	NON	DEC	NAL	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP
3,952 3,506 3,066 2,528 1,947 1,195 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,500 3,050	1950	4,186	3,840	3,300	2,760	2,181	1,429	662	1,382	4,155	4,545	4,444	4.323
3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,530 3,050 2,510 1,931 1,179 662 3,936 3,500 2,510	1951	3,952	3,606	3,066	2,526	1,947	1,195	662	1,382	4,155	4,545	4,444	4,369
3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,500 2,510 1,931 1,179 662 3,37 3,936 3,500 2,510 <	1952	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	4,444	4,369
3,936 3,590 3,050 2,510 1,931 1,179 662 3,055 2,703 2,163 1,624 1,045 662 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,723 2,184 1,092 4,15 2,43 3,240 2,686 2,113 1,541 1,019 4,49 2,06 3,979 3,793 3,602 3,407 2,542 1,296 3,07 2,990 2,702 <	1953	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	4,444	4,369
3,050 2,703 2,163 1,624 1,045 662 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,938 3,590 3,050 2,510 1,931 1,179 662 3,938 3,590 3,050 2,510 1,931 1,179 662 3,919 3,733 892 415 2,43 2,43 3,240 2,686 2,113 1,019 449 2,493 2,066 2,930 2,744 1,403 2,066 2,	1954	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	3,307	3,233
3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,543 2,113 1,541 1,019 449 2,066 3,240 2,648 2,113 1,541 1,019 449 2,066 2,930 2,244 2,493 2,223 3,07 3,545 3,07 2,960 2,545 3,602	1955	3,050	2,703	2,163	1,624	1,045	662	662	1,382	4,155	4,545	4,444	4,369
3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,263 2,723 2,184 1,604 853 662 3,979 3,793 3,602 3,407 2,542 1,779 662 3,979 3,793 3,602 1,409 2,742 2,433 2,223 3,979 3,733 1,541 1,019 449 2,433 2,15 2,980 2,744 2,493 <	1956	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	4,444	4.369
3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,979 3,793 3,050 2,184 1,604 853 662 3,979 3,793 3,602 3,407 2,542 1,779 662 3,979 3,793 3,602 3,407 2,542 1,296 352 2,980 2,241 1,704 3,598 3,244 2,493 2,223 2,980 2,245 1,702 1,429 3,07 4,566 3,244 2,493 2,266 2,980	1957	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	4,444	4,369
3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,979 3,263 2,723 2,184 1,604 853 662 3,979 3,793 3,602 3,407 2,542 1,296 352 2,980 2,241 1,704 3,598 3,244 2,493 2,056 2,980 2,241 1,704 3,598 3,244 2,493 2,223 1,962 1,702 1,454 1,207 998 908 161 2,980 2,344 2,493 2,344 2,493 2,223 3,44 2,493 2,266 2,981 <	1958	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	4,444	4,369
3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,936 3,590 3,050 2,510 1,931 1,179 662 3,610 3,263 2,723 2,184 1,604 853 662 3,979 3,793 3,602 3,407 2,542 1,296 352 2,980 2,241 1,704 3,598 3,244 2,493 2,223 2,980 2,241 1,704 3,598 3,244 2,493 2,223 2,980 2,241 1,704 3,598 3,244 2,493 2,223 2,980 2,241 1,704 3,598 3,244 2,493 2,223 2,966 3,545 1,454 1,207 998 161 161 2,933 2,345 1,207 998 908 161 161 2,933 2,545 1,429	1959	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	4,444	4,369
3,936 3,590 3,050 2,510 1,931 1,179 662 3,610 3,263 2,723 2,184 1,604 853 662 2,932 2,380 1,810 1,323 892 415 243 3,240 2,686 2,113 1,541 1,019 449 206 3,979 3,793 3,602 3,407 2,542 1,296 352 2,980 2,241 1,702 1,454 1,207 998 908 161 2,980 2,241 1,702 1,454 1,207 998 908 161 2,939 2,340 1,850 1,429 3,545 3,092 2,744 2,493 2,223 2,939 2,340 1,850 1,429 3,908 161 161 2,939 2,344 2,493 2,223 3,07 3,244 2,493 2,223 2,966 3,545 3,092 2,142 1,207 3,998 908 161 2,933 2,545 1,422 3,07 2,177 <t< th=""><th>1960</th><th>3,936</th><th>3,590</th><th>3,050</th><th>2,510</th><th>1,931</th><th>1,179</th><th>662</th><th>1,382</th><th>4,155</th><th>4,545</th><th>4,444</th><th>4,369</th></t<>	1960	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	4,444	4,369
3,610 3,263 2,723 2,184 1,604 853 662 2,932 2,380 1,810 1,323 892 415 243 3,240 2,686 2,113 1,541 1,019 449 206 3,979 3,793 3,602 3,407 2,542 1,296 352 2,980 2,241 1,704 3,598 3,244 2,493 2,066 2,980 2,241 1,702 1,454 1,207 998 908 161 2,980 2,241 1,702 1,454 1,207 998 908 161 2,939 2,240 1,850 1,429 979 4,22 307 2,939 2,344 2,493 2,723 307 4,22 307 2,933 2,345 1,420 3,544 2,493 2,223 307 4,506 3,545 3,092 2,744 2,335 1,226 307 2,933 2,548 1,777 1,288 808 515 4,22 307 4,565 <th>1961</th> <th>3,936</th> <th>3,590</th> <th>3,050</th> <th>2,510</th> <th>1,931</th> <th>1,179</th> <th>662</th> <th>1,382</th> <th>4,155</th> <th>4,545</th> <th>4,120</th> <th>4,046</th>	1961	3,936	3,590	3,050	2,510	1,931	1,179	662	1,382	4,155	4,545	4,120	4,046
2,932 2,380 1,810 1,323 892 415 243 3,240 2,686 2,113 1,541 1,019 449 206 3,979 3,793 3,602 3,407 2,542 1,296 352 2,980 2,241 1,704 3,598 3,244 2,493 2,223 2,980 2,241 1,702 1,454 1,207 998 908 161 1,962 1,770 1,454 1,207 998 908 161 161 2,939 2,340 1,850 1,429 979 422 307 4,506 3,545 3,092 2,744 2,335 1,226 334 4,697 4,524 3,602 2,177 1,288 808 515 4,557 3,493 2,578 1,777 1,288 808 515 4,555 3,345 2,797 2,177 1,583 968 665 3,481 3,043 2,579 1,777 1,593 968 665 3,481 3,043	1962	3,610	3,263	2,723	2,184	1,604	853	662	1,382	4,155	4,545	4,444	4,369
3,240 2,686 2,113 1,541 1,019 449 206 3,979 3,793 3,602 3,407 2,542 1,296 352 2,980 2,241 1,704 3,598 3,244 2,493 2,223 2,980 2,241 1,702 1,454 1,207 998 908 161 2,980 2,245 1,702 1,454 1,207 998 908 161 2,939 2,340 1,850 1,429 979 422 307 2,939 2,345 3,092 2,744 2,335 1,226 334 4,566 3,545 3,092 2,744 2,335 1,226 334 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,443 2,453 1,777 1,586 808 515 3,565 3,345 2,797 2,177 1,588 808 515 3,481 3,049 2,529 1,977 1,593 968 665 3,481 3,04	1963	2,932	2,380	1,810	1,323	892	415	243	1,085	2,968	3,066	4,644	4,286
3,979 3,793 3,602 3,407 2,542 1,296 352 2,980 2,241 1,704 3,598 3,244 2,493 2,223 2,980 2,241 1,702 1,454 1,207 998 908 161 2,980 2,241 1,702 1,454 1,207 998 908 161 2,980 2,345 3,092 2,744 2,335 1,226 307 4,506 3,545 3,092 2,744 2,335 1,226 334 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,588 808 515 4,557 3,493 2,578 1,777 1,526 616 164 3,565 3,345 2,777 1,528 808 515 334 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,331 1,949 1,656 1,1007 325 233 3,481 3	1964	3,240	2,686	2,113	1,541	1,019	449	206	1,673	3,791	4,388	4,604	4,421
2,980 2,241 1,704 3,598 3,244 2,493 2,223 1,962 1,702 1,454 1,207 998 908 161 2,939 2,340 1,850 1,429 979 422 307 2,939 2,340 1,850 1,429 979 422 307 2,939 2,340 1,850 1,429 979 422 307 4,506 3,545 3,092 2,744 2,335 1,226 334 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,593 968 665 3,481 3,049 2,797 2,177 1,593 968 665 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,315 1,949 1,656 1,119 944 2,333 3,481 3,049 2,331 1,949<	1965	3,979	3,793	3,602	3,407	2,542	1,296	352	82	3,284	4,574	4,227	4,641
1,962 1,702 1,454 1,207 998 908 161 2,939 2,340 1,850 1,429 979 422 307 2,939 2,345 3,092 2,744 2,335 1,226 334 4,506 3,545 3,092 2,744 2,335 1,226 334 4,567 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,288 808 515 4,516 3,676 3,100 2,177 1,593 968 665 3,565 3,345 2,797 2,177 1,593 968 665 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,346 1,903 1,450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,266 2,424 1,903 1,46	1966	2,980	2,241	1,704	3,598	3,244	2,493	2,223	3,032	3,330	4,355	3,284	2,238
2,939 2,340 1,850 1,429 979 422 307 4,506 3,545 3,092 2,744 2,335 1,226 334 4,567 3,545 3,092 2,744 2,335 1,226 334 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,593 968 665 3,565 3,345 2,797 2,177 1,593 968 665 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,346 1,903 1,450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,266 2,435 1,903 1,465 858 725 233 3,272 2,950 2,063 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 233 3,572 2,950 2,063 1,612<	1967	1,962	1,702	1,454	1,207	998	908	161	435	2,366	4,628	4.206	3.637
4,506 3,545 3,092 2,744 2,335 1,226 334 4,697 4,524 3,629 2,103 1,085 731 629 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,593 968 665 3,565 3,345 2,797 2,177 1,593 968 665 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,346 1,903 1,450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,266 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 233 3,572 2,950 2,063 1,612 1,316 999 961 2,887 2,424 1,944 1,46	1968	2,939	2,340	1,850	1,429	626	422	307	155	4,145	4,901	4.852	4,353
4,697 4,524 3,629 2,103 1,085 731 629 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,288 808 515 4,557 3,493 2,578 1,777 1,526 616 164 4,216 3,676 3,100 2,177 1,526 616 164 3,565 3,345 2,797 2,177 1,526 616 164 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,346 1,903 1,450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,266 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 233 3,572 2,950 2,063 1,612	1969	4,506	3,545	3,092	2,744	2,335	1,226	334	3,799	4,851	4,826	4,031	4,718
4,557 3,493 2,578 1,777 1,288 808 515 4,216 3,676 3,100 2,177 1,526 616 164 4,216 3,676 3,100 2,177 1,526 616 164 3,565 3,345 2,797 2,177 1,593 968 665 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,346 1,903 1,450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,822 3,315 2,808 2,331 1,893 1,441 920 3,826 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 725 3,572 2,950 2,063 1,688 1,323 820 556	1970	4,697	4,524	3,629	2,103	1,085	731	629	2,072	4,739	4,742	4,739	4,584
4,216 3,676 3,100 2,177 1,526 616 164 3,565 3,345 2,797 2,177 1,593 968 665 3,565 3,345 2,797 2,177 1,593 968 665 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,346 1,903 1,4450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,822 3,315 2,808 2,331 1,893 1,441 920 3,826 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 725 3,572 2,950 2,063 1,688 1,323 820 556	1971	4,557	3,493	2,578	1,777	1,288	808	515	1,190	4,555	4,640	4,644	4,690
3,565 3,345 2,797 2,177 1,593 968 665 3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,346 1,903 1,450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,822 3,315 2,808 2,331 1,893 1,441 920 3,826 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 725 3,572 2,950 2,063 1,688 1,323 820 556	1972	4,216	3,676	3,100	2,177	1,526	616	164	1,421	4,264	4,423	4,263	4,129
3,481 3,049 2,529 1,949 1,656 1,119 944 2,799 2,346 1,903 1,450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,822 3,315 2,808 2,331 1,893 1,441 920 3,826 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 725 3,572 2,950 2,063 1,688 1,323 820 556	1973	3,565	3,345	2,797	2,177	1,593	968	665	1,845	4,842	4,713	4,286	4,409
2,799 2,346 1,903 1,450 1,007 325 233 3,822 3,315 2,808 2,331 1,893 1,441 920 3,822 3,315 2,808 2,331 1,893 1,441 920 3,826 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 725 3,572 2,950 2,063 1,688 1,323 820 556	1974	3,481	3,049	2,529	1,949	1,656	1,119	944	1,967	4,906	4,653	4,198	4,167
3,822 3,315 2,808 2,331 1,893 1,441 920 3,826 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 725 3,572 2,950 2,063 1,688 1,323 820 556	1975	2,799	2,346	1,903	1,450	1,007	325	233	395	3,870	4,524	4,368	4,392
3,266 2,435 1,960 1,612 1,316 999 961 2,887 2,424 1,944 1,465 858 725 725 3,572 2,950 2,063 1,688 1,323 820 556	1976	3,822	3,315	2,808	2,331	1,893	1,441	920	1,683	4,374	4,534	4,668	4,306
2,887 2,424 1,944 1,465 858 725 725 3,572 2,950 2,063 1,688 1,323 820 556	1977	3,266	2,435	1,960	1,612	1,316	666	961	1,553	3,777	4,190	3,302	3,320
· 3,572 2,950 2,063 1,688 1,323 820 556	1978	2,887	2,424	1,944	1,465	858	725	725	1,016	4,815	4,948	4,542	4.724
	1979	3,572	2,950	2,063	1,688	1,323	820	556	1,049	4,803	4,730	4,826	4,758

Montgomery Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

YEAR	OCT	NON	DEC	NAL	FEB	MAR	APR	MAY	กมา	JUL	AUG	SEP
1980	4,180	3,560	2,946	2,273	1,567	1,036	626	1.087	4.643	4.423	3 299	3 407
1981	3,147	3,007	2,758	2,514	1,957	1,370	1,320	1.962	4.354	4.227	2,706	2 338
1982	2,143	1,577	826	443	443	443	443	309	2.986	4.731	4.322	4,230
1983	3,862	3,276	2,346	2,043	1,783	1,487	751	959	4.780	4.854	4.956	3,828
1984	3,719	2,801	1,830	1,287	851	611	611	2,140	4,499	4.805	4.856	4.5R4
1985	4,432	4,227	3,472	2,682	2,404	1,769	662	1,478	4,822	4.865	4.155	4 237
1986	2,664	2,111	1,608	1,428	1,229	866	993	366	4,222	4.947	4.811	4.742
1987	4,538	3,781	3,340	2,791	2,307	1,588	953	3,238	4,824	4,901	4.655	4.565
1988	4,166	3,928	3,097	2,335	1,854	1,255	208	1,031	4,694	4,592	4.840	4.907
1989	4,527	4,281	3,515	2,437	1,492	882	516	1,035	2,281	4,407	4,945	4.879
1990	4,555	4,381	3,368	2,702	2,170	1,619	1,347	783	3,258	4,398	4,555	4,263
1991	4,104	3,963	3,008	2,319	2,038	1,730	546	736	3,397	4,741	4,814	4,611
1992	4,537	4,435	3,589	2,709	1,927	1,103	449	1,397	4,695	4,540	4,686	4,730
1993	4,649	4,520	4,036	3,546	3,096	1,801	307	1,289	4,914	4,671	4,617	4.954
1894	4,780	4,575	4,045	3,497	2,627	1,449	573	1,276	4,414	4,159	3,715	4.405
1995	4,621	4,552	4,254	3,963	3,382	1,550	408	202	4,870	5,069	4,851	3,847
1996	3,791	4,699	4,533	4,360	4,199	2,597	815	502	4,907	4,976	4,196	4,993
1997	4,64B	3,728	2,728	2,571	1,791	959	744	752	4,965	4,910	4,888	4.465
1998	4,569	4,522	4,423	3,551	2,611	1,565	829	1,582	2,458	4,889	4,386	4,463
1999	4,362	4,270	3,585	2,675	1,796	832	389	788	4,733	4,893	4,903	4.778
2000	4,741	4,741	4,679	3,836	2,933	1,883	1,327	2,600	4,827	4,733	4,884	4,884
2001	4,632	4,632	4,613	3,873	2,461	564	387	1,532	2,481	2,794	2,998	3,961
2002	4,668	4,659	4,577	3,640	2,550	1,335	644	1,321	2,971	2,966	1,432	1,432
2003	1,427	1,427	1,251	965	965	965	965	2,732	4,801	4,727	4,726	4.697
2004	4,623	4,699	4,113	2,673	986	529	529	1,978	4,447	4,714	4,222	4,241
2005	4,238	4,219	4,118	3,659	3,301	1,525	699	1,882	4,737	4,686	4,092	2,935
AVERAGE	3,856	3,510	2,970	2,436	1,865	1,142	662	1,382	4,155	4,545	4,313	4,222
	1,427	1,427	826	443	443	325	161	82	2,281	2,794	1,432	1,432
MAXIMUM:	4,780	4,741	4,679	4,360	4,199	2,597	2,223	3,799	4,965	5,069	4,956	4,993

Elevenmile Canyon Reservoir Simulated End-Of-Month Contents Proposed Action Alternative

(AF)

WATER	L.C.C	NOT										
YEAR	5			NAU	FEB F	MAR	APR	MAY	NUL	JUL	AUG	SEP
1950	96,676	96,674	96,680	96,679	96,679	96,679	96,679	96,656	96,661	96.699	96.702	96.682
1951	96,664	96,559	96,579	96,492	96,666	96,673	96,673	96,631	96,249	96,689	96,699	96,624
1952	96,673	96,670	96,674	96,626	96,673	96,673	96,678	96,680	97,193	97.156	96.710	96,679
1953	96,666	96,685	96,674	96,644	96,673	96,673	96,677	96,612	96,663	96,716	96.705	96.628
1954	96,673	96,673	96,675	96,647	96,673	96,673	96,666	96,639	96,621	96,626	96,356	94,422
1955	92,192	90,217	87,030	80,783	75,210	70,279	66,691	64,262	63,941	61,373	57,776	56.192
1956	53,976	51,725	49,308	43,660	40,945	37,425	35,700	34,596	34,444	34,276	34,148	33,677
1957	32,724	31,757	30,446	29,500	29,109	29,020	29,016	29,013	35,121	72,539	97,710	97,619
1958	96,534	96,715	96,668	96,522	96,668	96,679	96,679	96,669	97,128	97,056	96.701	96.651
1959	96,579	96,646	96,663	96,527	96,656	96,672	96,676	96,626	96,636	96,702	96,704	96,668
1960	96,687	96,672	96,669	96,627	96,668	96,672	96,459	96,632	96,920	96,638	96,663	96,626
1961	96,670	96,658	96,665	96'296	96,669	96,674	96,674	96,618	96,590	96,720	96,732	96,697
1962	96,673	96,672	96,677	96,643	96,675	96,679	96,679	96,655	96,714	96,756	96,693	96,659
1963	96,670	96,678	96,680	96,665	96,669	96,672	96,671	96,641	96,642	96,624	96,591	96,641
1964	96,577	96,192	95,642	94,565	93,049	91,446	90,532	89,774	89,544	91 144	91,294	87,802
1965	82,919	78,848	75,797	70,514	66,484	63,105	61,737	61,541	63,213	86,657	96,834	96,691
1966	96,668	96,674	96,680	96,679	96,679	96,677	96,672	96,640	96,641	96,556	96,655	96,457
1967	95,679	95,428	95,467	95,068	95,491	96,229	96,651	96,633	96,609	96,702	96,707	96,685
1968	96,681	96,664	96,669	96,609	96,668	96,668	96,677	96,640	96,631	96,694	96,712	96,690
1969	96,674	96,666	96,669	96,591	96,668	96,668	96,672	96,650	97,237	602'26	96,868	96,680
1970	96,683	96,667	96,679	96,679	96,679	96,679	96,679	96,682	97,413	97,039	96,725	96,690
1971	96,673	96,676	96,675	96,679	96,679	96,679	96,676	96,608	96,809	96,725	96,708	96,613
1972	96,679	96,675	96,680	96,679	96,679	96,679	96,679	96,654	96,679	96,696	96,704	96,692
1973	96,675	96,669	96,680	96,679	96,679	96,679	96,677	96,700	97,364	97,307	96,991	96,683
1974	96,673	96,672	96,680	96,679	96,679	96,679	96,662	96,464	96,585	96,715	96,700	96,682
1975	96,675	96,672	96,680	96,679	96,679	96,679	96,679	96,655	96,782	96,733	96,711	96,685
1976	96,675	96,678	96,680	96,679	96,679	96,679	96,679	96,661	96,669	96,710	96,713	96,709
1977	96,684	96,674	96,680	96,679	96,679	96,679	96,679	96,648	96,639	96,674	96,659	96,515
1978	96,192	96,555	96,676	96,666	96,666	96,666	96,364	95,834	96,356	96,662	96,692	96,601
6/61	96,518	96,636	96,649	94,033	93,009	92,682	94,172	96,327	96,919	97,439	96,711	96,684
1980	96,674	96,672	96,673	96,650	96,670	96,671	96,673	96,689	97,394	97,362	96,710	96,672
1981	96,626	96,674	96,676	96,634	96,670	96,677	96,679	96,650	96,654	96,655	96,659	96,646
1982	96,613	96,649	96,666	96,480	96,668	96,667	96,663	96,659	96,666	96,694	96,706	96,698

Elevenmile Canyon Reservoir Simulated End-Of-Month Contents **Proposed Action Alternative**

(AF)

WATER												
YEAR	OCT	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP
1983	96,674	96,673	96,674	96,634	96,669	96,675	96,661	96,605	96,817	97,630	97,201	96,652
1984	96,650	96,674	96,679	96,679	96,679	96,679	96,679	96,649	97,067	97,517	96,875	96,689
1985	96'696	96,666	96,596	96,658	96,679	96,679	96,679	96,679	97,215	97,050	96,695	96,692
1986	96,670	96,683	96,680	96,679	96,679	96,679	96,625	96,581	96,663	96,933	96,723	96,687
1987	96,679	96,688	96,680	96,679	96,679	96,679	96,675	96,680	97,276	97,366	96,716	96,681
1988	96,663	96,676	96,680	96,679	96,679	96,679	96,679	96,654	96,665	96,785	96,715	96,686
1989	96,667	96,675	96,680	96,679	96,679	96,679	96,679	96,652	96,687	96,710	96,709	96,687
1990	96,665	96,672	96,680	96,679	96,679	96,679	96,676	96,653	96,659	96,719	96,715	96,690
1991	96,673	96,674	96,680	96,679	96,679	96,679	96,679	96,666	96,687	96,728	96,735	96,689
1992	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
1993	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
1994	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
1995	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
1996	93,651	93,432	93.186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
1997	93,651	93,432	93.186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
1998	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
1999	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
2000	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
2001	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
2002	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
2003	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
2004	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
2005	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
AVERAGE:	93,651	93,432	93,186	92,633	92,307	91,996	91,846	91,758	92,097	93,593	94,201	93,957
MINIMUM:	32,724	31,757	30,446	29,500	29,109	29,020	29,016	29,013	34,444	34,276	34,148	33,677
MAXIMUM:	96,696	96,715	96,680	96,679	96,679	96,679	96,679	96,700	97,413	97,709	97,710	97,619
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Source: Elevenmile Reservoir end-of-month contents from Denver Water's PACSM model for the Existing System Existing Demand simulation (Base285). Data from PACSM from 1950 through 1991, EOM contents from 1992 through 2005 were assumed to be the average of 1950 through 1991.

PROPOSED ACTION ALTERNATIVE

Diversions

Simulated Deliveries through Homestake Tunnel Proposed Action Alternative (AF)

Simulated Deliveries through Homestake Tunnel Proposed Action Alternative

WATER													
YEAR	OCT	NON	DEC	NAL	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
1983	2335	0	0	0	1806	8765	12642	3667	2862	2471	850	468	35866
1984	2578	747	0	0	1806	8765	12642	3667	2862	2471	850	468	GEREE
1985	2578	747	0	0	0	5661	8880	781	3110	3786	1187	48	26779
1986	2335	0	0	0	0	5661	8880	781	3110	3786	1187	49	25789
1987	2335	0	0	0	0	5661	8880	781	3110	3786	1187	49	25789
1988	2335	0	0	0	0	5661	8880	781	3110	3786	1187	49	25789
1989	2335	0	0	0	0	5661	8880	781	3110	3786	1187	64	25789
1990	2335	0	0	0	0	5681	8880	781	3110	3786	1187	49	25789
1991	2335	0	0	0	0	5661	8880	781	3110	3786	1187	64	25789
1992	2335	0	0	0	0	5651	5326	0	0	0	2339	5596	21247
1993	303	0	0	0	0	9024	7616	0	2114	8190	1048	22	28317
1864	0	0	0	0	0	8535	10462	0	2928	0	0	2331	24256
1995	11390	0	0	0	0	312	14431	0	←	4414	3687	0	34235
1996	0	0	0	0	0	7255	14852	1730	7237	6372	1131	0	38577
1997	0	0	0	0	0	9795	14712	0	4146	5981	2612	0	37246
1998	409	0	0	0	0	8146	725	951	6702	6897	1084	0	24914
1999	0	0	0	0	0	8445	14760	3302	0	3218	1304	275	31304
2000	0	0	0	0	0	4453	9510	0	7530	780	382	392	23047
2001	0	0	0	0	0	8933	16977	8997	0	0	509	0	35416
2002	1093	3735	0	0	0	5312	10584	0	0	0	3006	2589	26319
2003	0	0	0	0	0	0	0	0	9843	0	0	0	9843
2004	14010	0	0	0	0	212	5088	0	0	0	0	0	19310
2005	0	ð	0	0	0	8036	9488	431	0	0	0	0	17955
AVERAGE:	2,174	129	0	0	129	5,838	8,706	1,117	2,952	3,191	1,169	356	25,762
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	9,843
MAXIMUM:	14,010	3,735	0	0	1,806	9,795	16,977	8,997	9,843	8,190	3,687	5,596	38,577

Simulated Deliveries through Hoosier Tunnel Proposed Action Alternative

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Simulated Deliveries through Hoosier Tunnel Proposed Action Alternative

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PROPOSED ALTERNATIVE

Substitution Summary

Simulated Springs Utilities Total Substitution Bill Repayment Proposed Action Alternative (AF)

			DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
1950	0	0	0	0	0	0	0	0	0	0	0	0	C
1951	0	0	0	0	0	0	0	0	0	0	0	• c	
1952	0	0	0	0	0	0	0	0	0	0	0 0		c
1953	0	0	0	0	0	0	0	0	0	0	0	0 0	
1954	0	0	0	0	0	0	0	0	0	0	2.767	0	2.767
1955	0	0	0	0	0	0	0	0	0	0	726	0	726
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	
1958	0	0	0	0	0	0	0	0	0	0	0	0	00
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	2,338	0	2,338
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	4,318	0	4.318
1964	0	0	0	0	0	0	0	0	0	0	623	0	623
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	2,324	0	2,324
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
968	0	0	0	0	0	0	0	0	0	0	0	0	0
696	0	0	0	0	0	0	0	0	0	0	0	0	0
970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	Q	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	С
1976	0	0	0	0	0	0	0	0	0	0	0	0	00
1977	0	0	0	0	0	0	0	0	0	0	1.605		1 605
1978	0	0	0	0	0	0	0	0	0	0	0	0	c
1979	0	0	0	0	0	0	0	0	0	0	Ō	0	00
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	2,396	0	2.396
982	0	0	0	0	0	0	0	0	0	0	0	c	Ċ

Simulated Springs Utilities Total Substitution Bill Repayment Proposed Action Alternative

(AF)

PROPOSED ALTERNATIVE

Streamflows

Simulated Flows at Homestake Creek below Homestake Project at USGS Gage 09064000

Proposed Action Alternative (CFS)

WOV DEC JAN FEB MAR APH MAY JUN JUL AUL AUL <th>WATER</th> <th>+00</th> <th></th>	WATER	+00												
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	YEAR	001	NON	DEC	JAN	FEB	MAR	APR	MAY	NN	JUL	AUG	SEP	
	1950	20	14	12	10	8	2	¢	30	94	03	10		AVG
	1951	9	ъ	S	4	e co	с С	i Ç	84	110	2 2	4 6	2 c	3 8
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$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1953	9	4	4	4	4	4	Ŧ	5 8	127	40	100	47	ŝ
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8 7	1955	16	ი	7	5	4	4	20	30	56	14	39	! σ	23
4 4 21 4 22 5 </th <th>1958</th> <th>5</th> <th>7</th> <th>7</th> <th>9</th> <th>ъ</th> <th>7</th> <th>7</th> <th>67</th> <th>76</th> <th>36</th> <th>19</th> <th>) ц</th> <th>5 5</th>	1958	5	7	7	9	ъ	7	7	67	76	36	19) ц	5 5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1957	4	4	ю	4	4	ъ	12	25	125	110	21	6	38
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1958	თ	0	7	9	9	ъ	1	58	73	11	17	~	18
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0 0	1960	21	42	ហ	4	4	7	œ	28	87	23	25	0 00	19
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$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2081	51	19	14	Ø	ω	6	11	38	80	44	24	10	23
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	1984	18	14	11	6	б	10	1 3	67	115	76	47	18	\$

Simulated Flows at Homestake Creek below Homestake Project at USGS Gage 09064000

WATER													
YEAR		NON	DEC	NAL	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	
1985	18	42	7	7	2	10	2	74	156	78	10	17	24
1986	2	15	13	0	10	12	σ	41	214	141	2 0	P C	5 ₹
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1991	8	15	2	4	4	ŋ	80	54	92	29	27	19	22
1992	80	7	ഗ	ო	4	S	31	2	56	06	26	20	27
1883	18	14	10	б	б	8	12	66	109	63	24	25	3
1994	14	13	ø	9	9	7	18	62	72	36	15	14	33
1995	10	8	4	ო	4	7	10	19	139	170	37	24	98
1996	21	11	11	6	10	6	5	73	126	4	24	18	5 C
1997	13	6	7	9	-	6	4	63	181	57	37	25	3 2
1998	22	11	9	4	ო	2	ო	49	86	58	29	14	24
1999		æ	5	2	ស	7	15	4	107	41	28	54	۲ ۲
2000	15	8	ß	4	ъ	5 L	8	96	149	52	1	8	3 8
2001	12	7	5	4	4	4	20	73	70	55	28	0.0	25
2002	2	9	-	ო	ო	ى	25	170	102	14	80	15	30
2003	21	14	2	ო	ო	S	ស	71	88	24	21	54	25
2004	7	5	5	4	4	7	33	2	2	62	15	Ŧ	2
2005	11	6	5	9	10	7	7	56	79	29	27	. ~	12
AVERAGE:	12	ი	9	ഹ	5	9	12	48	8	49	23	15	24
WINIMOW:	-	-	-	0	0	ო	2	÷	26	11	0	~	18
MAXIMUM:	24	19	14	11	10	17	R	170	214	170	53	00	41

Proposed Action Alternative (CFS)

Simulated Flows at Homestake Creek below Homestake Project at USGS Gage 09064000 Proposed Action Alternative (AF)

833 738 615 144 273 538 1,432 730 2,375 5,588 1,432 739 5284 1,432 739 5,588 1,432 739 5,242 1,476 1,221 5,385 1,437 730 5,237 5,588 1,432 739 2,403 739 5,243 1,19 5,231 5,386 1,437 739 2,403 5,386 1,437 739 2,403 5,386 1,437 739 2,403 5,386 1,437 739 2,403 5,386 1,436 5,396 1,436 739 2,403 5,396 1,436 5,396 1,436 5,396 1,436 739 2,403 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 5,396 1,436 1,436	WATER	001	NON	DEC	NAL		avn		2411					
$ \begin{bmatrix} 1,4,2 \\ 6,75 \\ 6,80 \\ 2,82 \\ 2,81 \\ 2,81 \\ 2,82 \\ 2,82 \\ 2,81 \\ 2,8$	YEAH								MAT	NOC	JUL	AUG	SEP	TOTAL
353 309 332 226 194 277 750 2.927 6.575 4.428 1.300 523 388 249 273 233 233 233 242 1.300 253 211 7.997 2.402 754 690 233 314 415 416 200 316 7.997 2.402 754 690 233 314 415 230 216 200 3163 7.997 2.403 7.491 7.337 7.493 7.397 7.493 7.397 7.493 <th>1950</th> <th>1,242</th> <th>833</th> <th>738</th> <th>615</th> <th>444</th> <th>430</th> <th>703</th> <th>2.375</th> <th>5.588</th> <th>1 432</th> <th>710</th> <th>604</th> <th>15 740</th>	1950	1,242	833	738	615	444	430	703	2.375	5.588	1 432	710	604	15 740
676 369 338 277 230 215 75-6 2632 1476 125 242 286 244 280 136 318 75-6 242 243 215 300 325 1476 1275 302 375-6 242 248 557 1215 302 375-6 242 248 557 1201 1161 3326 4739 2406 556 327 302 375-6 2432 1215 302 277 2413 275 302 271 275 302 271 275 567 1002 146 566 566 743 1517 745 302 277 242 413 275 567 146 566 1002 145 566 1002 145 566 1002 1456 566 1002 2414 1517 1475 566 1007 1566 1007 1567 146 566 567 146	1951	353	309	332	228	194	277	750	2.927	6.575	4 428	1 280		
338 249 228 240 226 231 653 275 2402 7546 275 326 242 521 415 77 100 316 7297 2402 754 600 314 517 475 267 3551 7367 2402 754 600 314 517 408 377 3787 2402 744 600 2233 224 187 206 1006 1272 1414 1306 716 300 205 342 1517 485 748 667 153 2233 234 167 172 2184 1772 1476 584 740 1517 485 2391 386 249 536 346 1507 1272 1416 394 566 10.05 1272 2428 746 146 2461 366 243 342 1172	1952	676	369	338	277	230	215	218	2,112	7,965	2632	1 476	07C	. 0/2/01
242 286 234 230 193 270 7,97<	1953	398	249	228	240	205	231	658	2.029	7.546	2 432	1 215	302	15,023
	1954	242	286	234	230	194	207	1,903	3,183	7.997	2,402	754	200 600	18 200
314 415 408 346 300 402 4557 2242 1181 275 541 517 748 317 211 214 415 7423 6.757 1.272 1.163 275 541 517 216 205 278 751 7.423 6.757 1.272 1.153 223 224 330 271 222 5.153 1.434 1517 446 327 306 106 103 441 1722 1.657 1.272 1.153 327 301 231 233 233 1366 1.032 1.446 963 461 330 271 249 3.772 1.527 1.752 1.661 1.307 384 366 230 456 5.361 1.032 2.414 3.075 2.547 7.475 1.557 1.757 384 467 236 640 5.372 2.01	1955	1,012	521	413	292	215	262	1,209	1,816	3.326	4,739	2 40R		18 760
230 237 211 216 205 278 738 1,511 7,23 6,757 1,272 1,153 231 231 231 233 231 627 3,551 4,366 706 1,032 441 232 233 264 168 199 627 3,551 4,366 706 1,032 441 237 308 205 184 171 218 487 2,116 3,056 2,301 1,456 1,517 446 237 239 1657 163 160 191 344 1,132 2,468 1,677 1,456 584 461 381 233 282 236 266 502 2,407 3,476 1,476 1,676 567 384 1,476 1,392 5,031 4,566 1,616 1,470 266 1,556 1,566 1,566 1,566 1,566 1,566 1,576 1,446 1,616<	1956	314	415	408	346	300	405	402	4.092	4.537	2.242	1,181	275	14 017
541 517 436 367 309 321 627 3,551 4,356 706 1,022 444 327 308 205 184 171 218 487 2,723 433 456 533 660 2,301 4,556 1,036 1,573 486 327 308 205 184 171 218 487 2,783 486 1,571 486 327 308 205 184 171 218 487 2,722 2,941 456 1,456 466 506 1,036 1,456 506 1,036 5,476 506 1,377 446 506 1,376 5,476 5,66 1,376 5,476 5,66 1,376 5,471 466 5,66 1,376 5,471 476 2,587 446 5,960 1,366 1,476 2,586 5,77 2,547 5,66 1,376 5,67 1,476 1,566 5,571 1,428	1857	230	237	211	216	205	278	738	1,511	7.423	6.757	1.272	1 153	20.231
223 224 187 204 168 199 642 1,884 5,506 1,036 1,533 400 223 326 716 330 271 223 482 1,884 5,506 1,036 1,533 400 403 239 168 180 191 344 1,132 2,631 2,772 2,426 3,060 1,307 403 3391 233 580 2,309 4,778 2,697 1,476 583 461 386 355 340 2,33 583 422 1,132 2,631 2,772 2,426 3,060 1,307 1,476 649 489 365 2,631 2,772 2,426 3,060 1,307 1,476 764 2,98 2,072 1,537 2,013 2,565 5,77 2,446 1,476 5,965 1,476 763 366 2,844 1,032 2,663 1,3660 1,307	1958	54	517	436	367	309	321	627	3,551	4.356	706	1.032	414	13 177
	1959	223	224	187	204	168	199	642	1,884	5,506	1,036	1,253	480	12 006
	1960	1,306	716	330	271	232	423	482	1,722	5,153	1.434	1.517	485	14.071
829 1,153 657 493 456 533 680 2,309 4,776 5,67 1,476 5,84 403 239 166 180 191 344 1,132 2,631 2,702 2,476 5,84 461 381 233 283 422 1,132 2,631 2,702 2,476 1,307 552 247 212 235 235 266 244 1,327 2,201 3,256 567 552 247 212 235 235 508 265 3,091 4,560 1,520 1,906 1,355 559 467 559 472 380 313 368 7,11 4,611 6,66 1,856 1,465 1,476 1,286 1,476 789 261 372 241 4,560 1,520 1,906 1,355 569 447 280 343 741 4,611 6,617 2,402	1961	327	308	205	184	171	218	487	2,186	3,056	2,301	1,456	983	11,882
403 239 166 180 191 344 1,132 2,631 $2,702$ $2,426$ 3,060 1,307 552 247 266 284 1,032 2,202 6,017 2,547 741 552 247 2702 2,426 3,060 1,355 5,074 1,428 6,00 552 247 2112 236 255 3,091 4,560 1,520 1,906 1,355 552 247 2112 236 255 3,091 4,560 1,520 1,006 1,355 553 467 293 363 353 288 744 390 3,787 2,601 1,402 1,468 1,661 1,476 983 720 412 367 5,960 1,468 1,661 1,226 1,428 600 1,476 983 720 412 366 5,766 1,468 1,661 1,428 600 1,428 1,611	1902	829	1,153	657	493	458	533	680	2,309	4,778	2,697	1.476	584	16.847
461 361 233 282 236 256 602 2,429 3,295 5,107 2,477 741 1,476 765 340 356 340 256 2002 2,429 3,295 5,07 1,426 600 1,476 765 730 351 283 422 3,091 4,560 1,520 1,906 1,355 738 467 298 271 244 390 3,787 3,848 1,792 1,402 835 967 559 400 536 741 6,966 1,365 1,476 1,292 1,256 1,476 1,296 1,355 1,476 983 720 412 390 3,787 3,848 1,772 1,402 835 1,476 983 741 1,989 6,776 1,292 1,428 600 1,476 983 741 1,989 6,776 1,292 1,428 626 235 <td< th=""><th>206</th><th>403</th><th>239</th><th>168</th><th>180</th><th>191</th><th>344</th><th>1,132</th><th>2,631</th><th>2,702</th><th>2,426</th><th>3.060</th><th>1.307</th><th>14.783</th></td<>	206	403	239	168	180	191	344	1,132	2,631	2,702	2,426	3.060	1.307	14.783
394 360 356 340 266 284 1,032 2,202 6,010 5,074 1,428 600 552 247 212 235 233 233 235 566 567 738 467 298 271 240 329 490 656 5,960 1,520 1,906 1,355 738 467 598 271 240 329 490 656 1,406 1,428 600 967 559 405 5160 1,520 1,905 1,355 1,402 835 967 559 472 313 368 741 4,611 6,696 1,426 1,426 1,476 983 720 412 367 518 1,428 835 599 405 472 313 366 576 1,428 875 599 405 472 313 366 233 1,646 4,296	1964	461	381	233	282	236	256	602	2,429	3,299	5,107	2.547	741	16.574
1,476 649 489 363 283 422 1,129 2,072 1,537 2,201 3,256 567 738 467 212 235 2031 4,560 1,520 1,906 1,355 758 785 730 271 240 329 444 390 3,787 3,848 1,792 1,402 835 967 559 420 6586 7,41 4,611 6,696 1,876 1,476 1,296 1,476 983 720 412 367 521 313 1,646 4,296 1,476 1,296 599 405 472 313 1,646 4,296 1,522 1,226 987 599 405 472 363 500 3,954 813 652 1,456 1,476 1,296 1,476 1,296 1,476 1,296 1,456 824 1655 5101 1,969 6,776	1965	965	360	356	340	266	284	1,032	2,202	6,010	5,074	1,428	600	18.346
552 247 212 235 508 255 3,091 4,560 1,520 1,906 1,355 738 467 298 271 240 329 490 658 5,960 1,366 1,468 1,681 967 559 422 380 313 368 741 4,611 6,696 1,476 1,296 835 967 559 405 521 313 1,646 4,792 1,402 835 599 405 472 380 313 1646 4,522 1,402 835 599 405 476 933 11 936 131 1,698 6,776 1,292 922 922 533 108 1244 19 362 1476 1,476 1,476 1,426 333 108 1244 1989 6,776 5,224 5,292 6,05 333 108 1244 103 1,776	996	1,476	649	489	363	283	422	1,129	2,072	1,537	2,201	3,256	567	14.444
738 467 298 271 240 329 490 658 5,960 1,366 1,468 1,681 1,176 765 730 561 332 444 330 3,787 3,848 1,792 1,476 1,296 967 553 730 561 332 444 330 3,787 3,848 1,792 1,476 1,296 1,476 983 720 412 367 521 313 1,646 4,296 1,522 1,292 922 596 456 536 516 1,646 4,296 1,522 1,428 835 533 168 124 19 362 233 160 1,522 1,296 1,428 1,428 235 275 176 328 509 5,766 1,412 365 1,428 333 168 124 19 3,462 5,189 1,412 365 657 <t< th=""><th>1961</th><th>552</th><th>247</th><th>212</th><th>235</th><th>223</th><th>508</th><th>255</th><th>3,091</th><th>4,560</th><th>1,520</th><th>1.906</th><th>1.355</th><th>14,664</th></t<>	1961	552	247	212	235	223	508	255	3,091	4,560	1,520	1.906	1.355	14,664
1,176 765 730 501 392 444 390 $3,787$ $3,048$ $1,792$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,476$ $1,876$ $1,296$ $1,876$ $1,292$ 922 922 $1,476$ 983 720 412 366 536 911 $1,989$ $6,776$ $1,292$ 922 922 922 922 923 914 920 $3,954$ 813 652 $1,226$ $1,412$ 982 $1,226$ $1,412$ 982 $1,230$ $3,954$ 813 652 $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$ $1,428$	1968	738	467	298	271	240	329	490	658	5,960	1.366	1.468	1.681	13 968
967 559 422 380 313 368 741 4,611 6,696 1,376 1,476 1,296 1,476 983 720 412 367 521 313 1,646 4,296 1,528 1,292 922 599 405 472 389 536 911 1,989 6,776 1,522 1,292 922 559 405 476 369 536 911 1,989 6,776 1,522 1,292 922 5535 275 176 328 496 233 160 3,462 5,189 1,412 98 333 188 124 19 362 1,295 4,98 5,247 592 687 333 188 124 19 362 1,216 1,476 749 814 5,0 2177 5,391 1,255 4,988 5,247 592 687 814 5,0 2177 </th <th>1969</th> <th>1,176</th> <th>765</th> <th>730</th> <th>501</th> <th>392</th> <th>444</th> <th>390</th> <th>3,787</th> <th>3,848</th> <th>1,792</th> <th>1.402</th> <th>835</th> <th>16.062</th>	1969	1,176	765	730	501	392	444	390	3,787	3,848	1,792	1.402	835	16.062
	0/81	967	559	422	380	313	368	741	4,611	6,696	1,876	1.476	1.296	19.705
599 405 472 389 369 536 911 1,989 6,776 1,522 1,259 1,428 1,458 824 655 206 20 309 718 2,001 8,360 3,954 813 652 235 275 176 328 496 233 160 3,462 5,189 1,412 98 333 188 124 19 362 156 908 1,225 4,866 5,247 592 687 602 344 146 103 109 177 633 2,966 4,098 1,612 1,476 749 814 548 433 2,96 881 2,171 5,891 1,542 881 5,876 667 836 814 548 433 2,956 1,033 1,772 5,891 1,542 836 5,876 6692 303 410 491 5,373 1,303 1	1/61	1,476	983	720	412	367	521	313	1,646	4,296	1,528	1,292	922	14.476
1,458 B24 655 206 20 309 718 2,001 8,360 3,954 813 652 235 275 176 328 496 233 160 3,462 5,189 1,412 98 235 275 176 328 496 233 160 3,462 5,189 1,412 98 333 188 124 19 362 158 908 1,225 4,888 5,247 592 687 602 344 146 103 109 177 633 2,966 4,098 1,412 98 814 548 433 295 249 329 313 2,460 8,418 4,203 2,829 689 814 548 433 295 249 329 313 2,460 8,418 6,747 5,92 687 814 548 2,32 249 3,13 2,460 8,418	2/81	599	405	472	389	369	536	911	1,989	6,776	1,522	1,259	1.428	16,655
Z35 Z75 176 328 496 233 160 3,462 5,189 1,546 1,412 98 333 188 124 19 362 158 908 1,225 4,888 5,247 592 687 602 344 146 103 109 177 633 2,986 4,098 1,612 1,476 749 838 50 217 232 193 680 881 2,171 5,891 1,542 881 5,68 814 548 433 295 249 329 313 2,171 5,891 1,542 881 5,68 814 548 433 295 249 329 313 2,171 5,891 1,542 881 5,68 814 544 433 295 249 329 313 2,460 8,418 4,203 2,829 6,87 303 410 491 2,365 1,953 6,880 2,566 1,175 303 410 491 <t< th=""><th>19/3</th><th>1,458</th><th>824</th><th>655</th><th>206</th><th>20</th><th>309</th><th>718</th><th>2,001</th><th>8,360</th><th>3,954</th><th>813</th><th>652</th><th>17,970</th></t<>	19/3	1,458	824	655	206	20	309	718	2,001	8,360	3,954	813	652	17,970
333 188 124 19 362 158 908 1,225 4,888 5,247 592 687 602 344 146 103 109 177 633 2,986 4,098 1,612 1,476 749 838 50 217 232 193 680 881 2,171 5,891 1,542 881 568 814 5,48 433 295 249 329 313 2,171 5,891 1,542 881 5,68 814 5,48 433 295 249 329 313 2,171 5,891 1,542 881 5,68 814 5,48 433 295 249 329 313 2,171 5,891 1,542 831 5,68 814 5,48 433 295 2,460 8,418 4,203 2,829 692 303 410 491 28 1,953 6,880 2,611 <th>4/8 I</th> <th>G52</th> <th>275</th> <th>176</th> <th>328</th> <th>496</th> <th>233</th> <th>160</th> <th>3,462</th> <th>5,189</th> <th>1,546</th> <th>1,412</th> <th>98</th> <th>13,610</th>	4/8 I	G 52	275	176	328	496	233	160	3,462	5,189	1,546	1,412	98	13,610
002 344 146 103 109 177 633 $2,986$ $4,098$ $1,612$ $1,476$ 749 838 50 217 232 193 680 881 $2,171$ $5,891$ $1,542$ 881 568 814 548 433 295 249 329 313 $2,460$ $8,418$ $4,203$ $2,829$ 692 428 232 375 329 313 $2,460$ $8,418$ $4,203$ $2,829$ 692 428 232 375 329 313 $2,460$ $8,418$ $4,203$ $2,829$ 692 303 410 491 286 16 $2,365$ $5,702$ $3,814$ 667 836 580 450 552 313 $2,122$ $3,814$ 667 836 580 450 $5,702$ $3,814$ 667 $3,732$ <	1010	555	188	124	19	362	158	806	1,225	4,888	5,247	592	687	14,731
838 50 217 232 193 680 881 2,171 5,891 1,542 881 568 814 548 433 295 249 329 313 2,460 8,418 4,203 2,829 692 814 548 433 295 249 329 313 2,460 8,418 4,203 2,829 692 428 232 375 359 381 1,039 147 2,956 5,702 3,814 667 836 303 410 491 286 16 293 1,358 1,953 6,880 2,611 994 1,175 580 450 5772 3,865 2,611 994 1,175 748 615 473 263 1,636 6,133 3,632 1,728 1,194 773 6395 6,1665 4,129 6,865 4,674 2,908 1,728 1,1125 816		209	945 1	146	103	109	177	633	2,986	4,098	1,612	1,476	749	13.035
814 548 433 295 249 329 313 2,460 8,418 4,203 2,829 692 428 232 375 359 381 1,039 147 2,956 5,702 3,814 667 836 428 232 375 359 381 1,039 147 2,956 5,702 3,814 667 836 303 410 491 286 16 293 1,358 1,953 6,880 2,256 1,310 775 580 450 552 313 212 423 368 1,953 6,880 2,611 994 1,175 748 615 473 229 307 293 468 1,636 6,133 3,632 1,728 1,194 773 6395 6,133 3,632 1,259 1,728 1,1125 816 677 539 468 1,636 6,7126 2,103 1,728	JIRI	838	50	217	232	193	680	881	2,171	5,891	1,542	881	568	14,144
428 232 375 359 381 1,039 147 2,956 5,702 3,814 667 836 303 410 491 286 16 293 1,358 1,953 6,880 2,256 1,310 775 580 450 552 313 212 423 368 1,924 3,865 2,611 994 1,175 748 615 473 229 307 293 468 1,636 6,133 3,632 1,259 1,728 1,194 773 634 620 274 320 122 895 6,733 3,632 1,259 1,728 1,194 773 636 6,7133 3,632 1,259 1,728 1,125 816 677 538 488 605 786 4,129 6,865 4,674 2,908 1,080	8/61	814	548	433	295	249	329	313	2,460	8,418	4,203	2,829	692	21.581
303 410 491 286 16 293 1,358 1,953 6,880 2,256 1,310 775 580 450 552 313 212 423 368 1,924 3,865 2,611 994 1,175 748 615 473 229 307 293 468 1,636 6,133 3,632 1,259 1,728 1,194 773 634 6,73 3655 6,786 5,168 2,103 1,343 1,125 816 677 538 488 605 786 4,129 6,865 4,674 2,908 1,080	R/A	428	232	375	359	381	1,039	147	2,956	5,702	3,814	667	836	16,936
580 450 552 313 212 423 368 1,924 3,865 2,611 994 1,175 748 615 473 229 307 293 468 1,636 6,133 3,632 1,259 1,758 1,194 773 634 620 274 320 122 895 6,786 5,168 2,103 1,343 1,125 816 677 538 488 605 786 4,129 6,865 4,674 2,908 1,080	DRR I	303	410	491	286	16	293	1,358	1,953	6,880	2,256	1,310	775	16,331
748 615 473 229 307 293 468 1,636 6,133 3,632 1,259 1,728 1,194 773 634 620 274 320 122 895 6,786 5,168 2,103 1,343 1,125 816 677 538 488 605 786 4,129 6,865 4,674 2,908 1,080	1981	580	450	552	313	212	423	368	1,924	3,865	2,611	994	1.175	13,467
1,194 773 634 620 274 320 122 895 6,786 5,168 2,103 1,343 1,125 816 677 538 488 605 786 4,129 6,865 4,674 2,908 1,080	1982	748	615	473	229	307	293	468	1,636	6,133	3,632	1.259	1.728	17,521
1,125 816 677 538 488 605 786 4,129 6,865 4,674 2,908 1,080	225	1,194	E/1	634	620	274	320	122	895	6,786	5,168	2.103	1.343	20.232
	1984	1,125	816	677	538	488	605	786	4,129	6,865	4,674	2,908	1,080	24.891

Simulated Flows at Homestake Creek below Homestake Project at USGS Gage 09064000 **Proposed Action Alternative**

(AF)

WATER	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY			AliG	d H S	TOTAL
1985	1.101	704	441	405	37F	613	010	101	0000			3	10.01
TORK	416						010	100'4	9,208	4,768	1,155	899	24,609
		311	070	240	/90	715	544	2,519	12,750	8,651	14	1,427	29,980
1081	c04,1	808	767	544	406	544	460	3,611	3,562	1,000	1.217	473	14,797
1988	218	242	434	659	140	325	331	1,872	5.404	863	924	1 461	10 873
1989	869	287	48	224	245	781	546	3,166	3.263	1.476	1 025		10,000
1990	58	265	199	155	151	308	1.136	2.110	5 338	1 476	357	200	11 550
1991	503	912	280	243	229	318	497	3.306	5,455	1 766	1635	120	160,11
1992	500	418	908 908	195	206	321	1,845	3,906	3.355	5,531	1 590	154	10,2,01
1993	1,092	845	599	525	498	513	203	4.056	6,499	3,902	1 476	1 473	20181
1994	880	761	465	377	349	435	1,088	3.811	4.288	2,207	640	852	16 455
1995	642	465	240	192	221	405	611	1,181	8,300	10 434	2.05	1 428	
1996	1,300	658	671	631	544	532	283	4.507	7,518	2 466	1 476	1024	21 867
1997	828	545	420	377	52	543	252	3,899	10.796	3.511	2220	1 463	24 062
1998	1,332	642	344	237	191	307	179	2,996	5,130	3,560	1 789	BOA	17 511
1999	698	502	314	145	268	461	890	2.689	6.354	2 528	1 605	1 428	17 070
2000	929	485	286	247	270	310	487	5,906	8,886	3 217	1068	1001	2/6'/1
2001	714	415	295	265	211	263	1,193	4.518	4,165	3 389	1 707	760	17 004
2002	455	334	34	190	189	321	1,508	10.452	6.051	884	508	867	102,10
2003	1,289	805	297	185	166	281	1.330	4.355	5 263	1 476	1 278	1 427	10 100
2004	437	295	304	251	208	433	1.936	3.327	3 198	DUB C	008 008	676 676	10,100
2005	684	549	288	344	546	402	409	3.441	4,708	1.785	1 689	2070	20/101
AVERAGE:	731	510	390	319	274	393	713	2.943	5.716	3 011	1 438	A08	17 336
MINIMUM:	58	50	34	19	16	158	122	658	1 537	706	1	020	11 660
MAXIMUM:	1,476	1,153	857	629	567	1,039	1.936	10.452	12,750	10 434	3 756	1 708	
											21-22	1,201	000 03

Simulated Flows at Blue River below Green Mountain Reservoir Proposed Action Alternative (CFS)

	AVG	110		334	295	187	306	381	494	274	352	305	481	297	193	343	319	218	204	337	546	475	350	357	383	341	250	259	229	341	446	247	207	714	868
SEP	240	2010	384	337	179	292	312	498	292	361	303	402	587	230	245	605	207	394	353	351	412	586	377	630	337	462	371	146	405	374	319	209	498	1039	845
AUG	AGE	202	411	324	185	500	610	937	683	689	631	545	341	492	613	677	509	748	156	620	552	350	570	243	393	299	447	216	550	438	634	156	370	1029	1393
ר חר	567	1760	685	767	669	411	539	1175	524	366	663	634	1082	833	178	836	672	178	178	847	1283	1067	511	1130	629	1240	176	499	362	1211	1020	414	182	2330	2391
NUL	509	505	2311	347	240	173	568	2	2055	142	583	169	1936	171	152	138	164	124	4	157	2150	1586	822	176	1312	9 8	107	166	169	118	1351	162	130	1820	3306
MAY	81 81	113	135	67	70	61	120	76	166	67	91	65	151	2	88	85	61	61	62	225	150	94	9 3	87	83 83	61	151	133	140	119	61	123	86	62	581
АРВ	65	226	06	241	254	82	06	202	210	279	8	269	06	93 93	242	9 3	100	06	259	66	102	90	8	293	06	120	9 4	412	91	8	92	400	276	268	104
MAR	211	196	286	298	257	115	187	208	323	173	203	218	260	210	139	179	338	173	154	237	283	319	265	276	257	250	234	203	178	244	293	208	183	366	219
FEB	205	208	311	284	172	101	183	209	330	175	244	211	242	202	126	181	337	144	160	250	297	308	245	285	240	258	245	197	155	249	283	203	141	325	229
NAL	163	196	292	272	427	66	175	213	298	177	216	192	51	190	124	181	306	141	159	241	284	286	226	270	233	248	216	184	154	235	257	189	143	301	208
DEC	171	198	301	261	256	110	183	231 231	325	168	216	206	205	272	123	182	307	147	165	240	329	302	240	275	225	238	223	187	168	237	254	200	139	294	239
NON	278	229	315	276	264	132	192	219	360	171	272	222	040	194	137	191	357	165	184	241	362	360	244	297	256	692	246	190	169	230	264	212	150	329	288
OCT	554	515	552	522	523	152	505	513	378	507	635	516	2	584	88	440	456	243	476	516	358	364	504	318	531	450	485	562	199	511	515	481	190	393	585
WATER YEAR	1950	1951	1952	1953	1954	1955	1956	1857	1958	1959	1960	1961	1962		1964	1965	1966	1967	1968	1969	1970	1/61	1972	1973	1974		9/8L	1197	8/81	8/81	1980	1961	1982	1983	1984

Simulated Flows at Blue River below Green Mountain Reservoir Proposed Action Alternative

(CFS)

Simulated Flows at Blue River below Green Mountain Reservoir Proposed Action Alternative (AF)

34,047 $16,549$ $10,497$ $10,045$ $11,397$ $31,645$ $13,611$ $12,177$ $12,047$ $11,574$ $33,939$ $18,718$ $18,514$ $17,941$ $17,297$ $32,036$ $16,412$ $16,023$ $16,712$ $5,573$ $19,567$ $32,132$ $15,702$ $15,718$ $26,277$ $9,563$ $17,2941$ $32,032$ $11,422$ $11,248$ $10,736$ $10,162$ $11,729$ $31,0337$ $13,010$ $13,567$ $13,090$ $11,608$ $13,574$ $31,195$ $10,189$ $10,355$ $10,864$ $9,738$ $13,439$ $31,719$ $13,185$ $12,201$ $13,574$ $13,738$ $13,732$ $21,000$ $13,1395$ $11,507$ $15,731$ $11,220$ $13,438$ $31,179$ $13,856$ $11,507$ $13,569$ $13,469$ $13,250$ $31,196$ $13,560$ $11,5707$ $13,530$ $11,220$ $8,453$	WATER	OCT	NON	DEC	JAN	FEB	MAR	APR	MAY			AUG	SED	TOTAL
31,645 13,611 12,177 12,043 11,574 12,036 32,132 15,772 15,773 16,773 16,773 16,773 32,132 15,770 15,773 16,773 16,773 16,706 32,132 15,770 15,773 16,712 15,773 16,703 32,132 15,702 15,773 16,724 17,294 17,294 31,043 11,422 11,248 10,736 10,162 11,490 31,043 11,422 11,248 10,736 10,168 17,490 31,719 13,185 10,864 9,738 10,664 9,738 31,719 13,185 12,669 11,733 19,667 16,174 31,719 13,185 15,691 11,703 11,203 10,644 31,719 13,185 15,669 11,713 13,404 17,713 13,404 23,207 11,327 15,649 11,733 11,703 11,713 10,664 31,719 <	1950	34.047	16 540	10.407	10.045	11 207	10,001	100					;	
37,033 15,71 15,714 17,237 17,237 17,580 32,132 15,702 15,718 16,712 15,773 15,773 15,723 15,723 32,47 7,855 6,769 6,110 5,636 7,100 31,043 11,422 11,248 10,736 10,162 11,490 31,037 13,010 13,567 13,090 11,608 12,787 31,719 10,189 10,355 10,864 9,738 10,162 11,490 31,719 10,189 10,3255 13,209 11,733 13,404 31,719 13,185 10,189 10,3255 13,269 15,74 13,490 31,719 13,185 10,189 10,3255 13,269 15,763 15,769 31,719 13,185 15,71 16,731 11,703 11,220 12,897 31,719 13,185 15,516 13,564 13,464 17,419 11,014 20,100 20,207 11,586 <	1051	21 645					12,804	0,489	3,/61	30,277	34,838	36,580	18,447	224,911
35,553 $16,712$ $17,297$ $17,297$ $17,560$ $32,132$ $15,7702$ $16,7702$ $16,773$ $17,297$ $17,560$ $32,132$ $15,7702$ $16,773$ $16,773$ $56,536$ $7,100$ $31,043$ $11,422$ $11,422$ $11,248$ $10,736$ $11,602$ $11,713$ $31,043$ $11,422$ $11,248$ $10,736$ $10,162$ $11,400$ $31,195$ $10,189$ $10,3555$ $10,864$ $9,738$ $10,644$ $39,074$ $16,181$ $13,285$ $13,269$ $11,713$ $13,404$ $23,732$ $21,417$ $19,974$ $18,356$ $11,713$ $13,404$ $39,074$ $16,181$ $13,285$ $12,644$ $9,738$ $10,644$ $31,779$ $13,185$ $12,644$ $9,738$ $11,713$ $13,404$ $20,100$ $21,561$ $13,226$ $11,713$ $11,713$ $10,661$ $20,100$ $21,532$ $11,322$ $14,548$				1/1/21	12,047	4/c'll	12,039	13,425	6,937	31,234	108,339	36,800	23,630	313,458
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1832	33,939	18,718	18,514	17,941	17,297	17,580	5,382	8,265	137,518	60,383	25,251	22,839	383,627
32,132 $15,702$ $15,702$ $15,703$ $11,603$ $15,783$ $56,336$ $7,100$ $31,043$ $11,422$ $11,248$ $10,736$ $10,162$ $11,490$ $31,537$ $13,010$ $13,557$ $13,090$ $11,608$ $12,787$ $31,719$ $11,422$ $11,248$ $10,736$ $10,162$ $11,490$ $31,719$ $10,188$ $10,355$ $10,864$ $9,3574$ $10,644$ $31,719$ $10,188$ $12,569$ $11,703$ $11,713$ $13,404$ $31,719$ $10,188$ $12,569$ $11,703$ $11,713$ $13,404$ $31,701$ $13,188$ $12,569$ $13,574$ $13,404$ $13,744$ $20,100$ $20,207$ $12,616$ $13,574$ $13,404$ $11,014$ $20,100$ $21,549$ $10,651$ $11,703$ $11,220$ $12,649$ $20,100$ $21,549$ $11,703$ $11,703$ $11,220$ $12,649$ $27,070$ $11,322$	1853	32,096	16,412	16,023	16,712	15,773	18,204	14,344	4,123	20,668	47,192	19,900	20,064	241,511
9,347 $7,855$ $6,769$ $6,110$ $5,636$ $7,100$ $31,043$ $11,422$ $11,248$ $10,736$ $10,162$ $11,490$ $31,537$ $13,010$ $13,557$ $13,010$ $13,557$ $11,490$ $31,719$ $10,189$ $10,355$ $10,864$ $9,738$ $10,644$ $31,719$ $10,189$ $10,3555$ $10,864$ $9,738$ $10,644$ $31,719$ $13,185$ $12,691$ $11,734$ $11,713$ $13,404$ $31,719$ $13,185$ $12,691$ $13,744$ $13,438$ $15,997$ $31,719$ $13,182$ $13,524$ $13,434$ $15,997$ 3444 $27,070$ $11,571$ $16,731$ $11,703$ $11,244$ $13,744$ $27,070$ $11,392$ $11,161$ $11,1131$ $10,061$ $11,014$ $27,070$ $11,392$ $11,161$ $11,7703$ $18,905$ $18,400$ $18,723$ $27,070$ $11,332$ $11,6161$ <td< th=""><th>1954</th><th>32,132</th><th>15,702</th><th>15,718</th><th>26,277</th><th>9,563</th><th>15,789</th><th>15,111</th><th>4,321</th><th>14,279</th><th>42,950</th><th>11,374</th><th>10,626</th><th>213,842</th></td<>	1954	32,132	15,702	15,718	26,277	9,563	15,789	15,111	4,321	14,279	42,950	11,374	10,626	213,842
31,043 $11,422$ $11,222$ $11,222$ $11,422$ $11,713$ $13,404$ $21,424$ $21,424$ $21,424$ $21,722$ $11,713$ $13,404$ $31,722$ $11,611$ $11,713$ $13,404$ $31,404$ $31,722$ $11,612$ $11,713$ $13,404$ $31,722$ $11,713$ $13,404$ $31,722$ $11,713$ $13,404$ $31,722$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,713$ $11,7120$ $11,402$	1955	9,347	7,855	6,769	6,110	5,636	7,100	5,485	3,760	10,286	25,268	30,748	17,361	135.725
31,537 $13,010$ $13,567$ $13,000$ $11,608$ $12,787$ $31,195$ $10,189$ $10,3567$ $13,000$ $11,608$ $12,787$ $31,195$ $10,189$ $10,3557$ $13,000$ $11,713$ $13,404$ $31,719$ $13,185$ $12,691$ $11,713$ $13,404$ $15,997$ $31,719$ $13,185$ $12,691$ $11,720$ $12,898$ $15,997$ $31,719$ $13,185$ $12,616$ $11,720$ $12,898$ $15,997$ $35,880$ $11,571$ $16,731$ $11,703$ $11,220$ $12,898$ $35,880$ $11,571$ $16,731$ $11,703$ $11,220$ $12,898$ $35,880$ $11,571$ $16,731$ $11,703$ $11,220$ $12,997$ $35,880$ $11,571$ $16,731$ $11,703$ $11,220$ $12,997$ $35,902$ $11,331$ $10,661$ $11,014$ $12,319$ $10,643$ $28,0202$ $14,756$ $14,411$ $11,733$	1956	31,043	11,422	11,248	10,736	10,162	11,490	5,382	7,405	33,795	33,114	37,515	18,556	221,868
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1957	31,537	13,010	13,567	13,090	11,608	12,787	12,005	4,701	3,786	72,276	57,606	29,605	275,578
31,195 $10,189$ $10,355$ $10,864$ $9,738$ $10,644$ $39,074$ $16,181$ $13,285$ $13,550$ $16,174$ $31,719$ $13,185$ $12,691$ $11,784$ $11,713$ $13,404$ $20,100$ $20,207$ $12,616$ $13,574$ $13,438$ $15,997$ $35,880$ $11,571$ $16,731$ $11,703$ $11,220$ $12,898$ $35,880$ $11,571$ $16,731$ $11,703$ $11,220$ $12,898$ $27,070$ $11,332$ $7,649$ $6,989$ $8,574$ $11,014$ $27,070$ $11,332$ $11,161$ $11,131$ $10,061$ $11,014$ $28,028$ $21,255$ $18,905$ $18,840$ $18,723$ $20,758$ $14,939$ $9,798$ $9,057$ $8,697$ $7,893$ $10,632$ $28,028$ $21,436$ $14,756$ $14,813$ $13,907$ $14,548$ $21,436$ $16,608$ $15,813$ $12,5631$ $14,548$	1958	23,232	21,417	19,974	18,349	18,351	19,857	12,479	10,210	122,258	32,208	41,978	17,391	357 704
39,074 16,181 13,285 13,269 13,550 16,174 $31,719$ 13,185 12,691 11,713 13,404 $20,100$ $20,207$ 12,616 13,574 13,438 15,997 $31,719$ 13,185 12,616 13,574 13,438 15,997 $31,719$ 13,182 7,549 7,649 6,989 8,574 $20,100$ $20,207$ 11,161 11,131 10,061 11,014 $27,070$ 11,392 11,161 11,131 10,061 11,014 $28,028$ $21,255$ 18,905 18,840 18,723 20,758 $28,028$ $21,346$ 14,756 14,813 10,061 11,014 $28,028$ $14,569$ 10,149 9,801 8,893 9,440 $31,732$ $14,569$ $17,406$ $17,419$ 17,419 $27,017$ $21,436$ $14,756$ $14,756$ $17,406$ $17,419$ $22,91242$ $10,9161$ $17,466$	1959	31,195	10,189	10,355	10,864	9,738	10,644	16,597	4,096	8,420	22,488	42,364	21,506	198.456
31,719 $13,185$ $12,691$ $11,713$ $13,404$ $20,100$ $20,207$ $12,616$ $13,574$ $13,438$ $15,997$ $35,880$ $11,571$ $16,731$ $11,703$ $11,220$ $12,898$ $8,453$ $8,132$ $7,549$ $7,649$ $6,989$ $8,574$ $27,070$ $11,392$ $11,161$ $11,131$ $10,061$ $11,014$ $28,028$ $21,255$ $18,905$ $18,840$ $18,723$ $20,758$ $28,028$ $21,255$ $18,905$ $18,840$ $18,723$ $20,758$ $28,028$ $21,346$ $14,756$ $14,813$ $13,907$ $14,548$ $29,242$ $10,961$ $10,149$ $9,801$ $8,893$ $9,440$ $21,436$ $14,756$ $14,756$ $14,719$ $17,419$ $17,419$ $21,732$ $14,569$ $17,419$ $13,300$ $16,283$ $10,632$ $29,990$ $14,756$ $14,756$ $14,759$ $13,309$ 1	1960	39,074	16,181	13,285	13,269	13,550	16,174	5,382	5,574	34,681	40,773	38,769	18.044	254.756
Z0,100 Z0,700 12,616 13,574 13,438 15,997 $35,880$ $11,571$ $16,731$ $11,703$ $11,220$ $12,898$ $8,574$ $27,070$ $11,392$ $11,161$ $11,131$ $10,061$ $11,014$ $27,070$ $11,392$ $11,161$ $11,131$ $10,061$ $11,014$ $28,028$ $21,255$ $18,905$ $18,840$ $18,723$ $20,758$ $28,028$ $21,255$ $18,905$ $18,840$ $18,723$ $20,758$ $28,028$ $21,556$ $10,149$ $9,801$ $8,893$ $9,440$ $28,028$ $21,516$ $20,238$ $17,466$ $16,468$ $17,419$ $22,017$ $21,436$ $18,550$ $17,466$ $16,468$ $17,419$ $22,039$ $14,729$ $13,309$ $15,812$ $16,632$ $9,440$ $22,354$ $21,436$ $14,729$ $13,314$ $15,803$ $12,471$ $22,333$ $15,450$ $11,331$ $13,314$ </th <th>1961</th> <th>31,719</th> <th>13,185</th> <th>12,691</th> <th>11,784</th> <th>11,713</th> <th>13,404</th> <th>16,010</th> <th>3,967</th> <th>10,042</th> <th>38,981</th> <th>33,528</th> <th>23,892</th> <th>220,916</th>	1961	31,719	13,185	12,691	11,784	11,713	13,404	16,010	3,967	10,042	38,981	33,528	23,892	220,916
35,880 11,571 16,731 11,703 11,220 12,898 $8,463$ $8,132$ $7,549$ $7,649$ $6,989$ $8,574$ $27,070$ $11,392$ $11,161$ $11,131$ $10,061$ $11,014$ $27,070$ $11,392$ $11,161$ $11,131$ $10,061$ $11,014$ $28,028$ $21,255$ $18,905$ $18,840$ $18,723$ $20,758$ $14,939$ $9,796$ $9,057$ $8,697$ $7,983$ $10,632$ $28,028$ $21,516$ $10,149$ $9,801$ $8,893$ $9,440$ $29,242$ $10,961$ $11,160$ $11,131$ $10,632$ $9,440$ $29,242$ $10,961$ $12,790$ $13,807$ $14,548$ $17,419$ $21,732$ $14,756$ $14,719$ $13,309$ $16,283$ $9,440$ $22,033$ $14,566$ $14,7806$ $17,419$ $17,419$ $17,419$ $22,354$ $21,456$ $14,579$ $14,322$ $15,471$ <	1962	20,100	20,207	12,616	13,574	13,438	15,997	5,382	9,309	115,184	66,540	20,944	34,958	348.249
B,453 B,132 7,549 7,649 6,989 8,574 27,070 11,392 11,161 11,131 10,061 11,014 28,028 21,255 18,905 18,840 18,723 20,758 14,933 9,798 9,057 8,697 7,983 10,632 28,028 21,255 18,905 18,840 18,723 20,758 14,933 9,796 9,057 8,697 7,983 10,632 29,242 10,961 10,149 9,801 8,893 9,440 29,242 10,961 14,756 14,813 13,907 14,548 21,732 14,509 14,756 17,406 16,468 17,419 22,017 21,436 18,550 17,466 16,468 17,419 22,039 14,509 14,729 13,909 13,630 16,283 22,033 15,411 17,100 19,616 17,419 17,419 22,513 17,560 15,816 14,322	1963	35,880	11,571	16,731	11,703	11,220	12,898	5,562	3,919	10,156	51,194	30,244	13,679	214.757
27,070 11,392 11,161 11,131 10,061 11,014 28,028 21,255 18,905 18,840 18,723 20,758 14,939 9,798 9,057 8,697 7,983 10,632 29,242 10,961 10,149 9,801 8,893 9,440 29,242 10,961 10,149 9,801 8,893 9,440 29,242 10,961 14,756 14,813 13,907 14,548 21,732 14,509 14,756 17,466 16,468 17,419 22,017 21,516 20,238 17,466 16,468 17,419 22,017 21,436 18,550 17,466 16,468 17,419 22,017 21,436 14,729 13,909 13,630 16,168 22,017 21,436 14,729 13,909 14,512 16,985 22,017 21,436 14,729 13,909 14,322 16,408 22,017 21,436 14,729 13,35	1965	8,463	8,132	7,549	7,649	6,989	8,574	14,382	5,394	9,060	10,938	37,703	14,608	139.441
28,028 21,255 18,905 18,840 18,723 20,758 14,939 9,798 9,057 8,697 7,983 10,632 29,242 10,961 10,149 9,801 8,893 9,440 29,242 10,961 10,149 9,801 8,893 9,440 31,732 14,346 14,756 14,813 13,907 14,548 29,242 10,961 14,756 14,813 13,907 14,548 22,017 21,516 20,238 17,466 16,468 17,419 22,030 14,509 14,726 13,909 13,630 16,583 22,033 15,516 13,806 17,410 19,616 16,608 17,419 22,033 15,513 14,729 13,909 13,630 16,616 16,468 17,419 22,033 15,413 14,664 15,258 14,322 16,965 16,411 29,51 17,466 16,608 13,255 13,600 14,411 1	1965	27,070	11,392	11,161	11,131	10,061	11,014	5,563	5,224	8,200	51,404	60,066	35,971	248,257
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	996 1906	28,028	21,255	18,905	18,840	18,723	20,758	5,968	3,760	9,758	41,316	31,316	12,338	230,965
29,242 10,961 10,149 9,801 8,893 9,440 31,732 14,346 14,756 14,813 13,907 14,548 22,017 21,516 20,238 17,466 16,468 17,419 22,017 21,516 20,238 17,466 16,468 17,419 22,035 21,436 18,550 17,666 16,468 17,419 22,354 21,436 18,550 17,666 16,468 17,419 22,354 21,456 16,509 13,909 13,630 16,583 30,990 14,509 14,729 13,909 13,630 16,283 32,668 15,150 13,826 14,318 13,314 15,803 32,668 15,162 13,826 14,318 13,314 15,803 32,668 15,413 14,664 15,255 14,322 15,471 32,668 15,413 14,664 15,255 14,322 15,471 32,658 14,579 14,447 13,854 14,411 12,222 10,031 10,316 14,447	1967	14,939	9,798	9,057	8,697	7,983	10,632	5,382	3,760	7,386	10,938	45,991	23,472	158,035
31,732 14,346 14,756 14,813 13,907 14,548 22,017 21,516 20,238 17,466 16,468 17,419 22,0354 21,436 18,550 17,466 16,468 17,419 22,354 21,436 18,550 17,466 16,468 17,419 22,354 21,436 18,550 17,666 17,100 19,616 30,990 14,509 14,729 13,909 13,630 16,283 19,551 17,662 16,909 16,608 15,812 16,985 32,668 15,150 13,826 14,318 13,314 15,803 32,668 15,150 13,826 14,318 13,314 15,803 32,668 15,150 13,826 14,322 15,357 32,668 15,133 14,664 15,255 14,322 15,357 32,668 15,413 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,630 14,579 14,447 13,854 <th>1968</th> <th>29,242</th> <th>10,961</th> <th>10,149</th> <th>9,801</th> <th>8,893</th> <th>9,440</th> <th>15,418</th> <th>3,784</th> <th>8,594</th> <th>10,938</th> <th>9,563</th> <th>20,983</th> <th>147,766</th>	1968	29,242	10,961	10,149	9,801	8,893	9,440	15,418	3,784	8,594	10,938	9,563	20,983	147,766
22,017 21,516 20,238 17,466 16,468 17,419 22,354 21,436 18,550 17,466 16,468 17,419 22,354 21,436 18,550 17,606 17,100 19,616 30,990 14,509 14,729 13,909 13,630 16,283 19,551 17,662 18,909 16,608 15,812 16,985 32,668 15,150 13,826 14,318 13,314 15,803 32,668 15,413 14,662 13,826 14,318 13,314 15,803 32,668 15,413 14,664 15,258 14,322 15,357 32,668 15,413 14,664 15,255 14,322 15,357 32,658 11,329 11,489 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,453 15,355 14,579 14,447 13,854 14,993 31,4568 15,770 8,911 8,520 8,784 7,993 31,455 12,770	1969	31,732	14,346	14,756	14,813	13,907	14,548	5,382	13,855	9,368	52,060	36,102	20,916	243,785
22,354 21,436 18,550 17,100 19,616 30,990 14,509 14,729 13,909 15,812 16,985 30,990 14,509 14,729 13,909 15,812 16,985 30,990 14,509 14,729 13,909 15,812 16,985 32,668 15,150 13,826 14,318 13,314 15,803 32,658 15,150 13,826 14,318 13,314 15,803 32,658 15,150 13,826 14,322 15,357 32,658 11,329 11,489 11,331 10,936 12,471 34,535 11,3229 11,489 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,633 14,579 14,447 13,854 14,993 31,458 15,816 15,718 18,041 12,270 31,458 15,810 15,718 18,041 22,519 31,458 15,806 15,770 8,911 8,520 8,784 7,850	1970	22,017	21,516	20,238	17,466	16,468	17,419	6,073	9,205	127,911	78,863	33,939	24,537	395,652
30,990 14,509 14,729 13,909 16,283 19,551 17,662 16,909 16,608 15,812 16,985 32,668 15,150 13,826 14,318 13,314 15,803 32,668 15,150 13,826 14,318 13,314 15,803 32,668 15,150 13,826 14,318 13,314 15,803 32,688 15,150 13,826 14,322 15,357 15,357 29,818 14,662 13,255 13,600 14,411 34,535 11,329 11,489 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,693 14,579 14,447 13,854 14,993 31,658 15,737 15,631 15,806 15,718 18,041 29,551 12,631 15,806 15,770 8,911 8,520 8,784 7,850 11,270 29,551 11,707 8,911 8,520 8,784 7,850 11,270 24,170	1/81	22,354	21,436	18,550	17,606	17,100	19,616	5,382	5,757	94,346	65,632	21,492	34,852	344,123
19.551 17,662 16,909 16,608 15,812 16,985 32,668 15,150 13,826 14,318 13,314 15,803 32,683 15,150 13,826 14,318 13,314 15,803 32,683 15,150 13,826 14,318 13,314 15,803 32,633 15,413 14,664 15,258 14,322 15,327 29,818 14,662 13,868 13,255 13,600 14,411 34,535 11,329 11,489 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,658 15,737 15,631 15,806 15,718 18,041 29,551 12,633 14,579 14,447 13,854 14,993 31,655 12,770 31,658 15,737 15,631 15,806 15,770 12,255 14,770 29,551 12,770 8,911 8,520 8,784 7,850	19/2	30,990	14,509	14,729	13,909	13,630	16,283	5,584	5,727	48,893	31,418	35,063	22,421	253,156
32,668 15,150 13,826 14,318 13,314 15,803 32,833 15,413 14,664 15,258 14,322 15,357 29,818 14,662 13,888 13,255 13,600 14,411 32,655 11,329 11,489 11,331 10,936 12,471 34,535 11,329 11,489 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,693 14,579 14,447 13,854 14,993 31,458 15,737 15,631 15,806 15,718 18,041 29,551 12,636 12,319 11,605 11,265 12,770 29,551 12,636 12,319 11,605 11,265 12,770 29,551 12,636 18,518 18,049 22,519 31,656 18,718 18,049 22,519 24,170 19,566 18,716 12,471 24,170 19	1973	19,551	17,662	16,909	16,608	15,812	16,985	17,422	5,377	10,496	69,460	14,918	37,460	258,660
32,833 15,413 14,664 15,258 14,322 15,357 29,818 14,662 13,688 13,255 13,600 14,411 34,535 11,329 11,489 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,693 14,579 14,447 13,854 14,993 31,429 13,693 14,579 14,447 13,854 14,993 31,458 15,737 15,631 15,806 15,718 18,041 29,551 12,636 12,319 11,605 11,265 12,770 11,707 8,911 8,520 8,784 7,850 11,270 24,170 19,566 18,,080 18,518 18,049 22,519 35,982 17,152 14,776 12,776 12,471 12,486	19/4	32,668	15,150	13,826	14,318	13,314	15,803	5,382	5,717	78,077	38,665	24,183	20,059	277,162
29,818 14,662 13,688 13,255 13,600 14,411 34,535 11,329 11,489 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,693 14,579 14,447 13,854 14,993 31,429 13,693 14,579 14,447 13,854 14,993 31,658 15,737 15,631 15,806 15,718 18,041 29,551 12,636 12,319 11,605 11,265 12,770 21,770 8,911 8,520 8,784 7,850 11,270 24,170 19,566 18,716 18,518 18,049 22,519 35,982 17,152 14,716 12,776 12,776	C/RI	32,833	15,413	14,664	15,258	14,322	15,357	7,138	3,760	5,831	76,265	18,364	27,512	246,717
34,535 11,329 11,489 11,331 10,936 12,471 12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,693 14,579 14,447 13,854 14,993 31,429 13,693 14,579 14,447 13,854 14,993 31,658 15,737 15,631 15,806 15,718 18,041 29,551 12,636 12,319 11,605 11,265 12,770 11,707 8,911 8,520 8,784 7,850 11,270 24,170 19,566 18,716 18,518 18,049 22,519 35,982 17,152 14,716 12,776 12,766 12,716	1976	29,818	14,662	13,688	13,255	13,600	14,411	5,581	9,255	6,353	10,803	27,497	22,064	180,987
12,222 10,031 10,319 9,477 8,617 10,973 31,429 13,693 14,579 14,447 13,854 14,993 31,658 15,737 15,631 15,806 15,718 18,041 29,551 12,636 12,319 11,605 11,265 12,770 11,707 8,911 8,520 8,784 7,850 11,270 24,170 19,566 18,518 18,049 22,519 35,982 17,152 14,716 12,776 12,766	1781	34,535	11,329	11,489	11,331	10,936	12,471	24,537	8,162	9,898	30,654	13,278	8,705	187,325
31,429 13,693 14,579 14,447 13,854 14,993 31,658 15,737 15,631 15,806 15,718 18,041 29,551 12,636 12,319 11,605 11,265 12,770 11,707 8,911 8,520 8,784 7,850 11,270 24,170 19,566 18,080 18,518 18,049 22,519 35,982 17,152 14,716 12,761 12,665 13,481	8/61	12,222	10,031	10,319	9,477	8,617	10,973	5,401	8,600	10,036	22,284	33,827	24,085	165,872
31,658 15,737 15,631 15,806 15,718 18,041 29,551 12,636 12,319 11,605 11,265 12,770 11,707 8,911 8,520 8,784 7,850 11,270 24,170 19,566 18,080 18,518 18,049 22,519 35,982 17,152 14,716 12,761 12,665 13,481	Ê/AL	31,429	13,693	14,579	14,447	13,854	14,993	5,460	7,346	7,051	74,477	26,955	22,234	246,518
29,551 12,636 12,319 11,605 11,265 12,770 11,707 8,911 8,520 8,784 7,850 11,270 24,170 19,566 18,080 18,518 18,049 22,519 35,982 17,152 14,716 12,761 12,665 13,481	19981	31,658	15,737	15,631	15,806	15,718	18,041	5,460	3,760	80,417	62,748	39,002	18,995	322,973
11,707 8,911 8,520 8,784 7,850 11,270 24,170 19,566 18,080 18,518 18,049 22,519 35,982 17,152 14,716 12,761 12,695 13,481	1981	29,551	12,636	12,319	11,605	11,265	12,770	23,787	7,585	9,636	25,438	9,598	12,466	178,656
1 24,170 19,566 18,080 18,518 18,049 22,519 1 35,982 17,152 14,716 12,761 12,695 13,481	1982	11,707	8,911	8,520	8,784	7,850	11,270	16,439	5,291	7,730	11,172	22,761	29,662	150,097
1 35.982 17152 14.716 12.761 12.695 12.481	1983	24,170	19,566	18,080	18,518	18,049	22,519	15,818	3,784	108,302	143,244	63,268	61,843	517,161
	7988 L	35,982	17,152	14,716	12,761	12,695	13,481	6,218	35,716	196,697	147,048	85,666	50,277	628,409

Simulated Flows at Blue River below Green Mountain Reservoir Proposed Action Alternative

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501,616 423,602 201,880 212,363 377,466 186,533 155,140 251,754 272,735 233,690 159,026 TOTAL 442,694 371,466 263,713 181,374 274,566 185,283 175,604 262,528 135,725 628,409 206,101 89,913 307,992 26,441 25,395 52,023 14,774 17,915 14,643 26,353 15,194 21,154 13,233 24,872 39,746 21,418 18,835 16,399 11,792 17,722 12,740 20,438 61,843 19,281 28,141 23,117 8,705 SEP 9,739 25,072 32,038 43,093 61,424 61,424 22,034 22,034 22,034 30,389 17,138 11,693 51,429 9,935 22,004 16,842 31,019 38,634 38,684 36,987 31,908 85,666 26,087 50,762 9,563 AUG 21,002 40,997 25,845 78,265 42,799 163,267 69,633 75,467 46,708 72,332 40,085 18,029 30,452 41,845 49,644 10,560 63,267 0,560 37,266 20,938 70,022 78,648 20,868 JUL 178,188 10,268 51,965 67,661 174,295 00,840 139,186 32,546 11,382 9,996 76,368 10,742 53,988 12,678 30,249 11,306 196,697 32,557 10,272 44,241 8,459 9,844 8,094 3,786 SUN 9,241 5,698 9,261 7,455 7,455 7,855 3,760 5,153 5,153 8,657 44,736 12,516 6,352 3,760 3,760 3,760 8,421 3,760 3,761 5,992 4,592 5,376 7,300 3,760 3,760 МΑΥ 5,382 5,638 5,382 13,372 21,245 10,438 5,382 9,550 5,382 24,537 6,008 APR 16,398 21,191 13,071 11,100 15,224 17,978 12,421 20,799 11,810 14,737 7,100 17,145 14,611 11,981 10,864 11,807 24,787 25,452 19,504 11,963 11,963 11,963 12,991 10,534 9,352 9,352 25,452 MAR 12,354 16,150 9,932 19,928 13,732 15,937 12,730 9,123 7,803 9,427 0,194 22,094 9,044 10,458 8,977 9,369 9,819 5,636 22,094 20,673 17,122 2,771 FEB 10,009 9,798 20,170 14,305 20,027 10,760 16,303 13,257 10,385 24,448 20,365 17,368 9,532 0,989 10,434 12,310 16,693 9,412 10,839 3,580 6,110 26,277 9,874 8,644 JAN 10,134 20,320 14,740 27,830 20,723 18,384 9,644 10,579 12,442 16,636 19,050 10,623 16,300 13,303 10,749 9,139 0,252 27,830 11,004 3,789 6,769 10,631 9,899 9,795 DEC 17,614 11,375 21,494 16,510 11,932 21,026 12,553 29,145 29,145 23,562 22,087 10,562 12,126 17,347 13,857 12,096 10,786 11,038 11,038 11,093 14,858 11,065 7,855 Nov 22,983 32,099 33,716 27,215 31,253 23,209 18,756 14,480 30,689 31,949 18,822 33,047 27,232 23,650 15,613 23,440 34,002 32,790 39,074 24,154 27,033 38,839 17,981 8,463 oct AVERAGE: **MAXIMUM: MINIMUM:** WATER YEAR 1985 1986 866 666 2000 2003 2003 2004 1987 1988 1989 1990 1992 1993 8 1995 886 997 1991 2005

Simulated Flows at Blue River below Dillon Reservoir at USGS Gage 09050700 Proposed Action Alternative

(CFS)

NOV DEC
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Simulated Flows at Blue River below Dillon Reservoir at USGS Gage 09050700 Proposed Action Alternative (CFS)

WATER													
YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	ANNUAL
1983	83	50	50	63	68	118	50	218	171	1209	459	185	357
1984	83	87	50	50	50	53	50	1061	1929	1338	840	323	495
1985	228	117	101	82	50	61	167	755	1283	516	50	20	289
1986	11	62	50	50	50	74	50	374	1430	678	50	20	250
1987	67	61	50	50	50	60	50	258	823	162	220	20	158
1988	50	50	50	50	50	73	50	50	697	304	50	50	127
1989	50	50	50	50	50	56	50	50	131	114	245	20	62
1990	50	50	50	52	50	50	50	20	50	220	50	50	65
1991	50	50	50	50	50	50	50	50	597	301	245	155	141
1992	50	50	50	50	50	50	50	50	50	50	50	50	22
1993	50	50	82	80	94	123	50	50	1385	616	50	20	223
1994	50	50	50	50	50	50	50	50	336	186	50	20	85
1995	50	50	50	50	50	62	50	50	1349	1615	326	50	314
1996	62	57	50	50	50	50	50	1357	1824	598	160	20	364
1997	50	58	50	50	50	54	50	582	2111	651	219	50	331
1998	50	50	50	20	50	50	50	20	654	351	50	20	125
1899	50	50	50	50	50	50	50	50	1372	705	124	20	221
2000	50	50	50	50	50	50	50	485	851	189	50	50	165
2001	50	20	50	50	50	50	50	22	347	165	50	5	8
2002	69	107	92	68	82	101	50	50	50	136	449	66	115
2003	104	95	79	75	75	100	50	50	50	50	248	50	86
2004	20	50	50	50	50	50	50	50	50	159	50	20	59
2005	50	50	50	50	71	81	50	20	50	50	224	20	69
AVERAGE:	63	59	54	54	54	60	52	182	612	364	170	67	149
MINIMUM:	20	50	50	50	50	50	50	50	50	50	50	50	50
MAXIMUM:	228	142	101	88	94	123	167	1,357	2,111	1,615	840	323	495

Simulated Flows at Blue River below Dillon Reservoir at USGS Gage 09050700 **Proposed Action Alternative**

a – a			2				Ċ	INAT		200	AUG		TOTAL
			3,074	4,190	2,777	3,074	2,975	3.074	18,481	9.534	3.074	2.975	59.277
	-		3,074	3,645	3,935	3,074	2,975	3.074	33.538	56.844	17.764	2,975	136.947
		75	3,074	3,074	2,777	3,074	2,975	7,734	115,426	28,726	6,763	2.975	182.647
	_	75	3,074	3,074	2,777	3,074	2,975	3,074	29,530	21,237	4,834	2.975	82.673
			3,074	3,074	3,788	3,074	2,975	3,074	2,975	15,131	3,074	2,975	49.263
			3,074	3,193	3,037	3,824	2,975	3,074	2,975	3,074	15,342	2,975	49,592
			3,074	3,074	2,777	3,825	2,975	3,074	2,975	3,074	13,408	2,975	47,280
			3,074	3,074	2,777	3,074	2,975	3,074	2,975	23,785	36,522	9,261	96,640
			3,074	3,074	2,777	3,074	2,975	42,703	73,096	14,962	3,074	2,975	161,692
1959 3.	3,074 2,975		3,074	3,074	2,777	3,074	2,975	3,074	16,276	13,639	13,161	2,975	70,148
_			3,074	3,074	2,777	3,074	2,975	3,074	43,733	20,870	11,981	2,975	108,086
			3,074	3,074	2,777	3,074	2,975	3,074	2,975	9,553	17,711	2,975	57.311
			3,074	3,738	3,640	4,924	2,975	44,851	68,118	27,403	3,074	2,975	176,305
			3,074	3,074	2,777	3,074	2,975	3,074	2,975	12,562	14,986	2,975	57.595
			3,074	3,074	2,777	3,824	2,975	3,074	2,975	3,074	17,642	2,975	51,513
			3,074	3,074	2,777	3,824	2,975	3,074	2,975	7,999	34,391	13,897	84,109
			3,074	3,074	2,777	3,074	2,975	3,074	9,484	11,434	9,441	2,975	64,516
			3,074	3,074	2.777	3,825	2,975	3,074	2,975	3,074	12,116	3,689	46,902
			3,074	3,074	2.777	3,074	2,975	3,074	2,975	5,477	10,750	2,975	46,274
			3,074	3,074	2,777	3,074	2,975	3,074	39,069	28,030	14,334	2,975	108,505
			5,314	3,074	2,777	3,074	2,975	41,894	69,102	44,112	4,216	2,975	209,739
-			3,074	3,074	2,777	3,074	2,975	23,214	81,681	31,796	3,074	2,975	167,422
			3,074	3,074	2,777	3,074	2,975	3,074	56,691	8,924	3,074	2,975	95,761
			3,074	3,074	2,777	3,074	2,975	3,074	23,441	43,370	3,074	2,975	96,957
			3,074	3,074	2.777	3,765	2,975	25,572	51,779	12,476	3,074	2,975	117,610
			3,074	3,074	2,777	3,074	2,975	3,074	10,634	56,103	3,074	2,975	96,883
			3,074	3,074	2,777	3,074	2,975	3,074	2,975	3,074	3,074	2,975	36,195
			3,074	3,153	2,777	3,074	2,975	3,074	2,975	12,287	3,074	2,975	45,955
	~.		4,913	4,495	3,866	5,558	2,975	3,074	2,975	3,074	7,036	2,975	52,397
	3,074 3,135		3,074	3,074	2,913	3,074	2,975	3,074	6,964	40,417	7,750	2,975	82,499
	4		3,074	3,074	2,777	4,356	2,975	3,074	89,904	33,910	10,698	2,975	162,866
1981 3	3,074 2,975	175	3,074	3,074	2,777	3,074	2,975	3,074	2,975	3,074	3,074	2,975	36,195
_	4	175	3,074	3,074	2,911	5,154	2,975	3,074	2,975	3,074	3,074	6,700	42,134

Simulated Flows at Blue River below Dillon Reservoir at USGS Gage 09050700 **Proposed Action Alternative**

WATER												ſ	
YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
1983	5,688	2,975	3,074	3,897	3,749	7.258	2,975	13.388	101.821	74.359	28.247	10 080	958 A11
1984	5,108	5,198	3,074	3.074	2.777	3 274	2 975	65 254	114 750	82 250	51 605	10,046	114004
1985	14,024	6.983	8.241	5,066	1110	5 7 2 3	0 080	46.404	CYC 32	002,20	070,10	012'61	
1986	4 710	3 608	2074	0000						00/10	410.0	G/A'Z	208,304
1001				0,074	z' <i>11</i>	6/C'4	C/6/2	23,008	85,071	41,681	3,074	2,975	180,692
1961	4,130	3,629	3,074	3,074	2,777	3,679	2,975	15,881	48,946	9,949	13,547	2,975	114,642
1988	3,074	2,975	3,074	3,074	2,777	4,504	2,975	3,074	41,469	18,678	3.074	2,975	91.723
1989	3,074	2,975	3,074	3,074	2,777	3,420	2,975	3,074	7,789	6,995	15,043	2.975	57.245
1990	3,074	2,975	3,074	3,210	2,777	3,074	2,975	3,074	2,975	13,508	3.074	2.975	46.765
1991	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	35,527	18,499	15.038	9.196	102.357
1992	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	2,975	3,074	3.074	2.975	36.195
1993	3,074	2,975	5,057	4,934	5,243	7,551	2,975	3,074	82,411	37,896	3,074	2.975	161.239
1994	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	19,993	11,425	3,074	2.975	61.564
1995	3,074	2,975	3,074	3,074	2,777	3,825	2,975	3,074	80,278	99,295	20.025	2,975	227 421
1996	3,806	3,409	3,074	3,074	2,777	3,074	2,975	83,456	108,538	36.773	9.854	2,975	263 785
1997	3,074	3,426	3,074	3,074	2,777	3,307	2,975	35,764	125,597	40.018	13.471	2 975	239 532
1998	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	38.934	21.577	3.074	2 975	90,657
1999	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	81,621	43.373	7,610	2,975	159.676
2000	3,074	2,975	3,074	3,074	2,777	3,074	2,975	29,849	50,662	11.641	3.074	2 975	119 224
2001	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3.074	20.652	10.151	3.074	2 9 75	RU DAG
2002	4,176	6,394	5,684	5,457	4,539	6,228	2,975	3,074	2,975	8,350	27.595	5.899	83.346
2003	6,376	5,638	4,855	4,599	4,146	6,157	2,975	3,074	2,975	3.074	15.251	2,975	62 095
2004	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	2,975	9.755	3.074	2,975	42 876
2005	3,074	2,975	3,074	3,074	3,930	4,963	2,975	3,074	2,975	3,074	13,787	2.975	49.950
AVERAGE:	3,846	3,502	3,317	3,301	2,998	3,693	3,100	11,216	36,426	22,363	10,459	3,961	108,181
MINIMUM	3,074	2,975	3,074	3,074	2,777	3,074	2,975	3,074	2,975	3,074	3.074	2.975	36,195
MAXIMUM:	14,024	8,459	6,241	5,457	5,243	7,551	9,962	83,456	125,597	99,295	51,626	19,216	358,594

Simulated Flows at Blue River below Continental-Hoosier Project Proposed Action Alternative

(CFS)

Simulated Flows at Blue River below Continental-Hoosier Project Proposed Action Alternative

(CFS)

Simulated Flows at Blue River below Continental-Hoosier Project Proposed Action Alternative (AF)

2,128 1,566 963 657 800 1,566 4,543 1,0,156 5,046 2,439 1,900 1,178 1,11 1,11 1,11 1,11 1,11 1,11 1,11 1,11 1,11 1,200 2,439 1,488 1,428 1,418 1,428 1,418 1,428	WATER	OCT	NON	DEC	JAN	FEB	MAR	APR	МАУ	NUL	 10r	AUG	SEP	TOTAL
1,456 1,181 816 706 687 800 1,156 1,223 1,724 1,725 720 1,422 1,726 1,723 770 2,546 7,700 2,556 1,725 7305 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737	1950	2,129	1,566	983	696	657	809	1.566	4.543	10.156	5.046	2 439	1 9A0	32 570
1,786 1,415 886 660 642 613 2,080 7,585 12,336 4,117 2,335 1,375 1,111 1,101 737 715 645 7,44 536 2,901 1,423 1,111 1,101 737 715 645 7,44 536 3,553 3,297 2,803 3,297 2,803 3,297 2,803 3,297 2,803 3,297 2,803 3,297 2,803 3,297 2,803 2,901 1,423 2,743 1,416 3,743 1,416 3,743 1,416 3,743 1,971 2,873 1,871 1,971 2,873 1,871 1,971 2,873 1,971 2,873 1,971 2,873 1,971 2,974 1,971 2,974 1,971 2,974 1,971 2,974 1,971 2,974 1,971 2,974 2,974 2,974 2,974 2,974 2,974 2,974 2,974 2,974 2,974 2,974 2,974 2,974 <th>1951</th> <th>1,465</th> <th>1,181</th> <th>816</th> <th>706</th> <th>687</th> <th>800</th> <th>1,156</th> <th>7.210</th> <th>14,224</th> <th>12.468</th> <th>4,720</th> <th>2.546</th> <th>47 979</th>	1951	1,465	1,181	816	706	687	800	1,156	7.210	14,224	12.468	4,720	2.546	47 979
1615 1288 896 005 645 744 942 5,115 1,434 5,966 2,901 1,433 1,461 1,101 797 715 575 596 1,867 3,564 3,565 2,901 1,433 1,468 1,967 935 937 730 826 1,101 737 7,13 2,374 1,619 1,468 1,967 935 765 1,46 987 3,565 2,690 3,165 2,713 2,347 1,619 1,468 1,907 983 825 756 981 4,457 1,074 1,597 2,947 1,619 2,713 2,347 1,619 2,743 1,619 2,743 1,619 2,743 1,619 2,743 1,616 2,743 1,616 2,947 1,617 2,743 1,616 2,947 1,616 2,947 1,616 2,947 1,616 2,947 1,616 2,947 1,616 2,947 1,616 2,947	1952	1,798	1,415	886	660	642	613	2,089	7,695	12.836	4,117	2 305	7:7.1	36.793
1/11 1/10 797 715 675 702 1,322 2,330 1,642 2,888 2,553 1,536 1,665 1,265 994 754 537 7305 2,563 3,237 2,063 3,277 2,063 3,274 2,566 3,556 3,055 2,055 3,055 2,054 3,956 2,057 2,063 3,274 2,059 3,170 2,743 1,917 2,917 2,093 1,917 9,68 7,745 1,917 2,917 2,053 3,274 1,523 <t< th=""><th>1953</th><th>1,615</th><th>1,288</th><th>896</th><th>805</th><th>645</th><th>744</th><th>942</th><th>5,115</th><th>14,884</th><th>5.988</th><th>2.901</th><th>1 423</th><th>37 246</th></t<>	1953	1,615	1,288	896	805	645	744	942	5,115	14,884	5.988	2.901	1 423	37 246
1666 1256 914 754 637 696 1,865 1,258 914 754 637 2,863 3,297 2,803 3,952 2,663 3,297 2,803 1,971 971 <th>1954</th> <th>1,111</th> <th>1,101</th> <th>797</th> <th>715</th> <th>675</th> <th>702</th> <th>1,332</th> <th>2,390</th> <th>1.642</th> <th>2.868</th> <th>2.563</th> <th>1.538</th> <th>17 444</th>	1954	1,111	1,101	797	715	675	702	1,332	2,390	1.642	2.868	2.563	1.538	17 444
1,469 1,446 987 730 826 1,106 9,274 1,619 1,268 1,303 966 77 730 825 756 2,743 1,619 1,268 1,303 867 739 865 747 1,756 2,745 2,756 2,745 2,756 2,756 2,756 2,756 2,757 2,745 1,610 2,745 1,610 2,745 5,475 1,610 2,741 5,455 4,457 1,610 2,741 5,455 4,457 1,610 2,741 5,455 2,445 1,416 779 7,465	1955	1,665	1,258	914	754	637	696	1,667	3,554	3,952	2,683	3,297	2.803	23.880
1,029 1,265 956 905 827 686 1,086 1,45 13,054 14,589 7,666 2,776 2,795 1,261 1,903 1,045 922 685 747 17,784 1,305 3,465 2,776 2,073 3,465 2,776 2,073 3,455 2,776 2,073 3,455 2,776 2,073 3,455 2,776 2,073 3,455 2,772 5,455 4,457 1,073 3,193 1,074 3,193 1,074 3,195 2,195 3,675 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,455 5,194 1,597 3,194 1,723 3,194 3,176 2,194 1,597 3,194 1,597 3,194 5,976 2,194 1,597 3,194 1,597 3,194 1,597 3,194 1,597 3,194 1,597 3,194 1,597 3,194 1,597 1,4457 1,392	1858	1,469	1,448	987	937	730	826	1,186	9,229	7,605	2,713	2.374	1.619	31,123
1.661 1.603 1.045 382 645 749 883 8.423 10.960 3.120 2.743 1.971 1.278 1.197 828 735 523 744 2.956 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.523 7.445 5.764 7.934 5.765 5.523 7.445 5.764 7.934 5.764 7.934 5.764 7.934 5.764 7.934 5.764 7.934 5.764 7.937 7.937 7.937 7.937 7.945 7.934 7.945 7.937 7.937 7.937 7.937 7.937 7.937 7.937 7.937 7.937 7.947	1957	1,029	1,265	956	905	827	686	1,086	4,145	13,054	14,589	7,666	2,979	49.187
1.284 1,191 891 893 825 756 891 4,127 8,029 3,465 2,726 2,036 1,278 1,197 828 773 555 737 1,784 3,555 5,237 1,523 1,457 1,074 6,79 5,237 1,523 1,457 1,074 6,79 5,237 1,523 1,457 1,074 6,79 3,465 2,523 1,457 1,523 1,457 1,074 6,79 3,465 2,328 7,457 1,074 6,79 3,103 907 7,58 7,39 2,743 1,074 6,79 3,169 3,650 1,241 5,756 5,281 1,074 6,79 3,069 1,074 6,79 3,063 1,074 6,79 3,063 1,074 6,79 3,063 1,074 6,79 3,063 1,074 6,79 3,063 1,074 6,79 3,063 1,074 6,79 3,063 1,074 6,79 3,063 1,074 6,79 1,074	1958	1,861	1,603	1,045	922	685	749	883	8,423	10,960	3,120	2,743	1,971	34,965
1 1568 1,399 968 779 655 747 1,784 2,805 6,154 3,602 2,347 1,523 913 1,197 828 779 655 747 1,110 527 564 1,924 5,523 1,416 662 913 1,164 662 723 623 642 7,19 5,564 1,924 3,870 2,282 913 1,164 662 723 623 642 7,19 2,766 2,300 3,904 860 910 1,129 767 648 7,19 2,163 1,934 1,679 1,743 1,160 3,605 1,541 1,074 1,507 3,069 1,571 1,743 1,160 3,605 1,541 1,011 1,773 1,743 1,160 3,605 1,541 1,014 6,79 3,695 5,010 1,928 1,941 1,577 1,516 1,241 1,707 1,561 1,567 1,561 1,561 </th <th>1959</th> <th>1,284</th> <th>191</th> <th>891</th> <th>663</th> <th>825</th> <th>756</th> <th>891</th> <th>4,127</th> <th>8,029</th> <th>3,465</th> <th>2,726</th> <th>2,059</th> <th>27,137</th>	1959	1,284	191	891	663	825	756	891	4,127	8,029	3,465	2,726	2,059	27,137
1,220 1,197 828 7/3 575 623 744 2,287 3,339 3,732 5,523 1,416 9,10 1,129 1,228 771 5,455 6,427 7,19 5,455 6,457 5,523 1,416 679 3,904 862 1,129 1,228 771 708 5,365 6,42 7,19 2,638 3,904 862 910 1,143 168 836 6,42 7,19 2,638 3,904 862 910 1,123 7,69 636 6,42 7,19 2,638 3,904 862 910 1,126 934 7,19 1,3920 14,995 7,194 1,597 1,074 1,256 934 7,194 1,597 1,074 1,597 1,074 1,256 934 7,194 1,597 1,074 1,597 1,010 1,074 1,259 1,247 910 0,285 7,576 5,281	1960	1,668	1,399	986	6//	655	747	1,784	2,956	6,154	3,602	2,347	1,523	24,582
Z-100 1,775 1,055 929 817 794 2,342 6,487 5,455 4,457 1,074 679 913 1,164 862 723 622 739 3,970 2,292 1,999 1,145 823 780 632 642 1,10 5,758 7,395 7,904 1,577 910 1,128 780 632 642 1,10 5,176 1,930 3,904 5,67 910 1,128 767 708 550 1,139 2,149 1,743 1,507 3,690 1,574 910 1,128 767 568 561 1,241 1579 1,573 3,640 1,571 1,930 1,400 994 770 5,44 815 864 9,433 1,776 1,797 1,777 910 1,247 917 1,772 5,135 9,343 3,063 1,679 1,778 1,983 1,520 1,020<	1961	1,278	1,197	828	713	575	623	744	2,287	3,339	3,732	5,523	1,416	22,255
913 1,164 862 747 1,110 527 564 1,934 3,870 2,282 910 1,128 1,71 708 636 642 719 2,176 1,3920 1,995 7,194 1,567 3,004 862 910 1,129 767 686 581 653 642 7,19 1,57 3,904 862 910 1,129 767 686 581 650 1,004 1,835 3,816 1,567 3,069 1,679 1,074 1,250 1,029 907 748 719 1,797 1,797 1,797 1,003 1,226 1,189 972 744 816 1,679 3,042 3,043 3,042 3,043 3,042 3,048 1,003 1,226 1,189 972 744 817 1,776 5,135 1,040 3,042 1,797 1,778 1,903 1,226 1,189 771 5,1	7961	2,609	1,715	1,065	929	817	794	2,342	6,487	5,455	4,457	1,074	679	28,423
	5961	913	1,164	862	723	627	747	1,110	527	564	1,934	3,870	2,282	15,323
800 1,145 823 780 632 624 910 5,176 13,920 14,995 7,194 1,597 1,090 1,1129 767 758 755 1,139 1,743 1,160 3,650 1,241 1,074 1,226 767 686 581 699 1,004 1,836 5,010 1,928 1,074 1,256 910 5,149 1,737 3,616 1,567 3,069 1,071 1,930 1,720 566 5,281 755 6,085 3,438 5,010 1,928 1,930 1,406 994 770 5,136 9,335 6,224 1,01 2,037 1,591 1,189 972 788 7,778 3,042 3,042 3,01 2,037 1,550 1,189 977 743 3,751 8,940 3,042 1,797 1,777 1,020 888 721 831 1,772 5,135 1,797		1,129	1,228	4	708	636	642	719	2,638	2,766	2,300	3,904	862	18,303
	1965	800	1,145	823	780	632	624	910	5,176	13,920	14,995	7,194	1,597	48.596
910 1,129 767 686 581 699 1,004 1,836 3,816 1,567 3,069 1,679 1,074 1,256 934 770 546 701 1,188 3,556 7,576 5,281 3,042 3,043 3,042 3,043 3,042 3,043 3,042 3,043 3,042 3,043 3,042 3,048 3,043 3,042 3,048 3,043 3,042 3,048 3,167 <t< th=""><th>1966</th><th>1,999</th><th>1,413</th><th>1,089</th><th>907</th><th>758</th><th>765</th><th>1,139</th><th>2,149</th><th>1,743</th><th>1,160</th><th>3,650</th><th>1,241</th><th>18,013</th></t<>	1966	1,999	1,413	1,089	907	758	765	1,139	2,149	1,743	1,160	3,650	1,241	18,013
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	1961	910	1,129	767	686	581	669	1,004	1,836	3,816	1,567	3,069	1,679	17 743
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	1968	1,074	1,256	934	263	850	645	748	2,242	6,085	3,438	5,010	1,928	24,803
$ \begin{bmatrix} 1,387 & 1,520 & 1,020 & 881 & 744 & 815 & 864 & 9,433 & 14,783 & 10,060 & 2.795 & 1,101 \\ 2,037 & 1,591 & 1,189 & 972 & 788 & 787 & 1,772 & 5,135 & 9,335 & 6,324 & 1,797 & 1,778 \\ 1,983 & 1,226 & 1,029 & 888 & 721 & 831 & 1,368 & 3,791 & 8,940 & 3,063 & 2,211 & 1,840 \\ 980 & 1,247 & 977 & 816 & 670 & 725 & 744 & 4,780 & 10,724 & 7,630 & 2,322 & 1,329 \\ 980 & 1,247 & 912 & 835 & 724 & 816 & 949 & 6,889 & 5,767 & 4,485 & 1,757 & 1,467 \\ 1,120 & 1,200 & 1,200 & 995 & 870 & 719 & 732 & 1,146 & 3,968 & 5,767 & 4,485 & 1,757 & 1,467 \\ 1,500 & 1,200 & 995 & 870 & 719 & 732 & 1,146 & 3,968 & 5,767 & 4,485 & 1,757 & 1,467 \\ 1,500 & 1,300 & 995 & 870 & 719 & 732 & 1,146 & 3,968 & 5,767 & 4,485 & 1,757 & 1,467 \\ 1,500 & 1,300 & 995 & 870 & 719 & 732 & 1,146 & 3,968 & 7,919 & 3,147 & 2,050 & 1,899 \\ 1,838 & 1,247 & 833 & 696 & 696 & 656 & 1,235 & 3,462 & 2,901 & 2,292 & 2,984 & 1,239 \\ 1,838 & 1,247 & 833 & 527 & 614 & 1,187 & 4,592 & 12,087 & 8,277 & 1,939 & 1,511 \\ 1,296 & 1,291 & 913 & 748 & 645 & 712 & 1,050 & 4,087 & 7,212 & 2,362 & 2,005 \\ 1,560 & 1,441 & 1,121 & 1,050 & 880 & 934 & 1,108 & 4,314 & 8,136 & 5,269 & 4,173 & 1,810 \\ 1,560 & 1,441 & 1,121 & 1,050 & 880 & 934 & 1,108 & 4,314 & 8,136 & 5,269 & 4,173 & 1,810 \\ 1,560 & 1,441 & 1,121 & 1,050 & 880 & 934 & 1,108 & 4,314 & 8,136 & 5,269 & 4,173 & 2,201 \\ 1,560 & 1,441 & 1,121 & 1,050 & 880 & 934 & 1,108 & 4,314 & 8,136 & 5,269 & 4,173 & 2,201 \\ 2,330 & 1,868 & 1,281 & 1,001 & 1,051 & 1,055 & 977 & 3,745 & 17,805 & 14,664 & 6,728 & 4,149 \\ 2,819 & 2,375 & 1,741 & 1,301 & 997 & 962 & 1,116 & 10,266 & 16,410 & 11,823 & 7,413 & 2,596 \\ 2,619 & 2,375 & 1,741 & 1,301 & 997 & 962 & 1,116 & 10,266 & 16,410 & 11,823 & 7,413 & 2,596 \\ 2,619 & 2,375 & 1,741 & 1,301 & 997 & 962 & 1,116 & 10,266 & 16,410 & 11,823 & 7,413 & 2,596 \\ 2,819 & 2,375 & 1,741 & 1,301 & 997 & 962 & 1,116 & 10,266 & 16,410 & 11,823 & 7,413 & 2,596 \\ 2,619 & 2,741 & 2,741 & 1,301 & 997 & 962 & 1,116 & 10,266 & 16,410 & 11,823 & 7,413 & 2,596 \\ 2,619 & 2,741 & 2,741 & 2,712 & 2,592 & 2,102 & 2,26$	1969	1,930	1,400	994	70	546	701	1,186	3,556	7,576	5,281	3,042	3.048	30,130
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	0/81	1,387	1,520	1,020	881	744	815	864	9,433	14,783	10,060	2,795	1,101	45,403
1,903 $1,226$ $1,029$ 888 721 831 $1,366$ $3,791$ $8,940$ $3,063$ $2,211$ $1,840$ 980 $1,247$ 977 816 670 725 744 $4,780$ $10,724$ $7,630$ $2,3222$ $1,329$ 980 $1,247$ 815 691 6333 $3,751$ $6,889$ $5,767$ $4,485$ $1,757$ $1,467$ $1,425$ $1,220$ 843 691 6339 7591 $3,150$ $1,827$ $1,425$ $1,208$ 995 8770 719 732 $1,146$ $3,968$ $4,440$ $3,147$ $2,050$ $1,827$ $1,820$ 995 8770 7193 7342 $2,901$ $2,292$ $2,394$ $1,239$ 992 990 702 6366 5366 $1,467$ $2,901$ $2,292$ $2,901$ $2,777$ $1,939$ $1,511$ $1,296$ $1,291$	1/81	2,037	1,591	1,189	972	788	787	1,772	5,135	9,335	6,324	1,797	1,778	33,505
980 1,247 977 816 670 725 744 4,780 10,724 7,630 2,322 1,329 1,120 1,282 912 835 724 816 949 6,889 5,767 4,485 1,757 1,467 1,120 1,282 912 835 724 816 949 6,889 5,767 4,485 1,757 1,467 1,500 1,208 995 870 719 732 1,146 3,968 4,440 3,147 2,050 1,827 1,500 1,308 995 870 719 732 1,146 3,968 4,440 3,147 2,050 1,827 1,838 1,247 833 686 596 655 1,235 3,462 2,901 2,399 1,219 1,296 1,291 913 742 4,592 12,087 8,277 1,939 1,511 1,266 1,291 913 7,212 2,362	1972	1,983	1,226	1,029	888	721	831	1,368	3,791	8,940	3,063	2,211	1,840	27,891
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	19/3	980	1,247	677	816	670	725	744	4,780	10,724	7,630	2,322	1,329	32,944
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	19/4	07L'L	1,282	912	835	724	816	949	6,889	5,767	4,485	1.757	1,467	27,003
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	C/AI	624 L	1,320	843	691	639	758	833	3,751	6,859	7,919	3,150	1,827	30,015
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	9/61	1,500	1,308	995	870	719	732	1,146	3,968	4,440	3,147	2,050	1,899	22,774
992 990 702 638 527 614 1,187 4,592 12,087 8,277 1,939 1,511 1,296 1,291 913 748 645 712 1,050 4,083 10,253 8,089 3,058 1,827 1,521 1,625 1,130 860 686 720 922 6,028 14,987 7,212 2,362 2,005 1,566 1,563 1,095 855 679 795 1,152 1,637 2,782 2,362 2,005 1,560 1,441 1,121 1,050 880 934 1,108 4,314 8,138 5,269 4,173 1,810 2,330 1,868 1,281 1,101 1,055 977 3,745 17,805 1,419 2,596 4,149 2,619 2,771 1,055 962 1,116 10,266 16,410 11,823 7,413 2,596 4,149	//AL	1,838	1,247	833	686	596	656	1,235	3,462	2,901	2,292	2,384	1,239	19,369
1,296 1,291 913 748 645 712 1,050 4,083 10,253 8,089 3,058 1,827 1 1,521 1,525 1,130 860 686 720 922 6,028 14,987 7,212 2,362 2,005 1 1,566 1,563 1,095 855 679 795 1,152 1,637 2,782 2,388 2,271 2,271 1,566 1,441 1,121 1,050 880 934 1,108 4,314 8,138 5,269 4,173 1,810 2,330 1,868 1,281 1,101 1,055 977 3,745 17,805 14,664 6,728 4,149 2,619 2,375 1,741 1,301 997 962 1,116 10,266 16,410 11,823 7,413 2,596 9	1978 1976	992	066	702	859	527	614	1,187	4,592	12,087	8,277	1,939	1,511	34,056
1,521 1,525 1,130 860 686 720 922 6,028 14,987 7,212 2,362 2,005 1 1,566 1,563 1.095 855 679 795 1,152 1,637 2,782 2,368 2,271 2,271 1,566 1,441 1,121 1,050 880 934 1,108 4,314 8,138 5,269 4,173 1,810 2,330 1,868 1,281 1,101 1,055 977 3,745 17,805 14,664 6,728 4,149 2,619 2,375 1,741 1,301 997 962 1,116 10,266 16,410 11,823 7,413 2,596 9	6/81	1,296	1,291	913	748	645	712	1,050	4,083	10,253	8,089	3,058	1,827	33,965
1,566 1,563 1.095 855 679 795 1,152 1,637 2,782 2,388 2,857 2,271 1,560 1,441 1,121 1,050 880 934 1,108 4,314 8,138 5,269 4,173 1,810 2,330 1,868 1,810 3,745 17,805 14,664 6,728 4,149 2,398 2,596 14,0 2,596 14,10 1,011 1,055 977 3,745 17,805 14,1664 6,728 4,149 2,596 12,619 2,375 1,741 1,301 997 962 1,116 10,266 16,410 11,823 7,413 2,596 1	1980	1,521	1,625	1,130	860	686	720	922	6,028	14,987	7,212	2,362	2,005	40,058
1,560 1,441 1,121 1,050 880 934 1,108 4,314 8,138 5,269 4,173 1,810 2,330 1,868 1,281 1,101 1,055 977 3,745 17,805 14,664 6,728 4,149 2,619 2,375 1,741 1,301 997 962 1,116 10,266 16,410 11,823 7,413 2,596 1	1981	1,566	1,563	1,095	855	679	795	1,152	1,637	2,782	2,388	2,857	2,271	19,640
2,330 1,868 1,281 1,101 1,051 1,055 977 3,745 17,805 14,664 6,728 4,149 2,619 2,375 1,741 1,301 997 962 1,116 10,266 16,410 11,823 7,413 2,596 1	1982	1,560	1441	1,121	1,050	880	934	1,108	4,314	8,138	5,269	4 173	1,810	31,798
2,619 2,375 1,741 1,301 997 962 1,116 10,266 16,410 11,823 7,413 2,596 1	1983	2,330	1,868	1,281	1,101	1,051	1,055	977	3,745	17,805	14,664	6,728	4,149	56.754
	1984	2,619	2,375	1,741	1,301	667	962	1,116	10,266	16.410	11,823	7,413	2,596	59,819

Simulated Flows at Blue River below Continental-Hoosier Project Proposed Action Alternative (AF)

WATER	OCT	NON	DEC	NAL	LEB	MAR	APR	MAY	NI				TOTAL
TEAH							- -		100	10 L	504	100	IUIAL
C2861	3,160	2,564	1,611	1,151	869	895	2,437	10,213	11,083	6,682	2.780	2.417	45.862
1986	2,226	1,775	1,105	916	789	893	1,610	4,810	5.996	5.409	1.474	413	27 416
1987	1.704	1,528	1,013	833	630	780	1,404	4,785	7,137	3.644	2 676	1 475	27 600
1988	1,192	1,260	869	947	880	883	1,472	3.971	6.199	4,449	2 971	1 832	26 045
1989	1,608	1,596	1,108	950	844	780	1,980	5,780	5,999	2.218	3 024	1 874	27 761
1990	1,599	1,426	850	765	639	673	1,440	3.204	5,509	2 352	2573	0.066	23 206
1991	2,649	1,728	1,227	1,044	877	1,038	1,346	6,164	7.257	2.416	3,096	2,115	30,957
1892	1,615	1,204	818	620	525	598	1,322	4,743	4,050	2,123	4.007	2.157	23,782
1993	1,361	1,209	709	554	545	696	926	6,479	9,634	5.552	1.685	1,897	31.247
1994	1,096	1,292	1,025	829	638	661	1,827	4,119	4,174	3.316	2,490	1.864	23.331
1995	1,357	1.271	724	553	545	560	931	4,151	18,684	20.340	7,123	3 050	59 289
1996	2,216	1,453	1,300	1,090	963	830	1,885	14,350	12.060	7.051	2,212	2 086	47 496
1997	1,942	1,737	1,213	1,022	771	953	1,813	9,011	17.245	8.910	5,931	2.054	52 802
1898	1,936	1,606	667	812	693	804	939	3,708	4,860	2.874	2.964	2.027	24 220
1999	1,799	1,555	1,201	920	800	736	1,084	4.945	11.870	7.437	2,590	2,261	37 198
2000	1,543	1,263	894	780	689	962	1,626	7,231	5,187	2,673	2.071	2.095	27,014
2001	1,325	1,193	932	757	604	646	1,351	6,302	8,391	6.291	3,378	2,245	33,415
2002	1,457	1,309	882	725	629	623	1,099	1,391	1,034	1.529	1.916	1,007	13.601
2003	1,078	1,042	824	663	541	594	1,190	7,232	10.887	5,661	3,063	1 923	34 698
2004	1,371	1,162	895	748	655	782	1,073	1.538	1.203	1.784	3,385	1 289	15 AA5
2005	1,276	1,346	955	767	563	674	995	3,059	4,422	2.101	2,804	1.387	20.349
AVERAGE:	1,600	1,407	986	829	703	756	1,262	4,988	8,176	5.482	3.279	1 880	31 348
MINIMUM	800	066	702	553	525	560	719	527	564	1.160	1.074	413	13 601
MAXIMUM:	3,160	2,564	1,741	1,301	1,051	1,055	2.437	14.350	18,684	20.340	7 RFF	4 140	50 B10
										2.2/22	2221.		20.00

Simulated Flows at Muddy Creek below Wolford Mountain Reservoir Proposed Action Alternative (CFS)

WATER YEAR	OCT	NON	DEC	JAN	FEB	MAR	APR	MAY	NN	nr	AUG	SEP	
1950	91	10	10	7	6	15	130	161	320	56	104	33	70
1951	95	12	14	80	12	18	12	245	396	122	25	78	. 60
1952	79	16	14	80	14	17	60	614	606 606	87	28	119	130
1953	171	35	28	27	15	29	11	132	388	68	21	198	39
1954	11	20	11	12	თ	17	6	57	139	49	256	2	20
1955	274	26	52	16	13	20	122	57	82	73	100	5 8	22 76
1956	13	19	16	12	6	24	150	6	297	60	108	104	75
1957	11	20	15	14	12	19	14	195	682	225	33	21	110
1958	23	30	20	16	16	26	78	603	304	58	109	128	118
1959	= :	ß	20	15	=	14	73	102	355	63	74	145	75
1960	20	22	13	15	14	72	69	469	307	67	105	105	107
1961	13	23	17	18	თ	19	56	152	208	66	198	24	67
1962	13	57	39	88	37	131	461	747	378	125	31	157	185
1963	59	26	21	17	14	29	89	74	211	145	156	55	75
1964	253	54	24	22	15	60	53	56	81	82	103	121	78
1965	თ	21	20	18	12	15	116	65	559	145	31	19	85
1966	25	37	26	52	11	37	6	333	182	59	320	104	105
1967	თ	13	17	16	6	34	80	57	166	93	85	141	60
1968	39	27	20	16	12	14	58	57	398	79	33	116	72
1969	33	24	22	20	12	19	13	954	245	100	78	159	148
1970	18	30	30	25	13	26	88	434	363	89	113	4	105
1971	20	29	21	17	17	50	121	469	474	111	28	17	115
1972	15	25	22	17	23	55	124	637	361	53	136	49	127
1973	18	26	21	18	15	25	65	499	343	134	33	109	109
1974	115	27	20	17	16	46	76	812	294	82	107	105	144
C/81	15	24	16	16	17	27	70	154	386	126	30	200	06
1976	17	26	19	19	18	35	88	528	276	99	102	116	110
1977	16	17	13	12	10	11	66	300	88	140	103	10	69
1978	312	15	10	12	6	24	133	4	324	111	107	129	103
1979	11	19	23	16	o	23	107	391	495	95	24	206	118
1980	10	23	19	15	20	25	92	287	499	73	111	115	107
1981	13	21	12	12	7	13	78	319	211	96	249	33	89
1982	254	25	17	13	10	23	60	37	446	109	25	23	87

Simulated Flows at Muddy Creek below Wolford Mountain Reservoir Proposed Action Alternative (CFS)

WATER													
YEAR	007	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NN	JUL	AUG	SEP	
1983	21	21	18	15	16	24	64	366	767	281	VV	EA EA	AVG
1984	17	20	24	23	54	27	C a	BER	660		5	58	50
1985	25	24	25	74	. r.c	, <u>,</u>	341	100			<u>ה</u>	3	CO I
1986	ç		3 5		3	÷ 0	- + 2	C0/	205	٩/	17	12	132
1007	2 4	2 2	5 ;	C ·	4	22	205	/39	388	118	23	19	151
/061	2		/1	16	21	90	201	339	172	64	17	198	03 03
	20 2	12	12	13	15	32	183	356	334	65	101	107	103
1989	13	ส	17	16	16	82	13	307	199	72	193	29	82
0661	=	14	0	ø	÷	25	130	90 90	173	109	234	æ	67
1991	12	17	8	9	8	32	86	187	393	82	104	108	87
1992	80	13	თ	ø	11	25	100	66	139	63	239	73	63
1993	27	13	თ	11	14	28	74	186	426	6	21	21	48
1994	24	16	13	10	13	27	121	338	163	136	176	. ~	88
1995		11	8	11	14	20	54	41	607	119	23	52	78
1996	25	18	13	18	27	37	178	669	448	83	105	18	140
1997	52	21	17	17	20	68	46	780	622	90	22	2 0	145
1998	21	13	18	21	24	65	86	332	218	89	22	66	28
1999	19	18	12	14	18	47	87	293	445	86	25	5 5	58
2000	163	18	11	14	19	26	148	395	190	68	203	. 22	108
2001	ნ	17	15	10	14	25	81	88	174	69	188	124	68
2002	12	15	11	10	10	18	69	129	2	151	174	28	29
2003	143	=	9	7	8	20	129	50	127	79	115	123	68
2000	6	ส	თ		12	49	66	68	49	68	271	20	85
2005	280	15	ω	18	12	18	138	38	155	76	20	118	75
AVEHAGE:	Z.	52	17	16	15	33	106	314	323	96	66	78	9.8
WINIMUM:	ω	10	9	9	7	:	13	37	49	49	17	2	6
MAXIMUM:	312	57	39	38	41	131	461	954	767	261	320	206	185
											2	224	3

Simulated Flows at Muddy Creek below Wolford Mountain Reservoir Proposed Action Alternative (AF)

WATER YEAR	ост	NOV	DEC	JAN	FE8	MAR	APR	MAY	INN	l JUL	AUG	SEP	TOTAL
1950	5,614	573	596	407	474	913	7.706	9.909	19 057	3 421	R GRO	1 035	56 074
1951	5,869	731	838	484	652	1,087	4.578	15.070	23.571	7.532	1 520	4 505	4/2/00
1952	4,831	925	856	500	767	1,048	3,593	37.724	36.048	5.319	1,600	7004	100.305
1953	10,491	2,086	1,728	1,655	806	1,805	4,602	8.109	23,116	4.151	1 267	11 770	71 588
1954	664	1,179	704	748	494	1,032	5,343	3,505	8,262	3.033	15.741	2 025	42 730
1955	16,851	1,554	1,370	968	714	1,247	7,266	3,505	4,886	4,486	6.144	5,722	54,713
1956	111	1.101	954	751	485	1,460	8,914	5,504	17,683	3,701	6.616	6,186	54 139
1957	849	1,206	915	875	650	1,185	4,591	11,990	40.607	13.815	2,136	1,223	70 842
1958	1,397	1,799	1,207	966	896	1,586	4,647	37,062	18,074	3,552	6.683	7.628	85.520
1959	667	1,501	1,213	006	606	840	4,356	6,255	21,139	3,887	4,563	8,622	54,549
1960	1,223	1,312	787	951	751	4,426	4,107	28,615	18,262	4,143	6.439	6.245	77,461
1961	785	1,397	1,031	1,128	515	1,155	3,314	9,371	12,378	4,068	12,167	1.427	48.736
1962	662	3,419	2,426	2,351	2,046	8,072	27,455	45,926	22,521	7,670	1,877	9,359	133.921
1963	3,619	1,529	1,265	1,054	768	1,762	5,291	4,527	12,529	8,904	9,611	3.297	54 156
1964	15,558	3,243	1,470	1,360	847	3,712	3,182	3,431	4,834	5,019	6.348	7.179	56,183
1965	555	1,251	1,217	1,130	646	914	606'9	3,990	33,269	8,895	1.881	1.131	61,788
1966	1,518	2,181	1,615	1,376	634	2,296	5,347	20,495	10,822	3,640	19,655	6.183	75,762
1967	533	772	1,063	998	490	2,062	4,782	3,505	9,862	5,734	5.197	8.419	43,417
1968	2,393	1,624	1,258	686	664	849	3,466	3,505	23,709	4,882	2.051	6.875	52,265
1969	5,740	1,422	1,355	1,241	661	1,180	774	58,686	14,606	6,145	4.788	9.433	106.031
1970	1,084	2,350	1,830	1,536	698	1,584	5,217	26,679	21,603	5,480	6,956	816	75.833
1971	1,216	1,738	1,305	1,024	955	3,082	7,184	28,849	28,190	6,819	1.737	1.000	83.099
19/2	934	1,516	1,377	1,046	1,269	3,377	7,407	39,145	21,470	3,260	8,347	2,938	92.086
1973	1,078	1,532	1,293	1,106	831	1,536	3,842	30,713	20,383	8,229	2,001	6,504	79,048
1974	7,048	1,628	1,221	1,032	606	2,848	4,532	49,921	17,506	5,052	6,593	6,259	104,549
C/8L	945	1,439	983	677	953	1,646	4,150	9,445	22,950	7,755	1,872	11,885	65.000
19/6	1,017	1,569	1,152	1,144	973	2,134	5,237	32,439	16,440	4,050	6,288	6,908	79.351
19/7	975	1,007	821	755	565	203	5,905	18,436	5,226	8,593	6,359	584	49,929
19/8	19,169	868	614	731	489	1,501	7,939	2.717	19,289	6,820	6,587	7,694	74,449
6/61	666	1,157	1,393	987	500	1,408	6,366	24,038	29,447	5,833	1,474	12,239	85,508
1980	636	1,386	1,150	833	1,113	1,585	5,445	17,642	29,708	4,467	6,810	6,814	77.669
1981	111	1,222	726	768	413	828	4,615	19,586	12,582	5,923	15,290	1,984	64.708
1982	15,590	1,517	1,052	812	528	1,442	3,543	2,253	26,559	6,705	1,528	1,343	62,872

Simulated Flows at Muddy Creek below Wolford Mountain Reservoir Proposed Action Alternative

(AF)

WATER												ſ	
YEAR	OCT	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
1983	1,318	1,247	1,087	953	910	1,461	3,829	22.515	45.612	16.037	2 680	3.218	100 867
1984	1,055	1,163	1,486	1,438	1,322	1.633	4.881	52,618	39,295	11 056	2 186	1 203	110 436
1985	1,552	1,418	1,522	1,463	1,367	2.874	14.319	47,008	17,967	4 604	1 007	602	05 003
1986	799	1,361	1,893	1,521	2,303	5,419	17,941	45,427	23,085	7.272	1.386	1118	109 525
1987	915	1,279	1,039	970	1,157	1,835	11,951	20,870	10.247	3,923	1.026	11 799	67 011
1988	466	743	718	771	809	1,945	10,864	21,897	19,889	4.015	6.233	6.386	74 736
1989	817	1,286	1,044	971	873	5,029	774	18,883	11,819	4.427	11.840	1,725	59.4RB
1990	696	840	579	494	619	1,556	7,754	2,383	10,306	6,685	14.378	2.022	48.312
1991	722	1,022	472	374	465	1,968	5,129	11,494	23,414	5,018	6.420	6.436	62,934
1992	466	786	562	495	600	1,512	5,937	4,052	8,300	3,881	14,675	4.365	45,631
1993	1,635	773	536	681	789	1,739	4,397	11,410	25,337	5,556	1,311	1.241	55,405
1994	1,472	949	<u>111</u>	618	708	1,681	7,206	20,779	9,685	6,337	10.839	418	63 489
1995	689	671	513	678	770	1,200	3,188	2,525	36,136	7,338	1.431	1.306	56.445
1996	1,558	1,078	822	1,078	1,508	2,284	10,592	43,007	26,677	5,075	6.446	1.049	101.174
1997	1,330	1,268	1,074	1,076	1,115	4,196	2,754	47,975	37,010	5,509	1,329	529	105,165
1998	1,270	774	1,122	1,276	1,332	3,984	5,114	20,413	12,949	5,501	1,348	5.882	60.965
1999	1,150	1,089	743	851	988	2,875	5,198	18,005	26,478	5,307	1.543	1.236	65.463
2000	10,039	1,097	695	838	1,033	1,619	8,806	24,263	11,312	4,201	12.473	1.581	77,957
2001	582	984	927	596	763	1,553	4,837	5,403	10,339	4,267	11.588	7.387	49.226
2002	734	903	671	599	580	1,118	4,084	7,916	3,810	9,283	10,700	1.657	42.055
2003	8,809	649	379	439	433	1,221	7,695	3,101	7,571	4,861	7,057	7.290	49.505
2004	559	1,288	568	656	652	2,989	5,866	4,157	2,915	4,163	16,673	1,191	41.677
2005	17,195	891	522	1,089	647	1,130	8,220	2,320	9,228	4,646	1,257	7,046	54,191
AVERAGE:	3,348	1,309	1,045	958	830	2,055	6,303	19,307	19,214	5,929	6,078	4,646	71.022
	466	573	379	374	413	203	774	2,253	2,915	3,033	1,026	418	41,677
MAXIMUM:	19,169	3,419	2,426	2,351	2,303	8,072	27,455	58,686	45,612	16,037	19,655	12,239	133,921

Simulated Flows at Williams Fork River below Williams Fork Reservoir	
Williams F	×
ver below	Descend Antion Alternation
ns Fork Ri	- A - Martin
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liated Flows	
Simu	

Proposed Action Alternative (CFS) •

2		DEC	JAN		MAH	APR	МАҮ	NUL	JUL	AUG	SEP	-UNA
	136	78	63	11	67	15	29	247	55	321	159	124
	116	92	76	59	86	102	48	186	422	230	356	
	127	102	96	84	88	15	5	299	273	256	256	196
	140	108	132 132	75	79	76	26	180	62	235	154	120
	134	112	102	52	73	06	\$	37	<u>1</u> 06	142	109	3
	107	76	76	60	64	15	32	93	4	182	201	105
	125	89	71	79	85	15	78	237	46	186	104	103
	104	65	71	6 8	68	76	21	162	274	275	184	124
	138	123	115	86	89	62	79	398	70	287	142	155
	103	67	06	ន	73	56	35	203	65	145	149	102
_	157	127	65	85	66	27	38	164	63	183	125	108
	135	118	114	27	63	121	24	107	116	251	158	116
	121	137	89	71	81	21	66	656	336	203	131	178
	44	132	126	69	6 3	96	40	51	103	58	179	103
	94	64	59	3	2	132	28	127	55	101	118	98
	1.1	96	88	79	74	15	26	166	118	188	98	96
	90	119	7	52	98	103	49	68	8	316	109	101
	93	69	60	61	91	15	36	102	20	197	157	06
	117	82	20	7	80	136	15	264	ន	19	301	113
	114	92	93	76	75	15	61	40	61	149	210	97
	81 19	57	94	ß	82	83	73	137	222	162	161	106
	17	154	149	66	128	15	39	499	343	203	226	184
_	132	117	107	93	129	27	45	257	59	317	130	135
	5	90	78	22	71	84	28	100	205	196	183	110
_	150	131	129	71	94	15	69	441	183	267	163	154
-	117	106	4	78	83	96	പ്പ	180	125	192	204	120
	60	86	76	7	84	33	37	140	69	159	175	98
	121	81	62	<u>8</u> 3	20	86	28	50	206	319	95	114
_	80	48	4	43	54	15	46	214	101	112	146	91
	86	87	88	78	91	15	43	143	73	164	122	32
114	115	101	105	95	67	84	27	130	73	145	179	103
_	105	87	26	58	69	159	21	155	117	908 908	209	124
	96	60	80	65	48	60	18	121	120	132	65	83
	120	126	68	108	72	162	15	26	841	326	211	181
	15 22	147	114	94	116	06	79	1009	542	331	210	256
	176	148	154	70							2	

Proposed Action Alternative (CFS)

1986 180 169 149 139 70 21 15 58 566 257 152 1987 173 167 144 137 102 93 15 57 78 351 171 1986 112 106 114 137 102 93 15 57 78 351 171 1980 112 109 96 81 83 107 81 56 237 76 351 125 77 1990 112 109 96 81 83 107 81 75 78 315 126 144 137 126 146 126 141 31 86 32 126 148 31 126 148 31 126 148 137 126 141 31 26 127 128 126 141 112 148 31 126 141 156 5	WATER YEAR	oct	VON	DEC	JAN	FEB	MAR	APR	MAY	NUL	ากเ	AUG	SEP	ANNUAL
	1986	180	169	149	139	20	21	15	82	566	967	160	ţ	AVG
	1987	173	167	144	137	102	6	0 IG	273	78	38	171	1	26
	1988	120	106	106	114	105	78	10	20	237	78	2014 2014	2 6	101
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1989	109	113	95	84	85	101	с т) 4 1		301	<u>,</u>	201	22
	1990	112	109	8	6		107	2.6	86		150	210	23	£
	1991	196 1	129	88	75	20		5 6			0 0 0	0.0	55	124
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1992	126	145	9	5.8	1 40	Ş	1 U	₽ b	681			201	106
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1003	246		1 6	5 9	D D	5 C4	<u>0</u>	8	69	47	448	230	131
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$					49	4 4	56	70	15	168	112	126	244	112
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		207		60	66	91	114	31	60	66	115	205	183	121
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		22	701	85	75	86	107	165	15	231	280	272	322	155
208 171 140 80 253 80 15 64 684 284 170 162 145 145 115 136 15 31 83 56 204 149 98 107 103 146 98 31 105 43 204 123 114 115 111 126 15 76 109 21 167 122 123 101 97 116 92 52 90 30 166 59 49 44 40 47 109 18 223 59 161 133 108 102 101 97 59 52 50 30 30 161 133 102 101 142 122 37 79 223 59 161 133 102 59 50 50 37 79 22 50 161 153 96 97 59 50 46 155 50	1996	209	135	129	142	126	114	15	137	643	228	140	666	186 186
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1997	208	171	140	80	253	80	15	2	664	284	215	167	194
204 149 98 107 103 146 98 31 105 43 201 123 114 115 111 126 15 76 109 21 167 122 123 101 97 166 15 76 109 21 149 63 52 45 42 53 75 17 42 107 161 133 108 102 101 142 122 37 79 223 59 216 133 108 102 101 142 122 37 79 22 59 216 135 96 97 59 55 50 22 50 22 50 22 50 22 50 22 50 22 50 22 50 22 50 22 50 22 50 22 50 23 24 141	1998	170	162	145	145	115	136	15	31	83	56	138	2	
201 123 114 115 111 126 15 76 109 21 167 122 123 101 97 116 92 52 90 30 149 63 52 45 42 53 75 17 42 107 149 63 52 45 42 53 75 17 42 107 161 133 108 102 101 142 122 37 79 22 161 133 108 102 101 142 122 37 79 22 216 135 96 97 59 50 46 155 50 216 123 102 97 59 52 15 46 155 50 216 125 97 59 52 15 46 155 50 216 125 97 59 59 52 50 50 161 159 48 44 40 21 15 26 21 177 154 154 253 146 165 137 1009 84<	6661	204	149	98	107	103	146	98	31	105	43	120	17	801
	2000	52 S	123	114	115	111	126	- 1	76	001	2 5	200		027
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2001	167	122	123	101	97	118	2 8) (. 4	25		200		8
46 59 49 44 40 47 109 18 223 59 161 133 108 102 101 142 122 37 79 22 216 135 96 97 59 52 15 46 155 50 216 135 96 97 59 52 15 46 155 50 216 123 102 97 59 52 15 46 155 50 216 123 102 92 81 87 60 44 224 141 41 59 48 44 40 21 15 15 26 21 310 177 154 154 253 146 165 137 1009 841	2002	149	8	5	ÅF.		2		2 1	2	20	044	22	87
40 59 44 40 47 109 18 223 59 161 133 108 102 101 142 122 37 79 22 216 135 96 97 59 52 15 46 155 50 216 123 102 97 59 52 15 46 155 50 216 123 102 92 81 87 60 44 224 141 41 59 48 44 40 21 15 26 21 15 26 21 141 310 177 154 154 253 146 165 137 1009 841		24	3 6	9 9	2:	4	2	6/		42	107	23	90	58
161 133 108 102 101 142 122 37 79 22 216 135 96 97 59 52 15 46 155 50 158 123 102 92 81 87 60 44 224 141 41 59 48 44 40 21 15 26 21 310 177 154 154 253 146 165 137 1009 841	200	₽ ;	А ,	49	4	40	47	109	18	223	59	214	293	<u>6</u>
216 135 96 97 59 52 15 46 155 50 158 123 102 92 81 87 60 44 224 141 41 59 48 44 40 21 15 26 21 310 177 154 154 253 146 165 137 1009 841		101	E E	108	102	101	142	122	37	79	2	414	191	135
158 123 102 92 81 87 60 44 224 141 41 59 48 44 40 21 15 15 26 21 310 177 154 154 253 146 165 137 1.009 841	5002	216	135	96	97	59	52	15	46	155	50	168	153	104
21 41 59 48 44 40 21 15 15 26 21 2 310 177 154 154 253 146 165 137 1.009 841	VEHAGE:	158	22	102	92	81	87	60	4	224	141	212	179	126
<u>:] 310 177 154 154 253 146 165 137 1.009 841</u>		41	59	48	44	40	21	15	15	26	5	0	2	i g
		310	17	154	154	253	146	165	137	1.009	841	448	35.6	35

ork River below Williams Fork Reservolr	ronced Action Alternative
Williams	Dronog
Simulated Flows at Williams Fork River below Will	

Proposed Action Alternative (AF)

WATER YEAR	OCT	NOV	DEC	JAN	FE8	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	TOTAL
1950	12,555	8,093	4,797	3,844	4.293	5.970	893	1.778	14 705	3 352	10 718	0 467	00 460
1951	8,187	6,924	5,682	4,686	3,270	5,305	6.055	2.928	11.079	25.965	14 279	21 203	08,400 115,563
1952	12,766	7,544	6,247	5,911	4,640	5,384	893	3,335	47,536	16,800	15.749	15.256	142.061
1953	10,844	8,324	6,621	8,127	4,148	4,838	4,535	1,589	10,731	3.798	14.421	9,155	87 131
1854	7,843	7,957	6,901	6,290	2,893	4,473	5,376	2,064	2,212	6,516	8.735	6.503	67.763
1955	19,058	8,353	4,648	4,650	3,307	3,948	893	1,957	5,557	2,724	11,174	11.955	76.224
1956	2,339	7,413	5,497	4,349	4,366	5,224	893	4,797	14,104	2,823	11,445	6.211	74,461
1957	6,769	6,196	4,014	4,366	3,775	4,169	4,652	1,285	9,653	16,818	16,924	10,975	89.496
1958	15,358	8,186	7,588	7,041	4,753	5,494	4,722	4,887	23,706	4,302	17,674	B.422	112,133
1859	7,852	6,119	5,934	5,544	3,523	4,480	4,708	2,139	12,055	3,988	8,910	8.847	74.099
1960	8,601	9,316	7,810	5,212	4,731	6,068	1,630	2,313	9,786	3,854	11,233	7,412	77 966
1961	7,848	8,049	7,244	7,036	3,150	3,893	7,174	1,475	6,365	7,124	15,423	9,406	84,187
1962	11,464	7,175	8,411	5,445	3,950	4,972	1,254	6,102	39,055	20,654	12,497	7,778	128 757
2061	8,855	8,563	8,126	7,765	3,813	5,712	5,806	2,462	3,022	6,326	3,558	10,668	74,676
	16,177	5,591	3,906	3,598	3,487	3,924	7,861	1,750	7,576	3,378	6,412	6,994	70,654
1965	5,424	6,595	5,880	5,414	4,415	4,575	893	1,624	9,896	7,278	11,542	5,845	69,381
1966	5,629	5,105	7,335	4,728	2,909	6,031	6,108	2,997	4,041	2,066	19,416	6,491	73,056
1967	7,597	5,525	4,238	3,698	3,412	5,569	893	2,185	6,048	4,285	12,125	9,332	64,917
1961	8,922	6,981	5,054	4,317	4,263	4,901	8,111	922	15,696	3,885	1,170	17,907	82,129
1969	10,578	6,783	5,640	5,691	4,234	4,613	893	3,744	2,381	3,755	9,178	12,503	69,993
0/61	2,495	4,810	3,535	5,758	4,611	5,034	4,947	4,477	8,177	13,669	9,951	9,584	77,048
1/61	10,531	10,506	B,499	9,169	5,497	7,848	893	2,398	29,706	21,099	12,460	13,446	133,052
1972	12,247	7,884	7,164	6,590	5,191	7,944	1,617	2,776	15,313	3,623	19,484	7,732	97,565
5261	5,381	6,504	6,129	4,784	3,988	4,338	4,978	1,739	5,933	12,612	12,027	10,909	79,322
1974	B,255	8,948	B,072	7,950	3,920	5,799	893	4,219	26,281	11,273	16,407	9,713	111,710
1975	10,139	6,952 - 22	6,547	4,705	4,243	5,125	5,705	1,373	10,701	7,690	11,792	12,118	87,090
9/61	8,886	5,931	5,292	4,684	4,268	5,178	1,936	2,263	8,317	4,236	9,803	10,414	71,208
1970	11,306	7,185	4,962	3,840	3,514	4,324	5,096	1,716	2,988	12,640	19,610	5,670	82,851
8/61	11,690	4,739	2,973	2,711	2,413	3,313	668	2,847	12,718	6,184	6,865	8,662	66,008
6/BL	5,942	5,826	5,328	5,409	4,322	5,595	893	2,655	8,496	4,481	10,056	7,259	66,260
	6,9/9	6,854 0,000	6,228	6,463	5,302	4,150	4,992	1,687	7,712	4,465	8,926	10,625	74,383
	8,618	6,2/3	5,322	3,601	3,200	4,232	9,486	1,294	9,216	7,201	18,991	12,422	89,856
1982	8,063	5,817	3,682	4,895	3,602	2,924	3,556	1,118	7,219	7,359	8,117	3,879	60,231
1961	3,941	7.169	7,718	5,447	5,988	4,409	9,650	922	1,556	51,726	20,053	12,582	131,161
	11,412	9,188	9,066	7,033	5,244	7,113	5,374	4,832	60,035	33,344	20,359	12,506	185,506
1985	14,221	10,458	9,095	9,484	4,850	6,660	893	4,239	27,125	8,452	10,037	10,264	115,778

Simulated Flows at Williams Fork River below Williams Fork Reservoir Proposed Action Alternative (AF)

WATER YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	nun	ינו	AUG	SEP	TOTAL
1986	11,091	10,031	9,138	8,546	3,882	1,280	893	3,596	33,665	15.793	9.351	10.771	118.037
1987	10,626	9,937	8,885	8,446	5,641	5,727	893	3,488	4,624	1,994	10,502	6.844	77.607
1988	7,394	6,323	6,501	6,993	5,820	4,816	893	3,636	14,094	4,688	21,571	7,865	90.594
1989	6,694	6,728	5,853	5,152	4,741	6,404	668	3,444	7,809	7,715	4.434	9.676	69.543
1990	6,909	6,485	5,932	4,983	4,624	6,610	4,824	1,967	13,641	2,834	19.356	11.551	89.716
1991	12,034	7,666	5,446	4,611	3,972	5,627	5,620	2,959	11,849	3,836	7,438	6,083	77.041
1992	7,769	8,641	6,063	6,357	5,354	7,648	893	4,009	5,293	2,863	27,571	13.700	95,181
1983	15,126	8,398	4,391	3,029	2,659	3,422	4,164	922	10,019	6,905	7,753	14,547	81,335
1994	12,719	7,877	6,725	6,085	5,044	6,986	1,852	3,711	5,873	7,073	12,586	10,906	87,437
1995	8,101	6,346	5,202	4,595	4,757	6,554	9,792	922	13,136	17,204	16,736	19,160	112,505
1996	12,881	8,019	7,928	8,701	6,994	7,008	921	8,417	38,235	13,990	8,630	13,186	134.910
1997	12,812	10,192	8,636	4,933	14,041	4,915	893	3,934	39,528	17,445	13,232	9,963	140.524
1998	10,435	9,613	8,910	8,934	6,411	8,374	893	1,929	4,951	3,450	8,479	18,491	88.870
1999	12,530	8,859	6,023	6,594	5,697	8,991	5,827	1,876	6,267	2,629	7,349	18,877	91,519
2000	12,350	7,346	7,007	7,084	6,189	7,776	893	4,675	6,502	1,320	21,636	15.471	98.249
2001	10,250	7,249	7,579	6,236	5,372	7,114	5,503	3.180	5,370	1,827	27,434	13,131	100.245
2002	9,157	3,736	3,200	2,764	2,353	3,246	4,462	1,029	2,623	6,606	1,391	1,782	42.249
2003	2,849	3,495	2,986	2,676	2,201	2,907	6,463	1,117	13,296	3,603	13,183	17,427	72.203
2004	9,926	7,914	6,621	6,258	5,612	8,758	7,252	2,275	4,724	1,376	26,429	11,347	97,492
2005	13,286	8,053	5,916	5,957	3,275	3,209	893	2,829	9,227	3,093	10,356	9,078	75,172
AVERAGE:	9,731	7,335	6,270	5,682	4,502	5,371	3,583	2,729	13,345	8,679	13,052	10,678	90,957
MINIMUM	2,495	3,495	2,973	2,676	2,201	1,280	893	526	1,556	1,320	1,170	1.782	42.249
MAXIMUM:	19,058	10,506	9 499	9,484	14,041	8,991	9,792	8,417	60,035	51,726	27,571	21,203	185,506

Simulated Flows at Colorado River Below the Confluence with the Eagle River Proposed Action Alternative (CFS)

YEAR	ост	NOV	DEC	NAL	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	ANNUAL
350	1242	860	599	552	655	694	1265	1929	4241	1523	1317	<u> G</u> RR	1320
51	1154	860	815	720	771	772	1136	2378	4226	3893	1486	1366	1636
52	1379	1055	912	872	851	838	1383	4668	10579	2962	1785	1883	5429
53	1283	1008	965	974	861	955	1097	1548	4625	2063	1264	1058	1475
5	1002	983	844	898	698	769	1092	1196	1159	1199	952	710	960
55	1199	741	595	662	563	633	1141	1786	2081	1172	1291	1006	1066
120	951	840	111	687	671	840	1196	3207	3636	1209	1470	824	1362
57	902	836	743	707	749	783	1099	2745	8767	6608	2383	1278	2305
22 22	1164	1187	1057	887	956	964	1100	5085	6746	1218	1395	926	1891
59	696	802	763	725	708	686	1118	2086	4000	1300	1378	1067	1300
8	1479	1119	850	713	765	1145	1445	2446	4383	1520	1313	901	1508
<u>19</u>	1047	962	765	733	720	766	1023	1660	2176	1215	1427	1404	1161
	1590	1243	926	844	959	1070	3009	5971	8809	4335	1277	1231	2608
22	8221	972	795	752	811	902	1087	1580	1492	1489	1333	1097	1131
5	086	763	556	566	549	621	1060	1992	2582	1187	1423	870	1098
2	872	178	725	692	656	655	1167	2398	5350	3363	2360	1406	1705
8 1	1265	1099	066	880	861	1072	1050	2015	1469	1241	1489	752	1166
2	218	752	627	610	612	914	1220	1465	3076	1493	1441	1197	1194
88	1042	694	1068	628	668	625	1105	1829	4716	1526	1270	1209	1365
8 8	1290	1070	890	882	608	802	1395	2906	3342	2574	1365	1162	1544
2 2	1244	982	696	917	848	906	1040	5385	7233	3390	1515	1420	2159
	1400	1216	908	893	972	1061	1567	3249	8562	3923	1327	1418	2207
21	1275	1138	888	825	887	1090	1065	2386	5210	1346	1427	1211	1561
27	1196	1065	858	863	853	809	1113	3267	5913	4802	1312	1356	1955
5 4	1308	1029	931	B18	856	1056	1227	5127	6143	2250	1420	666	1943
0	1248	8/6	855	847	907	854	1016	1956	4982	4457	1383	1328	1737
2	1229	1013	869	857	889	933	1157	2410	2899	1357	1404	1190	1352
2	1334	824	676	597	639	662	1148	1149	1175	1380	1119	562	941
78	1139	794	744	652	638	796	1202	2541	5769	2428	1399	1082	1600
8	1084	968	839	808	774	852	1230	3781	6047	3606	1397	1027	1872
8	1056	984	915	958	924	902	1120	3022	6606	2928	1470	1102	1833
81	1080	803	788	663	670	6 86	1174	1318	2707	1321	1072	879	1105
82	1133	854	696	704	648	734	1060	2198	4655	2620	1321	1225	1489
83	1159	1107	1014	883	930	957	1115	2355	10739	8949	3221	1854	2863
8	1412	1178	1089	873	934	858	1036	8598	15098	8058	3698	0187	3761

Simulated Flows at Colorado River Below the Confluence with the Eagle River Proposed Action Alternative

(CFS)

Simulated Flows at Colorado River Below the Confluence with the Eagle River Proposed Action Alternative (AF)

WATER VFAR	OCT	NON	DEC	JAN	FEB	MAR	APR	MAY			ALIG	CED	TOTAL
1950	76.376	51.167	36,804	33 041	3R 377	10 CO	75 200	110 500	010 040	00000			
1951	70 947	51 162	E0 000				200'0'	110,000	2/2'202	93,636	80,973	57,581	955,792
1057	RA 770	001'10 001 00	20,030 56,060	067' 11	42,629	41,485	67,618 00,000	146,216	251,497	239,400	91,349	81,258	1,184,158
			200,005	220'50	41,23/	51,526	82,286	287,054	629,494	182,130	109,761	112,027	1,758,791
2081	18,908	59,984	59,327	59,877	47,812	58,714	65,260	95,192	275,183	126,830	77,706	62,958	1,067,731
	61,614	58,513	51,903	55,205	38,766	47,254	64,969	73,549	68,961	73,742	58,509	42.258	695.243
1955	73,715	44,096	36,576	34,563	31,249	38,919	67,882	109,810	123,838	72,063	79.387	59,860	771.958
1956	58,496	49,959	47,758	42,265	37,240	51,678	71,194	197,179	216,354	74.345	90.361	49 040	985 869
1957	55,482	49,765	45,692	43,457	41,605	48,127	65,373	168.781	521.705	406.304	146.532	76.025	1 668 848
1858	71,556	70,646	64,975	54,521	53,067	59,288	65,444	312,647	401,399	74.921	85 763	56 128	1 360 255
1959	59,218	47,706	46,929	44,565	39,310	42,173	66,548	128,258	238.039	79.945	84.702	63,513	040 008
1960	90,913	66,565	52,245	43,844	42,489	70,391	85,983	150,398	260,797	93.459	80.711	53.627	1 091 422
1961	64,400	57,238	47,037	45,069	40,013	47,117	60,882	103,288	129,483	74.730	87.714	83,550	840.521
1962	97,742	73,946	56,963	51,883	53,272	65,765	179,074	367,155	524,166	266,523	78.536	73,276	1,888,301
1963	75,525	57,861	48,903	46,257	45,049	55,454	64,706	97,161	88,762	91,539	81.950	65 299	B18 466
1964	60,230	45,380	34,207	34,814	30,489	38,168	63,095	122,472	153,636	73,013	87,469	51.745	794,718
1965	53,616	46,275	44,553	42,574	36,423	40,265	69,465	147,455	318,357	206,800	145,113	83,638	1.234.534
99A	06/'//	65,409	60,852	54,127	47,826	65,919	62,461	123,880	87,436	76,327	91,575	44,728	858.330
/981	56,107	44,770	38,564	37,514	34,006	56,184	72,573	90,098	183,025	91,774	88,580	71,254	864,449
1908	64,063	41,288	65,670	38,604	37,124	38,428	65,771	112,481	280,606	93,830	78,089	71,918	987,872
1969	79,326	63,648	54,744	54,240	44,924	49,320	83,039	178,664	198,862	158,244	83,909	69,119	1.118,039
19/0	76,487	58,432	59,567	56,404	47,088	55,690	61,886	331,126	430,422	208,432	93,128	84,526	1.563.188
1/61	86,108	72,373	55,837	54,882	53,963	65,232	93,219	199,794	509,474	241,209	81,598	84,367	1.598.054
1872	78,382	67,728	54,632	50,746	49,263	67,051	63,375	146,739	310,000	82,739	87,740	72.031	1,130,426
1973	73,645	63,388	52,743	53,072	47,374	49,754	66,210	200,867	351,880	295,280	80,700	80,701	1,415,514
18/4	80,413 20,213	61,241	57,219	56,425	47,545	64,933	72,990	315,243	365,539	138,352	87,316	59,428	1,406,644
C/AL	/6,/62	58,204	52,551	52,101	50,368	52,498	60,475	120,254	296,436	274,078	85,039	79,050	1.257,816
19/6	/5,546	60,285	53,407	52,677	49,349	57,378	68,846	148,205	172,501	83,430	86,327	70,809	978,760
//81	82,010	49,014	41,536	36,729	35,469	40,687	68,333	70,624	69,905	84,866	66,790	33,459	681,422
8/81	70,022	47,245	45,760	40,085	35,443	48,960	71,523	156,261	343,306	149,291	85,992	64,402	1,158,290
6/A1	66,630	57,624	51,614	49,671	42,984	52,399	73,175	232,498	359,801	221,757	85,682	61,094	1,355,129
1961	04,443	58,563	56,272	58,894	51,317	55,450	66,671	185,823	393,102	180,068	90,379	65,594	1,327,076
	66,423	53,714	48,436	40,791	37,210	42,203	69,862	81,056	161,064	81,201	65,917	52,327	800.204
1982	69,641	50,846	42,777	43,281	35,977	45,115	63,066	135,165	276,972	161,110	81,223	72.923	1.078.096
1983	71,271	65,851	62,326	54,311	51,644	58,846	66,346	144,807	639,008	550,265	198.082	110.311	2.073,068
1984	86,845	70,114	66,971	53,688	51,853	52,781	61,675	528,668	898,409	495,457	227,369	128,923	2,722,753

Simulated Flows at Colorado River Below the Confluence with the Eagle River Proposed Action Alternative (AF)

WATER YEAR	OCT	NOV	DEC	NAL	FEB	MAR	APR	MAY	NUL	ากก	AUG	SEP	TOTAL
1985	123,243	89,527	76,522	69,471	59,644	74,065	111,567	340.173	515,121	205.962	74,917	72,626	1 812 838
1986	90,913	86,230	72,726	66,762	65,390	79,655	126,366	292.185	567.757	292.066	79,445	80.716	1 900 211
1987	87,785	77,397	63,984	57,742	52,944	61,767	82,123	176.012	169.115	74,008	72.784	85,538	1 061 199
1968	54,229	59,105	51,002	49,856	45,611	51,734	69,931	143,204	246.587	89.050	88.516	49.618	998 645
1989	57,453	56,411	46,090	46,311	42,098	65,500	68,342	147,133	130,903	78,798	83.235	44.577	866.851
1990	61,307	47,757	45,387	40,952	36,234	49,830	73,807	75,165	170,091	77.513	78.209	47.561	803,833
1991	71,588	52,784	42,800	41,348	38,347	45,887	64,134	146,151	224,941	114,177	96,495	67.637	1.006.289
1992	62,679	60,594	46,642	42,460	40,519	53,290	64,121	151,581	121,633	80,471	82,775	53,863	863.628
1993	57,796	52,355	44,373	45,202	41,489	52,760	65,961	242,761	413,057	220,547	77,088	69,457	1.382,864
1894	72,327	65,815	52,611	48,132	44,666	64,360	69,931	147,226	124,566	84,389	78,146	47.512	899.681
1995	51,259	49,143	42,622	39,314	39,515	53,849	66,339	99,768	464,717	472,413	132,738	76,813	1.588.490
1996	76,711	72,133	56,850	56,137	53,929	63,173	87,169	410,526	546,234	180,850	106,475	66.700	1.776.889
1997	69,489	66,716	60,774	54,503	54,678	71,016	69,321	372,013	715,930	233,112	128,676	84.488	1.980.718
1998	82,241	75,872	60,577	62,948	54,702	75,747	70,851	180,591	171,101	142,298	73,845	83,002	1.133.775
1999	88,290	64,699	43,584	49,824	46,164	65,861	65,795	149,262	292,336	169,089	78,851	70.810	1.184.565
2000	85,626	606'09	50,477	54,185	61,232	56,118	72,756	238,313	223,205	76,081	90,967	67.238	1.129.107
2001	62,195	61,110	53,305	48,652	44,671	53,541	63,511	162,984	132,997	79,407	62,624	62,237	907.234
2002	65,772	49,402	39,312	37,913	33,884	45,236	65,273	74,162	65,982	46,060	31,646	32,931	587.573
2003	53,087	42,502	36,974	35,918	32,354	46,747	66,894	180,347	236,805	76,904	101,446	73,737	983.715
2004	62,957	52,821	44,789	40,787	38,186	64,375	65,624	104,729	97,217	78,858	76.412	56,883	783.638
2005	85,869	54,952	42,787	42,569	36,390	43,344	65,238	158,154	213,805	89,036	75,957	60,119	968.220
AVERAGE:	72,529	58,946	51,352	48,214	44,051	64,709	72,886	180,713	296,891	158,182	91,168	67.889	1.197.530
	51,259	41,286	34,207	33,941	30,489	38,168	60,475	70,624	65,982	46.060	31.646	32.931	587.573
MAXIMUM:	123,243	89,527	76,522	69,471	65,390	79,655	179,074	528,668	898.409	550.265	227 369	128,923	9 799 753

WATER YEAR	oct	NON	DEC	JAN	FEB	MAR	APR	МАҮ	NUL	JUL	AUG	SEP	
1950	096	598	402	383	480	518	873	898	1896	PAR 1	1100	710	AVG
1951	924	626	607	535	595	585	859	1179	3401	DAAF	070	1106	200
1952	1115	008	702	675	669	659	839	2948	6067	9901	0/0		/501
1953	1082	766	726	753	875	753	858	24	0000	105.0			200
1954	825	733	648	722	536	619	809	484	469	100	745	100	1000
1955	940	519	416	\$	417	478	808	837	519	FOR		107	000
1956	787	610	576	513	499	630	820	1302	1738	748	1203	101	2/0
1957	768	630	565	535	582	608	843	1820	5149	3R2R	1648	865	240
1958	888	888	807	677	745	768	853	3026	4644	803	1196	002	1917
1859	802	585	569	548	544	532	869	1206	1489	659	1095	P.44	ers ers
1960	1142	843	<u>660</u>	541	593	006	917	1331	2020	863	1062		585
1961	860	731	569	585	561	6	832	827	856	832	1136	816	787
1962	1087	912	689	639	730	851	2190	4165	6132	2983	882	886	1856
1962	996	712	602	585	630	728	829	790	673	1136	596	807	785
1964	626	561	397	414	4 00	479	860	957	1095	462	1037	637	678
1965	20	586	551	525	503	514	B64	1346	2527	1531	1586	987	1020
0041	698	841	778	669	687	863	730	895	562	830	1234	544	79.8
1967	683	552	455	452	459	718	658	725	1198	638	1201	939	725
1968	945	649	548	489	546	548	910	1022	2134	652	629	266	838
BGASL	1068	161	623	657	618	624	764	1565	1954	1599	1052	928	1024
D/8L	486/	896	702	731	711	743	887	3116	5041	2300	1134	813	1491
1/81	516	886 986	742	727	734	625	936	2279	5678	2748	922	1045	1536
7/61		671	716	640	685	80	847	1457	2851	878	1248	777	1059
51A1	///	803	874	650	646	680	1005	1936	3264	3403	98 3	1123	1332
8/A	1901	79/	718	202	999	838	897	2937	3864	1480	1083	762	1317
0/61	2010	142	668	899	742	680	795	1267	2496	2549	962	1082	1142
0/81		1//	673	672	692	748	914	1382	1179	532	1012	920	872
1/81	acut	19 19 19	513	447	496	513	934	642	339	1156	944	388	674
0/81	5	ARC	853	492	484	816	833	1487	2556	1009	991	839	952
0001	200	45/	612	613	587	656	912	2433	2738	2025	940	783	1162
1200	1	2	/Ad	211	715	687	835	1992	3981	2042	1177	869	1281
1001		8/2	282	493	514	550	920	725	1418	847	859	632	758
1207	1/9	97.9	202	623	488	568	827	1185	1926	7 6	812	814	846
2041	609	845 270	805	969	763	786	936	1557	6882	6411	2319	1523	2032
1964	1098	872	812	627	706	646	762	5969	11067	5609	2585	1533	2699
1965	1499	1118	971	905	862	956	1257	3532	5734	2255	808	871	1732
20021	901	5113	226	864	924	987	1555	3342	6699	3324	852	955	1885
1961	2	LAA	814	742	770	817	385	1493	1391	719	885	1248	982
B041	CZ/	19/	637	647	640	657	881	1343	2305	1016	1230	625	954
896~	787	731	566	578	590	857	713	1269	8	742	1082	800	787
Des I	212	518	575	521	517	661	996	549	1050	710	1115	647	731
1.0021	DCA	6/1	524	508	538	590	876	1150	1498	1094	1243	846	875

Simulated Flows at Colorado River above the Confluence with the Eagle River Proposed Action Alternative (CFS)

						(CFS)		1					
WATER YEAR	oct	NON	DEC	JAN	FEB	MAR	APR	МАҮ	ΠŪΝ	JUL	AUG	SEP	
1982	865 1	776	0 9	542	595	712	969	971	683	642	1026	636	730
1993	756	662	546	571	596	679	830	1927	3566	1960	752	812	1139
1994	907	863	673	612	644	B64	805	1103	88 89	1041	1073	287	822
1985	608	22	524	492	548	676	883	906	4197	4783	1342	927	1381
1996	887	939	727	705	764	798	996	4202	6181	1948	1415	822	1700
1997	811	614	744	865	769	868	783	4150	6204	2702	1485	1021	1925
1998	952	978	759	808	781	969	915	1784	1332	1341	209	1110	1039
1999	1147	806	509	619	644	823	781	1363	2621	1826	749	9 6	1084
2000	1143	791	88	687	722	757	638	1916	1968	752	1220	861	1026
2001	787	795	667	608	634	695	749	1125	768	801	1002	822	789
2002	878	629	1 60	443	452	573	747	444	455	558	385	S S S S S S S	533
2003	1.79	542	461	442	453	617	794	1296	1662	697	1376	956	632
2004	842	696	573	521	531	814	702	590	494	787	1012	747	693
2005	1161	711	531	523	492	529	785	1162	1506	627	911	794	812
AVERAGE:	918	747	6 31	603	818	203	889	1,680	2,776	1,605	1,095	856	1,095
MINIMUM:	808	519	397	385	<u></u>	478	658	444	339	462	385	363	533
MAXIMUM:	1,499	1,118	971	905	924	997	2,190	5,989	11,067	6,411	2,585	1,533	2,699

e with the Eagle River	
Confluence with	arnativo
vs at Colorado River Below the Confluence	Pronoed Artion Alternative
Simulated Flows at Colorad	Ţ

Proposed Action Alternative

WATER YEAR	oct	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
1950	59.012	35,557	24,707	23,526	26,680	31,826	51,972	55,200	112.814	52.022	67.788	42.782	583,886
1951	56,791	37,267	37,334	32,870	33,039	35,985	51,135	72.049	118.173	150.324	60.166	65.743	750.676
1952	68,543	47,600	43,136	41,513	37,146	40,492	49,912	181,134	413,954	120,880	70.332	89.322	1.203.964
1953	65,316	45,603	44,621	46,290	37,484	46,306	51,068	47,506	121,404	7,044	52.651	50.648	685.841
1954	50,746	43,618	39,830	44,407	29,788	38,064	48,161	29,739	27,900	54,780	45,802	29,340	482.175
1955	57,815	30,882	25,607	24,816	23,155	29,384	48,054	51,440	54,351	36,621	67,125	47,451	486,701
1956	49,037	36,271	36,399	31,527	27,700	38,715	48,822	80,063	103,422	45,966	73,948	38,803	609.673
1957	47,216	37,468	34,730	32,911	32,306	37,403	50,164	111,880	306,403	235,382	101,325	52,657	1.079.865
1958	54,616	52,831	49,636	41,607	41,369	47,236	50,787	186,040	263,671	49,358	73,536	42.215	953,122
1959	49,327	34,817	35,004	33,722	30,199	32,717	51,710	74,162	86,616	40,533	67,349	50.243	568.389
1060	70,211	50,170	40,589	33,288	32,956	55,335	54,664	81,814	120,187	53,094	65,296	41.069	698.553
1961	52,875	43,472	34,968	34,737	31,136	37,119	49,493	50,832	50,921	51,158	69,856	48,555	555.142
1962	66,813	54,285	42,347	39,320	40,580	52,297	130,297	256,079	364,880	183,447	54,222	58,862	1,343,389
1963	59,427	42,350	37,016	34,711	34,984	44,735	49,314	48,587	40,042	69,836	59.226	47,995	568.223
1964	50,801	33,374	24,382	25,447	22,200	29,448	51,163	58,837	65,173	28,380	63,744	37, 932	490,881
1905	43,311	34,868	33,872	32,267	27,908	31,629	51,395	82,744	150,388	94,131	97,497	58,758	738,796
1966	54,694	50,042	47,819	42,964	38,157	53,041	43,441	55,031	33,444	51,021	75,866	32,360	577,880
1967	42,599	32,822	27,981	27,615	25,482	44,159	39,189	44,549	71,303	39,259	73,836	55,884	524,858
1968	58,119	38,630	33,881	30,057	30,307	33,704	54,178	62,839	126,985	40,082	38,675	59,318	606.576
1969	65,695	47,042	39,315	40,406	34,347	38,368	45,438	96,258	116,265	98,342	84,676	55,074	741,226
0/81	48,536	53,327	43,168	44,947	39,496	45,669	52,810	191,595	299,979	141,451	69,739	48,406	1,079,123
1/81	58,169	52,730	45,849	44,698	40,770	50,720	55,705	140,105	337,878	168,968	56,715	62,192	1,112,299
7/8L	0/9/29	39,951	44,009	39,351	38,031	55,361	50,373	89,619	169,641	53,967	78,726	46,239	766,838
E/AL	47,748 01 0 10	47,804	41,441	39,995	35,850	41,835	59,802	119,017	194,248	209,233	60,419	66,841	964,231
19/4	042,63	45,662	44,138	43,324	36,988	51,556	53,364	180,586	229,951	90,991	66,562	45,338	953,690
G/RI	62,113 F0.000	44,127	41,103	41,069	41,184	41,821	47,315	77,908	148,547	156,706	60,375	84,390	826,658
	297'RC	663,04	41 3/4	41,293	38,447	45,987	54,410	84,953	70,144	32,694	62,201	54,747	631,407
2/8L	8/0'82	37,506	31,545	27,455	27,569	31,586	55,566	39,460	20,191	71,063	58,070	23,110	488,177
8/81	8/9//6	35,628	34,388	30,237	27,445	37,865	49,546	91,405	152,083	62,029	60,912	49,945	689,161
8/8L	1/0.50	43,658	37,605	37,666	33, 183	40,314	54,260	149,615	162,935	124,537	57,816	46,616	841,282
0081		44,636	42,847	47,475	39,688	42,232	49,664	122,503	236,868	125,590	72,372	51,718	927,329
1981	03,150	39,992	35,757	30,302	28,521	33,791	54,768	44,579	84,359	52,055	52,795	37,613	547,687
2061	500,50	10,043	31,197	32,171	27,128	34,951	49,215	72,885	114,624	61,148	49,957	48,456	612,628
1983	49,760	50,263	49,475	42,782	42,353	48,309	55,832	95,737	409,490	394,211	142,592	90,605	1,471,409
	67,486	51,912	49,959	38,576	39,346	39,747	45,343	368,241	856,537	344,872	158,964	91,203	1,954,186
1985	92,159 24 24 4	66,555 20,255	59,688	55,670	47,987	58,770	74,811	217,163	341,209	138,639	49,703	51,846	1,254,080
0081	64,911	66,253	57,286	53,113	51,340	61,293	92,545	205,469	398,647	204,369	52,393	56,808	1,364,427
1961	64,102	26,95	50,077	45,634	42,737	50,284	58,600	91,806	82,773	44,204	54,434	74,274	717,858
9961	000 01	44,674	39,180	39,770	35,536	40,387	51,260	82,570	137,172	62,477	75,623	37,174	080,380
1969	48,368	43,504	34,820	36,559	32,790	52,668	42,430	78,026	53,810	45,645	66,513	35,891	570,024
1691	49,913	36,669	35,348	32,063	28,739	40,618	56,774	33,786	62,469	43,662	68,554	38,526	529,121
	67C'/C	40,285	32,240	31,234	29,854	36,271	52,120	70,728	89,143	67,270	76,404	50,346	633,419

						(AF)							
WATER YEAR	oct	NOV	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	TOTAL
1992	53,209	46,178	36,901	33,317	33,042	43,800	41,408	59,684	40,653	39,499	63,098	37,841	528,628
1993	46,467	39,375	33,546	35,095	33,094	41,728	49,404	118,491	212,172	120,504	46,268	48,345	824,489
1994	55,767	51,330	41,396	37,610	35,783	53,109	47, 913	67,816	39,453	63,996	65,993	34,785	594,933
1995	37,360	36,969	32,190	30,231	30,416	41,543	53,149	55,712	249,726	294,739	82,496	55,163	999,714
1996	54,512	55,870	44,715	43,376	42,404	49,076	58,811	258,358	367,823	119,791	86,998	48,900	1,230,636
1997	49,841	48,417	45,721	40,914	42,715	53,402	46,617	255,184	492,928	166,147	91,297	60,729	1,393,912
1998	58,512	58,173	46,658	49,544	43,348	60,786	54,471	109,702	79,235	82,435	43,597	66,049	752,510
1999	70,553	47,969	31,276	38,061	35,790	50,614	46,490	83,811	155,975	112,249	48,074	51,429	770,291
2000	70,271	47,089	38,952	42,223	40,118	46,518	49,869	117,946	117,114	46,251	74,988	51,238	742,595
2001	48,366	47,297	41,000	37,414	35,189	42,728	44,559	69,182	45,679	49,240	61,602	48, 933	571,189
2002	53,966	38,036	28,291	27,228	25,117	35,255	44,430	27,327	27,069	34,215	23,668	21,598	386,220
2003	41,262	32,277	28,363	27,152	25,158	37,928	47,258	79,677	98,913	42,847	84,594	56,914	602,341
2004	51,804	41,541	35,211	32,035	29,475	50,053	41,771	36,270	29,406	47,184	62,228	44,457	501,435
2005	71,399	42,306	32,675	32,131	27,344	32,525	46,684	71,434	89,622	38,525	56,016	47,233	587,894
AVERAGE:	56,463	44,449	38,771	37,052	34,300	43,197	52,886	103,306	165,195	98,662	67,350	50,909	792,540
MINIMUM:	37,360	30,882	24,382	23,526	22,200	29,384	39,169	27,327	20,191	28,380	23,688	21,598	386,220
MAXIMUM:	92,159	66,555	69,668	55,670	51,340	61,293	130,297	368,241	658,537	394,211	158,964	91.203	1.954,186

Simulated Flows at Colorado River near Kremmling at USGS Gage 09058000 Proposed Action Alternative (CFS)

NOV DEC JAN FEB MAX JUN JUL JUL <th>WATER</th> <th>100</th> <th>101</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>ſ</th> <th></th>	WATER	100	101										ſ	
911 434 346 306 410 446 521 1405 854 1099 708 1003 633 644 675 531 544 677 364 1093 703 773 555 551 553 553 553 553 553 577 1098 752 085 773 555 551 553 401 553 419 593 553 510 1446 773 773 550 553 551 553 419 553 510 1446 773 773 550 553 550 533 533 533 533 533 533 533 533 541 773 733 553 744 473 441 416 733 419 573 144 733 733 733 131 332 256 144 773 744 773	YEAR	100	NON	DEC	NAL	FEB	MAR	APR	MAY	NN	JUL	AUG	SEP	ANNUAL
B77 530 507 480 483 504 675 577 1036 2250 675 1038 1021 688 680 581 644 673 844 752 855 1039 1468 1019 1468 752 855 752 753 753 753 753 753 753 754 457 753 753 753 754 457 753 753 753 753 753 753 753 753 754 457 753 753 754 457 753 753 754 757 753 754 757 753 754 757 753 754 757 753 754 757 753 754 757 753 754 757 703 755 754 757 703 755 754 757 753 754 757 753 754 757 753 754 757 756 7	1950	911	494	348	326	410	446	624	531	1405	854	1099	708	ANG ABO
1008 663 504 528 18.8 5610 18.6 510 14.8 773 773 755 551 510 523 534 138.4 137.8 752 665 773 773 755 551 510 523 749 743 743 773 773 773 749 473 461 553 551 510 523 749 557 855 857 855 857 856 857 856 857 856 857 856 857 856 857 856 857 856 857 856 857 856 857 857 856 857 8557 855 857 855	1951	877	530	507	480	483	504	675	577	1098	2250	875	1088	000 191
1021 668 665 520 561 644 677 384 1364 1178 752 665 778 757 746 510 475 440 723 557 748 573 748 567 855 <th>1952</th> <th>1008</th> <th>683</th> <th>604</th> <th>596</th> <th>593</th> <th>584</th> <th>528</th> <th>1858</th> <th>5610</th> <th>1866</th> <th>1019</th> <th>1498</th> <th>1369</th>	1952	1008	683	604	596	593	584	528	1858	5610	1866	1019	1498	1369
788 627 555 551 510 622 618 223 442 457 746 510 475 400 455 401 553 435 557 446 746 510 475 400 456 539 553 378 2117 773 754 779 703 461 517 679 1011 3505 3260 1441 773 754 773 459 514 451 653 530 3256 1011 3505 3260 1441 773 756 473 461 454 451 653 530 532 500 1411 773 756 451 444 456 733 1421 734 1044 650 755 610 533 530 533 512 1177 703 755 611 446 533 533 512 1174	1953	1021	668	695	620	581	644	677	364	1364	1178	752	855	786
73 425 366 355 401 553 419 593 557 855 821 746 773 474 773 471 577 855 782 7117 703 758 763 775 440 451 451 454 463 782 7117 703 959 674 579 454 451 537 600 634 663 733 1421 794 1011 703 756 674 579 440 451 537 603 510 1011 703 755 673 510 616 315 385 755 1070 511 717 703 755 673 510 616 512 417 401 616 616 616 616 617 703 755 673 510 614 733 1011 517 1011 703	1954	768	627	555	551	510	622	618	223	432	923	748	467	580
746 510 475 440 426 539 532 374 1212 718 157 758 763 769 607 607 1011 355 3260 144 674 758 763 706 600 634 657 461 733 1421 733 754 477 673 514 654 653 3800 610 1011 733 756 674 551 539 500 514 654 653 3801 1011 733 756 431 433 535 509 570 401 512 174 916 751 755 747 533 405 570 401 512 413 600 671 762 950 755 744 444 440 405 570 401 512 413 916 751 755 744 845	1955	873	425	363	356	355	401	553	419	593	557	855	821	549
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1956	746	510	475	440	426	539	532	374	1212	718	1146	674	650
758 763 705 600 634 663 677 3923 782 1177 703 754 773 705 600 634 663 677 3923 782 1177 703 756 674 597 775 516 539 559 679 513 395 775 1070 583 756 671 717 703 559 679 1335 2803 526 267 696 765 471 313 341 335 270 461 651 471 916 751 765 677 569 573 576 654 575 766 775 1070 580 775 677 589 565 577 580 575 566 775 1070 581 775 744 589 775 744 786 744 1178 775 775	1957	713	527	494	473	481	517	679	1011	3505	3260	1441	273	1159
754 473 464 451 454 451 454 451 454 451 454 451 451 451 451 453 450 416 733 142 734 1044 650 736 673 516 539 490 510 533 580 573 747 787 1073 561 736 671 513 341 335 580 570 401 512 1174 916 751 736 641 444 400 536 570 401 512 177 916 751 722 678 546 570 401 512 671 616 751 722 678 557 566 511 710 875 666 71 616 751 733 736 651 571 593 415 773 974 526 916 677 <	1958	758	763	705	600	634	663	678	1967	3923	782	1177	703	1112
959 674 597 479 514 664 416 733 1421 794 1044 690 873 747 598 553 590 570 401 512 177 916 561 757 1070 583 878 553 539 570 401 512 177 916 752 876 481 313 341 335 505 577 461 651 421 1018 616 753 876 678 640 570 401 512 1174 916 751 876 640 590 593 586 577 461 651 421 1018 616 773 873 776 640 735 776 647 1014 687 574 1020 896 1044 687 723 744 545 571 640 721 2474 802	1959	754	479	484	454	451	454	692	603	980	610	1011	787	647
796 624 516 539 490 510 681 315 385 775 1070 583 873 747 598 553 559 679 1335 2803 575 1070 563 765 431 313 341 335 405 777 461 512 174 916 751 765 431 313 341 335 405 77 461 512 174 916 751 722 678 640 559 589 516 537 486 726 577 916 77 916 77 916 775 974 956 956 571 911 916 976 956 975 957 944 976 945 577 944 2735 544 577 944 976 945 957 944 976 945 957 944 976 945 956	1960	959	674	597	479	514	694	416	733	1421	794	1044	690	753
873 747 586 553 559 679 1335 2803 5226 2676 782 950 818 511 411 431 341 335 405 707 461 651 4114 916 751 765 461 537 405 707 461 651 41174 916 751 785 461 540 599 588 728 516 537 469 839 1203 861 772 678 540 599 588 728 516 537 489 839 1203 861 751 753 736 671 611 571 811 876 847 946 771 843 753 736 671 611 571 811 876 847 954 946 753 736 671 611 571 8194 726 847 872	1961	796	624	516	539	490	510	681	315	395	775	1070	583	609
B18 512 477 493 522 606 570 401 512 1174 916 751 785 431 313 341 335 405 570 401 512 1174 916 751 785 461 444 440 599 588 708 541 529 1178 566 722 678 546 557 533 415 278 488 875 864 547 536 571 583 145 778 529 1178 575 864 557 526 511 410 875 1614 1792 571 945 573 736 571 611 571 1614 572 945 574 945 945 573 516 571 611 571 1202 519 977 945 573 546 574 793 4721	1962	873	747	598	553	559	679	1335	2803	5226	2676	782	950	1483
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1963	818	512	477	493	522	606	570	401	512	1174	916	751	648
638 461 444 440 400 406 402 654 662 1488 1326 1439 861 722 678 640 539 588 728 516 537 489 833 1204 526 772 668 546 557 526 511 410 875 1614 1473 977 843 976 668 546 557 526 511 410 875 1614 945 945 753 736 617 611 571 611 571 1614 687 944 687 753 736 616 514 507 551 735 1037 2594 3139 906 1041 972 660 555 586 577 593 1037 2594 313 907 917 972 660 556 577 693 735 1435 2146 </th <th>1964</th> <th>765</th> <th>431</th> <th>313</th> <th>341</th> <th>335</th> <th>405</th> <th>707</th> <th>461</th> <th>651</th> <th>421</th> <th>1018</th> <th>616</th> <th>540</th>	1964	765	431	313	341	335	405	707	461	651	421	1018	616	540
722 678 640 539 588 728 516 537 489 833 1204 526 617 444 389 367 377 593 415 278 708 529 1178 875 976 668 546 571 511 710 875 614 173 377 945 753 736 671 611 571 611 571 894 266 1014 687 952 566 575 507 551 735 577 894 278 806 1041 952 566 575 507 551 735 173 872 187 877 966 506 514 617 511 577 894 276 613 677 977 660 535 544 573 1037 2594 3139 806 1041 975 545	1965	638	461	444	440	406	402	654	662	1488	1326	1439	861	044
617 444 389 367 377 593 415 278 708 529 1178 875 864 547 448 435 460 445 756 447 1202 519 504 945 875 566 571 611 577 647 947 945 573 736 577 571 611 577 1806 1014 687 553 566 575 507 551 735 577 894 2066 1014 687 972 660 565 589 507 593 1037 2594 3139 806 1041 972 660 565 589 507 593 32321 1304 976 693 977 648 506 573 574 1792 32321 1304 976 693 976 590 510 556 597 572 <th>1966</th> <th>722</th> <th>678</th> <th>640</th> <th>599</th> <th>588</th> <th>728</th> <th>516</th> <th>537</th> <th>489</th> <th>839</th> <th>1204</th> <th>526</th> <th>674</th>	1966	722	678	640	599	588	728	516	537	489	839	1204	526	674
864 547 448 435 460 445 756 447 1202 519 504 945 976 668 546 557 526 511 410 875 1614 1473 977 843 753 736 671 611 571 661 571 834 4721 2474 822 944 753 736 616 514 501 498 506 733 972 843 677 843 972 660 565 589 506 733 1037 2278 890 1041 677 972 660 565 586 521 650 733 1037 5294 3139 806 1041 972 660 565 536 521 650 733 1037 5294 3139 806 1041 976 590 510 558 528 528 532 </th <th>1967</th> <th>617</th> <th>444</th> <th>389</th> <th>367</th> <th>377</th> <th>593</th> <th>415</th> <th>278</th> <th>708</th> <th>529</th> <th>1178</th> <th>875</th> <th>565</th>	1967	617	444	389	367	377	593	415	278	708	529	1178	875	565
976 668 546 557 526 511 410 875 1614 1473 977 643 753 736 671 611 571 611 571 611 571 643 4721 2474 822 944 753 736 671 611 571 611 577 894 2066 1014 687 753 736 671 611 571 611 571 894 2066 1014 687 952 566 575 507 551 733 1037 2594 3139 806 1041 972 660 514 521 535 574 1792 3321 1304 975 693 976 590 510 456 592 543 776 945 833 1169 910 369 976 501 443 770 278 544 526 583 </th <th>1968</th> <th>864</th> <th>547</th> <th>448</th> <th>435</th> <th>460</th> <th>445</th> <th>756</th> <th>447</th> <th>1202</th> <th>519</th> <th>504</th> <th>945</th> <th>630</th>	1968	864	547	448	435	460	445	756	447	1202	519	504	945	630
638 745 628 653 578 612 721 1806 4294 2066 1014 687 753 736 671 611 571 611 577 894 2066 1014 687 952 566 575 507 551 735 577 894 2056 1181 677 952 566 575 507 551 733 1037 2554 3139 806 1041 972 660 555 586 521 667 573 1037 2554 3139 806 1041 972 660 551 443 576 574 1792 3321 1304 975 693 946 510 443 357 544 526 597 776 776 774 945 833 877 501 443 1711 1749 840 752 775 76	1969	976	668	546	557	526	511	410	875	1614	1473	677	843	833
$ \begin{array}{ cccccccccccccccccccccccccccccccccccc$	1970	638	745	628	653	578	612	721	1806	4294	2066	1014	687	1204
952 566 575 507 551 735 577 894 2278 802 1181 677 972 660 565 586 521 667 574 1792 3321 1304 975 693 972 660 565 586 521 667 574 1792 3321 1304 975 693 906 590 513 510 558 528 592 632 1435 2146 840 997 847 605 535 544 526 597 542 718 750 474 945 833 946 510 443 357 396 432 778 750 474 945 833 775 501 457 399 412 553 668 839 1407 819 959 802 761 599 555 631 543 1711 1749	1281	753	736	671	611	571	611	597	1483	4721	2474	822	944	1250
589 616 514 501 498 506 739 1037 2594 3139 806 1041 972 660 565 586 521 667 574 1792 3321 1304 975 693 906 590 513 510 558 528 592 632 1435 2146 840 997 906 590 513 510 558 528 592 632 1435 2146 840 997 847 605 535 544 526 597 542 718 750 474 945 833 946 510 443 357 396 432 778 778 945 833 1169 910 369 877 501 453 572 668 839 1407 819 956 802 775 761 599 555 521 533 1241 <th>1972</th> <th>952</th> <th>566</th> <th>575</th> <th>507</th> <th>551</th> <th>735</th> <th>577</th> <th>894</th> <th>2278</th> <th>802</th> <th>1181</th> <th>677</th> <th>859</th>	1972	952	566	575	507	551	735	577	894	2278	802	1181	677	859
972 660 565 586 521 667 574 1792 3321 1304 975 693 906 590 513 510 558 528 592 632 1435 2146 840 997 946 510 558 528 597 542 718 750 474 945 833 946 510 443 357 396 432 770 478 343 1169 910 369 877 501 457 399 412 525 608 839 1407 819 959 802 794 591 555 631 583 572 662 1651 1711 1749 880 752 761 599 555 631 583 572 1431 1711 1749 880 752 766 540 467 473 775 791 774 969	1973	589	616	514	501	498	506	739	1037	2594	3139	806	1041	1051
906 590 513 510 558 528 592 632 1435 2146 840 997 847 605 535 544 526 597 542 718 750 474 945 833 946 510 443 357 396 432 797 478 343 1169 910 369 877 501 457 399 412 525 608 839 1407 819 959 802 794 591 563 575 521 530 615 1431 1711 1749 880 752 761 599 555 631 583 572 662 1054 3130 1921 1123 775 766 540 467 401 437 472 779 809 860 589 776 540 555 614 474 1140 709 693	1974	972	660	565	586	521	667	574	1792	3321	1304	975	693	1054
847 605 535 544 526 597 542 718 750 474 945 833 946 510 443 357 396 432 797 478 343 1169 910 369 877 501 457 399 412 525 608 839 1407 819 959 802 794 591 563 575 521 530 615 1431 1711 1749 880 752 761 599 555 631 583 572 662 1054 3130 1921 1123 775 766 540 467 401 437 472 791 449 579 809 860 589 778 525 651 444 1140 709 860 589 705 664 688 701 597 6998 520 2113 1404	S/AL	906	590	513	510	558	528	592	632	1435	2146	840	266	856
946 510 443 357 396 432 797 478 343 1169 910 369 877 501 457 399 412 525 608 839 1407 819 959 802 794 591 563 575 521 530 615 1431 1711 1749 880 752 761 599 555 631 583 572 662 1054 3130 1921 1123 775 766 540 467 401 437 472 791 449 579 809 860 589 776 555 418 460 407 428 591 444 1140 709 693 705 654 658 701 597 651 444 1140 709 693 705 654 653 523 523 529 2363 705	1976	847	605	535	544	526	597	542	718	750	474	945	833	660
B77 501 457 399 412 525 608 839 1407 819 959 802 794 591 563 575 521 530 615 1431 1711 1749 880 752 761 599 555 631 583 572 662 1054 3130 1921 1123 775 786 540 467 401 437 472 791 449 579 809 860 589 776 555 418 460 407 428 591 444 1140 709 693 705 664 688 701 597 657 674 798 912 5478 6020 2113 1404 965 659 653 559 496 560 4927 9998 5229 2363 1294	1/BL	946	510	443	357	396	432	797	478	343	1169	910	369	598
794 591 563 575 521 530 615 1431 1711 1749 880 752 761 599 555 631 583 572 662 1054 3130 1921 1123 775 761 599 555 631 583 572 662 1054 3130 1921 1123 775 786 540 467 401 437 472 791 449 579 809 860 589 778 525 418 460 407 428 591 444 1140 709 693 705 664 688 701 597 657 674 798 912 5478 6020 2113 1404 965 659 653 559 496 560 4927 9998 5229 2363 1294	1978	877	501	457	399	412	525	608	839	1407	819	959	802	718
761 599 555 631 583 572 662 1054 3130 1921 1123 775 786 540 467 401 437 472 791 449 579 809 860 589 778 525 418 460 407 428 591 444 1140 709 693 705 664 688 701 597 657 674 798 912 5478 6020 2113 1404 965 653 553 496 560 4927 9998 5229 2363 1294	8/6L	794	591	563	575	521	530	615	1431	1711	1749	880	752	895
786 540 467 401 437 472 791 449 579 809 860 589 778 525 418 460 407 428 591 444 1140 709 693 705 664 688 701 597 657 674 798 912 5478 6020 2113 1404 965 653 559 496 560 4927 9998 5229 2363 1294	1980	761	599	555	631	583	572	662	1054	3130	1921	1123	775	1031
778 525 418 460 407 428 591 444 1140 709 693 705 664 688 701 597 657 674 798 912 5478 6020 2113 1404 965 659 653 550 496 560 4927 9998 5229 2363 1294	1981	786	540	467	401	437	472	167	449	579	609	860	589	599
664 688 701 597 657 674 798 912 5478 6020 2113 1404 965 659 653 553 559 496 560 4927 9998 5229 2363 1294	1982	778	525	418	460	407	428	591	444	1140	209	693	705	608
965 659 653 523 559 496 560 4927 9998 5229 2363 1294	1983	664	688	701	597	657	674	798	912	5478	6020	2113	1404	1730
	1984	965	659	653	523	559	496	560	4927	9666	5229	2363	1294	2358

Simulated Flows at Colorado River near Kremmling at USGS Gage 09058000 Proposed Action Alternative (CFS)

WATER													
YEAR	oct	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	
1985	1302	1051	881	677	700	785	814	2103	4764	2008	690	774	1388
1986	006	939	763	686	721	810	1081	2357	5705	3087	728	813	1550
1987	847	809	678	635	653	666	627	817	1177	687	845	1232	807
1988	636	577	506	486	489	531	648	864	1925	952	1169	543	8/1
1989	726	601	418	414	437	683	430	819	701	688	1044	578	630
1890	772	507	435	398	421	540	797	310	812	676	1109	613	616
1991	850	537	397	406	441	490	714	617	1066	1034	1207	806	715
1992	805	637	459	422	458	594	510	529	612	678	1013	634	614
1993	740	560	439	439	470	560	710	925	2574	1761	727	797	892
1994	830	755	611	579	595	784	612	720	567	1057	1072	573	732
1995	530	519	416	408	452	565	720	422	2925	4211	1178	826	1101
1996	742	738	590	620	629	617	605	3144	5553	1756	1342	707	1421
1997	684	658	633	537	634	882	449	2836	7208	2426	1280	852	1573
1998	764	793	672	695	667	828	607	936	872	1249	645	1087	819
1999	1040	648	402	449	510	712	565	792	1918	1606	660	801	843
2000	1038	652	555	613	616	652	634	1339	1753	772	1222	827	891
2001	740	685	596	562	555	597	582	536	593	845	1022	804	677
2002	839	525	416	417	427	513	613	323	540	621	421	375	503
2003	641	454	389	404	412	568	682	723	1131	745	1378	918	706
2004	813	569	453	422	461	698	559	254	375	805	1032	686	595
2005	1068	585	445	436	409	425	522	425	973	507	892	774	623
AVERAGE:	821	615	529	506	511	581	642	1,002	2,156	1,474	1,025	796	890
MINIMUM:	530	425	313	326	335	401	410	223	343	421	421	369	503
MAXIMUM:	1,302	1,051	881	779	721	828	1,335	4,927	9,998	6.020	2.363	1.498	2.358

Simulated Flows at Colorado River near Kremmling at USGS Gage 09058000 Proposed Action Alternative (AF)

WATER YEAR	ост	VOV	DEC	NAU	FEB	MAR	АРВ	МАҮ	NNC	าบ -	AUG	SEP	TOTAL
1950	56,021	29,373	21,422	20.053	22.754	27.426	37,138	32 632	83 576	50 535	67 587	10104	100 641
1851	53,906	31,526	31,153	29,503	26.816	31,000	40.181	35 508	65 300	138 336	200'-00	72,124 24 771	130,041 601 001
1952	61,971	40,648	37,119	36,641	32,922	35,907	31,440	114.260	333 832	114 751	50,02 62,620	80 118	001,004. 001,026
1953	62,764	39,750	42,740	38,142	32,279	39,599	40.306	22.397	81.176	72 425	46.237	50.003	568 718
1954	47,220	37,288	34,127	33,895	28,337	32,115	36,801	13,727	25.733	56.784	45,974	27,765	419 766
1955	53,693	25,283	22,331	21,886	19,710	24,677	32,927	25,738	35,286	34.277	52.558	48.876	397 242
1956	45,865	30,369	29,189	27,043	23,677	33,132	31,669	22,993	72.128	44.165	70.468	40.109	470 B07
1957	43,852	31,367	30,362	29,061	26,735	31,759	40,380	62,144	208,562	200.448	88.583	46.015	839 268
1958	46,601	45,407	43,368	36,912	35,236	40,743	40,370	120,963	233,458	48,105	72.380	41,808	805.351
1959	46,341	28,506	29,758	27,939	25,074	27,923	41,187	37,100	58,304	37.490	62.169	46.859	468 650
1960	58,950	40,092	36,692	29,462	28,560	42,676	24,781	45,073	84,575	48,804	64,197	41.036	544,898
1961	48,950	37,152	31,742	33,118	27,207	31,377	40,499	19,342	23,488	47,645	65,791	34,691	441,002
1902	53,700	44,439	36,763	34,031	31,054	41,720	79,451	172,327	310,978	164,570	48,113	56,548	1,073,694
1963	50,302	30,486	29,320	30,319	29,014	37,252	33,912	24,638	30,462	72,179	56,298	44,680	468,862
1964	47,028	25,622	19,270	20,979	18,620	24,924	42,045	28,369	38,716	25,895	62,572	36,662	390,702
0061	39,204	27,455	27,306	27,052	22,574	24,741	38,932	40,680	88,550	81,514	88,473	51,247	557.728
	44,415 0= 00 :	40,318	39,337	36,821	32,684	44,776	30,734	32,998	29,088	51,561	74,015	31,302	488,051
1000	37,924	26,422	23,930	22,580	20,939	36,457	24,697	17,071	42,115	32,552	72,460	52,043	409,190
1968	53,156	32,552	27,522	26,764	25,573	27,375	45,008	27,483	71,520	31,943	31,009	56,247	456,152
1969	60,015 20,222	39,760	33,568	34,238	29,238	31,391	24,409	53,802	96,057	90,601	60,064	50,185	603,328
0/81	39,207	44,321	38,633	40,166	32,088	37,656	42,903	111,074	255,493	127,058	62,337	40,908	871.844
1871	46,299	43,771	41,276	37,592	31,723	37,582	35,512	91,167	280,949	152,124	50,555	56,152	904.702
2781	58,545	33,655	35,330	31,153	30,614	45,204	34,345	54,982	135,563	49,292	72,602	40,283	621.568
E/8L	36,207	36,681	31,576	30,795	27,677	31,104	43,976	63,741	154,371	193,009	49,537	61,937	760,611
1974	59,747	39,281	34,746	36,052	28,947	41,026	34,144	110,191	197,590	80,203	59,947	41,229	763,103
5/8L	55,735	35,125	31,521	31,383	30,970	32,463	35,230	38,832	85,366	131,968	51,671	59,341	619,605
1976	52,061	35,998	32,907	33,445	29,211	36,727	32,260	44,138	44,623	29,130	58,082	49,563	478.145
1781	58,181	30,320	27,216	21,979	21,991	26,549	47,416	29,385	20,431	71,868	55,960	21,981	433,277
1978	53,911	29,800	28,126	24,542	22,901	32,305	36,191	51,592	83,718	60,355	58,950	47,712	520,103
6781 522	48,799	35,193	34,842	35,357	28,926	32,564	36,578	87,974	101,820	107,547	54,097	44,766	648,263
1980	46,792	35,631	34,107	36,788	32,391	35,195	39,368	64,820	186,264	118,122	69,068	46,128	746.674
1981	48,360	32,137	28,697	24,631	24,297	29,026	47,079	27,622	34,447	49,725	52,868	35,068	433.957
1982	47,832	31,252	25,688	28,305	22,628	26,302	35,159	27,297	67,844	43,617	42,582	41,976	440.482
1983	40,833	40,920	43,112	36,687	36,508	41,420	47,469	56,092	325,951	370,183	129,906	83,534	1.252.615
1984	59.321	39,189	40,141	32,164	31.020	30,481	33,298	302,924	594,902	321,528	145,327	77,023	1,707,318

Simulated Flows at Colorado River near Kremmling at USGS Gage 09058000 **Proposed Action Alternative**

(AF)

123,470 42,440 46,066 1 189,786 44,765 48,374 1 42,245 51,932 73,299 5 58,541 71,872 32,320 5 42,280 64,175 34,381 4 41,557 68,186 36,461 6 41,696 62,317 37,710 47,413 63,575 74,244 47,964 5 64,983 65,885 34,61 6 64,983 65,885 34,087 6 64,983 65,885 34,087 6 64,983 65,885 34,087 6 64,983 65,885 34,087 6 107,988 82,509 42,052 1 107,988 82,509 42,052 1 107,988 82,509 42,653 4 76,780 30,654 64,676 6 98,773 40,586 47,674 6 76,780 71,65 44,676 6 76,780 74,244 49,230 6 </th <th>WATER YEAR</th> <th>ост</th> <th>NOV</th> <th>DEC</th> <th>JAN</th> <th>FEB</th> <th>MAR</th> <th>APR</th> <th>MAY</th> <th>NUL</th> <th>luL</th> <th>AUG</th> <th>SEP</th> <th>TOTAL</th>	WATER YEAR	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	NUL	luL	AUG	SEP	TOTAL
55,367 55,884 46,932 42,310 40,045 49,786 64,329 144,910 339,464 189,786 44,765 48,374 52,074 55,884 41,773 39,033 36,246 42,207 37,309 56,11 50,344 41,753 51,932 73,299 32,559 34,355 25,728 25,448 27,173 32,653 37,311 44,755 74,244 47,964 47,445 30,153 26,738 24,452 23,3510 47,418 19,032 48,157 74,244 47,964 52,283 31,966 24,441 24,951 37,917 63,416 63,575 74,244 47,964 45,633 31,958 24,445 30,120 42,483 37,917 63,416 63,575 74,244 47,964 52,283 31,966 34,741 27,423 43,157 64,175 34,387 51,960 44,966 37,579 36,816 62,317 37,110 74,413 74,42 46,177	1985	80,046	62,519	54,159	47,898	38,860	48,245	48,413	129,308	283,498	123,470	42.440	46.066	1.004.922
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1886	55,367	55,894	46,932	42,310	40,045	49,785	64,329	144,910	339,464	189,786	44.765	48,374	1.121.961
39,259 34,362 31,033 29,874 27,173 32,658 53,104 114,540 56,541 71,872 32,320 47,665 35,775 25,728 25,448 24,455 36,511 50,344 41,758 86,166 36,461 47,665 35,775 25,728 25,448 32,210 47,418 19,032 44,557 68,166 36,461 27,031 37,091 28,273 25,920 25,423 36,451 47,413 19,032 44,710 47,413 45,493 37,091 28,2729 25,423 36,451 53,164 47,413 37,917 64,983 56,865 34,710 47,413 51,060 44,906 37,64 48,233 36,451 47,208 36,461 47,413 45,646 36,614 48,231 36,435 34,710 47,413 47,413 47,413 47,413 47,413 47,413 47,413 47,413 47,413 47,413 47,413 47,416 66,851 44,710	1987	52,074	48,119	41,713	39,039	36,246	42,207	37,309	50,253	70,031	42.245	51.932	73.299	584.467
44,665 $35,755$ $25,748$ $24,260$ $25,611$ $50,344$ $41,738$ $42,280$ $64,175$ $34,381$ $47,445$ $30,153$ $26,738$ $24,452$ $23,3210$ $47,418$ $19,032$ $48,294$ $41,557$ $68,186$ $56,461$ $37,710$ $47,455$ $37,801$ $24,495$ $30,120$ $42,228$ $36,415$ $47,964$ $47,964$ $49,519$ $37,301$ $26,987$ $27,021$ $25,423$ $36,510$ $37,721$ $47,100$ $47,101$ $47,710$ $49,519$ $37,579$ $35,600$ $30,3228$ $32,5160$ $42,7234$ $41,736$ $41,933$ $47,710$ $47,413$ $51,060$ $37,579$ $36,436$ $33,041$ $42,228$ $56,693$ $40,71$ $47,413$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$ $47,710$	1988	39,259	34,362	31,093	29,874	27,173	32,658	38,569	53,104	114,540	58,541	71.872	32.320	563.365
47,445 30,153 26,758 24,452 23,358 33,210 47,418 19,032 48,294 41,557 68,186 36,461 52,283 31,9958 24,441 24,965 30,120 42,483 37,917 63,416 63,575 68,186 37,710 49,519 37,891 28,202 25,920 25,4455 30,120 42,234 56,815 15,1696 53,713 37,917 51,660 37,579 36,861 37,413 36,427 42,234 56,815 34,710 47,113 51,660 37,579 36,603 37,419 36,755 54,413 37,714 32,573 30,906 25,609 25,003 34,749 32,754 54,823 34,711 45,614 43,933 36,755 37,413 36,755 74,244 47,165 32,573 30,906 25,609 37,439 36,755 14,202 76,780 56,888 34,071 45,614 47,385 37,414 37,331	1969	44,665	35,755	25,728	25,448	24,260	42,009	25,611	50,344	41,738	42,280	64.175	34,381	456.394
52,283 31,958 24,441 24,969 24,495 30,120 42,483 37,917 63,416 63,575 74,244 47,964 49,519 37,891 28,223 25,920 25,423 36,500 30,3228 32,5163 108,283 44,710 47,413 37,710 45,519 37,891 28,202 25,423 36,500 30,3228 32,528 36,415 41,606 62,317 37,710 45,493 33,313 26,987 37,679 34,427 42,234 56,851 153,163 108,283 44,710 47,413 51,060 44,906 37,579 35,041 48,273 36,415 49,173 45,5161 43,933 36,703 34,911 37,413 47,103 82,509 42,052 45,5161 43,933 36,717 34,911 37,912 76,590 36,686 46,986 47,215 41,356 42,8333 149,196 76,690 50,688 46,986 47,715 41,357	1990	47,445	30,153	26,738	24,452	23,358	33,210	47,418	19,032	48,294	41,557	68.186	36.461	446.304
49,519 37,891 28,223 25,920 25,423 36,500 30,328 32,528 36,415 41,696 62,317 37,710 45,493 33,313 26,987 27,021 26,079 34,427 42,234 56,851 153,163 108,283 44,710 47,413 51,060 44,906 37,579 35,606 33,041 48,231 36,435 44,293 33,764 64,983 65,885 34,087 32,573 30,906 25,609 25,072 25,130 34,749 42,873 33,764 64,983 65,885 34,071 45,614 43,939 36,580 33,041 48,287 25,919 174,026 258,903 72,442 49,173 45,614 33,0133 36,786 37,054 50,003 36,093 36,656 64,656 45,614 43,515 37,054 50,619 37,656 64,676 64,988 76,666 64,656 46,986 47,215 41,351 47,7136 258,933	1991	52,283	31,958	24,441	24,969	24,495	30,120	42,483	37,917	63,416	63,575	74.244	47.964	517,865
45,493 33,313 26,987 27,021 26,079 34,427 42,234 56,851 153,163 108,283 44,710 47,413 51,060 44,906 37,579 35,606 33,041 48,231 36,435 44,293 33,764 64,983 65,885 34,087 32,573 30,906 25,609 25,072 25,130 34,749 42,872 25,919 174,026 256,903 72,442 49,173 45,614 43,939 36,280 38,121 34,911 37,918 36,029 193,302 330,403 107,968 82,509 42,052 45,614 43,939 36,280 35,227 41,959 26,705 174,376 428,933 149,196 78,690 50,688 42,042 39,133 38,754 43,757 33,614 48,719 114,139 98,773 40,586 47,674 63,933 34,133 36,764 57,618 23,737 34,7485 75,148 45,670 46,676 63,933	1992	49,519	37,891	28,223	25,920	25,423	36,500	30,328	32,528	36,415	41,696	62,317	37.710	444.468
$ 51,060 44,906 37,579 35,606 33,041 48,231 36,435 44,293 33,764 64,983 65,885 34,087 \\ 32,573 30,906 25,609 25,072 25,130 34,749 42,872 25,919 174,026 258,903 72,442 49,173 \\ 45,614 43,939 36,280 38,121 37,918 36,029 193,302 330,403 107,968 82,509 42,052 \\ 42,042 39,133 38,936 32,993 35,227 41,959 26,705 174,376 428,933 149,196 78,690 50,688 \\ 47,674 43,939 36,281 37,514 37,516 51,912 76,780 39,654 64,676 \\ 63,934 38,733 24,694 27,618 28,307 43,757 33,614 48,719 114,139 98,773 40,586 47,674 \\ 63,334 38,753 24,694 27,618 28,307 43,757 33,614 48,719 114,139 98,773 40,586 64,676 \\ 63,334 38,753 24,694 27,618 28,307 43,757 33,614 48,719 114,139 98,773 40,586 64,676 \\ 63,334 38,753 24,694 27,618 28,307 43,757 33,614 48,719 114,139 98,773 40,586 64,676 \\ 63,334 38,753 24,694 27,618 28,307 33,614 48,719 114,139 98,773 40,586 64,676 \\ 63,334 33,737 24,615 33,617 34,615 32,961 35,306 51,917 34,615 32,914 31,204 52,829 47,657 \\ 54,653 53,454 42,916 33,292 15,627 22,294 42,916 53,261 42,916 53,261 42,916 53,261 42,916 53,261 22,394 42,916 53,261 22,391 46,604 \\ 50,601 36,575 32,525 31,142 28,401 35,742 32,214 61,622 28,83 21,981 46,604 \\ 50,601 36,575 32,525 31,142 28,401 35,742 33,292 15,624 52,893 90,616 63,038 47,360 \\ 50,601 36,575 32,583 19,277 20,053 18,620 24,677 24,409 13,272 20,431 24,630 24,677 24,409 30,516 54,630 24,677 24,409 30,516 54,630 24,677 24,409 30,516 54,630 24,677 24,409 31,272 20,318 91,616 63,030 47,630 46,649 46,6$	1993	45,493	33,313	26,987	27,021	26,079	34,427	42,234	56,851	153,163	108,283	44,710	47,413	645,974
32.573 30.906 $25,609$ $25,072$ $25,130$ $34,749$ $42,872$ $25,919$ $174,026$ $258,903$ $72,442$ $49,173$ $45,614$ $43,933$ $36,280$ $38,121$ $34,911$ $37,918$ $36,029$ $193,302$ $330,403$ $107,968$ $82,509$ $42,052$ $45,614$ $43,933$ $36,280$ $38,121$ $34,911$ $37,918$ $56,029$ $56,705$ $174,376$ $428,933$ $149,196$ $78,690$ $50,688$ $42,042$ $39,133$ $38,936$ $32,993$ $35,227$ $41,959$ $26,705$ $174,376$ $428,933$ $149,196$ $78,690$ $50,688$ $46,986$ $47,215$ $41,351$ $42,764$ $37,054$ $50,900$ $36,094$ $57,561$ $51,912$ $76,780$ $30,654$ $64,676$ $63,3934$ $38,533$ $24,694$ $27,618$ $28,307$ $43,757$ $33,614$ $48,719$ $114,139$ $98,773$ $40,586$ $47,674$ $63,813$ $38,785$ $34,726$ $47,766$ $36,773$ $40,586$ $57,619$ $23,709$ $31,654$ $22,307$ $45,487$ $40,756$ $36,673$ $34,528$ $30,798$ $36,777$ $32,961$ $35,306$ $51,961$ $62,822$ $22,317$ $36,713$ $31,237$ $25,597$ $25,619$ $23,709$ $31,647$ $35,306$ $51,961$ $62,822$ $24,677$ $51,613$ $31,237$ $25,892$ $23,777$ $36,477$ $19,862$ $32,147$ $38,182$ $23,454$ $40,9616$	1994	51,060	44,906	37,579	35,606	33,041	48,231	36,435	44,293	33,764	64,983	65,885	34,087	529.870
45,614 43,939 36,280 38,121 34,911 37,918 36,029 193,302 330,403 107,968 82,509 42,052 42,042 39,133 38,936 32,993 35,227 41,959 26,705 174,376 428,933 149,196 78,690 50,688 46,986 47,215 41,351 42,764 37,054 50,900 36,094 57,561 51,912 76,780 39,654 64,676 46,986 47,215 41,351 42,763 36,094 57,561 51,912 76,780 39,654 64,676 63,934 36,533 24,694 27,618 28,307 43,753 36,043 114,139 98,773 40,586 47,674 63,813 36,785 37,614 49,230 36,684 64,676 56,689 57,688 47,674 63,813 36,785 37,317 84,153 40,432 67,297 40,586 46,676 51,613 31,237 25,619 42,326 34,64	1995	32,573	30,906	25,609	25,072	25,130	34,749	42,872	25,919	174,026	258,903	72,442	49,173	797.374
42,042 39,133 38,936 32,993 35,227 41,959 26,705 174,376 428,933 149,196 78,690 50,688 46,986 47,215 41,351 42,764 37,054 50,900 36,094 57,561 51,912 76,780 39,654 64,676 63,934 38,533 24,694 27,618 28,307 43,757 33,614 48,719 114,139 98,773 40,586 47,674 63,934 38,785 34,138 37,681 37,092 37,737 82,334 104,334 47,673 64,676 63,913 38,785 34,138 37,681 37,651 37,737 82,334 104,334 47,485 75,148 49,230 45,487 40,756 36,673 34,528 30,717 34,615 32,961 35,566 47,674 63,413 27,045 24,816 22,519 24,432 67,297 45,794 84,716 54,653 51,616 22,5619 24,623 33,292	1996	45,614	43,939	36,280	38,121	34,911	37,918	36,029	193,302	330,403	107,968	82.509	42.052	1.029.046
46,986 47,215 41,351 42,764 37,054 50,900 36,094 57,561 51,912 76,780 39,654 64,676 63,934 38,533 24,694 27,618 28,307 43,757 33,614 48,719 114,139 98,773 40,586 47,674 63,813 38,785 34,136 37,681 34,726 40,092 37,737 82,334 104,334 47,485 75,148 49,230 63,813 38,785 34,136 37,681 34,226 40,092 37,737 82,334 104,334 47,485 75,148 49,236 65,813 34,528 30,798 36,717 34,615 32,961 35,306 51,961 62,829 47,857 51,613 31,237 25,597 25,619 23,709 31,545 36,477 38,182 25,882 22,317 39,413 27,045 24,816 22,604 42,916 33,292 15,624 22,296 49,502 63,463 40,804	1997	42,042	39,133	38,936	32,993	35,227	41,959	26,705	174,376	428,933	149,196	78,690	50.688	1.138.878
63,934 38,533 24,694 27,618 28,307 43,757 33,614 48,719 114,139 98,773 40,586 47,674 63,813 36,785 34,136 37,681 34,526 40,092 37,737 82,334 104,334 47,485 75,148 49,230 45,487 40,756 36,673 34,528 30,798 36,717 34,615 32,961 35,306 51,961 62,829 47,857 51,613 31,237 25,597 25,619 23,709 31,545 36,477 19,862 32,147 38,182 26,829 47,857 51,613 31,237 25,597 23,709 31,545 36,477 19,862 32,147 38,182 26,829 47,857 51,613 31,237 25,597 23,709 31,545 36,457 40,586 37,653 51,613 31,237 25,619 27,898 40,567 44,432 67,297 45,794 84,716 54,653 50,008 33,840	1998	46,986	47,215	41,351	42,764	37,054	50,900	36,094	57,561	51,912	76.780	39.654	64.676	592.947
63,813 38,785 34,136 37,681 34,226 40,092 37,737 82,334 104,334 47,485 75,148 49,230 45,487 40,756 36,873 34,528 30,798 36,717 34,615 32,961 35,306 51,961 62,829 47,857 51,613 31,237 25,597 25,619 23,709 31,545 36,477 19,862 32,147 38,182 25,882 22,317 39,413 27,045 24,561 23,709 31,545 36,477 19,862 32,147 38,182 25,882 23,317 39,413 27,045 24,816 23,709 31,545 40,567 44,432 67,297 45,794 84,716 54,653 50,008 33,840 27,848 25,926 49,502 63,464 40,804 50,601 33,840 27,363 26,167 33,292 15,624 22,296 49,502 63,464 40,804 50,501 36,577 38,104 54,409	1999	63,934	38,533	24,694	27,618	28,307	43,757	33,614	48,719	114,139	98.773	40.586	47,674	610.348
45,487 40,756 36,673 34,528 30,798 36,717 34,615 32,961 35,306 51,961 62,829 47,857 51,613 31,237 25,597 25,619 23,709 31,545 36,477 19,862 32,147 38,182 25,882 22,317 39,413 27,045 24,561 24,816 22,855 34,898 40,567 44,432 67,297 45,794 84,716 54,653 39,413 27,045 24,561 24,816 22,855 34,898 40,567 44,432 67,297 45,794 84,716 54,653 50,008 33,840 27,848 25,921 25,6147 31,045 26,136 57,881 31,204 54,870 46,049 50,501 36,575 32,525 31,142 28,214 61,622 128,308 90,616 63,038 47,360 50,501 36,575 32,525 31,142 28,214 61,622 128,308 90,616 63,038 47,390	2000	63,813	36,785	34,138	37,681	34,226	40,092	37,737	82,334	104,334	47.485	75.148	49.230	645,003
51,613 31,237 25,597 25,619 23,709 31,545 36,477 19,862 32,147 38,182 25,882 22,317 39,413 27,045 24,561 24,816 22,855 34,898 40,567 44,432 67,297 45,794 84,716 54,653 39,413 27,045 24,561 24,816 22,855 34,898 40,567 44,432 67,297 45,794 84,716 54,653 50,008 33,840 27,848 25,921 25,604 42,916 33,292 15,624 22,296 49,502 63,454 40,804 65,663 34,834 27,363 26,147 31,045 26,136 57,881 31,204 54,870 46,049 50,501 36,575 32,525 31,142 28,401 35,742 38,214 61,622 128,308 90,616 63,038 47,390 50,501 36,575 32,525 31,142 28,464 40,804 32,727 20,431 25,895 26,804	2001	45,487	40,756	36,673	34,528	30,798	36,717	34,615	32,961	35,306	51,961	62,829	47,857	490.488
39,413 27,045 24,561 24,816 22,855 34,898 40,567 44,432 67,297 45,794 84,716 54,653 50,008 33,840 27,848 25,921 25,604 42,916 33,292 15,624 22,296 49,502 63,454 40,804 50,008 33,840 27,363 26,825 22,732 26,147 31,045 26,136 57,881 31,204 54,870 46,049 65,663 34,834 27,363 26,147 31,045 26,136 57,881 31,204 54,870 46,049 50,501 36,575 32,525 31,142 28,401 35,742 38,214 61,622 128,308 90,616 63,038 47,390 32,573 25,283 19,270 20,651 32,727 20,431 25,895 25,882 21,981 32,573 25,283 19,270 20,651 24,409 13,727 20,431 25,895 26,982 21,981 32,573 54,159	2002	51,613	31,237	25,597	25,619	23,709	31,545	36,477	19,862	32,147	38,182	25,882	22,317	364,187
50,008 33,840 27,848 25,921 25,604 42,916 33,292 15,624 22,296 49,502 63,454 40,804 2 65,663 34,834 27,363 26,825 22,732 26,147 31,045 26,136 57,881 31,204 54,870 46,049 4 50,501 36,575 32,555 31,142 28,401 35,742 38,214 61,622 128,308 90,616 63,038 47,390 4 50,501 36,575 32,525 31,142 28,401 35,742 38,214 61,622 128,308 90,616 63,038 47,390 4 32,573 25,283 19,270 20,053 18,6220 24,677 24,409 13,727 20,431 25,882 21,981 3 32,5529 54,159 47,898 40,045 50,900 79,451 302,924 594,902 37,981 31,16 1	2003	39,413	27,045	24,561	24,816	22,855	34,898	40,567	44,432	67.297	45.794	84,716	54,653	511 047
65,663 34,834 27,363 26,825 22,732 26,147 31,045 26,136 57,881 31,204 54,870 46,049 4 50,501 36,575 32,525 31,142 28,401 35,742 38,214 61,622 128,308 90,616 63,038 47,390 4 32,573 25,283 19,270 20,053 18,620 24,677 24,409 13,727 20,431 25,895 25,882 21,981 3 32,573 25,219 54,159 47,898 40,045 50,900 79,451 302,924 594,902 370,183 145,327 89,116 1	2004	50,008	33,840	27,848	25,921	25,604	42,916	33,292	15,624	22,296	49.502	63.454	40,804	431,109
50,501 36,575 32,525 31,142 28,401 35,742 38,214 61,622 128,308 90,616 63,038 47,390 6 32,573 25,283 19,270 20,053 18,620 24,677 24,409 13,727 20,431 25,895 25,882 21,981 8 80,046 62,519 54,159 47,898 40,045 50,900 79,451 302,924 594,902 370,183 145,327 89,116 1	2005	65,663	34,834	27,363	26,825	22,732	26,147	31,045	26,136	57,881	31,204	54.870	46.049	450.749
32,573 25,283 19,270 20,053 18,620 24,677 24,409 13,727 20,431 25,895 25,882 21,981 28,00,046 62,519 54,159 47,898 40,045 50,900 79,451 302,924 594,902 370,183 145,327 89,116 1	AVERAGE:	50,501	36,575	32,525	31,142	28,401	35,742	38,214	61,622	128,308	90,616	63.038	47.390	644.074
80,046 62,519 54,159 47,898 40,045 50,900 79,451 302,924 594,902 370,183 145,327 89,116 1	MINIMUM:	32,573	25,283	19,270	20,053	18,620	24,677	24,409	13,727	20,431	25,895	25.882	21.981	364,187
	MAXIMUM:	80,046	62,519	54,159	47,898	40,045	50,900	79,451	302,924	594,902	370,183	145.327	89.116	1.707.318

Simulated Flows at Colorado River below the Confluence with the Williams Fork River Proposed Action Alternative (CFS)

(950 251 206 137 119 126 143 227 181 389 169 470 1957 325 254 266 137 119 126 137 557 375 557 339 1955 454 190 224 170 213 148 215 315 517 344 175 344 1955 454 190 207 202 178 256 366 466 476 346 417 344 175 344 174 206 305 154 177 344 176 346 476 476 446 447 446 447 246 446 447 446 447 446 447 446 447 446 446 447 446 447 446 447 446 447 446 447 446 447 446 447 446 447 446 447	WATEH YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	МАУ	JUN	יור	AUG	SEP	ANNUAL
224 228 158 154 191 361 315 375 557 257 266 224 209 220 182 515 515 517 257 266 224 209 220 182 555 555 555 575 577 201 157 167 150 170 201 174 174 211 213 203 186 153 203 186 153 203 191 211 213 203 186 153 203 124 174 211 213 203 186 153 203 126 173 211 213 203 186 153 226 136 174 214 174 174 174 174 174 174 211 213 203 166 153 226 246 174 216 173 <th></th> <th>251</th> <th>206</th> <th>137</th> <th>119</th> <th>126</th> <th>148</th> <th>227</th> <th>181</th> <th>389</th> <th>169</th> <th>420</th> <th>282</th> <th>222</th>		251	206	137	119	126	148	227	181	389	169	420	282	222
254 246 224 209 220 182 555 2559 466 270 157 167 157 167 157 167 157 167 157 167 156 217 140 154 122 270 267 190 207 156 177 208 215 140 154 122 271 199 163 161 174 208 234 1231 191 271 239 161 173 203 166 153 234 123 131 190 271 213 163 163 153 261 153 203 131 190 282 210 173 288 166 175 212 244 175 286 193 176 244 157 140 157 140 172 211 212 244 167 212		235	224	228	158	154	191	361	315	375	557	339	482	302
252 190 234 171 206 305 135 315 217 270 267 190 147 206 247 140 154 222 271 157 167 150 717 266 384 174 270 267 190 207 202 173 1563 174 271 139 163 161 174 268 237 1553 1215 271 213 203 186 174 268 237 1553 192 281 237 167 212 249 168 139 192 282 210 224 176 176 275 148 177 282 211 212 147 280 301 1351 190 282 216 184 139 182 275 148 174 282 216 176 1		382	254	246	224	209	220	182	555	2559	486	408	409	510
225 215 191 147 206 247 140 154 222 210 167 160 160 170 213 114 174 211 190 160 170 213 153 151 174 223 211 190 160 174 288 237 1553 1215 211 213 203 166 173 203 193 192 211 213 203 166 153 224 123 136 175 288 237 167 144 138 232 246 287 210 224 217 240 143 175 286 193 176 167 244 172 246 191 260 174 168 246 171 191 263 286 179 163 176 246 161 177 192<		264	252	190	234	171	206	305	135	315	217	344	232	239
201 157 167 150 170 214 174 270 267 190 207 156 175 175 211 199 161 174 268 237 1553 1215 254 277 229 213 203 186 153 234 1231 1311 190 288 237 167 212 249 168 153 203 192 288 237 165 212 249 168 133 203 1349 292 210 224 217 240 1351 2590 1349 293 210 212 175 246 161 165 177 293 216 174 166 174 166 279 1349 293 210 212 176 246 161 155 143 193 176 273 166 <		189	225	215	191	147	206	247	140	154	222	248	230	202
270 267 190 207 202 178 256 364 175 211 199 163 161 174 268 237 1553 1215 254 237 167 212 229 213 203 186 153 329 190 211 213 203 186 153 206 237 1553 190 288 237 167 212 249 166 183 232 246 282 230 184 139 182 275 138 232 246 292 210 124 176 167 212 249 172 191 210 174 168 175 246 161 172 203 211 212 146 156 149 172 203 216 173 216 176 279 146 172 203		454	201	157	167	150	170	213	148	214	174	298	240	216
211 199 163 161 174 268 237 1553 1215 254 277 229 213 203 161 174 268 234 1311 190 211 213 203 166 153 226 1351 233 203 286 230 213 198 167 212 249 168 1351 2590 1346 286 308 213 198 203 301 1351 2590 1346 195 126 145 163 244 152 249 177 193 276 145 166 176 279 188 177 251 191 212 214 153 144 155 144 172 183 1760 174 169 156 249 170 214 286 199 174 166 176 214		187	270	267	190	207	202	178	256	364 264	175	415	138	238
254 277 229 213 228 234 1231 1311 190 211 213 203 166 153 203 166 153 329 192 288 237 167 212 249 168 153 203 192 203 282 230 214 139 182 275 145 153 232 246 282 210 224 217 240 244 155 170 217 295 126 145 163 240 177 240 241 155 143 177 203 211 212 176 246 161 185 279 177 213 179 166 176 246 161 185 143 216 174 190 267 246 141 251 250 143 2161 176 246 1		154	211	199	163	161	174	268	237	1553	1215	468	233	420
211 213 203 186 153 261 153 329 192 288 237 167 212 249 166 184 139 203 246 286 308 213 198 280 301 1351 2590 1349 295 128 155 145 166 184 176 217 240 217 240 177 295 128 155 145 166 176 216 148 177 203 211 212 176 176 279 185 167 217 203 211 212 176 176 279 186 177 203 211 212 176 168 161 185 204 213 179 168 174 189 206 204 214 188 217 246 161 186 216 2		350	254	277	229	213	228	234	1231	1311	190	364	251	429
288 237 167 212 249 168 189 573 203 331 160 184 139 182 275 138 232 246 262 308 213 198 280 301 1351 2590 1349 292 210 224 175 240 275 145 165 249 172 191 210 174 176 176 278 156 249 172 203 211 212 175 246 161 185 147 218 179 168 176 178 226 204 286 199 174 189 176 148 226 204 281 275 245 174 189 176 133 161 161 286 273 233 216 262 246 161 161 161 281		172	211	213	203	186	153	261	153	329	192	246	298	218
331 160 184 139 182 275 138 232 246 282 308 213 198 280 301 1351 2590 1349 292 210 224 217 240 244 155 145 163 259 170 217 195 128 155 145 163 279 185 163 172 191 260 193 176 275 246 161 185 143 183 179 168 174 169 257 246 141 256 243 175 245 178 202 303 191 172 285 265 273 237 216 163 233 407 213 212 216 174 166 135 203 161 286 265 273 281 160 273 203 1		268	288	237	167	212	249	168	189	573	203	295	201	254
262 308 213 198 280 301 1351 2590 1349 292 210 224 217 240 244 152 170 217 195 128 155 145 163 288 156 249 172 203 211 212 176 176 279 185 163 172 191 260 193 179 257 246 161 185 204 275 286 199 174 189 190 276 265 204 373 281 188 210 174 166 357 205 963 407 285 265 273 237 251 215 600 2439 1256 213 212 209 333 216 161 166 135 793 185 213 212 216 135 216 <td< th=""><th></th><td>187</td><td>331</td><td>160</td><td>184</td><td>139</td><td>182</td><td>275</td><td>138</td><td>232</td><td>246</td><td>403</td><td>391</td><td>239</td></td<>		187	331	160	184	139	182	275	138	232	246	403	391	239
$ \begin{array}{llllllllllllllllllllllllllllllllllll$		463	262	308	213	198	280	301	1351	2590	1349	334	147	651
		244	292	210	224	217	240	244	152	170	217	229	431	239
$ \begin{array}{llllllllllllllllllllllllllllllllllll$		344	195	128	155	145	163	288	156	249	172	171	220	199
		142	203	211	212	176	176	279	185	405	251	296	152	224
		160	191	260	193	179	257	246	161	185	143	374	180	211
266 199 174 189 190 287 140 393 191 281 188 210 174 166 135 205 963 407 285 265 273 237 251 215 600 2439 1256 285 265 273 237 251 215 600 2439 1256 213 212 209 207 313 216 163 793 185 213 212 209 207 313 216 163 793 185 213 212 209 207 313 216 163 793 185 213 2147 190 243 230 650 1383 440 288 231 247 190 243 233 566 213 192 213 175 264 140 303 566 233		287	183	179	168	161	262	136	148	226	204	293	277	211
281 188 210 174 166 135 205 963 407 243 175 245 178 202 308 665 1300 519 285 265 273 237 251 216 600 2439 1256 213 212 209 207 313 216 163 793 185 213 212 209 207 313 216 163 793 185 213 212 209 207 313 216 163 793 185 213 192 191 213 175 264 140 303 566 213 192 191 213 175 264 140 303 566 239 156 146 201 149 201 149 201 230 161 177 192 264 140 303 566		284	266	199	174	189	190	287	140	393	191	143	375	235
243 175 245 178 202 308 665 1300 519 285 265 273 237 251 215 600 2439 1256 213 212 209 207 313 216 163 793 185 215 182 188 176 313 216 163 793 185 215 182 188 176 184 240 198 1611 1606 286 231 247 190 243 230 650 1383 440 286 231 176 182 176 149 298 201 233 156 145 213 177 192 203 566 233 156 145 224 149 303 566 201 233 156 146 224 177 192 494 255 230 161 224 177 192 201 256 230 156		282	281	188	210	174	166	135	205	963	407	213	294	293
285 265 273 237 251 215 600 2439 1256 213 212 209 207 313 216 163 733 185 213 212 209 207 313 216 163 733 185 215 182 188 176 184 240 198 1611 1606 288 231 247 190 243 230 650 1383 440 288 231 247 190 243 230 650 1383 440 280 231 192 161 213 175 264 140 303 566 239 156 145 135 264 177 192 494 255 230 161 272 202 149 298 201 255 233 161 177 192 374 227		137	243	175	245	178	202	308	665	1300	519	225	226	368
213 212 209 207 313 216 163 793 185 215 182 188 176 184 240 198 1611 1606 288 231 247 190 243 230 650 1383 440 288 231 247 190 243 230 650 1383 440 280 231 247 190 243 230 650 1383 440 213 192 191 213 175 264 140 303 566 239 156 145 135 161 224 177 192 201 233 156 145 172 202 154 192 374 227 241 197 232 159 199 216 226 355 243 210 200 266 191 186 2154 192 374 227 210 200 202 154 192 226		271	285	265	273	237	251	215	600	2439	1256	369	286	562
215 182 188 176 184 240 198 1611 1606 288 231 247 190 243 230 650 1383 440 286 231 247 190 243 230 650 1383 440 213 192 191 213 175 264 140 303 566 226 170 202 161 275 201 149 298 201 233 156 145 135 161 224 177 192 494 233 156 145 172 202 154 192 374 227 241 197 232 159 199 212 156 520 355 210 200 266 191 186 266 520 355 210 200 266 199 216 224 177 192 374 227 210 200 266 199 216 266 <		327	213	212	209	207	313	216	163	793	185	405	201	287
288 231 247 190 243 230 650 1383 440 213 192 191 213 175 264 140 303 566 226 170 202 163 202 201 149 298 201 239 156 145 135 161 224 177 192 494 239 156 145 135 161 224 177 192 494 255 230 161 172 202 154 192 374 227 241 197 232 159 199 212 260 520 355 210 200 266 191 186 272 260 520 355 210 200 266 191 160 186 272 224 273 265 243 210 200 266 199 272 224		169	215	182	188	176	184	240	198	1611	1606	342	272	449
213 192 191 213 175 264 140 303 566 226 170 202 163 202 201 149 298 201 239 156 145 135 161 224 177 192 494 255 230 161 172 202 154 192 374 227 241 197 232 159 199 212 260 520 355 210 200 266 191 186 212 260 520 355 210 200 266 191 186 272 260 520 355 213 175 127 125 168 272 224 295 243 240 169 191 160 186 198 174 347 282		568	288	231	247	190	243	230	650	1383	440	381	221	398
226 170 202 163 202 201 149 298 201 239 156 145 135 161 224 177 192 494 255 230 161 172 202 154 192 374 227 241 197 232 159 199 212 260 520 355 210 200 266 191 186 212 260 520 355 210 200 266 191 186 272 260 520 355 213 175 127 125 168 272 224 295 243 240 169 191 160 186 198 174 347 282		278	213	192	191	213	175	264	140	303	566	296	245	257
239 156 145 135 161 224 177 192 494 255 230 161 172 202 154 192 374 227 241 197 232 159 199 212 260 520 355 210 200 266 191 186 266 195 1238 671 213 175 127 125 168 272 224 295 243 213 175 127 125 168 272 224 295 243 240 169 191 160 186 198 174 347 282		207	226	170	202	163	202	201	149	298	201	284	291	216
255 230 161 172 202 154 192 374 227 241 197 232 159 199 212 260 520 355 210 200 266 191 186 266 195 1238 671 213 175 127 125 168 272 224 295 243 240 169 191 160 186 198 174 347 282		282	239	156	145	135	161	224	17	192	494	502	172	241
241 197 232 159 199 212 260 520 355 210 200 266 191 186 266 193 671 210 200 266 191 186 266 195 1238 671 213 175 127 125 168 272 224 295 243 240 169 191 160 186 198 174 347 282		317	255	230	161	172	202	154	192	374	227	195	228	226
210 200 266 191 186 266 195 1238 671 213 175 127 125 168 272 224 295 243 240 169 191 160 186 198 174 347 282		160	241	197	232	159	199	212	260	520	355	282	202	252
213 175 127 125 168 272 224 295 243 240 169 191 160 186 198 174 347 282	_	175	210	200	266	191	186	266	195	1238	671	226	292	342
240 169 191 160 186 198 174 347 282		196	213	175	127	125	168	272	224	295	243	403	302	229
		229	240	169	191	160	186	198	174	347	282	258	136	214

Simulated Flows at Colorado River below the Confluence with the Williams Fork River Proposed Action Alternative (CFS)

WATER													
YEAR	ο	NOV	DEC	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	ANNUAL
1983	159	214	285	195	237	188	303	150	1984	2075	057	Noc	AVG
1984	332	290	325	224	243	221	286	LCVC	EDEF		500		,0-07
1985	446	364	280	277	237	261	145	736		2222	000	n n n	5/01
1986	295	399	282	252	182	135	256	200	0000		714	200	000
1987	321	278	241	233	216	217	125			500	- 70	5	200
1988	192	261	BUC	200			3 5		000	8/1	797	162	233
1080	101			3	2 3	213	501	197	1001	303	485	203	304
		007	185	168	198	259	135	196	275	275	215	249	215
1994	9/1	/12	195	160	178	251	257	137	418	178	485	314	247
1991	545	270	172	167	157	210	271	171	345	187	217	211	228
2861	209	606	209	190	197	271	220	247	222	230	664	328	275
1993	328	301	187	168	172	208	283	266	555	267	255	340	212
5661	395	325	238	223	214	289	239	222	232	267	315	267	280
1995	255	256	179	170	200	243	301	138	902	1167	461	373	388
1996	309	303	235	291	267	258	156	1233	1891	587	238	304	515 0
1997	346	308	291	240	366	231	205	1254	2571	1022	20g	252	
1998	283	305	255	274	228	264	234	142	218	303	080	306	040
1999	396	353	192	232	229	331	245	156	571	280	970 970	111	
2000	313	246	204	251	253	263	258	720	215 215	160		- 6	000
2001	239	256	260	213	223	254	203	231	246	305		0.00	223
2002	257	221	176	168	152	185	156	151	100			4 1	
2003	165	212	161				-		2	107	201	/11	1/6
VUUC	240	1 00			501	202	155	537	778	309	453	442	327
1002	241	523	RSZ	220	229	367	270	160	198	243	614	379	291
2002	516	EEE	219	217	178	183	207	214	461	287	265	245	277
AVEHAGE:	268	259	214	203	192	219	234	372	870	502	357	274	331
	137	183	128	119	125	135	135	135	136	143	102	117	176
MAXIMUM:	516	399	325	291	366	367	361	2,427	5,055	2,975	957	482	1.073
													2.21.

Simulated Flows at Colorado River below the Confluence with the Williams Fork River Proposed Action Alternative (AF)

WATER YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	NUL	ากเ	AUG	SEP	TOTAL
1950	15,425	12,265	8,395	7,328	7,004	9,100	13,537	11.145	23.144	10.410	25.817	16,809	160 379
1951	14,451	13,352	14,007	9,699	8,561	11,734	21,476	19,392	22 344	34,238	20,833	28.688	218 775
1952	23,506	15,086	15,117	13,785	11,594	13,500	10,843	34,120	152,248	29,908	25,101	24.310	369,118
1953	16,227	15,022	11,679	14,405	9,478	12,665	18,130	8,310	18,743	13,355	21,165	13.790	172.969
1954	11,629	13,402	13,250	11,721	8,165	12,646	14,695	8,618	9,187	13,677	15,227	13,713	145.930
1955	27,896	11,984	9,647	10,258	8,339	10,479	12,682	6,097	12,737	10,719	16,347	14,300	156,485
1956	11,487	16,040	16,439	11,653	11,487	12,402	10,578	15,724	21,643	10,770	25,511	8,212	171,946
1957	9,463	12,582	12,219	10,028	8,950	10,700	15,954	14,571	92,394	74,707	28,756	13,878	304,202
1958	21,511	15,124	17,046	14,102	11,844	14,037	13,923	75,688	77,996	11,673	22,394	14,927	310,265
1959	10,589	12,529	13,118	12,482	10,330	9'386	15,511	9,420	19,572	11,782	15,108	17,748	157,575
	16,456	17,111	14,579	10,249	11,765	15,285	9,982	11,607	34,077	12,496	18,113	11,958	183,678
1961	11,521	19,701	9,826	11,314	7,732	11,208	16,353	8,490	13,790	15,136	24,775	23,291	173,137
1962	28,443	15,599	18,926	13,070	11,020	17,219	17,930	83,065	154,138	82,969	20,512	8,770	471,661
206	14,976	17,352	12,921	13,795	12,072	14,744	14,544	9,329	10,124	13,349	14,051	25,644	172,901
506 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	21,175	11,581	7,866	9,519	8,030	10,010	17,134	9,585	14,841	10,569	10,521	13,116	143,947
1965	8,739	12,080	12,958	13,022	9,785	10,839	16,609	11,373	24,092	15,425	18,208	9,054	162,184
1966	9,862	11,383	15,980	11,878	9,950	15,800	14,642	9,898	10,979	8,796	23,012	10.721	152.901
1967	17,618	10,892	11,026	10,347	8,926	16,132	8,105	9,126	13,454	12,534	18,040	16,481	152,681
1968	17,454	15,830	12,209	10,705	10,504	11,680	17,090	8,578	23,374	11,723	8,767	22,337	170,251
1969	17,367	16,711	11,579	12,887	9,645	10,230	8,033	12,575	57,320	25,016	13,127	17.523	212,013
1970	8,394	14,434	10,750	15,045	9,865	12,427	18,333	40,874	77,367	31,918	13,840	13,477	266,724
1261	16,684	16,933	16,316	16,759	13,185	15,414	12,765	36,921	145,108	77,205	22,704	17,032	407,026
1972	20,081	12,680	13,047	12,874	11,521	19,243	12,870	10,048	47,170	11,364	24,920	11,964	207,782
6/6L	10,396	12,819	11,193	11,541	9,776	11,314	14,266	12,170	95,835	677,86	21,039	16,193	325,321
1974	16,501	17,143	14,228	15,160	10,559	14,960	13,688	39,943	82,281	27,063	23,444	13,177	288,147
9/61	17,071	12,672	11,779	11,749	11,832	10,775	15,691	8,621	18,009	34,827	18,171	14,600	185,797
1976	12,737	13,424	10,472	12,429	9,055	12,407	11,945	9,133	17,711	12,336	17,482	17,303	156,434
197	17,354	14,245	9,620	8,887	7,509	9,887	13,328	10,864	11,440	30,368	30,882	10,259	174,643
1978	19,492	15,201	14,124	9,887	9,569	12,419	9,173	11,816	22 ₂ 84	13,984	11,960	13,595	163,504
6/61	9,852	14,355	12,115	14,291	8,834	12,252	12,612	15,986	30,959	21,804	17,335	11,999	182,394
1980	10,747	12,488	12,301	16,327	10,632	11,443	15,853	12,011	73,653	41,229	13,879	17,375	247,938
1981	12,047	12,701	10,786	7,805	6,959	10,310	16,197	13,790	17,574	14,958	24,772	17,957	165,856
7948L	14,103	14,272	10,408	11,725	8,893	11,442	11,770	10,676	20,637	17,338	15,853	8,112	155,229

Simulated Flows at Colorado River below the Confluence with the Williams Fork River Proposed Action Alternative (AF)

WATTER												ſ	
YEAR	007	NON	DEC	JAN	FEB	MAR	АРЯ	MAY	NNr	JUL	AUG	SEP	TOTAL
1983	9.756	12,711	17,547	11,962	13,168	11,576	18,044	9,196	118.060	182.933	58.875	17.474	481.302
1984	20,416	17,277	19,961	13,803	13,481	13,610	16,999	149.208	300,792	142.838	49.474	18.749	776,608
1985	27,431	21,651	17,229	17,035	13,149	16,025	8,600	45,262	122.041	41.056	16.826	15.331	361.636
1986	18,159	23,762	17,368	15,508	10,090	8,301	15,225	61,183	190,395	83,539	19,714	18,187	481.431
1987	19,752	16,540	14,806	14,322	12,004	13,327	8,033	11,929	21,205	10,935	16,429	9,655	168,937
1988	11,795	15,529	12,800	13,621	12,139	13,101	9,096	12,093	59,565	18,648	29,807	12.107	220,301
1989	10,282	15,217	11,445	10,306	11,023	15,913	8,033	12,048	16,345	16,893	13.231	14.789	155,525
1990	10,831	12,920	11,963	9,813	9,866	15,428	15,276	8,433	24,856	10,928	29,807	18,695	178,816
1991	21,436	16,055	10,563	10,255	8,714	12,919	16,110	10,869	20,538	11,507	13,363	12,537	164,866
1992	12,876	18,381	12,828	11,675	10,962	16,675	13,107	15,160	13,226	14,161	40,857	19,500	199,408
1993	20,149	17,923	11,511	10,304	9,538	12,790	16,852	16.342	33,022	16,405	15,660	20,221	200,717
1994	24,302	19,323	14,618	13,733	11,898	17,748	14,209	13,664	13,780	16,392	19,348	15,859	194,874
1995	15,674	15,239	11,004	10,453	11,093	14,929	17,884	8,457	53,676	71,770	28,355	22,216	280.750
1996	18,991	18,052	14,453	17,911	14,854	15,853	9,280	75,832	118,503	36,078	14,660	19.274	373.741
1997	21,298	18,312	17,887	14,749	20,351	14,188	12,172	77,129	152,997	62,870	36,850	14,969	463.572
1998	17,395	18,172	15,681	16,828	12,681	16,238	13,942	8,713	12,986	18,649	14,243	17,598	183,126
1999	24,331	21,034	11,834	14,288	12,718	20,355	14,604	9,586	33,986	17,755	16,747	24,479	221,717
2000	19,267	14,648	12,572	15,447	14,070	16,199	15,325	44,267	18,747	9,949	30,956	22,576	234,023
2001	14,704	15,207	15,990	13,073	12,397	15,589	13,272	14,196	14,640	12,647	33,420	18,682	193.817
2002	15,820	13,128	10,806	10,319	8,435	11,375	9,294	9,258	8,110	17,305	6,264	6.979	127.093
2003	10,151	12,610	9,875	9,253	9,065	12,800	20,270	33,017	46,319	18,983	27,874	26.294	236.511
2004	15,165	19,209	14,610	13,501	12,708	22,581	16,051	9,812	11,788	14,961	37,783	22,523	210,692
2005	31,721	19,842	13,456	13,337	9,868	11,281	12,290	13,156	27,434	17,629	16,264	14,593	200,871
AVERAGE:	16,481	15,388	13,156	12,468	10,672	13,444	13,932	22,882	51,772	30,844	21,969	16,279	239,288
	8,394	10,892	7,866	7,328	6,959	8,301	8,033	8,310	8,110	8,796	6,264	6,979	127,093
MAXIMUM:	31,721	23,762	19,961	17,911	20,351	22,581	21,476	149,208	300,792	182,933	58,875	28,688	776,608

Simulated Flows at Middle Fork South Platte River below Montgomery Reservoir Proposed Action Alternative (CFS)

1950 3 0	YEAR	ост	NON	DEC	JAN	FEB	MAR	APR	MAY	Nnr	nr	AUG	SEP	
	1950	3	0	0	0	0	0	-	19	43	95	at At	0	AVG
	1951	ო	0	0	0	C	c	• •	<u> </u>	2 5	86	0 4	თი	- ;
	1952	ო	0	0	0	0	00	• •	0	e e	000	0 4	ה כ	= ;
	1953	ო	0	0	0	0		• •	0 0	2 5	500	0 4	ΣC	= ;
	1954	ო	0	0	0	00	00		0	7 q	20	<u> </u>	סמ	
	1955	ო	0	0	0	0	00		6	54		ţά	ה מ	Ω •
	1956	ю	0	0	0	0	0	•	61	5 6 4	50	5 ¥	b C	
	1957	ო	0	0	0	0	0	•	61	4 5 7	88	<u>5</u>	סמ	= ;
	1958	ო	0	0	0	0	0	-	19	2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	88	<u></u>	סמ	
	1959	ო	0	0	0	0	0	-	19	43	9 66 9	16	5 0	
	1960	ო -	0	0	0	0	0	-	19	43	39	16	0	; ;
	1961	ი -	0	0	0	0	0	-	19	6 4	39	21	თ	
	1962	с о	0	0	0	0	0	-	19	43	39	16	თ	: =
	202	m (0	0	0	0	0	-	19	£	39	55	0	14
	505	ლ (0	0	0	0	0	-	19	43	39	16	6	
	365	ი (0	0	0	0	0	-	19	£	39	16	0	÷
		m (0	0	0	0	0	-	19	£ 3	39	21	6	
	/95	m (0	0	0	0	0	-	19	£	39	16	6	÷
		m (0	0	0	0	0	-	19	£ 3	39	16	o	-
	696	m (0	0	0	0	-	19	43	39	16	o	1
	970	с о (0	0	0	0	0	-	19	43	39	16	6	: =
		с о	0	0	0	0	0	-	19	43	39	16	б	÷
	216	m (0	0	0	0	0		19	43	39	16	0	÷
	973	ი ი	0	0	0	0	0	-	19	43	39	16	6	=
	974	ი ი	0	0	0	0	0	-	19	43	39	16	в	=
	9/5	m	0	0	0	0	0	-	19	43	39	16	ი	1
	976	ი 1	0	0	0	0	0	-	19	43	39	16	6	÷
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Simulated Flows at Middle Fork South Platte River below Montgomery Reservoir Proposed Action Alternative (CFS)

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WATER QUALITY

- Appendix C-1 Regulation No. 33 Upper Colorado River Basin
- Appendix C-2 Regulation No. 38 South Platte River Basin

Appendix C-1 Regulation No. 33 Upper Colorado River Basin

	Desig	Classifications	19 Clessifications NUMERIC STA		NUMER	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
orosin. Upper courred ruver Stream Segment Description			PHYSICAL and BIOLOGICAL	INORGANIC	NIC		METALS		QUALIFIERS
 Mainstein of the Colorado River, including all tributaries, wetlands, lates and readinger, within Rocky Mountain National Park, 9: which flow Into Rocky Mountain Nagarel Park. 	MO	An Life Cold 1 Recreation 1s Water Supply Agriculture	D.O. = 8.0 mg/ D.O. (sp)=7.0 mg/ pH = 6.5-0.0 F.Col=126/100ml E.Col=126/100ml	NH ₃ (aoth)=TVS C ₂ (aot=0.019 C ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CH=250 SO ₄ =WS	As(ac)=50(Trec) Co(ac)=TVS(tr) Co(ch)=TVS Co(ch)=TVS Con((ac)=TVS Con((ac)=1)=TVS Cov((ac)=1)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trac) Pb(ac(ch)=TVS Mn(ch)=TVS Mn(ch)=TVS Mn(ac(ch)=TVS Mn(ac(ch)=TVS	M((actd))=TVS Se(actd))=TVS Ag(d)=TVS Ag(d)=TVS Zh(actd)=TVS	
 Mainstein, of two Colorando River, Instante all stabulaties, weilands, lates, sind reservation within, of forwing into Araphone National Recretation Area, including Grand Lake, Shefor, Mourtain Lake and Leke Grandy. 	L	Ad Life Cold 1 Recreation 18 Vealer Supply Agriculture	D.O. = 8.0 frag/ D.O. (sp)=7.0 mg/ pH = 8.5-9.0 F.Coll=200100m3 F.Coll=1201100m3	NH ₃ (acum)=TVS CL ₂ (ac)=0,019 CL ₂ (an)=0,011 CN=0,005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(at)=TVS Cd(at)=TVS Cd(ac(at)=TVS Cd(ac(at)=TVS Cu(ac(at)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb(ac(ch)=TVS Mn(ch)=VVS Mn(ch)=TVS Mn(ch)=0.01(bol)	M(autoh)=TVS Se(actoh)=TVS Act ==TVS Ag(ch)=TVS(tr) Zn(actoh)=TVS	
 Maintainen of the Colorado River from the outlet of Lake Granby to the confluence with Roaring Fork River. 		Ag Life Culd 1 Recreation 1a Water Supply Agriculture	D.0. = 6.0 mg/ D.0. (sp)= 7.0 mg/ pH = 8.5-9.0 F. Coll=201/100mi E. Coll=126/100mi	NH_3(ac/ch)=TVS CL2(4c)=0.019 CL2(ch)=0.011 CL=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C1=260 SO ₄ =WS	Asi ac)=50(Tinc) Cd(ac)=TVS(tr) Cd(ch)=TVS Cr(thac)=50(Trac) Cr(tac) Cr(tac)=TVS Cu(accth)=TVS	Fe(dn)=WS(dis) Fe(dh)=1000(Trac) Ph(sc(dh)=TVS Mn(dn)=VVS Mn(ac)=NVS Mn(ac(dh)=TVS Hg(dh)=0.01(tot)	Ni((ao'ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(b) Zn(ac/ch)=TVS	
4. All structures to the Colorado River, including all writiands, from the usate of Lands Granty to the companies within the Reaming Frank River, which are on Nutrianal Forest lands, except for those includes in Rivers, Inducted in Segmental s, 9 and sheath, lattice of Segmental s, 9 and 10.		At Life Cold 1 Retreation 1a Water Supply Agriculture	D.0.=6.0 mg/ D.0.(sp=7.0 mg/ pH=5.56.0 F.Coli=200/00mi F.Coli=26/100mi E.Coli=126/100mi	NH ₃ (ackt)=1VS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Calit(ac)=50(Trec) Calit(ac)=50(Trec) Calit(ac(ct)=TVS Calitac(ct)=TVS	Fe(ch)=VS(dis) Fe(ch)=1000(Trec) Pb(secch)=TVS Mr(ch)=VS Mr(ch)=VS Hg(ch)=0.01(Lot)	NI(auch)=TVS Se(eolar)=TVS Agrice=TVS Agrice=TVS Agrice=TVS Zn(auch)=TVS	
 All lakes and reservoirs tributary to the Cokrado River trom the boundary of Rocky Natural in Natural Park and Arganese Statismak Researchen Arga to a point termisdianty trainwith confluence with the Roadrey Fold River which are not on National Forest lands, except for specific listing in Segments 1 and 9. 	í	An Life Celd 1 Recreation 1a Water Supply Agriculture	D.O.=5.0 mg/ D.O.(sp)=7.0 mg/ pH=5.5.9.0 F.Coll 200100mi E.Coll 128.100mi	NH1, (addh=TVS C42(cc)=0.019 C12(cc)=0.011 CN=0.005	S=0.002 B=0.75 NO ₃ =0.05 Cn=250 SO ₄ =WS	Astac/=50(Trac) Collac/=TVS(tr) Collac/=TVS Collac/=TVS Conflactch)=TVS Cutactch)=TVS	Fe(ch)=VVS(dis) Fe(ch)=T000(Trec) Ptgecch)=TVS Mn(ch)=VVS Mn(ac/ch)=TVS Hn(ac/ch)=TVS Hn(ac/ch)=TVS	Ni(addh)=TVS Se(actch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac(ch)=TVS	
		Aq Life Cold 1 Reconsion 2 Water Supply Agreetium	D.0.=8.0 mg/ D.0.(sp)=7.0 mg/ pH=6.5-0.0 F.Coll=2000100ml E.Coll=6301100ml	NH ₃ (8000)=TVS Ct_2(60)=0.019 Ct_2(60)=0.011 CN=0.005	S=0.002 NO ₂ =0.05 B=0.75 NO ₃ =10 CI=250 SO ₄ =WS	Acrach=50(Trec) Cot(ac)=TVS(tr) Cot(ac)=TVS Criti(ac)=50(Trec) Criti(ac)=1VS Criti(acten)=TVS Criti(acten)=TVS	Cuelecth = TVS Felcth = TVS Felcth = VS(dis) Felcth = TVS Mai(ch) = TVS Mai(ch) = TVS)	Hordh = 0.01 (let Niedoth = TVS Sv(aoddh) = TVS Ag(aoth = TVS(tr) Zv(aodh) = TVS(tr) Zv(aodh) = TVS	
Bb. Matrixiem of un-nerned trautary from the headwarkers (Sec 32, T3N, R76(M) to Willow. Creek Reservolr Road (Section 8, T2N, R76(M)).	4	Ad Life Cold 2 Recreation 2 Agriculture	D.O.=6.0 mg/ D.O.(sp)=7.0 mg/ pH=6.5-9.0 F.Coli=2000/100m/ E.Coli=630/100m/	CX=0.2	5=0.002 8=0.75 MC ₂ =0.05 NO ₃ =10	As(ac)=100 Cd(ch)=10 Critich)=100 Critich)=100 Crivi(ch)=100	Cu(ac)=200 Pb(ch)=100 Mn(ch)=200 Nijac/ch)=200	Se(ch)=20 2n(ch)=2000	All metals are Trec unisss otherwise noted

Appendix C-1 1

REGION:12	Desig	Classifications	A LIUNS AND T	SIKEAM CLASSIFICATIONS AND WATEK QUALTT STANDARDS	NUMERIC	AMUAKUS NUMERIC STANDARDS			TEMPORARY
BASIN: Upper Colorado River									MUDIFICATIONS
Stream Segment Description			PHYSICAL and BIOLOGICAL	INORGANIC righ	2		METALS ugi		QUALIFIERS
 Mainstein of un-named tribulary to Willow Creek from the Willow Creek Reservoir Ra (Sec. 8, T2N, R76W) to the confluence Willow Creek (Sec. 17, T2N, R76W). 	đ	Aq Life Cold 2 Recreation 2 Agriculture	D. O.=8.0 mg/ D.O.(sp)=7.0 mg/ pH=6.5-8.0 F.CoH=2000100ml E.CoH=600100ml	NH ₃ (ac/dh)=TVS Cl ₂ (ac)=0.018 Cl ₂ (dh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05	As(ch)=100(Trac) Cc(ac)=1VS(tr) Cc(ch)=1VS Cc(h)(ac(ch)=1VS Cr(la(cch)=1VS Cr(lac(ch)=1VS	Cu(acth)=TVS Fe(ch)=1000(frec) Pb(acth)=TVS Mn(acth)=TVS Hg(ch)=0.01(tot)	Na(arddh)=TVS Se(arddh)=TVS Ag(ac)=TVS Ag(dh)=TVS(tr) Zh(arddh)=TVS(tr)	
7a. All tributations to the Colorsado River, including all wellands, from a point immediately between the confluences with the River for a River, which are not on National Forest lands, except for specific Bathys in Segment 7b and in the Blue River, Eagle River, and Roaring Fock River basins.		Aq Life Cold 1 Recreation 2 Water Supply Agriculture	D.O. =6.0 mg/ D.O.(sp)=7.0 mg/ pt=6.5-9.0 F.Cot=2000/100mi F.Cot=530/100mi	NH ₃ (actoh)=TVS C1 ₂ (actoh 018 C1 ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C=250 SO ₄ =WS	Astac)=50(Trac) Co(ac)=7VS(tr) Co(at)=7VS Co(at)=7VS Co(at)=7VS Co(ac(at)=7VS Co(ac(at)=7VS	Fe(ch)=WS(dis) Fe(ch)=1000(frec) Pb(acich)=TVS Mn(ch)=WS Mn(acich)=TVS Hg(ch)=0.01(tot)	Ni(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS{b Zn(ac/ch)=TVS	
7b. Mainteniem of Muddy Creek, including all inbudarkes, from the outlet of Worlder Mountain Research, to the conductors with the cubinatio Rhen; mainteners of Rock Creek. Deep Creek. Streephom Creek. Swrentwater Creek and the Phiny Rhee; Including all trautarkes, from their sources to their confluences with the Colorado River, which are not on National Forest lands.		Aq Life Cold 1 Recreation 1a Watar Supply Agriculture	D.O.=6.0 mg/ D.O.(sp)=7.0 mg/ pH=6.5-9.0 F.Coli=126/100ml E.Coli=126/100ml	NH ₃ (ac/ch)=TVS Cl ₂ (ac)=0.018 Cl ₂ (dh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =VS	As(ac)=50(Trec) Cd(ac)=TVS(ar) Cd(ac)=TVS Cd(ac)=TVS Cd((ac/ch)=TVS Cu((ac/ch)=TVS Cu(ac/ch)=TVS	Fa(ch)=WS(dis) Fa(ch)=1000(Trec) Pb(ac(ch)=TVS Mn(ch)=WS(dis) Mn(ac(ch)=TVS Hg(ch)=0.01(tot)	N4(ec/ch)=TVS Se(ec/ch)=TVS Ag(ec)=TVS Ag(ch)=TVS(tr) Zn(ec/ch)=TVS	
 Mainstern of the Williams Fork River, Including all tributaries and wedenids from the source to the confidence with the Cobrado River, accept for those tributartes listed in segment 9. 		Aq Life Cold 1 Recreation 1a Water Suppry Agriculture	D.O.+6.0 mg/l D.O.(sp)=7.0 mg/l pH=6.5.9.0 F.Coli=2001100ml E.Coli=1261100m	NH ₃ (actrch)=TVS Cl ₂ (ac)=0.018 Cl ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(b) Cd(ac)=TVS Cd(ac)=50(Trac) Ch1((ac)=50(Trac) Ch1((acd)=TVS Cu(acd)=TVS	Fe(ch)=WS(dis) Fe(ch)=VS(dis) Pb(ac/ch)=TVS Mn(ch)=VS Mn(ac(ch)=TVS Hg(ch)=D(01(tot))	Né(acich)=TVS Se(acich)=TVS Ag(ac)=TVS Ag(ac)=TVS(t) Zn(acich)=TVS	Polent of compliance for Fa and Min et Aspen Canyon Ranch well.
 All shifting the Colorado and Freser Rivers, Including all wellands, lates and reservoirs, within the Never Summer. Indian Paulss, Byers, Eagles Ness and Flat Tops Wittemmars Arrest. 	ð	Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=8.0 mg/ 0.0.(sp)=7.0 mg/ pH=8.5.9.0 F.Col=200100ml E.Col=126/100ml	NH ₃ (ac/ch)=TVS Cl ₂ (ac)=0.018 Cl ₂ (ch)=0.015 CN=0.005	s=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C=250 SO ₄ =WS	As(ac)=50(frec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=TVS Cd(ac(ch)=TVS Cu(ac(ch)=TVS Cu(ac(ch)=TVS	Fe(ch)=WS(cts) Fe(ch)=1000(Trec) Pt(ac/ch)=TVS Mn(ct)]=TVS Mn(ac/ch)=TVS Mg(ch)=0.01((cd)	NKextch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS Ag(ch)=TVS Zn(ac/ch)=TVS	
 Mainstern of the Frases River, including all tributantes and wetlands from the source to the confinence with the Colorado River. except for those tributarties included in Segment 9. 		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=6.0 mg/ D.0.(ep)=7.0 mg/ pH=6.5-9.0 F.Coll=220/100ml E.Coll=126/100ml	NH ₃ (ac/ch)=TVS Ct_2(ch)=0.018 Ct_2(ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=50(Trec) CAV([ac0dh)=TVS Cu(ac0dh)=TVS Cu(ac0dh)=TVS	Fe(ch)=WS(cfs) Fe(ch)=1000(Trac) Pb(ac/ch)=TVS Mn(ch)=TVS Mn(ac/ch)=TVS Mn(ch)=TVS Hg(ch)=0.01((cd)	Ni(sc/ch)=TVS Se(sc/ch)=TVS Ag(ch)=TVS Ag(ch)=TVS(th) Zn(sc/ch)=TVS	

REGULATION NO. 33 UPPER COLORADO RIVER BASIN (continued)

Appendix C-1

Appendix C-1 2

REGION:12	Desig	Classifications	Classifications NUMERIC STANDARD		NUMERIC	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
BASIN: Blue River Stream Segment Description			PHYSICAL and BIOLOGICAL	INORGANIC	MIC		METALS ugh		AND QUALIFIERS
 Maintenie of the Blue River from the source to Dillon Reservok. except for specific listing in Segments 2a and 2b. 		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.O.=6.0 mp/ D.O.(sp)=7.0 mp/ p/t=6.5-9.0 F.Cod=126/100m/ E.Cod=126/100m/	NH3(ac/ch)=TVS Ch2(ac)=0.019 Cl2(ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CH=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ao)=TV5(tr) Cd(ch)=TV5 Cn(tac)=50(Trec) Cn(tac(ch)=TV5 Cu(tac(ch)=TV5 Cu(ac(ch)=TV5	Fe(ch)=VVS(dis) Fe(ch)=1000(Trac) Pb(ac/ch)=TVS Mn(ch)=VVS Mn(ac/ch)=TVS Mn(ac/ch)=TVS	Nijedch)=TVS Se(acch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zr(edch)=TVS	
2a. Merrenter of the Blue River from the confluence with French Guilch to a point one half mile below Summit Country Road 3.	4	Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.O46.0 mg/ D.O.(4p)=7.0 mg/ pit-46.5.9.0 F.Coll=200100ml E.Coll=126/100ml	NH ₃ (ac/cn)⊨TVS Cl ₂ (ac)=0.019 Cl ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac/ch)=4 Cd(ac/ch)=50(Trec) Cd(a(ch)=50 Cd(ac/ch)=TVS Cu(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=WS(d8) Fe(ch)=1000(Trec) Pb(ach)=TVS Mn(cch)=TVS Mn(ecch)=TVS Hg(ch)=0.01((ot))	NK(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ac)=TVS Ag(ac)=TVS Zn(ac(ch)=e ⁽¹ .25 (kharohat)=e)(1	
 Mainstern of the Blue River from a point one haif mise below Summit County Road 3 to the confluence with the Swan River. 		Aq Life Cold 1 Recreation 1s Water Supply Agriculture	D.0.=8.0 mg/l D.0.(sp)=7.0 mg/l pH=6.5-9.0 F.Coli=200/100ml E.Coli=126/100ml	NH ₃ (au/ch)=TVS Cl ₂ (ch)=0.018 Cl ₂ (ch)=0.065 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CH=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)dh=1/2m ¹ (10te (x0tec)=3 1101 Cdf((ac)=50(Trec) Cdf((ac)=50 Cdf((ac)=50 Cdf((ac)=50 Cdf((ac)=50 Cdf((ac)=50 Cdf((ac)=50 Cdf((ac)=50 Cdf((ac)=50 Cdf((ac)=50) Cdf((ac)=50 Cdf((ac)=50) Cdf((ac)=50 Cdf((ac)=50) Cdf((ac)=50) Cdf((ac)=50 Cdf((ac)=50) Cdf((ac)=5	Fe(ch)=WS(dia) Fa(ch)=1000(Trec) Pb(ec/ch)=TVS Mn(ch)=WS Mn(cch)=TVS Hg(ch)=0.01(bu)	Nel ac/dt)=TVS Se(ac/dt)=TVS Ag(ac)=TVS Ag(ac)=TVS Ag(ac)=TVS(t) Zn(ac/dt)=e ^{(0.9805} In(ac/dt)=e ^{(0.9805}	
 Dworn Reservoir, Including an direct tributariess and all influtances, weatances, where and reservoirs in the Blue Rover dramage above Blaon Reservoir. succept for specific tistings in Segments 1, 2, 5, 5, 10, 11, 12, 13 and 14. 		Aq Life Cold 1 Recretion 1a Water Supply Apriculture	D.0.=6.0 mg/ D.0.(sp)=7.0 mg/ PH=6.5.9.0 F.Cot=22011100mi F.Coti=126/100mi	NH ₃ (ac(a))=TVS Cl ₂ (ac)=0.013 Cl ₂ (d)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Tirac) Ccl(ac)=TVS(tr) Ccl(ac)=TVS Ccl(tac)=56(Tirac) Ccl(tac/ct)=TVS Ccl(tac/ct)=TVS Cu(ac/ct)=TVS	Fe(ch)=WS(cfb) Fo(ch)=1000(Trac) Pb(actch)=TVS Mn(ch)=WS Mn(ch)=WS Mn(acch)=TVS Mn(acch)=TVS	Né(actch)≓TVS Se(actch)≓TVS Ag(ac)=TVS Ag(ch)=TVS(b) Zn(actch)=TVS(b)	Special standards for the Research only: Total Phosphorus as P=0.0074 mg/ in the lop 15 melers morths of July, August September & October.
4. Defeted.									
 Meansteam of Socia Creek, from this source to Dillion Reservoir. 		Aq Life Cold 1 Recreation 1a Agriculture Water Supply	0.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=8.0.0 0 F.Coll=126/100m/ E.Coll=126/100m/	NH ₃ (ac/ch)=TVS Cl ₂ (ac)=0.019 Cl ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C=250 SO ₄ =WS	As(ch)=50(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ch)=TVS Cr(t(ac)=50(Trac) Cr(t(ac)=51VS Cu(ac)ch)=TVS	Fe(ch)=WS(ds) Fe(ch)=1000(Trec) Pb(acd)=YS Mn(ch)=WS Mn(acdh)=TVS Mg(ch)=0.01(w()	NI(mo/ch)=TVS Se(ac(ch)=TVS Ag(ac)=TVS Ag(ch)=TVS Ag(ch)=TVS Zn(ac(ch)=TVS	
 Meanwarn of the Strake River, Including all unburgations and wetdands from the exurce to Ditkon Reservols, accords for specific listings in Segments 7, 8 and 9. 	9	Ag Life Cold 1 Recreation 1a Water Supply Agrioutibute	D.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=6.5-8.0 F.Coll=2004100ml E.Coll=1264100ml	NH ₃ (actub)=TVS Cl ₂ (dc)=0.019 Cl ₂ (dc)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C1=250 SO ₄ =¥S	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=50(Trec) Cnti(ac)=50(Trec) Cnti(ac)=1VS Cu(ac)=1VS	Fe(ch)=WS(cls) Fe(ch)=1000(frec) Pb(ac/ch)=TVS Mar(c))=WS Mar(ac/ch)=YVS Mar(ac/ch)=TVS Hg(ch)=01((tot)	Nitacich)=TVS Se(ac/ch)=TVS Ag(ac/r)=TVS Ag(ac/r)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	Tamporary modifications: Type III Cultah=12 Cultah=17 no Zn(ac) Zn(ac)=554 Effective until 2/28/09.
 Mainstein of Paru Creek, including all moutanies and wettands from the source to the confluences with the Snake River, except for specific listing in Segment 3. 	5	Aq Life Cold 1 Recreation 2	D.O. =6.0 mg/ D.O. (spin* 0 mg/ pine6.5 spin 0 mg/ F. Colin:2000/100ml E. Colin:630/100ml	MH ₃ (ac/ch ⊨TVS Cb ₂ (ac)=0.019 Cb ₂ (ch)=0.011 CN=0.005	S=0.002 NO ₂ =0.05	As(ch)= 100(Treo) Colon= TVS(tr) Colon= TVS Colon= TVS Colon= TVS Colon= TVS Colon= TVS Colon= TVS	Fe(ch)=1000(frec) Pb(ardch)=TVS Mn(ardch)=TVS Hg(ch)=0.01((al)	N((ac/ch)=TVS Se(ac/b)=TVS Ag(ac)=TVS Ag(ch)=TVS Ag(ch)=TVS Zn((ac/ch)=TVS	Temporary modifications: no Cu(er) Cu(er)=52 Cu(er)=53 Ph(er)=53 P

Appendíx C-1 3

REG	REGIONAT2 BAEN- Rive Phone	Desk	Classifications	Classifications UMERIC STAT		NUMER	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
Stree	Stream Segment Description			PHYSICAL and BIOLOGICAL	INDRGANIC			MÊTALS ug ⁴		OUAUFIERS
œ	Mainstein of Keystone Celeh, Inducing all Intrustries and weitands from the sources to the combanes with the Shale Kiver. Mainstein of Chihumbura Ceerth including all inductions, and weitands from the source to the combance with Peru Cieet. Maintern of the North Fock of the Shale Rowr, including all tributance and weitands from the source to the combance with the Shake Rover.		Ag Life Cold 1 Recreation 18 Water Supply Agriculture	D.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Coli=200/100ml E.Coli=126/100ml	NH ₃ (8045)=TVS CL ₂ (80=0.019 CL ₂ (41)=0.011 CH=0.005	S=0.002 B=075 NO ₂ =0.05 NO ₃ =10 Cd=250 SO ₄ =₩S	Astach=50(Trec) Cd(ac)=TVS(tr) Cd(d)=TVS Cd(d)=TVS Cont(ac)=50(Trec) Cont(ac(ch)=TVS Cont(ac(ch)=TVS Cu(ac(ch)=TVS	Fe(ct)=VS(dis) Fs(ct)=1000(Trec) Pb(ac(ct)=TVS Mn(ct)=TVS Mn(ct)=TVS Hg(ct)=0.01(mt)	NI(addr)=TVS Set(addr)=TVS Ag(ac)=TVS Ag(ac)=TVS Ag(dr)=TVS(tr) Zn(addr)=TVS	
a.	Mainsteim of Deer Creek, including all infoutatios and wedlands from the source to the confiuence with the Shake River.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Coll=200/100ml E.Coll=128/100ml	NH ₃ (82/ch)=TVS CL ₂ (8c)=0.019 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=50(Trec) Criti(ac)=50(Trec) Criti(ac)=TVS Cu(ac(a)=TVS	Fa(ch)=WS(dia) Fa(ch)=1000(Trac) Pb(ac(ch)=TVS Mn(ch)=TVS Mn(ac(ch)=TVS Hg(ch)=0.01(tol)	N((eutch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ac)=TVS Ag(ac)=TVS Zn(ac(ch)=TVS	
10.	Matholem of French Guidch Inclusing all Influences and weltlands from the source to a polint 1.5 million below Lincoln.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=6.5.9.0 F.Coli=7.00ml F.Coli=7.261100ml	NH ₃ (ac/ch)=TVS CL ₂ (ac)=0.018 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C=250 SO ₄ ±WS	Astact=50(Trec) Codiact=TVS(tr) Codiact=TVS Codiact=SQTrec) Contract=SQTrec) Contract=SQTrec) Contract=SQTrec)	Fe(ch)=VS(dis) Fe(ch)=1000(Trec) Pb(actch)=TVS Mn(ch)=VVS Mn(actch)=TVS Hg(ch)=0.01(tax)	Ni(actch)=TVS Se(actch)=TVS Agiac)=TVS Agiac)=TVS Agich)=TVS[IV] Zn(actch)=TVS	
1		đ	Aq Lile Cold 1 Recrestion 15 Agnouture	D.O. =6.0 mgf D.O.(sp)=7.0 mg/ pH=6.5-9.0 F.Coll=225100mi E.Coll=205100mi	NH 3(ac/ch)=TVS CL ₂ (ac)=0.011 CL ₂ (ch)=0.011 CN=0.005	S=1.002 B=0.75 NO ₂ =0.05	Ac(ch)=100(Trec) Collecton)=existing guality Crill(acidn)=TVS Crill(acidn)=TVS Cutlacten)=TVS Cutlacten)=TVS	Ou(ch)=TVS Fe(ch)=1000(Trec) Pb(ac/ch)=existing quality Mn(ac/ch)=TVS Hg(ch)=0.01(cot)	NI(ac/ch)=TVS Se(ac/ch)=TVS Ac(ac)=TVS Ag(ac)=TVS Ag(ac)=TVS(tr) Zn(ac/ch)=extsting quality	
12	Mainsteim of Illinois Guich and Fredonia Guich from Ibeir source to Ibeir confilience with the Blue River.	告	Aq Life Cold 2 Recreasion 1b Water Supply Agriculture	D.O.=8.0 mgf D.O.(sp)=7.0 mg/ pH=6.5-9.0 F.Coli=205/100ml E.Coli=205/100ml	NH ₃ (acidh)=TVS Ci ₂ (ac)=0.019 Ci ₂ (dh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	Autect=sol(free) Collact=TVS(tr) Collact=TVS Collact=TVS Collact=SC(free) Collact=SC(free) Collact=TVS Cu(aucth)=TVS	Fetcn)=WS(dis) Fe(cn)=1000(Trac) Pt(acch)=1VS Mn(cn)=VS Mn(adcn)=1VS Hg(cn)=0.01(cn)	Ne(ac(ch)=TVS Se(ec(ch)=TVS Aq(ec)=TVS Aq(ec)=TVS Aq(ec)=TVS(tr) Zn(ac(ch)=TVS	Temporary Madification: Zn(ch)=650 Effective until 2/28/05 for liftings Gulden
55 15	Maintainen of Tenmis Creek from the Climas Pershall Flums to a point immediately above the confluence of West Tenmis Creek and all thibutancis and wellands from the source at Tenmis Creek to a paint immediately above the confluence with West Tenmis Creek, except for the specific listing in Segment 15.		Aq Life Cold 1 Recreation 1b Agriculture	D.O.=6.0 mg/l D.O.(sp)=7.0 mg/l pH=6.6.9.0 F.Coli=325/100ml E.Coli=205/100ml	NH ₃ (ac/ch)=TVS CL ₂ (ac)=0.019 CL ₂ (dh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05	As(ch)=100(Trec) Cd(ac)=TVS(n) Cd(ac)=TVS Cd(ac)=TVS Cd(ach)=TVS Cd(acch)=TVS CAV((accch)=TVS CAV((accch)=TVS	Cu(ackth)=TVS Fa(dh)=1000(Trac) Pb(acth)=TVS Mn(acth)=TVS Ma(dh)=0.01(00)	Nk(au/ch)=TVS Se(au/ch)=TVS Ag(ch)=TVS Ag(ch)=TVS(b') Zn(au/ch)=TVS(b')	
14.			Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=6.0 mg/ 0.0.4sp)=7.0 mg/ 0.4sb)=5.8.0 F.Col=12501100ml E.Col=1251100ml	NH ₃ (ac/ch)=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	Astach=S0(Trac) Cd(ach=TVS(tr) Cd(ah)=TVS Cd(ah)=TVS Cd(ach=TVS Cu(ac(ch)=TVS Cu(ac(ch)=TVS	Fe(ch)=WS(dls) Fe(ch)=1000(Trec) Pb(ac/ch)=TVS MA(ch)=WS MA(ch)=TVS MA(ch)=0.01(tat)	NI(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ec/ch)=TVS	
15.	Methodem of Calvion Creek from the source to the confluence with Tennile Creek		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=6.59.0 F.Coli=20010ml E.Coli=126100ml	NH-3(acten)=TVS CI2(acten)=0.019 CU2(ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₃ =10 NO ₃ =10 SO ₄ =WS	As(ac)=50(Trac) Co(ac)=1VS(tr) Co(d)=1VS(tr) Co(d)=1VS Co(d)=1VS Co((ac)=1VS Co((ac)=1VS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb(ac(ch)=TVS Mn(ch)=VS Mn(ch)=VS Mn(cch)=VS He(ch)=Q.01((ot)	Mi(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS(tr) Zn(ac/ch)=TVS	

REGULATION NO. 33 UPPER COLORADO RIVER BASIN (continued) STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

Appendix C-1 4

Design International and Network in the net	TEMPORARY MODIFICATIONS AND	QUALIFIERS	N(acida)=TVS Sequecta)=TVS Aqtac=TVS Aqtac=TVS Zn(acida)=TVS	N((acidh)=TVS Selaacha=TVS Selaacha=TVS Selaacha=TVS Agidoh=TVS Zr((acidh)=TVS	N([addh)=TVS Seladdh=TVS Seladdh=TVS Seladt=TVS Ag((add)=TVS Zn(addh)=TVS	NI(actch)=TVS Selecth)=TVS Agec+TVS Agen>=TVS Agen>=TVS Zn(actch)=TVS	N(acidh)=TVS Se(acidh)=TVS Ag(ac)=TVS Ag(ac)=TVS(tr)
Design Classification PHYSICAL MORGANIC an River, Including all weldbreds, Jakes and angle intern the audies of Clinn Reservoir to the angle intern the audies of Clinn Reservoir to the Approximation of Revealence, Techer Schort and Approximation of Approximation of Approximation of Approxim		METALS ugu					
Desig Classification PhYSICAL MORGANIC an River, Including all wildonch, Usios and aughan water and PEDMagen Poak Widemess Do 56 0 mg/l and the control of the codet 1 DO 66 0 mg/l be constructed and 20 (construction) MM (acchi)= 0.00 (construction) Second Colorability of the codet 1 DO 66 0 mg/l be constructed and 1 MM (acchi)= 0.01 (construction) Second Colorability of the codet 1 DO 66 0 mg/l be constructed and 1 MM (acchi)= 0.01 (construction) Second Colorability of the codet 1 DO 66 0 mg/l be constructed and 1 MM (acchi)= 0.01 (construction) Second Colorability of the codet 1 Second Colorability	RIC STANDARDS		As(ac)=50(Trec) Cd(ac)=7VS(tr) Cd(ch)=TVS Cd(ch)=TVS Cd(ch)=TVS Cn((ac)=50(Trec) Cn((ac)=50(Trec) Cn((ac)=1)VS	As(ac)=50(frec) cd(ac)=TVS(tr) cd(at)=TVS cd(at)=TVS cd(at)=TVS cd(at)=TVS cd(at)=TVS	As(ac)=S0(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS	Asiac=50(Trec) Cutitac=TVS(tu) Cutitac=50(Trec) Cutitac=50(Trec) Cuvitaceh=TVS Cuvitaceh=TVS	As(ac)=50(Trac) Cd(ac)=TVS(tr) Cd(ch)=TVS Cd(ch)=TVS Cdill[ac]=50(Trec)
Des and River, Instanting all wildonds, lakes and agene Nest and Plantingan Poak Widemess Widemess Widemess River, Inducting all wellands, how to the widemess River, Inducting all wellands, how the search in Careen Mauritain Reservoir to the wellands, how the River, inducting all wellands, how the search in Segment 20. Each and Spruse Creat. Inducting all Intuitaites Each and Spruse Creat. Inducting all Intuitaites	NUME	U Z	\$=0.002 1=0.75 NO ₂ =0.05 NO ₂ =10 CH=250 SO ₄ =WS	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CT=250 SO ₄ =WS	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =₩S	S=0.002 B=0.75 NO ₃ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	S=0.002 B=0.75 NO ₂ =0.05
Des and River, Instanting all wildonds, lakes and agene Nest and Plantingan Poak Widemess Widemess Widemess River, Inducting all wellands, how to the widemess River, Inducting all wellands, how the search in Careen Mauritain Reservoir to the wellands, how the River, inducting all wellands, how the search in Segment 20. Each and Spruse Creat. Inducting all Intuitaites Each and Spruse Creat. Inducting all Intuitaites		INORGA mg/	NH ₃ (acch)=TVS Cl ₂ (ac)=0.018 Cl ₂ (ar)=0.011 CN=0.005	NH ₃ (ac/ch)=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005	NH ₃ (ac/dh)=TVS Cl ₂ (de)=0.019 Cl ₂ (dh)=0.011 CN=0.005	NH ₃ (ac/ch=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005	NH ₃ (ac/ch)=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011
Des River, Including all withinds, lakes and agree Neet and Plarmagan Poak Widemess Widemess Widemess River, Including all weilands, lakes and Widemess Widemes		PHYSICAL and BIOLOGICAL	D.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Col=2001100mi E.Coli=128/100mi	D.O.=8.0 mg/ 0.O.(sp)=7.0 mg/ pH=8.5-9.0 F.Col=1201100ml E.Col=1201100ml	0.0. =6.0 mg/ 0.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Coi=2001100ml E.Coil=1261100ml	D.O. #6.0 mg/ D.O.(sp)=7.0 mg/ PH=8.6=0.0 F.Coll=2000/100m/ E.Coll=130/100m/	C.O.=6.0 mg/ D.O.(5p)=7.0 mg/ pH=6.5-9.0 F.Coli=2000/100mi
Des River, Including all withinds, lakes and agree Neet and Plarmagan Poak Widemess Widemess Widemess River, Including all weilands, lakes and Widemess Widemes	Classifications		An Lile Coat 1 Reveation 1a Water Supply Agrouture	Arg Life Cold 1 Recreation 1a Water Supply Agriculture	Aq Life Cold 1 Recreation 1a Vater Supply Apriculture	Ag Life Cold 1 Recreation 2 Water Supply Agrouture	Aq Life Cold 1 Recreation 2 Water Supply Agricuture
River arr Description arrest to the Blaue River, including all welfonds, lakes and an within the Blaue River, including all welfamigan Pools Wademess and with the Colorado River, including all welfamily Reserved to The scele with the Colorado River, including all welfamily Reserved to The cell with the Colorado River, including all welfamily Reserved to The cell with the Colorado River, including all welfamily Reserved to The cell with the Colorado River, including all welfamily Reserved for the specific same River, including all welfamily Reserved for the specific same River, including all welfamily from the former Annun Reserved to the comfutencia with the Blaue tense, from their sources to the comfutencia with the Blaue tense, from their Rourdes Creek Indiading all Inteulantee tense, from their Rourdes to the comfutence with the Blaue	Desig		۵.				
REGION:12 BASIN: Blue I6. Kall hlue Areas. Areas. Areas. Areas. 17 Hadhate Areas. 19. All thou oudel o excella	REGION:12 BASIN: Blue River	Stream Segment Description	Au Alputarres to the Blue River, Including all weldends, leaves and reservoins. Within 1'A Eagles Nest and Playmagan Pook Wademess Areas.	Mathistem of the Duke Rever from the outles of Dillon Reservoir to the colorado Rovet.	All informations to the Blue River, Including all weakends, from the outble of Ditton Reserved, in the outble of Green Mauritain Reserved, except for the specific semigrin Sagmant 16.	All influctions to the Blain River, including all writiands, from the outlet of Green Mountain Reservoir to the combines with the Coldredo River, Accelet for specific listings in Segment 20.	Mainstamme of Elliot Creek and Spruce Creek inducting all tribuilaries and registeries, from their sources to the semiaunce with the Blue River.

	3 I KEAN	I CLASSIFICA	THOME SHOLLS	STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS	T STANDA	200			
REGION:12	Dessig	Classifications			NUMERI	NUMERIC STANDARDS			TEMPORARY MODIFICAT(ONS
BASIN: Eagle Kuver Stream Segment Description			PHYSICAL and BIOLOGICAL	INORGANIC	U Vi		METALS Ug1		CUALFIERS
 At tributaries and wedands to the Eagle River system within the Gore Range - Eagles Neel, Wilkenness Area and Hely Cross Wademass Area. 	owi	Ag Life Cold 1 Recreminon 1a Wimor Suppry Agriculture	0.0.=6.0 mgA 0.0.(sp)=7.0 mgA pH=8.5-9.0 F.Col=2001100ml E.Coli=126/100ml	NH ₃ (ectah)=TVS Cl ₂ (ectah)=TVS Cl ₂ (ch)=0.018 CH ₂ (ch)=0.011 CN=0.005	S=9.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=TVS Cd(acth)=TVS Cu(acth)=TVS Cu(acth)=TVS	Fe(ch)=WS(dis) Fe(ch)=1009(Trec) Potazch)=TVS Mn(ch)=WS Mn(ch)=VVS Mn(acch)=TVS Hng(ch)=0.01(Rot)	NK(ac/ch)=TVS Se(ac/ch)=TVS Ag(ch)=TVS(tr) Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	
 Mainstam of The Eagle River from the source to the comprostor house bridge of Balden. 	¹ Consistent with	the provisions of sec Aq uife Cold 1 Recreation 1a Water Supply Agriculture	Add Life provisions of section 25-8-104 C.R.S. the OW designation that not apply with Add Life Cont 1 D.O.=6.0 mol D.O.=6.0 mol D.O.(197) NH ₃ (eCch)=TVS S=0.002 Reacond that cont 1 D.O.=6.0 mol D.O.(197) NH ₃ (eCch)=TVS S=0.002 S=0.75 Reacond table ND D.O.(100) NO NO NO NO Agriculture E.Codi=128/100m CN=0.005 E.Codi=128/100m CN=0.005 SO SO Agriculture E.Codi=128/100m CN=0.005 SO SO <td>e OW designation the NH₃(ec:dn)=TVS DI₂(ac;p0.019 CI₂(dh)=0.011 CN=0.005</td> <td></td> <td>respect to the Homestake Water Project of the Officer and Colorado Springs. As(ac)=50(Trec) Fe(d)=WS(6as) Ni(ac/dn)=TVS Colora=TVS(h) Fe(d)=TVS Ni(ac/dn)=TVS Colora=TVS Colora=TVS Potechia=TVS Ag(an)=TVS(h) Colora=TVS Min(ac/dn)=TVS Ag(an)=TVS(h) Colora=TVS Min(ac/dn)=TVS Ag(an)=TVS(h) Colora=TVS Min(ac/dn)=TVS Ag(an)=TVS(h)</td> <td>a Water Project of the Fe(ch)=WS(des) Fe(ch)=100(Trec) Pb(acdch)=TVS Mn(ch)=WS Mn(ch)=WS Hg(ch)=0.0 (ftol)</td> <td>All and Autora and (Ni(acth)=TVS Se(acth)=TVS Ag(ac)=TVS Ag(ac)=TVS(t) Zn(acth)=TVS</td> <td>olorado Springs.</td>	e OW designation the NH ₃ (ec:dn)=TVS DI ₂ (ac;p0.019 CI ₂ (dh)=0.011 CN=0.005		respect to the Homestake Water Project of the Officer and Colorado Springs. As(ac)=50(Trec) Fe(d)=WS(6as) Ni(ac/dn)=TVS Colora=TVS(h) Fe(d)=TVS Ni(ac/dn)=TVS Colora=TVS Colora=TVS Potechia=TVS Ag(an)=TVS(h) Colora=TVS Min(ac/dn)=TVS Ag(an)=TVS(h) Colora=TVS Min(ac/dn)=TVS Ag(an)=TVS(h) Colora=TVS Min(ac/dn)=TVS Ag(an)=TVS(h)	a Water Project of the Fe(ch)=WS(des) Fe(ch)=100(Trec) Pb(acdch)=TVS Mn(ch)=WS Mn(ch)=WS Hg(ch)=0.0 (ftol)	All and Autora and (Ni(acth)=TVS Se(acth)=TVS Ag(ac)=TVS Ag(ac)=TVS(t) Zn(acth)=TVS	olorado Springs.
 All Infortation to the Eagle River, including writings, from the source to the compressor house problem the definit, earlied for the specific listing in Segment 4 and these votiens included in Segment 1. 		Aq Life Cold 1 Racreetion 1a Weter Supply Agriculture	D.O.=6.0 mg/ D.O.(sp)=7.0 mg/ PH=6.5=9.0 F.Col=200100ml E.Coll=126/100ml	NH ₃ (ac/ch)=TVS Cl ₂ (ac)=0.019 Cl ₂ (ch)=0.011 CN =0.005 CN =0.005	S=0.002 B=0.75 NO ₃ =1.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trac) Cd(ac)=TVS(a) Cd(at)=TVS Cd(at)=TVS Cd(at)=50(Trac) CrVI(ac(bt)=TVS Cu(ad(at)=TVS	Fe(ch)=WS(db) Fe(ch)=1000(Trec) Pb(ac(ch)=TVS Mn(ch)=VS Mn(ac(ch)=VS Mn(ac(ch)=TVS Hg(ch)=01(te()	Ni(acich)⊨TVS Se(acich)⊨TVS Ag(ac)⊨TVS Ag(ch)⊨TVS Zn(acich)⊨TVS Zn(acich)⊨TVS	
 Mainstem of Homestake Orenek from the confinencies of the East Fork to the confileence with the Eagle River. 		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.O.==6.0 mg/ D.O.(sp)=7.0 mg/ pH=6.5.9.0 F.Coll=200/100ml E.Coll=126/100ml	NH ₃ (scch)=TVS Cl ₂ (ac)=0.019 CL ₂ (a)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CP2560 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=50(Trec) CVII(ac)=50(Trec) CVII(ac)=tr)TVS CUI(ac)=tr)=TVS	Fe(ch)=WS(dis) Fe(ch)=T000(Trec) Pb(acdx)=TVS Mn(ch)=WS Mn(cd)=WS Mn(acdc)=TVS Hn(acdc)=TVS Hn(acdc)=TVS	Ni(acich)=TVS Se(acich)=TVS Ag(ac)=TVS Ag(ch)=TVS(r) Zn(acich)=TVS	
Sa Mainstern of the Broom River from a point immediately above compressor hermen cirking at Rudolpt to a point immediately above the Hitpinery 24 Bhuen near 1 gmon Road.	9 (c)(too Baseline doen net apply	Aq Life Celd * Nation 18 Water Supply Agriculture	0.0.=6.0 mg/ b1-0.1951=7.0 mg/ b1-36.501=7001 n0mi E.Codi=17811001 n0mi	NH-3(acton)=TVS CL2(act=0.019 CN=0,005 CN=0,005	S=0.002 B=0.76 No.2=0.005 No.2=10 S0.4=WS S0.4=WS	As(ch)=50(Trec) Cd(ch)=TVS(tr) Cd(ch)=TVS(tr) Cd(ch)=TVS(trec) Cd(th)=TVS CnNiacch)=TVS Cu(indth)=TVS	Fe(ch)=WS(dis) Fe(ch)=100(Trec) Fe(ch)=1VS Mn(ch)=VVS Mn(ch)=VVS Mn(acch)=TVS	Hg(dr)=0.01(01) Hg(dr)=0.01(01) Se(exch)=TVS Se(exch)=TVS Ag(ex)=TVS Ag(ex)=TVS Ag(ex)=106 Zn(ch)=106	Semantical Temporary Muchicalions effective through 11/1/09. Zallep-472 Zallep-472 Zallep-412 Zallep-412 Zaller-178 Zaller-178 Zaller-1518 Zaller-1518
50. Malimment of the Eagle RMs from a point monthling above the high way 24 Bridge near Tigh was Road to a point immediately above the confluence with Martin Creak.	6/20/00 Baseline does not epply	Aq Life Cold 1 Recretion 1a Water Supply Adminibura	0.0.46.0 mg/ 0.0.45.97 0 mg/ 0.0.45.97 00 mg/ F.Cole-1251100ml E.Cole-1251100ml	MH3/Bacter)=TVS Ct_2/Bach=0.018 Ct=0.005 CH=0.005	S=0.002 B=0.75 No ₂ =0.05 No ₃ =10 SO ₄ =WS	As(ch)=50(Trec) Col(ce)=TVS(tr) Col(ce)=TVS(trec) Col(ce)=50(Trec) Col(ce)=50(Trec) Col(ce)=1VS	Fe(ch)=WS(dis) Fe(ch)=1000(Trac) Placush=TVS Mn(ch)=VVS Mn(cc/ch)=TVS	Hg(d)=0.01(bt) M(au(d))=TVS Secreth)=TVS Ag(ac)=TVS Ag(ac)=TVS Ag(ac)=TVS(t) Zn(ac)=TVS	Seesonal Tamponery Modifications Medifications March 1 through April 20(ac)=332 20(ac)=332 20(ac)=332 20(ac)=33 20(ac)=123 20(ac)=123

REGULATION NO. 33 U STREAM CLASSIFICATION
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REG	REGION:12	Desig	Classifications	g Cassifications NUMERIC STAN		NUMERIC	NUMERIC STANDARDS			TEMPORARY
BAS	BASIN: Eagle River									MODIFICATIONS AND
Stree	Stream Segment Description		,	PHYSICAL and BIOLOGICAL	INORGANIC	<u>D</u>		METALS ugJ		QUALIFIERS
છે	Mainstern of the Eagle River from a point immediately above Martin Creek to a point immediately above the contraintnos with Gore Creek.	Branno Basenine chas Foit apply	Aq Life Cold 1 Recreation 1a Whiter Supply Agriculture	D.O.=6.0 mg/ D.O.=6.0 mg/ D.O.(esp)=7.0 mg/ F.Coli=200100ml E.Coli=128/100ml	NH3(acth)=TVS G2(ac)=0.019 C2(ch)=0.011 CN=0.005	S=0.002 B=0.15 NO ₃ =10 NO ₃ =10 SO ₄ =WS SO ₄ =WS	As(ch)=50(Trec) cd(ac)=TVS(tr) cd(ac)=TVS(tr) cd((ac)=TVS cd((ac)=1VS cv((ac)=1VS cu(ac)=1VS cu(ac)=1VS	Fe(ch)=WS(dis) Fe(ch)=1000(frec) Mat(ch)=TVS Mn(acdh)=TVS Mn(acdh)=TVS	Hg(ch)=0.01 (tox) Hg(ch)=0.01 (tox) N(=ccd)=17VS N(=cc)=17VS Ag(ch)=17VS(tr) Zn(=cc)=106 Zn(=c)=106	Seasonal Temporary Modifications type il altective through 1/1/09. March 1 through Ant 30 Zn(4)=275 Zn(4)=275 Zn(4)=275 Zn(4)=275 Zn(4)=275 Zn(4)=705 Zn(4)=705 Zn(4)=705
v j	All tributaries to the Eagle River, tributing all weithinds, from the compression buyes bridge at Bocken to a point trimmulately below the comfusions with Laise Creak, except for the specific leange in Segments 1, 7 and 6.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pi+e6.5.9.0 F.Coll=200/100ml F.Coll=200/100ml	NH 3(8C/ch)=TVS Cl ₂ (8c)=0.019 Cl ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C1=250 SO ₄ =WS	Autor	Fe(ch)=VS(du) Fe(ch)=1000(Trac) Pb(ardh)=TVS Mn(cd)=VYS Mn(acdh)=TVS Hg(ch)=0.01(lun)	NI(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ac)=TVS(h') Zn(ac/ch)=TVS(h')	
78.			As Life Cold 1 Recreation 1a Water Supply Agriculture	D.0.=6.0 mgf 0.0.(sp)=7.0 mgf pH=6 5-8.0 F.Coll=2001100ml F.Coll=1201100ml	NH3(8001)=1VS C2_(c01=0.019 C2_(c01=0.011 CN=0.005	S=0.002 8=0.75 NO ₂ =0.05 NO ₃ =10 C =250 SO ₄ =WS	As(ac)=50(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(dn)=TVS Cd(dn)=TVS CrV((acdn)=TVS Cu(acdn)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Ph(acdh)=TVS Mn(ch)=WS Mn(ch)=WS Hg(ch)=0.01(tot)	NI(ac/ch)=TVS Se(ac/ch)=TVS Ag(ch)=TVS Ag(ch)=TVS Ag(ch)=TVS(tr} Zn(ac/ch)=TVS	
Ŕ	Maintrism of Cross Creek from a point immediately below the Mentum Middle School to the confuence with the Eagle River, except for those vulters included in Segment 1.	9,20,000 Baseline dos not apply	Aq Life Cold 1 Recruition 1a Recruition 2 Agricultura	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ H=6.55.0 F.Coll=200100ml E.Coll=1281100ml	NH ₃ (acta)=TVS C2 ₂ (ac)=0.018 C2 ₂ (a1)=0.011 CN=0.005	S=0.002 N=0.75 N=0.75 N=0.05 N=10 S=10 SO4=WS SO4=WS	As(ac)=50(Trec) colact=TVS(tr) colacit=TVS(tr) contilac)=50(Trec) contilac)=50(Trec) contilac)=1VS cutactch)=TVS	Fe(ch)=WS(dis) Fe(ch)=100(Troc) Mn(ch)=VS Mn(ch)=VS Mn(ch)=VS Mn(acch)=TVS Hg(ch)=0.01(tot)	Milacichi=TVS Selecthi=TVS SelectTVS Agichi=TVS(tr) Zri(secoh=TVS	Sessonal Temporary Modifications Modifications Figuration for an March 1 through April 20(ch)=193 Zn(ch)=193 Mary 1 through Figuras) 29 Zn(ch)=118 Zn(ch)=118

REG	REGION:12	Desig	Classifications			NUM	NUMERIC STANDARDS			TEMPORARY
BAS	BASIN: Eagle River									AND
Stree	Sutuam Sequenti Description			PHYSICAL and BIOLOGICAL	INORGANIC mg/	NC		METALS uG1		QUALFIERS
co	Mahalem of Sone Creek from the confluence with Black Gore Creek to the Sonfluence with the Eagle River.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.O. =6.0 mg/ D.O.(sp)=7.0 mg/ PH=6.5-9.0 F.Coll=726/100m/ E.Coll=126/100m/	NH ₃ (ac/d))=TVS Ct ₂ (ac)=0.019 Ct ₂ (dh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ch)=TVS Cd(th)=TVS Cd(th)=TVS Cut(ac(th)=TVS Cut(ac(th)=TVS	Fe(ch)=VS(dis) Fe(ch)=1000(fTrac) Pb(acch)=TVS Mn(ch)=TVS Mn(acch)=TVS He(ch)=0.01(au)	Nifecdh)⊨TVS Se[acth)=TVS Ag(ac⊨TVS Ag(ac⊨TVS Ag(ah)=TVS(t) Zn(acth)=TVS	
ci	Methodian of the Eagle River from Core Creek to the certificence with the Colorado River.		An Life Cold 1 Riotranition 18 Wahr Supply Agriculture	D.O. +6.0 mg/ D.O. (sp)=7.0 mg/ pH=6.5-9.0 F.Coll=250100ml F.Coll=1261100ml	NH ₃ (acch)=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 HO ₂ =0.05 NG ₃ =10 CI=250 SO ₄ =WS	Astac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=50(Trec) Cn1l((ac)=50(Trec) Cn1l((ac)=TVS Cu((acd))=TVS Cu(acd)=TVS	Fe(ch)=WS(dfs) Fe(ch)=1000(Trec) Pb(sc/ch)=TVS Mn(ch)=WS Mn(cc)=WS Mn(cc/ch)=TVS Hg(ch)=0.01(bul)	NI(ac(ch)=TVS Se(ac(ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(v) Zn(ac(ch))=TVS	
10.	All Infludinties to the Eagle River, Including all weisands, from a point immediately below the confluence with Jake Creek to the confluence with the Colorado River, except for specific lettings in Segments 11 and 12, and these walks included in Segment 1.		Ag Life Cold 1 Recreation 1a Water Supply Agriculture	D.O.=6.0 mg/ D.O.(sp=7.0 mg/ PH=6.5-9.0 F.Coli=200100ml E.Coli=126100ml	NH-3(80(31)=TVS CL2(30)=0.019 CL2(33)=0.011 CL=0.011 CN=0.005	S=0.002 B=0.75 NO2=0.05 NO3=10 C=250 SO4=WS	As(ac)=50(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS(tr) Cd(ac)=FVS Cd(ac)=FVS Cd(ac)=TVS Cd(ac)=TVS	Feych)=WS(dls) Feych)=1000(Trec) Pb(actch)=TVS Mn(actch)=TVS Mn(actch)=TVS Hg(ch)=0.01(nt)	NN BCCAD)=TVS Secarch=TVS Ag(ac)=TVS Ag(ac)=TVS Ag(ac)=TVS(u) Zn(ac/ch)=TVS	
1	Mainstein of A&mil Creek from the source to the confluence with the Eagle River, mainstream of Milk Creek from the source to the confluence with the Eagle River.	Ę	Aq Life Cold 2 Recreation 1b Agriculturs	D.O.=6.0 mg/ D.O.(sp)=7.0 mg/ pH=6.5-8.0 F.Coll=205/100ml E.Coll=205/100ml	CN(ac)=0.2 NO ₂ (ac)=10 NO ₃ (ac)=100	B=0.75 C1=250	As(ch)=100(Trec) Be(ch)=100(Trec) Cd(ch)=10(Trec) Crili(ch)=100(Trec)	CrVI(ch)=100(f1ec) Cu(ch)=200(f1ec) Pb(ch)=100(f1ec) Mn(ch)=200(f1ec)	NI(ch)=200(Trec) Se(actch)=TVS Zn(ch)=2000(Trec)	
12	Mainstein of Brush Creek, from the source to the confluence with the Eagle River, including the East and West Forks.		Aq Lifle Cold 1 Recreation 1a Waw Suppy Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Coli=126/100mi E.Coli=126/100mi	NH_(act)=TVS Cl ₂ (ac)=0.019 Cl ₂ (ch)=0.011 CN=0.005 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	Aslac)=50(Trev) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(frec) Cd(ac)=TVS Cd(acd)=TVS Cu(acdch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Ptyse/ch)=TVS Mn(ch)=VS Mn(cc/ch)=TVS Mn(cc/ch)=VS Hg(ch)=0.01(Lof)	N"acth)=TVS S (80:ch)=TVS A (80:FTVS A (60)=TVS(V) A (61)=TVS(V) D (80:ch)=TVS	

REG	REGION:12	Desig	Classifications			NUMER	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
BAS	BASIN: Roarting Fork River			,						AND
STer	Stream Segment Description			PHYSICAL and BIOLOGICAL	INORGANIC	NIC.		ugu Ligu		QUALIFIERS
+-	All tributaries to the Roarting Foxh River system, Including all wethords, paires and reservoirt, within the Matroon Belts/Snewmass, Workmess, Raggeds, Collegiane Poetis, and the Hunterffryfregnen Withdrimess Areas	Mo	Aq Life Cold 1 Recreation 1a Water Supply Agrouture	D.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Col=126/100ml E.Col=126/100ml	NH ₃ (8:2ch)=TVS Cl ₂ (ac)=0.018 Cl ₂ (ch)=1.011 CN=0.006	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 G=250 SO ₄ ≢WS	Asjac)=St(Trec) Cd(ac)=TVS(tr) Cd(ch)=TVS Cd(ch)=TVS Cd(ch)=TVS Cd(ch)=TVS Cd(ac)=TVS Cd(ac)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Phylacidh)=TVS Mn(ch)=WS Mn(cc/ch)=TVS Hg(ch)=0.01(ted)	N((actch)=TVS Se(_ctch)=TVS Act = TVS Act ch)=TVS(tr) Zn(ac(ch)=TVS	
6	Mainstem of the Roaring Fork River, including all Influtances and weltends, from the source to a point immedialety befow the confluence with Hunter Creek, ancept for those influtanes included in Segment 1.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ 0.0.(sp)=7.0 mg/ F.Coll=5.90 F.Coll=128/100ml	NH ₃ (BCCh)=TVS Cl ₂ (ac)=0.019 CL ₂ (ac)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI⊭250 SO ₄ =WS	As(ec)=50(Trec) co(ae)=TVS(tr) co(ae)=TVS(tr) cort(ae)=60(Trec) cort(ae)=60(Trec) cort(ae)=TVS cu(ac(ct)=TVS	Fe(ct)=WS(dis) Fe(ct)=TOW(rec) Pt(sc(ct)=TVS Mn(ct)=WS Mn(sc(ct)=TVS Hg(ct)=C01(tot)	Ni(ac/ch)=TVS Se(ac/ch)=TVS Aq(ac)=TVS Aq(ac)=TVS(tt) Zn(ac/ch)=TVS	
Ŕ	Mahelem of the Rosting Fork River, including all influtianless and wetlines, iron a parel immediately beken who combused with Humbr Creek, to the confluence with the Colorado River except for those influtaries included in Segment 1 and specific listings in Segmenta 36 Prough 10.		Ad Life Cold 1 Recreation 1a Water Supply Agriculture	D.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=6.6.9.0 P.Coll=200/100m/ E.Coll=128/100m/	NH ₃ (nc(ch)=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ ≠10 CI≈260 CI≈260	As(ac)=50(Trec) cd(ac)=TVS(tr) Cd(ac)=57S cd(ac)=50(Trec) crit((acde)=TVS Cu(acde)=TVS	Fe(ch)=WS(dis) Fe(ch)=1200(Trec) PX(ac(ch)=TNS Mn(ch)=WS Mn(acch)=TVS Hg(ch)=0.01(tot)	NI(acidn)=TVS Se(acidn)=TVS Ag(ach=TVS Ag(dn)=TVS(tr) Zn(acidn)=TVS(tr)	
Ŕ	Mainsteim of Red Campon and all brountries and wellands from the source to the comfluence with the Roaming Fort River, except for Landis Greek from its source to the Hoppins Ditch Olyestein.	ġ.	Ag Life Cold 2 Recreation 2 Water Supply Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Co4=2001100ml E.Co4=1284100ml	NH ₃ (acych)=TVS CL ₂ (ac)=0.019 CL ₂ (an)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C=260 C=260 SO ₄ =WS	As(ac)=50(Treo) Co(nc)=TVS(tr) Co(nc)=TVS Co(nc)=TVS Co(nc)=TVS Co(nc)=TVS Co(ac(ch)=TVS	Fe(ch)=W3(dis) Fe(ch)=100(Trac) Pb(ac)ch)=TVS Ma(ch)=VS Ma(ac)=VS Ma(ach)=TVS Mg(ch)=0.01(tot)	N((acich)=TVS Se(acich)=TVS Ad((c)=TVS Ad(c)=TVS(t) Zn(acich)=TVS	
4	Mainstein of Brush Creek from the source to the commence with the Roading Fork River.	Ъ	Aq Life Cold 1 Recreation 1a Agriculture	D.O.=6.0 mg/ D.O.(40)=7.0 mg/ PH=6.5-9.0 F.Coll=200/100ml E.Coll=128/100ml	NH-3(ac/ch)=TVS CL2(ac)=0.019 CL2(ch)=0.011 CN=0.005	S=0.007 B=0.75 NO2=0.05	As(ch)=100(Trec) Cd(cc)=TVS(tr) Cd(ch)=TVS Cd(ch)=TVS Criti(ac/ch)=TVS Cv(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=1000(Trec) Pb(ac/ch)=TVS M=(ac/ch)=TVS H2(ch)=01((ct) Ni(ac/ch)=TVS	Se(acth)=TVS Ag(ac)=TVS Ag(ch)=TVS(h) Zn(ac(ch)=TVS	
d)	Mainteam of the Fryingpan River from the source to the combusince with the North Fork.		Aq Life Cold 1 Recreation 1a Watter Supphy Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pt+6.5-80.0 F.Cca=2001100m/ F.Ccal=126/100m/ E.Coll=126/100m/	NH ₃ (ac/ch)=TVS Ct ₂ (ac)=0.019 Ct ₂ (ch)=0.011 CN=0.005	S=0.007 B=0.76 NO ₃ =10 CI≈250 SO ₄ =WS	As(ac)=50(Trac) Cd(ac)=TVS(u) Cd(ac)=TVS Cd(f(ac)=50(Trac))	Fe(ch)≃WS(dis) Fe(ch)=100(frec) Pb(acch)=1VS MM(cch)=TVS MM(acch)=TVS Mg(ch)=0.01((ul)	Nu(acidh)=TVS Se(acidh)=TVS Ag(ac)=TVS Ag(dh)=TVS(tr) Zn(acidh)=TVS	
ю́	Wainstein of the Frystiggen River from the confluence with the North Fork to the confluence with the Rearing Fork River.		Aq Life Cold 1 Recreation 16 Writer Supphy Agriculture	0.0.=6.0 mg ⁴ 0.0.(sp)=7.0 mg ⁴ pH=8.5.9.0 F.Coll=200100ml F.Coll=126/100ml	NH ₃ (ac/ch)=TVS Cl ₂ (ac)=0.018 Cl ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO_2=0.05 NO_3=10 C=250 SO_4=WS	As(ac)=50(frec) Color)=TVS(tr) Col(tr)=TVS Col(frec)=50(frec) Col(frec)=50(frec) Col(frec)=TVS Col(frec)th=TVS Col(rec)th=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trac) Pb(ac/ch)=TVS Man(ac/ch)=TVS Man(ac/ch)=TVS Man(ac/ch)=TVS Man(ac/ch)=1V(ca)	N(actch)=TVS Se(actch)=TVS Ag(ch)=TVS Ag(ch)=TVS(tr) Zn(actch)=TVS	
, ,	All Inbutaries to the Fryingpain River system, knoluoling all weblands, except for those influtianties inducted in Segment 1.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=8.0 mg/ 0.0.(sp=7.0 mg/ pH=6.201-500100ml F.Coll=128/100ml	NH ₃ (8c/ch)=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Co(ac)=TVS(b) Co(ac)=TVS(b) Co(fil(ac)=50(Trec) Cofil(ac)=1VS Co(ac(ch)=TVS Co(ac(ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) bb(arcch)=TVS Min(ch)=WS Min(cdr)=TVS Hig(ch)=0.01((u))	Nk(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	

REG	REGION:12	. Deską	Classifications NUMERIC STA			NUMER	NUMERIC STANDARDS			TEMPORARY
BASI	BASIN: Roaring Fort River									
Sirea	Stream Segment Description			PHYSICAL and BLDLOGICAL	INORGANIC mg/l	ANIC		METALS ugi		QUALIFIERS
æ	Mainstem of the Crystal Rherr, inducing all tributaries and wetlands, from the source to the comfusence with the Roaming Fork River, eucept for specific facilings in Segments 1, 9 and 10.		Aq Life Cold 1 Recreation 18 Water Supply Agriculture	D.O.=8.0 mg/ D.O.(sp)=7.0 mg/ PH=6.29.0 F.Coli=126/100ml E.Coli=126/100ml	NH3(ac(d)=TVS Cl2(ac)=0.019 Cl2(d)=0.011 CN=0.005	S=0.002 B=0.76 NO ₂ =0.05 NO ₃ =10 C=250 SO ₄ =WS	As(ac)=50(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=TVS Crit(ac)=TVS Crit(ac(ch)=TVS Cu(ac(ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000((Trec) Pb(auCh)=17VS Mrt(ch)=17VS Mrt(ch)=17VS Mrt(ch)=17VS Hg(ch)=0.01([bu)]	NI(actch)=TVS Set(acdch)=TVS Ac(ac)=TVS Ac(ac)=TVS 2r(ac(ch)=TVS	
œ	Mainstein of Coal Creek Including all intruisiries and wetlands from the source to the confluence with the Crystal River.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D. O. =6.0 mg/ D. O. (sp)=7.0 mg/ PH=6.5-8.0 F. Coll=200(100m) F. Coll=126/100m	NH ₃ (&2cth=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CH250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS Cd(ac(ac)=TVS Cd(ac(ac)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(frec) Pb(ac(ch)=TVS Mn(cc))=WS Mn(cc)=VS Hg(ch)=0.01((ot)	N(ac/ch)=TVS (ac/ch)=TVS (ac/ch)=TVS Ac(ac)=TVS Ac(ch)=TVS(b) Zn(ac/ch)=TVS	
<u>.</u>	Mainstam of Thompson Creek including all urbutanies and wetlands from the source to the confilmence with the Crystal River.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=6.0 mg/ 0.0.(sp=7.0 mg/ pH=6.5-9.0 F.Col=200/100rd E.Col=128/100rd	NH ₃ (adch)=TVS Cl ₂ (acp=0.019 Cl ₂ (ch <i>j</i> =0.011 CN=0.005 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C1=250 SO ₄ =WS	As(ac)=50(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS	Fe(ch)=WS(dbs) Fe(ch)=VS(dbs) Po(acd)>=TVS Mn(ca))=VS Mn(ca))=VS Mn(ca)=0.01((ce) Hg(ch)=0.01((ce)	Nk(ao/ch)=TVS Se(ac/ch)=TVS Se(ac/ch)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	

REG	REGION:12	Desto		cations 1			NIMERIC STANDARDS			TEMPORARY
BAS	BASIN: North Platta River	5								MODIFICATIONS
Sle	Siteam Segment Description			PHYSICAL and BIOLOGICAL	(NORGANIC mg/	אוכ		METALS ugʻi		QUAUFIERS
÷	All intrustice to the North Platte and Encampment Rivers, Including all wellands, lettes and reservoirs, within the Manu Zirkal, the Never Summer, and the Platte River Wildemass Aveas.	MO	Aq Life Cold 1 Recreation 1a Vitiair Supply Agriculture	D.D.=6.0 mg/l D.D.(se)=7.0 mg/l pH=6.5-9.0 F.Col=200/100ml E.Col=126/100ml	NH ₃ (ac/ch)=TVS Ch ₂ (ac)=0.019 Ch ₂ (ch)=0.011 CN=0.005		As(ac)=S0(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=TVS Cm((ac)=FVS Cu(ac)d)=TVS Cu(ac)d)=TVS	Fe(cn)=VS(dis) Fe(cn)=1000(Trec) PN(ex(cn)=TVS Mn(ac(cn)=TVS Mn(ac(cn)=TVS Hg(cn)=0.01(ou)	Ni(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac/=TVS Ag(ac/=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	
£¥	Midfinition of the Enternyment Rhver, including all vibulantes, websing, takes and reservoirs from the source to the Commition/yonning border, except for those tributaries included in Segment 1.		Aq Life Cold 1 Recreation 15 Water Supply Agriculture	D.D.=6.0 mg/ D.O.(sp)=7.0 mg/ pH=5.5-9.0 F.Cofi=3254100mf F.Cofi=2054100mf	NH3(aCch FT/IS Cl ₂ (ac)=0.019 Cl ₂ (ch F-0.011 CN=0.005	2 4	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS Cvt((ac)ch)=TVS Cut(ac)ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pe(sech)=TVS Mn(sech)=TVS Mn(sech)=TVS Mn(sech)=TVS	Ni(ac/ch)=TVS Se(ac/ch)=TVS Se(ac/ch)=TVS Ag(ch)=TVS(tr) Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	
ri	Maintestian of this North Platte River fram the confuences of Grizzly Creek and Little Grizzly Creek to the Colorado/Myonung border.		Aq Life Cold 1 Recreation 1a Viriain Supphy Agriculture	0.0.50.=6.0 mg/t 0.0.635=7.0 mg/t hH=6.5=9.0 F. Coli=200/100ml E. Coli=128/100ml	NH ₃ (ສc/ch)=TVS ຕູ ₂ (ch)=0.019 ຕູ ₂ (ch)=0.011 ເປ ₂ (ch)=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 NO ₃ =10 SO ₄ =1/S	As(ac)=56(Trec) Co(ac)=7VS(tr) Cd(ac)=7VS Cd(ac)=56(Trec) Coni(ac)=56(Trec) Coni(acden)=TVS Cu(acden)=TVS	Fe(ch)='WS(dis) Fe(ch)='1000(Trec) Po(ec/ch)='TVS Mn(ca)='VS Mn(aHg(ch)=0.01(1ot)	Ne(ac(ch)=TVS Se(ac(ch)=TVS Ag(ch)=TVS Ag(ch)=TVS Ag(ch)=TVS(tr) Zn(ac(ch)=TVS	
4	All tributaries ki, the Notth Pelala River synatem, including all wellands, lakes and reservoin, accept for those included in before it, and specific listings in Sagments 5. ft and 7.		Aq Lite CMd 1 Recreation 19 Water Supply Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pH=6.6.9.0 9.Coli=200/100ml 6.Coli=120/100ml	NH ₃ (ac/ah=TVS Ct ₂ (ac)=0.019 Ct ₂ (dh=0.011 CN=0.005	S=0.002 B=0.75 MO ₂ =0.05 NO ₃ =10 CI≈250 SO4±W3	As(ch)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS(tr) Cd(ac)=50(Trec) Cd(l(ac)=TVS Cd(l(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS	F&(ch)=VS(dis) Fe(ch)=1000(Trec) Mri(ch)=VS Mri(ch)=VS Pb(acich)=TVS Hg(ch)=0.01(tot)	Ni(ac/ch)=TVS Se(ac/ch)=TVS Agiac)=TVS Agich)=TVS Agich)=TVS Zn(ac/ch)=TVS	
\$	Maintainen ol fun Michigan River from the source to the Colorado State Forest boundary.		Aq Life Cald 1 Recreation 1a Water Supphy Agriculture	D.O.=6.0 mg/ D.O.(sp)=7.0 mg/ pH=6.5.9.0 H=6.5.9.0 F.Col=200/100m/ F.Col=126/100m/ F.Col=126/100m/	NH ₃ (ละมีนำ)=TVS Ch ₂ (ac)=0.019 Ch ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO2=0.05 NO3=10 CE 250 SO4=WS		Cu(ac/ch)=TVS Fe(ch)=WS(dis) Fe(ch)= t000(Trec) Mn(ch)=WS Mn(soch)=TVS Pb(ac/ch)=TVS	Hg(ch)=0.01(bot) N(sc/ch)=TVS Selectorp=TVS Ag(ch)=TVS(b) Ag(ch)=TVS(b) Zu(acch)=TVS	
\$	Mainslett of the Michigan River from the Coorseo State Forest boundets; to the confluence with the Nociji Platte River.		Asy Life Cold 1 Reconstition 2 Water Supphy Agriculture	0.0.=6.0 mg/ D.0.(sp)=7.0 mg/ pH=8.5-9.0 F.Coll=2004/100ml E.Coll=530/100ml	NH ₃ (ac/ch)=TVS Ch ₂ (ac)=0.019 Ch ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 CI=250	As(ch)=50(Trec) Coffsc)=TVS(tr) Coffsc)=TVS Coffsc)=TVS Coff(trec) Coff(trec) Coff(sc)=TVS Coff(sc)ch)=TVS	Cu(sctch)=TVS Fe(ch)=WS(05) Fe(ch)=WS(05) Mn(ch)=WS Mn(sctch)=TVS Pb(sctch)=TVS Hg(ch)=0.01(tol)	Ni(ac/ch)=TVS Se(ac(ch)=TVS Ag(ch)=TVS Ag(ch)=TVS(fr) Zn(ac(ch)=TVS Zn(ac(ch)=TVS	
vi	Mainstein of Pinkram Creek trum ປອ Routh National Forest boundary to the confluence with the North Plate River.		Aq Life Cold 1 Recreation 2 Agriculture	D.0.=5.0 mg/ D.0.(sp)=7.0 mg/ pH=6.5.00 F.Coli=2000 100mi E.Coli=630/100mi	NH ₃ (ac/ch)=TVS Cl ₂ (ac)=0.019 Cl ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO_2=0.05 NO_3=100	As(ch)= 100(Trec) Colac)=TVS(u) Colac)=TVS(u) Coll(a=Ch=TVS Coll(a=Cch)=TVS Cu(a=Cch)=TVS Cu(a=Cch)=TVS	Fe(ch)≡1000(Trec) Pbkac/dh)=TVS Mn(ac/ch)=TVS Hg(ch)=01(tol) N((ac/ch)=TVS	Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(r) Zn(ac/ch)=TVS	
~	Mainsiam of Government, Check from the oxumpany of the Colorado State Forest to the confluence with the Cenedian River. Mainsteam of Spiring Creek from the scarce to the confluence with Illinois River.	d'	Aq L/h Cold 2 Recreation 2 Agriculture	0.0.=5.0 mg/l D.O.(sp)=7.0 mg/l PH=6.5-9.0 F.Coll=630110ml E.Coll=630110ml	NH ₃ (8c/dh)=TVS Cl ₂ (8c)=0.019 Cl ₂ (ch)=0.011 CN=0.065	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =100	As(ch)= 100(Trac) Cd(sc)=TVS(r) Cd(ch)=TVS Cd(iac(ch)=TVS Cd(iac(ch)=TVS Cd(iac(ch)=TVS Cu(iac(ch)=TVS	Fe(ch)≂1000(Trec) Pb(ac/ch)=TVS Pb(ac/ch)=TVS Hg(ch=0.01(tod) Nf(ac/ch)=TVS	Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zri(ec/ch)=TVS	Water + Fish organics spch

REGION:12		Desig	Clessifications	2 Clessifications NUMERIC STA		NUMER	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
BASIN: Yampa River				PHYSICAL	INORGANIC	NIC		METALS		AND OLALIFIERS
Stream Segment Description	scription			BIOLOGICAL	h			h		
1. Au trabutantes to the Yamm reservoins, which are with Creek Wildbriness Areas.	All tributaries to the Yampa River, including all weitends, lakes and reservoirs, which are within the Mount Zirkal, Flat Tops and Sarvis Creek Wilderness Areas.	3	Aq Lile Cold 1 Recreation 1a Wahar Supply Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Coll=2001100ml E.Coll=1261100ml	NH ₃ (action)=TVS Cr ₂ (act)=0.019 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CH=250 SO ₄ =1WS	As we = 50(Tree) Cd we = TVS(tr) Cd we = TVS(tr) Cd we = 50(Tree) Cd we = 50(Tree) Cd we = 50(Tree) Cd we = TVS Cd we = TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb(ac(ch)=TVS Mn(ch)=VS Mn(ac(ch)=TVS Mn(ac(ch)=TVS Hg(ch)=0.01(tot)	Ni(acich)=TVS Se(acich)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(acich)=TVS(tr) Zn(acich)=TVS	
2a Meinstern of the Creek to the co	Meinstern of the Yampa River from the confluence with Wheeler Creek to the confluence with Elikhead Creek, except for segment 25		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D. 0.=6.0 mg/ D. 0.(sp)=7.0 mg/ p11=6.5-9.0 F.coll=126/100ml E.Coll=126/100ml	NH ₃ (ac/ch)=TVS - Ch ₂ (ac)=0.018 Ch ₂ (ch)=0.011 CN=0.005 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trac) Cd(ac)=TVS(tt) Cd(ac)=TVS(tt) Cd(ac)=50(Trac) Chtil(acc)=50(Trac) Chtil(acch)=TVS Cu(acch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ch)=WS Mn(ac/ch)=TVS Hg(ch)=0.01(μw)	N(4c/ch)=TVS Se(sc/ch)=TVS Ag(sc)=TVS Ag(ch)=TVS(tr) Zn(8c/ch)=TVS	
2b. All lates and n source to the co in Segment 1. from the source	All fakes and reservoirs inbutary to the Yampa River from the source of the confluence with Eitherad Creek, accept for those listed source it		Ag Life Cots 1 Recreation 1a Water Supply Agriculture	D.O.=6.0 mg/l D.O.(sp)=7.0 mg/l pt+e5.5.9.0 F.Coli=200100ml E.Coli=126100ml	NH ₃ (ac/ch)=TVS Ct ₂ (ac)=0.019 Ct ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	Astac)=50(Trec) Cd(ac)=TVS(tr) Cd(ah=TVS Cd(ah=TVS Cd(ah=TVS Cd(acdh)=TVS Cu(acdh)=TVS	Fe(ch)=/VS(ds) Fe(ch)=1000(Trec) Pb(ac(ch)=TVS Mm(ch)=VS Mm(ac(ch)=TVS Mn(ac(ch)=TVS Hg(ch)=0.01((cd))	NI(ac(ch)=TVS Se(ac(ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(r) Zn(ac(ch)=TVS	
 All tributanties to secure to the co segments 1, 4, including Tops Wildomet 	All rebutanties to the Yempia Rover, including all welfands, incom the source to the contributions with the Rover, social for specific fairings in second that all all the source to the source for the Rover to the confluence with the Yampa Rover. Topic Wildoffness Area to the confluence with the Yampa Rover.		Aq Life Cold 1 Recretion 18 Were Supply Agriculture	0.0.+6.0 mg/ D.0.(sp)=7.0 mg/ PH=5.5-9.0 F.Col=200100ml E.Col=126100ml	NH ₃ (addh)=TVS CL ₂ (ab=0.019 CL ₂ (dh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C1=250 SO ₄ =WS	As(sc)=50(Trac) Cd(ac)=TVS(tr) Cd(ch)=TVS Cd(ch)=TVS Cd(ch)=TVS Cd(ac)=50(Trac) CAV(ac)=1TVS Cu(ac)=1TVS	Fe(ch)=WS(dfs) Fe(ch)=1000(frec) Pb(e:c(ch)=TVS Mn(ch)=WS Mn(ac(ch)=TVS Hg(ch)=0.01(nd)	N(ac(ch)⊨TVS Se(ac(ch)=TVS Agiac;=TVS Agich⊨TVS(r) Zn(ac(ch)⊨TVS	
4, Maihnstern of Ll confluence with	Mainstein of Lidle White Snake Creek from the source to the confluence with the Yampe River.	e.	Aq Life Cold 2 Recreation 2 Water Supply Apriculture	D.0.450)=5.0 mg/ D.0.450)=7.0 mg/ PH=6.5-9.0 F.Coli=830/100ml E.Coli=830/100ml	CN=0.005 S=0.002 B=0.75 NO ₂ =0.05	NO3=10 CI=250 SO4=WS	As(ac)=50 Cd{ac)=50 Cn1(ac)=50 Cn1(ac)=50 Cu(ch)=200	Fe(ch)=WS(GB) Pb(ac)=50 Mn(ch)=WS Mn(ac(ch)=TVS Ho(ac)=20	Ni(ch)=100 Se(ch)=20 Ag(ac)=100 Zn(ac/ch)=2000	All metals are Trec unless otherwise noted:
 Mathettern of Cl which are not c confluence with 	Matretiam of Chismay Creek, including eli tributaries and wetlands, which are not on National Forest tands, from the source to the continence with the Yampe River.		Aq Life Cold 1 Recreation 1b Agriculture	D.O. =8.0 mg/ D.O. (sp)=7.0 mg/ pH=6.5-9.0 F.Co#=225100ml E.Co#=205400ml	NH ₃ (actch)=TVS Cl ₂ (ac)=0.019 Cl ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO2=0.05	As(ch)=100(Trac) Od(ac)=TVS(tr) Cd(ch)=TVS Critit(ac/ch)=TVS Critit(ac/ch)=TVS	Cu(acch)⊨TVS Fe(ch)=1000(Trec) Pb(actch)⊨TVS Mm(actch)⊨TVS Mm(actch)⊨TVS	Ni(ac/ch/=TVS Se(xo/ch/=TVS Ag(ac)=TVS Ag(ch/=TVS(h) Zn(ac/ch/=TVS(h)	
 Mainstem of Oa the source to the theatmost plant. 	Mainsteim of Oak Creek, Induding wit influidarles and vestiands, from the nource to the point of discharge of the Oak Creek westimmater treatment plant.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D.0.=6.0 mg/ D.0.(sp=7.0 mg/ pH=6.5-9.0 F.Col=200100m/ E.Col=126/100m/	NH ₃ (audh)=TVS CL ₂ (ac)=0.019 CL ₂ (dh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CH250 SO ₄ =WS	As(ac)=50(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ta)=TVS Cd((ac)=50(Trac) Cd((ac)=70(Trac)) Cd((ac)=70(Trac) Cd((ac)=70(Trac)) Cd((ac)=70	Fe(dn)=WS(dis) Fe(dn)=T00(Trec) Pb(addn)=TVS Mn(dn)=VS Mn(addn)=TVS Mn(addn)=TVS Hg(dn)=0.01(tad)	Ni(actch)=TVS Set ectch)=TVS Agtac)=TVS Agtac)=TVS Agtac)=TVS Zn(actch)=TVS	
7. Maintenn of 10 the point of dis to the confinen	Maintent of Dak Creek, Including all tributaries and wetlands, from the point of discharge of the Dak Creek wastewater breatment plant to the confinence with this Yampa River.		Agriculture Agriculture	D.O.=5.0 mg/ D.O.(sp)=7.0 mg/ pH=6.5-9.0 F.Cod=2254100ml E.Coll=2054100ml	NH3(acch)=TVS Cl ₂ (ac)=0.019 Cl ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05	As(ch)= 100(Trec) Cd(ac)= TVS(tr) Cd(ch)= TVS Crtil(setch)= TVS Crtil(setch)= TVS CrVI(setch)= TVS	Cu(acich)⊨TVS Fe(ch)⊨1000(Trac) Pb(acich)=TVS Mn(acich)⊨TVS Mn(acich)=TVS	Ni(ac/dh)=TVS Se(ac/dh)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac/dh)=TVS	
 Alternation of the local three source those tributarie 	Mainstein of the Elk River including, all tribularies and wottands, from the source to the confilerinos with the Yampa Rives, eucrept for those Inbutaties included in Segment 1.		Aq Life Celt 1 Recreation 'te Wrater Supply Agriculture	D.0.=6.0 mg/ 0.0.0(sp)=7.0 mg/ pH=6.5.0.0 F.Coll=260/100ml E.Coll=126/100ml	NH ₃ (aoch)=TVS CL ₂ (ac)=0.019 CL ₂ (dh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=50(Trec) CVI(acdot)=TVS Cu(acdot)=TVS Cu(acdot)=TVS	Fe(ch)=WS(0b) Fe(ch)= 1000(frec) Pb(acth)=TV3 Mn(ch)=VS Mn(ch)=TVS Ha(ch)=TVS Hg(ch)=0.01((ot)	Ni(actch)=TVS Setecch)TVS Ag(en)=TVS Ag(ch)=TVS(r) Zn(actch)=TVS	
9. Deleted. 10. Deleted										
11										

REGULATION NO. 33 UPPER COLORADO RIVER BASIN (continued)	STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS
REGULATION NO. 33 UF	STREAM CLASSIFICATIONS

BECKON-15	N-12	Decis	Classifications			AFTLED	NHUEDIC STANDADDS			TEMPORARY
BASIN	BASIN: Yampa River	P 5 1								MODIFICATIONS
				DUVENU	Chryodow			ALCTAL C		
STEED	Stream Segment Description			BIOLOGICAL	10m)		ng) ng		
12	All tributaries to the Yampa River, including all wellands, from the confluence with the E& River to the confluence with Eliferent Creek, which are not on National Forest lands, eliferent for specific listings in Segments 13a, 13b, 13c, 13d and 13a.	9	Au Life Cold 2 Recrements Agriculture	D 0.=6.0 mc1 D.0 (sp)=7.0 mp1 pH=6.5-8.0 F.Coi=2000100ml E.Coi=530100ml	CN(ac)=0.2	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =100	As(ac)= 100 Co(ch)= 100 Crill(ch)= 100 Crill(ch)= 100 Cu(ac)= 200	Pb(ch)=100 Mar(ch)=200 Ma(ch)=200	Se(ch)=20 Zn(ch)=2000	All metals are Trec unless oftenwise noted.
134	Mainstein of Trout Creak, Including all bibutaries and wellands, from the nounce to the confluence with the Yampa Rwar, which are not on National Forest lands, except for specific Methogs in Segments 13b and 13c.		Aq Life Cold 3 Recreation 1a Water Supply Agriculture	0.0. =6.0 mg/ 0.0.(so)=7.0 mg/ pH=6.5-9.0 F.Coli=200/100ml E.Coli=126/100ml	NH ₃ (actch)=TVS CL ₂ (ac)=0.019 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₄ =WS	As(ac)=50(Trac) Cd(ac)=TVS(a) Cd(ac)=TVS(a) Cd((ac)=TVS Cd((ac)=TVS Cd((acd))=TVS Cd((acd))=TVS	Fe(ch)=WS(cfs) Fe(ch)=100(Trec) Pb(=cch)=1VS Pb(=cch)=1VS Mn(ch)=WS Mn(=cch)=TVS Hg(ch)=0.01(bu)	NI(seden)=TVS Se(seden)=TVS Agien)=TVS Agien)=TVS(b) Zn(seden)=TVS	Temporery modification. NH ₃ (actor)=TVS(old) (Type I). Expiration date of 12/31/2011.
13b.	Mainstein of Foldsi Creek, including all hibutaries and welfands. Maintenne Find Creek, including all hibutaries from county Road 27 downstream to the confluence with Trout Creek. Middle Creek and all tributaries, including Creek. Middle Creek and all tributaries, including downstream to the confluence with Trout Creek.		Ard Life Cold 1 Recression 1a Agriculture	D.O.=6.0 mg/ D.O.(sp)=7.0 mg/ pHe6.5-9.0 F.Coll=128/100m/ E.Coll=128/100m/	NH ₃ (ac/at)=TVS Cl ₂ (at)=0.018 Cl ₂ (at)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05	As(ch)=100(Trec) Cd(ac)=TVS(h) Cd(ch)=TVS Cd(at)=TVS Cd((ac(ch)=TVS Cu((ac(ch)=TVS Cu((ac(ch)=TVS	Fe(ch)=100(Trec) Fe(ch)=160(Trec) Fe(ch)=160(Trec) Forden Creek and Middle Creek Pb(ec/ch)=TVS	Mn/mc/m=TVS Hg(d)=0.01((m) N(acd)=TVS Se(acd)=TVS Ag(ac)=TVS Ag(ac)=TVS Ag(ac)=TVS Zn(acd)=TVS	
<u>8</u>	Mainstant of Trout Creek from headgate of Sprune Hill Ditch copportingation 2,500 team north: of where County Road 27 (approximately 2,500 team from the headgate of Spruce Hill inbudaries to Trout Creek, from the headgate of Spruce Hill Ditch (approximately 2,500 feet north of where County Road 27 crosses Treat Creek) to County Road 179 accept for speedle, faitings in 130.		Aq Life Cold 1 Recreation 1a Agriculture June through Veder Supply	0.0.45 0 mg/ 0.0.049 7.0 mg/ F.Cat=200/100mi E.Cot=126/100mi	NH ₃ (ac/a)=TVS Cl_2(ac)=0.018 Cl_2(a)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 Uurre through C⊨250 SO ₄ =WS	As(ch)=100(Trac) Cd(ac)=TVS(tr) Cd(ac)=TVS(tr) Cd(ac)=TVS Criti(ac(ch)=TVS Criti(ac(ch)=TVS Cu(ac(ch)=TVS Cu(ac(ch)=TVS As(ac)=20(Trac) Criti(ac)=50(Trac)	Fe(dh)=1000(Trec) Pt(acdd)=TVS Mqacdh)=TVS Mqacdh)=0.01(tot) June through Fe(dh)=WS(dis) Mn(dh)=WS	M(acch)=TVS Aclarch)=TVS Aclarch=TVS Aclarch=TVS Aclarh=TVS(tt) Zn(acch)=TVS	
13d.	Mainstern of Dry Creek, including all tributariles and wetlands, from the source to the confluence with the Yampa River.	đ	Aq Lile Warm 2 Recreation 1a Agriculture	0.0.=5.0 mg/ pH=0.5-9.0 F.Coli=200100ml E.Coli=126/100ml	NH ₃ (ac/ch)=TVS Cl ₂ (ac)=0.018 Cl ₂ (ch)=0.011 Ch=0.005	S=0.002 B=0 75 NO ₂ =0.05	As(ac)=100(Trac) Cd(ac/ch)=TVS Criti(ac/ch)=TVS Criti(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=1000(Trec) Po(ac/ch)=TVS Mr(ac/ch)=TVS Hg(ch)=0.01(ml) Ni(ac/ch)=TVS	Se(ac/ch)≓TVS Ag(ac/ch)≓TVS Zn(ac/ch)≓TVS	
13 0 .	Mainsterns of Sage Creek and Grassy Creek, including all urbuturies and weitands, from their sources to the confluence with the Yampa River.	ЧÚ	Aq Life Warm 2 Recremican 2 Agriculture	0.0.=5.0 mg/ pH=6.5-9.0 F.Coli=2000100mi E.Coli=500100mi	NH ₃ (8-'ch=TVS Cl ₂ (8c) 0.018 Cl ₂ (ch=0.011 CN=0.005	S=0 002 B=0.75 NO ₂ =0.05	As(ac)=100(Trec) Cd(ac/ch)=TVS Criti(ac/ch)=TVS CV1(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mm(actch)=TVS Hng(ch)=0.01(tot) Mqactch)=TVS	Se(ad⊄h)≕TVS Ag(ad⊄h)≕TVS Zn(ad⊄h)≓TVS	
<u> </u>	Mainstein of Ethneed Creek, Including all trikintines and wellands, from the boundary of the National Forest lands, to the confluence with the Yampa River.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=8.0 mg/ D.0.(sp)=7.0 mg/ PH=6.5-9.0 F.Col=2001100ml E.Col=1261100ml	NH ₃ (ac/ch)=TVS Ch ₁ (ac)=0.019 Ch ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 CE=250 CE=250 SO ₄ =WS	As(ac)=50(Trec) cd(ac)=TVS(tr) cd(ac)=TVS cd(ac)=TVS cd((ac)=TVS cvV((ac(ch)=TVS cu(ac(ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=DOC(Trec) Pb(acdn)=TVS Mn(ch)=VS Mn(acdn)=TVS Mn(acdn)=TVS Mn(acdn)=101(tot)	M(acch)=TVS Se(acch)=TVS Ag(ac)=TVS Ag(ch)=TVS(t) Zn(acch)=TVS	
. 1 5.	Deleted.									
18	Deteited									
17.	Deleted.									

BEGION-12	Decko	Classifications			V O LANDA	NUMERIC STANDARDS			TEMPORARY
BASIN: Yampa River	fiercon								MODIFICATIONS
Stream Segment Description			PHYSICAL BIOLOGICAL	INORGANIC	22		NETALS Ug ^A		QUAL FIERS
 Matheliem of the Little Snake River, including all induciatives and weatands, from the Rourt Hastenial Forest boundary to the ColonadoWytoming border. 		Ad Life Cold 1 Recreation 1a Wake Supply Agriculture	0.0.46,0 mg/ 0.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Coli=200/100ml F.Coli=126/100ml	NH3(ac/d)=1VS CL2(ac)=0.018 CL2(d)=9.011 CL2(d)=9.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 Cd=250 SO ₄ =WS	Asinc)=50(Trec) Col(ac)=TVS(t') Col(ac)=TVS(t') Col(ac)=TVS Col(ac)=TVS Col(ac)=TVS Col(ac)=TVS	Fe(ch)=VS(de) Fe(ch)=1000(Trac) Pb(acch)=TVS Mn(ch)=VS Mn(acch)=TVS Mn(acch)=TVS Hg(ch)=0.01(lm)	NK(ac/ch)=1VS Se(ac/ch)=1VS Ag(ac)=1VS Ag(ch)=1VS(tr) Zn(ac/ch)=1VS(tr)	
 All tripulariner to the Utbe Snake River, Including all wellands, lakes and reservoirs, which are an National Forest lands in Routh County. 		Aq Lifs Cold f Recreation 18 Water Supply Agriculture	D.0.=6 0 mg/ D.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Cof=200100ml E.Col=120/100ml	NH ₃ (ecch)=TVS · CL ₂ (ac)=0.018 CL ₂ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 Ci≠250 SO ₄ =WS	As(Bc)=50(frec) Cd(ac)=1VS(tr) Cd(ac)=1VS Cd(ac)=50(frec) Criti(ac)=50(frec) Criti(ac)=50(frec) Cu(ac(dh)=1VS Cu(ac(dh)=1VS	Fe(ch)=WS(dis) Fe(ch)= 1000(Trec) Pb(castch)=TVS Mm(cch)=TVS Mm(cch)=TVS Hg(ch)=0.01(tot)	Ni(ac/ch)=TVS Se(ac/ch) Ag(ch)=TVS(h) Zn(ac/ch)=TVS(h) Zn(ac/ch)=TVS	
20. All tributaries to the Yampa River, Induding wellands, above the confluence with Elbread Creek that are within National Forest boundaries.		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pH=6.5-9.0 F.Cole=2001100mi E.Cole=126/100mi	NH ₃ (80:ch)=TVS Cl ₂ (8c)=0.019 Cl ₂ (ch)=0.011 CN=0.065	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 C1=250 SO ₄ =WS	As(ac)=50(frec) Cd(ac)=7VS(tr) Cd(ac)=7VS Cd(fac)=50(frec) Cd(fac)=50(frec) Cd(fac)=7VS Cu(acdn)=TVS Cu(acdn)=TVS	Fə(ch)=WS(dts) Fe(ch)=100(Trac) Pr(a⊲ch)=TVS Mn(cch=WS Mn(act)=TVS H8(ch)=0.01(เผ)	NK(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zr(ac/ch)=TVS	

Appendix C-2 Regulation No. 38 South Platte River Basin

REGION 3 AND 4	DESIG	CLASSFICATIONS			NUMERIC	NUMERIC STANDARDS			TEMPORARY
BASIN UPPER SOUTH PLATTE RIVER			PHYSICAL	NORGANIC	NIC		METALS		MUDIFICATIONS AND OUALFIERS
Stream Segment Description			BIOLOGICAL	цвш		1	ugil		
13 Manufalem of the Sevent Plane Rever from the source of the South and Middle Forks to a point immediately above thin confluence with the Month Fork of the South Plana River including all mainteem reservors.		Ald Life Cold 1 Recreation 1a Water Supply Agroubure	D.O. = 6.0 mg/ D.O. = 6.0 mg/ pH = 6.5 - 5.0 F. Coli= 2501100m/ E. Coli= 2501100m/	NH5jacra)= TVS Cl_(ac)=0 019 Cl_(ch)=0 011 CN=0 005	5+0.002 B=0.75 NO ₂ =5 05 NO ₂ +10 CI=250 SO4=V/5	Astach SOffrech Collab.=TVS(In Collah=TVS Collah=TVS Collah=TVS Collab.=TVS Collab.=TVS Collab.=TVS	Ee(ch)=V/S(dis) Fe(cn)=1000(Trac) Pc(ac/ch)=TVS Mr(ac/ch)=TVS Mr(ch)=V/S(dis) Mr(ch)=0.01(Foc)	Ny soldmervs Sei acidhervs Agraciervs Agraciervs Zni acidhervs	
10 All trautaives to the South Platte Rover including sales reservors and vertands within the Lost Creek and Mr. Evers Widemess Areas	мо	Aq Life Cold 1 Recreation La Water Supply Agnauture	0.0 - 6.0 mg/ 0.0 (sp)=7.0 mg/ pH = 6.5-5.0 F.Cot = 200100ml E.Coti=126/100ml	NH4/86/04/#TVS 05/80/=0 019 03/80/=0 015 03/80/=0 015	S=0 002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 S0 ₄ =WS	A=(ac)=50(Trec) Cd(ac)=TVS(b) Cd(ac)=TVS Crit(dac)=50(Trec) Crit(ac)=50(Trec) Crit(ac)=50(Trec)	Fe(cn)=V/S(dis) Fe(cn)=1000(Trac) Po(ac(cn)=TVS Mn(ac(ch)=TVS Mn(ch)=VVS(dis) Hg(ch)=001(Tot)	Nijac/ch)=TV5 Se(ac/ch)=TV5 Aglac)=TV5 Aglac)=TV5(it) ZN(ac/ch)=TV5(it)	
Za Au mbudang all and south Plaje River system inducting all takes, reservoirs and wellands from the head waters of the South and Model Flores to a pour immecately the South and Model Flores to a pour immecately the specific listings in Segment 15, 2b and c.		Ao Life Colo 1 Recreation 1a Water Supply Agnouture	D.0. = 6.0 mgl D.0. (sp)=7.0 mgf PH = 6.5-9.0 F. Coli=200/100ml E. Colie-126/100ml	NH3/8001=0019 CUxech=0019 CUxech=0011 CN=0006	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 C3=250 S0,=WS	Astacts5017rec) Colaci=TVS(tr) Colcmi=TVS Colcmi=TVS Colfacthi=TVS Colfacthi=TVS Cultacthi=TVS	Ee(cn/=WS(dis) Fe(ch)=1000[Trec] Pb(ac(ch)=1VS Mh(ac(ch)=VS Mn(ch)=WS(dis) Hg(ch)=0.01(Tot)	M(action)=TVS Selacion)=TVS Agraci=TVS Agrich=TVS(tr) Zn(action)=TVS	
2b Marratem of Mosquito Creek from the confluence with South Masquita Creek to as confluence with the Mode Fork of the South Plane River	đ	Aq tire Cold 1 Recession 1a Water Supply Agnouture	D 0. = 5 0 mg/ 0.0. (5pi=7 0 mg/ pH = 6.5-9.0 F Coi=200/106ml E. Coii=125/100ml	NHylac(ch)+TVS Clyac(+0.019 Clyac(+0.019 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 S0 ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=50(Trec) Collk(ac)=50(Trec) CrVI(ac/dh)=TVS Cui (ac/ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) P0(ac(ch)=TVS Mn(,ac(ch)=TVS Mn(ch)=WS(dic) Hp(ch)=0.01(Tot)	N(aclett)= TVS Se(actor)=TVS Ag(act=TVS Ag(act=TVS Ag(ch)=TVS(P1) Zn(ch)=220	Temporary mod/canon Zh(ch)= 283,g1 (dot) based on uncertanty Expression data 2/2807
3c. South Moscyulo Querk teek we course to confluence with Moscyulo Creek and No Name Creek from the source to the confluence with South Moscyulo Creek.	5	Ag Life Cold 1 Recretion 18 Water Supply Agriculture	D 0 = 6.0 mg/ D 0 (spi=7.0 mg) D 1 = 6.5-5 0 F Col=200/100m E Col=126/100m	NH5/ac/ch)=TVS Clyac)=0 019 Clych)=0 011 CN=0 005	\$=0.002 B=0.75 NO_=0.05 NO_= 10 CI+250 S0_=WS	As(ac)=50(Trec) Cd(cr)=TVS Crititac)=50(Trec) Crititac)=50(Trec) Crititac(cr)=TVS Culac(cr)=TVS	Fe(ch)=WS(0x) Fe(ch)=1000(Trec) Pbladch)=TVS Mm(ch)=TVS Mm(ch)=VVS(0i) Hq(ch)=VVS(0i)	N(actor)=TVS Selacion)=TVS Ag(act=TVS Ag(ch)=TVS(tr) Zn(ch)=280	Temporary modifications Celich)=3 up/ (dis) Zn(ch)=400 up/ (dis) based on uncortanty Exerction derk 2/28/07
3 All traductor to here Sputh Prene River including all lakes reservous and wellands from a point mimedialish polowither confluence with Tanyali Creek to a point immediately across the confluence with the North FoX of the South Plane River Except for specific futings in Segment 1b.		Ag Life Cold 1 Recression 1a Water Supply Agriculture	D.0 = 6.0 mg/ D.0 (sp)=7.0 mg/ pH = 6.5.9 0 F.Col=200/100ml E. Col=126/100ml	NHJAC(A)= TVS Cl3aC)=0.019 Cl3(ch)=0.011 Cl3(ch)=0.011 CN=0.005	S=0 002 B=0.75 NO ₂ =0.05 NO ₂ =10 CH250 SO ₆ *MS	Asisci=50(Trec) Cq(ac)=TVS(tr) Cq(ac)=TVS Cd(ac)=50(Trec) Cr(II(ac)=50(Trec) Cr((ac/dr)=TVS	Fe(ch)=VS(0x) Fe(ch)=V000(T/ec) Pb(auch)=TVS Mn(ac(ch)=TVS Mn(ch)=VS(0x) Hg(ch)=0(01(Tok)	Nyackhij=TVS Sejackhj=TVS Ag(ac)=TVS Ag(chj=TVS(tr) Znjackhj=TVS	
A Maxetian wir wer North Fock of the South Parte River including all inforcatives, lakes reservoirs and weitunds from the source to the confusience with the South Plette River is straight for specific likelings in Segments 1b 5a 5b, and 5c.		Aq Life Cold 1 Recreation 1a Water Supply Agmouture	0.0 = 6.0 mg/l 0.0 1631+7.0 mg/l PH + 6.5-9.0 F.Cole-2001100ml E.Cole1251100ml	NH4(ac/ch)+TVS Claids)=0.019 Claidh]=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0 05 NO ₂ =10 CI=250 SIQaWS	Asjack50(Trec) ColocisTV5(N) ColociaTV5(N) ColociaTV5 Collinaton=TV5 Collinaton=TV5 Cullatoton=TV5	Fe(ch)=VVS(dis) Fe(ch)=T000(Trec) Pot(cc)n)=TVS Min(accch)=TVS Min(accch)=TVS Min(ch)=VVS(gis) Hg(ch)=VVS(gis)	Niadon)=TVS Setacion=TVS Agtac)=TVS Agton)=TVS ZNaddh)=TVS	
.5 Marsham of Oprieva Creek from the source to the confluence with Sold Gomer Criek.		Aq Life Cold 1 Recreation 14 Agnoutture	D.0 = 6.0 mg/ D.0 (sp)=1 0 mg/ pH = 3 5-9 0 F Goli=200/100ml E. Coli=126/100ml	NH,4800h Jan 105 Cl4801=D 019 Cl4601=0 011 CH-0.005	\$=0.002 NO ₂ =0.05	Archi=100(Trec) Cdim)=2 Criticn)=2 Criticn)=25 Criticn)=25 Cuict)=15(dis)	F.n(ch)=1200 Pb(ch)=4 Mhr[ch]=5302dis) Hg(ch)=50 Ni(ch)=50	Se(ch)=4 6 Ag(ch)=1 Zn(ch)=190(des	All Retails Trec unless otherwise noted

REGION AND A	DESIG	CLASSIFICATIONS			NUMER	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
RASIN NORE SOUTH IN ATTE DIVED							A LOT BALL		AND
prisin, under suburn rucht is witzen öfesen Segment besotption			PM SICAL and BIOLOGICAL	morcanec	3		METALS ugl		CHALFERS
35. Manresem of General Creati from the confituencer with Scott Coheriel Create to the confusions with the Night Fork of the Scots Platte Rivers, all Inducating of Generative Create including lakes, reservation and exclands from sources to confituence with the North Fork of the South Platte Rivers		Aq Lrie Cold 1 Recression 1a Vealer Supply Agroutise	D.O. = 6.0 mg/l D.O. (spin=7.0 mg/l pH = 6.5-9.0 F. Coli=126/100ml E. Coli=126/100ml	NH4 action = 7VS 04(act=0.019 04(ch)=0.011	CN=0 005 S=0.002 B=0.75 NO ₂ =10 CD=250 SO ₄ =VIS	As(ec)=50(Tree) SVT=(10)=100 (ce)(ac)=50(Tree) CVI(ac)=50(Tree) CVI(ac)=100 (ac)(ac)=100 (ac)(ac)(ac)(ac)(ac)(ac)(ac)(ac)(ac)(ac)	Feicht=WS(dis) Feicht=D00(Treat) Pb(acth=TVS Mn(acth=TVS Mn(ch)=WS(dis) Hg(ch)=D1(Tes) Miaddh=TVS	Setautohis TVS AglaciseTVS AglobiseTVS(II) Zh(e00th)=TVS	
5c. Manniten ol Goosepery Guidh and Inputanes prom source to confluence with EW Creek	5	Aq Like Celes 2 Recreation 1a Water Supply Agnoutbure	D.0 46 0 460 PH=6 5-8 0 F.Cole=200100ml E. Cole=126/100ml	NH_(ac/ch)=TVS Clyaci=0.019 Clycn=0.019 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 S0 ₂ =WS	Astach=50(Trac) Colach=TVS(tr1 Col(cn)=TVS Cr81(act)=50(Trec) Cr81(actr1)=TVS Curactr1)=TVS Curactr1)=TVS	Felch)=VS(dis) Felcn)=1000(Trec) Pbiac(ch)=TVS Mn(ac(ch)=TVS Mn(ch)=01(Tot) Hig(ch)=01(Tot)	N(addh)=TVS Seladdh>TVS Agldh)=TVS Agldh)=TVS(tr) Zh(addh)=TVS	Temporary modification: NH-JacUh)=Ensterg Quality(Type w) Expiration dale of 12/31/2010.
Fig. Mandom where south Plana Diver from a point ennershately above the confluence with the Marth Fork of the South Plane River to the intel of Chartels Reservor		Ag Life Cold 1 Recreation 1a Whater Supply Agriculture	D.O. = 6 0 mg/l D.O. (50)=7.0 mg/l PH = 8.5.9.0 F.Cole=254100ml E.Cole=254100ml	NH,4a04h1=TVS Cl_4601=0 019 Cl_4601=0 011 CN=0.005	S=0.002 B=0.75 NO2=0.05 NO2=0.05 CM=250 S04=1WS	As(ac)=50(Trec) Cd(ac)=TVS(v) Cd(cn)=TVS Cr(B(ac)=50(Trec) Cr(B(ac)=50(Trec) Cr(Hac)ch)=TVS Cu(ac)ch)=TVS	Fe(ch)=V(S(dis) Fe(ch)=1000(Trac) Poi ac(ch)=TVS Mn(ad(b)=TVS Mn(ad(b)=VS(dia) Hg(ch)=0(1(dia)	N((addrt)=TVS Se(addr))=TVS Agiac)=TVS Agiac)=TVS(r/) Zr(addr)=TVS	
		Ad Life Cold 1 Recreation 1a Vraiar Supply Agriculture	D 0 ± 6.0 mg/ D 0 160×7.0 mg/ pH = 6.5-9.0 F Col=203/100m/ E. Col=203/100m/	NH (Jackm)=TVS Cl_(Hac)=0.019 Cl_(ch)=0.011 CN=0.005	S+0.002 B+0.75 NO ₂ =0.05 NO ₂ =105 CH250 S0 ₂ =WS	Astact=50Trec? Cd(ac)=TVS(tr) Cd(ac)=TVS Criti(ac)=50(Trec) Criti(ac)=50(Trec) Criti(ac)=50(Trec) Critiacidh)=TVS Cuiscidh)=TVS	Fe(ch)=WS(cm) Fe(ch)=1000(Trac) Pb)ac(ch)=TVS Mn(ac(ch)=VVS(chc) Mn(ac(h)=VVS(chc) Hg(ch)=0.01(Tac)	N(addh=TVS Seladd)=TVS Aglacr=TVS Aglach=TVS(tr) Zn(aodd)=TVS	Mean total phosphorous P=1).027 mpll, measured throughout the water column in Chatfield Reserver only for months of Juhy. Rugust and Seotember
bis Manazam of the South matter River from the qualist of Chartelia Reservoir to Bowes Avenue:		Ag Life Cold 1 Recreation 1a Mater Supply Agrouthure	P 0 = 6.0 mpl D 0 Jsp:7.0 mpl PH = 6.5.4.0 F.Col-200100ml E. Cole=1262100ml	NH-4ac(m)=TVS Cl_(ac)=0.019 Cl_(d)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 CI=250 SQ_=WS	As(ac)=50(Trec) Col(ac)=TVS(tr) Col(ac)=TVS Col(ac)=50(Trec) Crili(ac)=50(Trec) Crili(ac)=50(Trec) Cui acidh)=TVS	Fe/ch)=WS(dis) Fe/ch]= 1000(Trec) Pb addn)=TVS Mn(ec)=TVS Mn(ec)=20.97(dia) Hg(ch)=0.01(Tor)	Net actor)=TVS Se(actor)=TVS Ag(act)=TVS Ag(act)=TVS(tr) Zn(actor)=TVS(tr)	Cu (actor) = TVS *2 7 below the confuence with Maccy Guidh to Bowles Avenue
All Vibularies to the South Plattle River including all lakes man reservoirs and wellshold from a point minequalety below the confluence winn the Month Fork of the South Plattle River to the puddle of Charfelld Reservor exception specific listings in Sogniterits & 0.10, 11, 12, and 13.	đ	Aq Life Cold 2 Recreption 13 Agriculture	D 0 = 6.0 mg/ D 0 160)=7.0 mg/ F 201=203/100m E Coli=203/100m	NHylao(ch)=TVS Clyac)=0.019 CLycn)=0.011 CN=0.005	S=0 002 8=0 75 NO ₂ =0 05	Asjehj=100/Trec/ Celarcj=TVS(m) Celehj=TVS Critilaci=TVS Critilaci=TVS Cujacichj=TVS	Fe(ch)=1000(Trec) Pb(autor)=TVS Mn(ac(ch)=TVS Hg(ch)=01(Toc)	Nrt.acront=TVS Setac/cth=TVS Ag(act=TVS Ag(dth=TVS(th) Zn(acroth)=TVS	
R Mansteins of East and West Phart Create from the source to the boundary of Najkowal Forest lands including all induktieves. Marks reservoirs and wettands which the Plant Creak digmage which are on National Forest Lands except for the specific instruging in Segments 3 and 10b.		Ad Life Cold 1 Recrution 1a Water Supply Agroutione	0 0 == 0 == 0 0 0 styl= 7 0 mg/ pH-6.5 2 F Cat=200/100m E Cot=126/100m	NH4/800019 ClydacJ=0 019 CH(cm)=0 011 CN=0.005	S=0 002 B=0 75 NO ₂ =0 05 NO ₂ =10 CI=250 S0 ₄ =WS	As/act=50[fiec] collan=TVS(fr) Collan=TVS Crifik(act=50[frec] Crifik(act=50[frec] Cutactch=TVS	Fe(cn)=WS(de) Fe(cn)=VS(de) Pb(actor)=TVS Mn(actor)=TVS Mn(actor)=VS(de) Mn(cn)=VS(de) Hg(cn)=0.01(Tot)	Ni(ac/dh)=TVS Secarbl=TVS Ag(ac)=TVS Ag(dh)=TVS(tr) Zn(ac/dh)=TVS(tr)	
A Mansteim in Bear Orges mindling at hibudares kerst and recevors and valiateds from the severe fill the tree of Party Party, Reseivoir (Douglas County)		An USe Cold 1 Recreation 1a Water Supply Agriculture	0 0 -6.0 mg/ 0.0 (spi=7.0 mg/ sH=5.5.9.0 7. Coli=200/100m/ 7. Coli=200/100m/	NH-gadiente TVS Clyladied 019 Clylathe 0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₂ =WS	As(ac)=50(Trec) Colac)=TVS(tr) Colac)=TVS Colac)=TVS Criti(ac)=50(Trec) Criti(ac)=50(Trec) Criti(ac)=50(Trec) Culac(ch)=TVS	Fe(chi=WS(cas) Fe(chi=1000)(frec) Pbiad(ch)=TVS Mhr(ac(chi=WS(cas) Mhr(chi=WS(cas) Hg(chi=0 01(Tot)	Mitacich1=TVS Setactch1=TVS Agtac1=TVS Agtac1=TVS Agtac1=TVS(tr) Zn(acch1)=TVS	
Tog. Manstern of East and Vitest Plum Cress and Plum Creat from the boundary of Nanonal Forest large to Chartelo Reservorr except for specific lustings in Segment 10p	đ	As Lee Warm 1 Recreation ta Ware Supply Agnounting	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NH4 acroth FTVS C(2)(acroth 011 C(2)(acr)=0 011 C(2)(acr)=0 011 C(2)(acr)=0 005	S=0.002 8=0.75 ND ₂ =0.5 NO ₂ =10 CI=250 S0 ₄ =WS	Asjac)=50(Trec) CollarschirtVS Colligation=50/Trec) Colligation=10VS Culasion=TVS	Fe(dh)=WS(dis) Fe(ch)=WO(Tec) P((acch)=TWS Mn(dc(b)=TWS Mn(dh)=WS(dis)	Hg(ch)=01(T5) Nijacch)=TVS Setactoh=TVS Agiacch)=TVS Zn(ac/ch)=TVS	Cu (acrch) = TVS 'Z'A on East Phun Creek and Phun Creek beyw the Phun Creek Wastewater Authorhy Mastewater Authorhy Mastewater Authorhy Magachie TVS (old)(1/09-1) Expension date of 12/31/2011

REGION 2344	DESIG	CLASSFICATIONS			NUME	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
BASIN UPPER SOUTH PLATTE AWER			PHYSICAL	NORGANIC	9		METALS		AND DUALIFIERS
Stream Segment Description		Contraction of the local distribution of the	BIOLOGICAL	10m			101		
10b. Manstein of West Plum Creek including all inbusines lakes reservors and wellands from its source to Party Plake Dand		Ag Life Cold 1 Recreation 19 What Supply Agriculture	D.0.=6 D mgf 0.0.(tepl=7 0 mg/ pH=6.5-0.0 F Coli-200/100ml F Coli-200/100ml	NH4(actch)=TVS Cl4(ac)=0.019 Cl4(ch)=0.011 CN=0.005	5-0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CD=250 S0 ₄ =WS	Astac)=56(Trec) Cotenj=TVS(tr) Cotenj=TVS Cotiti;acj=56(Trec) Cotiti;acj=56(Trec) Cotitied=56	Fe(ch)=VVS(das) Fe(ch)=1000(Tresc) Pb(ac/dh)=TVS Mm(ac)=VVS(das) Mm(ac)=VVS(das) Holor)=VVS(das)	Nijac/dn)=TVS Seladdh)=TVS Aglac)=TVS Aglch)=TVS(n) Zn(actch)=TVS	
11a All fraudaties to the East Plum Creek system including all takes reservors and wedands which are not on nauged forest lands.	<u>\$</u>	Ag Life Watm 2 Recreation 1a Agriculture	D 0 = 5.0 mg/ pH+6 5-9 0 F Col=200/100ml E Col=126/100ml	NHJJB/GNJFTVS CljLBcJ=0.019 CljLChJ=0.011 CN=0.005	S=0.002 B=0.75 NO ₃ =0.5	As(ch)=100(176c) Cot(ac(ch)=TVS Critt(ac(ch)=TVS Critt(ac(ch)=TVS Cur ac(ch)=TVS	Felch1=1000ffec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=01(fet) Niac(ch)=TVS	Seladch)=TVS Agladch)=TVS Zh(edch)=TVS	
11. All inforctaries to the Viets Plum Creek system including all larges reservors and welfands which are not on manoral longit tards, except for specific setrings in Segments 9 and 12	3	Ag Life Warn 2 Recreation 1a Agriculture	D.0 = 5 0 mg/l pH=6 5-0 0 F Coh=200/100ml E Coh=126/100ml	NHJIacleh)=TVS Chiac)=0.019 Chich)=0.011 CN=0.005	S +0 002 B =0 75 NO ₂ +0.5	As(on)=100(Trec) Co(ac(dn)=TVS Crititac(dn)=TVS Crititac(dn)=TVS Crititac(dn)=TVS Culee(dn)=TVS	Feichi-1000/Trect Pbiacchi=TVS Mm(ac/m)=TVS Hg(chi=0.01/Tat) N(actriti=TVS	Se(acich)= TVS Ag(acich)= TVS Zniacich)= TVS	Temporary modification NHJ actrib=TVS(old) (Type i) Expiration date of 12/31/2011
 Manslem of Garber Creek and Jackson Creek trem the occuratery of National Forest lands to the confluence with West Plum Creek. 		Ag Life Cold * Recreation 1a Water Supply Agriculture	D 0. <6 0 mg/l D 0.(sp)=7 0 mg/l pH=6.55.9 F Cole=2001100m/ E Cole=1267100ml	NH-Jac/ch)=TVS Clyac)=0 019 Clych)=0 011 CN=0 005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CP=250 S0 ₄ =WS	Asiac)=50(Trec) Cotac)=TVS(tr) Cotac)=TVS Cotityac)=50(Trec) Crititac)=50(Trec) Crititac)=50(Trec)	Fe(ch)=VNS(d4s) Fe(ch)=1000(Trec) PN(ac(ch)=TVS Mm(an)=Ch)=TVS Mm(an)=VNS(d4s) He(ch)=0.01(Ter)	NijackonjertvS Sejacichi-TvS Agiaci=TvS Agiaci=TvS(v) ZvlaodonjertvS	
13 Manutar of Deer Creek including the North and South Forks From the source to Charteld Reservoir		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.=6.0.mg/ 0.0.1xp]=7.0.mg/ pH=6.5-9.0 F.Coli=2001100m1 E.Coli=1267100m1	NH5/80/019 Cl2/861=0.019 Cl2/801=0.011 Cl2/801=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =10 CI=250 S0 ₄ =WS	Autisci=50(Trec) Coteci=TVS(tr) Coteci=TVS Coteci=TVS Coteci=S0Trec) Coteci=S0Trec) Coteci=S0Trec)	Fe(ch)=WS(de) Fe(ch)=1000(Trec) Pb(acton)=TVS Mn(acton)=TVS Mn(ch)=WS(de) Hg(ch)=WS(de)	N4actorie TVS Selector) = TVS Ag(ac) = TVS Ag(ch) = TVS(r) Zn(actor) = TVS	
La Mainsiem of the South Platte River from Bowles Avenue in Littlepon Colorado, to the Burlington Ditch diversion in Deriver Colorado.		Ag Life Warm 1 Recreation 1a Water Supply Agrouture	D 0.=5.0 mg/t pH=6.5-9.0 F Coli=1267100m1 E. Coli=1267100m1	NH5(ac(cn)=TVS Ch(ac)=0.019 Ch(cn)=0.011 CN=0.005	5+0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 C/=250 S0 ₄ =WS	Astach=50(Trec) Co(actch)=TVS Critt(rec)=50(Trec) Critt(rec)=50(Trec) Critt(rec)=TVS Cu(actch)=TVS 2 8 Fe(ch)=WS(dis)	Fe(dr)=1000Trect Pb(actdr)=TVS Mn(dr)=190(ds) Mn(acto)=TVS Hg(dr)=001[741) N(acdr)=TVS	Se(add)=TVS Ag(add)=TVS Zn(add)=TVS	Tamporary modification NH3/Boldh=TVS(olid) (Type I) Expiration date of 12/01/2011
15 Mansien of the South Plate River from the Builington Ditor diversion in Derver. Colorado, to a point mmediatry below the confuence with Big Dry Greek	5	Aq Lea Viaim 2 Recreation 1a Water Supply Agriculture	0.0 - 559.0 - 614-200450ml F. Cole:200450ml E. Cole:126100ml	NH-1-ac(tr)= TVS Clytect=0.019 Clytent=0.011 Clytent=0.006	S=0.002 B+0.75 NO ₂ =1.0 NO ₂ =10 CNo ₂ =WS S0 ₄ =WS	Asjac)=50(Tee) Collactor)=TVS Collactor)=TVS Collactor)=TVS Collactor)=TVS 2.3 Fe(cn)=WS(dis)	Fatchis 1000(Trec) Plyardolean Minjaoodhis TVS Minjaoodhis TVS Hgranis 2 4(dis) Hgranis 2 4(dis)	N(acton)= TVS Setacton=TVS Ag(acton)=TVS Zn(acton)=TVS Zn(acton)=TVS	See attached table for site- approfic Dissolution Oxygen appl Ammona standauds. "9H=6.0-9.0 from 6.4" Ave "9H=6.0-9.0 from 6.4" Ave "9H=6.0-9.0 from 6.4" Ave Temporary modifications NH ₄ accon=TVS(00) TVP+1 Expandin date of TV3+1,2019
Tisi. Maratem of Sans Creek from the confluence of Marphy and Coal Creek in Araganes Courty to the confluence with the South Plans River	р Д	Aq Le Warn 2 Recreation 1a Agrouture	0.0 =5.0 mpA F Celar-2601 00m1 F Celar-2601 00m1 E Celar-1261 100m1	MH4/ac(sn)=TVS C5(c9)=0.011 C5(c9)=0.011 CN=0.005	S=0 002 B=0 75 NO_e0.5	As(ch)=100[Trec] cditacton=TVS cditacton=TVS cvNiacton=TVS curadon)=TVS*	Felchy=1000Trect Polyachy=TVS Mn(acchy=TVS Mn(acchy=TVS Nn(acchy=TVS	Selar:hTVS Selar:hTVS AglacthraTVS Zn(acth)=TVS Zn(acth)=TVS	Temporary modifications Se(n)=19.3 hg/l Se(a)=no socie stardard type iii = 2/28/10. RH-Jacobh-TVS(sold)(Type i) Expresion date of 2/28/10. Ty2/1/2011 '2/21/2011 - TVS *26 below the Sand Cleh) = TVS *26 below the Sand Cleh) = TVS *26 below

REGION 2384	DESIG	CLASSIFICATIONS			NUMER	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
BASM UPPER SOUTH PLATE RIVER			PHY SICAL and BIOLOGICAL	NORGANIC	Dia		METALS		AND QUALIFIERS
16b. Aufora Reservor		Aquite Warm 1 Recretion 1 a Water Supply Agrouture	D 0 =5 0 mg/ D 0 (se)=7.0 mg/ PH=6.5-9.0 F Coi=200/100m F Coi=200/100m	MHJ(accr)=TV5 CI_(act)=0.015 CI_(an)=0.011 CU_(an)=0.005	5+0.002 B+0.75 NO_5=0.05 NO_5=0.05 NO_5=10 CI+250 SO_5=005	Astract=50(Trec) Cotact=7VS(tr) Cot(cht=TVS Cot(cht=TVS Cot(cht=TVS Cot(cht=TVS Cot(cht=TVS Cot(cht=TVS	Fe(cn)=VS(dis) Fe(cn)=1000(Tree) PB(ce/ch)=TVS Mn(ac/ch)=TVS Mn(cn)=0107(di) Harch1=0107(di)	Ni(acich)=TVS Se(acich)=TVS Agrac)=TVS Agrch)=TVS[tri Znjacich]=TVS	
Ho. All would resit to the Soluth Plane River including all laws' reservors and wellands' non-me builded of Challeng Reservors on a sonnis mendautely below the confluence and Big Diry Creek except for specific transps in the subbasins of the South Platte River and in Segments rida, 15h. 15k. 15e. 15t. 15g. 13a. 17b and 17c.	3	Aq Lile Warm 2 Receation 1a Agroutione	D 0 -5.0 mg/ PH=6 5.9 c F Cole-200100ml E Cole-126/100ml	NH5(8c(ch) = TVS C)4sc=0.019 C)4ch=0.011 C(4=0.005	5 0=201 5 0=20 5 0=8	Asidhi=100/Trac) Cdiacdmi=TVS CV(liacdmi=TVS CV(liacdmi=TVS Cutacichi=TVS Cutacichi=TVS	Fe(ch)=1000(Trec) Pb(adch)=TVS M(actoh)=TVS Hg(ch)=01(Tel) N(ac(ch)=TVS	Selac(th)=TVS Aglac(th)=TVS Zh(ac(th)=TVS	Fish Ingestion Organica Temporary modifications. Temporary modifications. East & West Toll Gate Creeks. Toll Gate Creeks. Toll Gate Creeks. Toll Gate Selcht=TBug/Ilds; Selcht=TBug/Ilds; Selcht=TBug/Ilds; Selcht=TBug/Ilds; Selcht=TBug/Ilds; NHy/ac/bht=TVS(old)/Type (NHy/ac/bht)=TVS(old)/Type (Second cate of tage of 22/31/2011
Yeld Second Draws hom the studies to the D Britain Canal	3	Ad U/A Warm 2 Recreation 1a Agriculture	D.O. (ch)=3.3 mg/ pH=6 5-9 0 F Coli=200/100ml E Coli=126/100ml	NH-JackharVS CL_act=0.019 CL_act=0.019 CL_act=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5	As(cn)=100(Trec) Cd(ac(cn), TVS Cr(II(ac(ch) = TVS CrVII(ac(ch) = TVS Cruiac(ch) = TVS	Fe(ch)=1000(Trac) Pb(ac(ch)=TVS Mn(ac(ch)=TVS Hg(ch)=0.01(Tou) Ni(ac(ch)=TVS	Se(actor)=TVS Agradict)=TVS Zrgadict)=TVS	15 percentia of D O massirements collected periweer 6.30 a m and 6.30 p.m.
164 Titred Circlek from the source to the O Brain Carlat	a	Ag Life Warm 2 Rigoreation 1a Agrouture	0.0. (ch)=4.0 mg/ cH=6.5-9.0 F. Col=200/100ml E. Col=126/100ml	NH4Jackh1=TVS CL(ac)=0.019 CL(ac)=0.011 CL(ac)=0.011 CN=0.005	5=0.002 B=0.75 NO ₂ =0.5	Asjch)=100.Treci Colacidh)=TVS Critijacidh)=TVS Crutijacidh]=TVS Crutacidh]=TVS	Fe(ch)=1000(Trec) Pbjacch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01(Tot) N(ac/ch)=TVS	Selacion)= TVS Ag(acich)= TVS Zn(acich)= TVS	15 percentile of 0.0 massurgments collected between 6.30 a m and 6.30 p.m
151 Bair Lake Tributator from the pource to the Deriver Hudson Cenal	d0	Aq Life Warm 2 Recreation La Agriculture	D.O. (ch)= pH=6.5-9.0 F.Col=3-00100ml E.Col=1267103ml	NH 486/ch=7VS Cl (acl=0.019 Cl (ch=0.011 Cl (ch=0.011	\$=0.002 8=0.75 NO ₂ =0.5	Asjch)=1001Trec) Cotacionj=TVS Critiliaotenj=TVS Critiliaotenj=TVS Curiaotenj=TVS	Fe(ch)=1000(Trac) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01(Tet) Ni(ac/ch)=TVS	Selacion)+ TVS Accadeh)= TVS Zn(acidh)= TVS	1 When water is preserve D 0, concentrations shall be maniatived at lievels that protect classefied uses
ISo Marcy Guich from including all lakes reservoirs and wetlands from the source to the confluence with the Soum Plane	4	All Life Warm 2 Recreation 1.a Agnouhure	0.0 = 5.0 mp/ pH=5.5-9.0 F.Col=526/100ml E. Col=526/100ml	NH Jackmi-TVS CHacimo 019 CHAch=0 019 CN=0.005	S=0.002 B=0.75 NOy=0.5	As(ch)=100(Trec) Cd(ac/ch)=TVS Cd(ac/ch)=TVS Cd(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(cn)=1000(Trec) Pb(ac(ch)=TVS Mn(ac(ch)=TVS Hg(ch)=D01(Tot) M(ac(ch)=TVS	Setabbh)=TVS Ag(apth)=TVS Zn(apth)=TVS	Cu (ac/ch) = TVS 24 below ere Conternal Wastewater Treatment Facuer outfall Treatment Facuer outfall Temporary modification Networks of the of Expiration date of Expiration date of
	aIJ	Ag Life Warm 1 Recreation 1a Agrouture	D 0 =5.0 mg/l ptt=6.5-9.0 F.Cat=200/100ml E.Cat=126/100ml	NHJ(actor)=TVS CHacin0 019 CL(chir 0 011 CN=0 005	S=0.002 8=0.75 NO ₂ =0.5	As(ch)=100(Trec) Cd(ac/ch)=TVS Cr(1(ac/ch)=TVS Cr(1(ac/ch)=TVS Cr(1(ac/ch)=TVS	Felch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=0 01(T cr) Ni(ac/ch)=TVS	Selectrin)= TVS Ag(actm)= TVS Zn(actm)=TVS	
16/2		Ad Life Warm 1 Recreation 1a Agriculture	0.0 =5 0 mg/l pH=6.5-9 0 F Col+ 200/100ml E Col= 126/100ml	NH Jackshitz TVS Clyac=0.019 Clycm=0.011 CN=0.005	8=0.002 B=0.75 NO ₁ =0.5	Aa(ch)=100(Trec) Cdtacch)=TVS Crtitiac(ch)=TVS C/V((actch)=TVS Cutac(ch)=TVS	Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01(Tot) Ne(ac/ch)=TVS	Selection=TVS Aglaction=TVS Zn(action)=TVS	
176. Bipeles Lake a k.a. Patrick Reserved of Box Mar Lake		Ad Life Warm 1 Recreation 1s Agrouture	D. 0. +5.0 mg/ D. 0. (spi=7.0 mg/ pH=6.5.8.0 F. Cole 200100mt E. Cole 1264100mt	NH-480401=TVS CH480-0.019 CH401=0.011 CN=0.005	S=0.007 B=0.75 NO3+0.6	Al, ac/ch)= TVS As(ch)=100(Trac) Cd(ac/th)= TVS Critiliac(ch)= TVS Critiliac(ch)= TVS Criviliac(ch)= TVS	Fe(cn)=1000,Trec) Pb(acton)=TVS Mm(acton)=TVS Mg(cn)=0.01(fot) M(acton)=TVS	Setadon=TVS Agraphe TVS Zn(acton)=TVS	

UPPER SOUTH PLATTE RIVER SEGMENT 15

Site-Specific Minimum Dissolved Oxygen and Ammonia Standards

UNDERLYING STANDARDS

Dissolved Oxygen

Early Life Stage Protection Period (April 1 through July 31)1-Day1,5,63.0 mg/L (acute)7-Day Average 1,2,45.0 mg/LOlder Life Stage Protection Period (August 1 through March 31)1-Day 1,52.0 mg/L (acute)7-Day Mean of Minimums1,32.5 mg/L30-Day Average 1,24.5 mg/L

TEMPORARY MODIFICATION

During the period until October 31, 2001, the Segment 15 dissolved oxygen standards from 88th Avenue north to the end of the Segment shall be the currently existing ambient conditions as monitored in 1992, 1993, and 1994 by the Division and by the Metro District. Beginning November 1, 2001, the standards shall apply to all sections of Segment 15 south of the Brighton Ditch diversion. The standards north of the Brighton Ditch diversion shall continue to be the ambient conditions existing in 1992, 1993, and 1994. Beginning November 1, 2004, the standards shall apply to all sections of Segment 15.

Footnotes

For the purposes of determining compliance with the standards, dissolved oxygen measurements shall only be taken in the flowing portion of the stream at mid-depth, and at least six inches above the bottom of the channel. All sampling protocols and test procedures shall be in accordance with procedures and protocols approved by the Division.

- ² A minimum of four independent daily means must be used to calculate the average for the 7-Day Average standard. A minimum of eight independent daily means must be used to calculate the average for the 30-Day Average standard. The four days and the eight days must be representative of the 7-Day and the 30-Day periods respectively. The daily means shall be the mean of the daily high and low values. In calculating the mean values, the dissolved oxygen saturation value shall be used in place of any dissolved oxygen measurements which exceed saturation.
- ³ The 7-Day Mean minimum is the average of the daily minimums measured at the location on each day during any 7-Day period.
- North of the Lupton Bottoms Ditch diversion, the ELS 7-Day average standards for the period July 1 – June 31 shall be 4.6 mg/L.
- ⁵ During a 24 hour day dissolved oxygen levels are likely to be lower during the nighttime when there is no photosynthesis. The dissolved oxygen levels should not drop below the acute standard (ELS acute standard of 3.0 mg/L or the OLS standards of 2.0 mg/L). However, if during the ELS period multiple measurements are below 3.0 mg/L during the same nighttime period, the multiple measurements shall be considered a single exceedance of the acute standard. For measurements below 2.0 mg/L during either the ELS or the OLS periods, each hourly measurement below 2.0 mg/L shall be considered an exceedance of the acute standards.
- ⁶ In July, the dissolved oxygen level in Segment 15 may be lower than the 3.0 mg/L acute standards for up to 14 exceedances in any one year and up to a total of 21 exceedances in three years before there is a determination that the acute dissolved oxygen standards is not being met. Exceedances shall be counted as described in Footnote 5.

Ammonia:

Ammonia Warm Water = (mg/l as N)Total $acute = \frac{0.411}{1+10^{-7.204} - pH} + \frac{58.4}{1+10^{-pH} - 7.204}$ $chronic (Apr1 - July31) = \left(\frac{0.0577}{1+10^{-7.688} - pH} + \frac{2.487}{1+10^{-pH} - 7.688}\right) + M/N \left(2.85.1.45 + 10^{-0.028(25-7)}\right)$ $chronic (Aug1 - Mar 31) = \left(\frac{0.0577}{1+10^{-7.688} - pH} + \frac{2.487}{1+10^{-pH} - 7.688}\right) + 1.45 + 10^{-0.028(25-MAX(T, 7))}$

Early Life Stage Protection Period (April 1 through July 31)

 $NH_3 = old TVS$ Warm Water Acute = 0.62/FT/FPH/2^(4 old) in mg/ (N)

REGION 3 AND 4	DESIG	DESIG CLASSIFICATIONS			NUMER	NUMERIC STANDARDS			TEMPORARY
BASIN CHERRY CREEK			PHYSICAL	INORGANIC	NIC		METALS		AND AND AND
Siteam Segment Description			BIOLOGICAL.	Nom.			100		CHRISTING .
Manutan of Cherry Drenk from the excrete of East and Werr Cherry Dreak to the inter of Cherry Dreek Reservoir	qu	Aq Life Warm 2 Rencreation 18 Water Supply Agriculture	D.0.45.0 mg/l pitels 5.9.0 F.Coler 2001100mi E.Coler 1201100mi	NH-JJ80407)=TVS Clyac:=0 019 Clych=0 011 CN=0 005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ =WS	As(act=50,Trec) Cd(actor)=TVS Cd(actor)=TVS Cv((actor)=TVS Cu(actor)=TVS Fe(cn)=VVS	Fe(ch)=1000[Trec] Pb[ac(ch)=TVS Mn(ch)=WS(ab) Mn(ch)=WS(ab) H(gab)=0.01[Ton) M(ac(ch)=TVS	Selauch)= TVS Agiauch)= TVS Za(acich)= TVS	
Z Cherry Ersek Reservou		As Life Warm 1 Recreation 1a Water Supply Agriculture	0.0.45.0 mg/l pH-6.5.4.0 PH-6.5.4.0 F-0.4.260100ml F-0.44.126100ml Season mean orderasured in upd measured in upd measured in upd measured in upd measured in the upder three months of Joy through Septembar	NH4/ac/ch/=TVS C(4,60=0.019 C(4,61=0.011 C(4=0.005 CN=0.005	SM#*0S 052=10 91#CNN 9:01#CNN 9:01#CNN 9:01#CN	Aajacy=Sol Trec) Colacton)=TVS Colacton)=TVS Colacton)=TVS Colacton)=TVS	Fetch)+WSIdes) Fetch)+1000,Irec) Fetch)=TVS Mr(acch)=TVS Mr(acch)=VS Mr(ch)=01(frec) Hg(ch)=001(frec)	Niacon=TVS Selecton=TVS Zniacon=TVS Zniacon=TVS	
3 Mainteem of Energy crook from the bullet of Energy Creek Reservant to the confluence with the South Platte River.	an	Aq Life Warm 2 Recreation 1.5 Water Supply Agnoutane	D.0 =5 0 mg/ pH=5 5-9.0 F 7.c4=300/100ml E Cala=126/100m	NHJ/ac/cm/=TVS Cl_Jac/cm/=9 Cl_(ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)on)= TVS Cd(ac)=50(Trec) CAN(ac)=50(Trec) CAN(ac)=50(Trec) CAN(ac)=50(Trec) CAN(ac)=50(Trec)	Fe(ch)=1000(Trec) Pb(actor)=TVS Mn(ch)=WS(cas) Mn(ch)=WS(cas) Hg(ch)=0.01(Tot) M(actor)=TVS	Setao/ch)=TVS Agtac/ch)=TVS Zn(ac/ch)=TVS	Temporary modification MHA,acichisTVS(old) (Type 4) Expresion date of 12/31/2011
 Ant Insurfaries to Cherry Creek, including all lakes reservers and weltansk from the source of East and West Cherry Creeks to the carifluence with the Source Platte River exception (or specific histings in Seaman) 2 	đ	Aq Life Warm 2 Recression 1a Aprouhme	0.0 =5 0 mgl pH=6 5-9.0 F Coli=200/100m1 E.Coli=1201/100m1	NH, (actor)=TVS Clyable0=0.019 Clyable0 011 CN=0.005	5=0 002 B=0 75 NO ₂ =0 5	Ax(chi=100(Trec) Ca(ac/ch)=TVS CAll(ac(ch)=TVS CAll(ac(ch)=TVS Ca(ac(ch)=TVS	Fa(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01[101) Ni(ac/ch)=TVS	Sejacichi=TVS Agiacichi=TVS Zn(acich)=TVS	Temporary modification MNI/sacion=TUS(060 (Type N. Expiration date of TZ/31/2011

REGION 3	DE 51G	CLASSIFICATIONS			NUME	NUMERIC STANDARDS			TEMPORARY
RASIN BEAR ORGEN			PHASICAL	INDRGANIC	lic		METALS		MODIFICATIONS AND
Straim Segment Description			BIOLDGICAL	mgil			ligin		C ALIFICAS
 Mainstein of Bear Creek from the source to Maritman Drive, including all manatern reservoire. 		Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D 0 = 5 0 mg/l D 0 (sp)=7 0 mg/l prt=6.5-9 0 F Cali=200/100ml E Cali=200/100ml	NH,Jac(en)=TVS Cl_(dc)=0.019 Cl_(dc)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =WS	Asiac)=50(Trec) Colaci=TVS(tr) Colcin=TVS Crititac)=50(Trec) Crititac)=50(Trec) Crititactich=TVS Curactich=TVS	Fa(zh)=VN5(des) Fe(zh)=1000(Trec) Poiacún)=TVS Mn(ap(zn)=TVS Mn(ah)=VN5(des) Hex(ah)=VN5(des)	Ni(acidn)=TVS Setac(th)=TVS Ag(ac)=TVS Ag(ch)=TVS Zn(acidh)=TVS Zn(acidh)=TVS	
To Mannstein of Beer Creek from Hairman Diton to the milet of Bear Creek Reservor	đ	Au Life Cold 2 Recreation 1a Water Supply Agrouture	D 0.=5.0 mg/ 0.0.(sp)=7.0 mg/ 0.4=5.5.9.0 F Col=200,100ml E Cole=220,100ml	NH // aciente FVS Chiacter.0.019 Chiacter.0.019 Chiel 0.011 CN=0.005	5=0.002 B=0.75 NOy=10 CI=250 SOJ=WS	Axioc)=50(Trec) Cotchi=TVS(tr) Cotchi=TVS Cotchi=TVS Cotchi=TVS Cotchi=TVS Cotcochi=TVS Cotcocchi=TVS	Feichi=W5(dis) Fei(chi=1000(Trec) Philacichi=TVS Mn(aci0h)=TVS Mn(chi=W5(dis) Holchi=W5(dis)	Nijacicnj=TVS Seiac/cnj=TVS Ag(ac)=TVS Ag(ch)=TVS(fr) Zrijac(cn)=TVS	Water + Fish Organics
1c #aar Dreek Restrication and Socia Lakes		Aq L/e Cold 1 Recreation 1a Water Supply Agriculture	D 0 =6 0 mg ¹ 0 0.14p1=7.0 mg/ pH=6 5-9 0 F Cole=200/100m1 E Cole=200/100m1	NHy, actions TVS Chylacheo 019 Chylacheo 019 CN=0.005 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₃ =10 CI=250 SO ₂ =WS	At(ac)=50(Treo) Color)=TVS(tr) Color)=TVS Collkac(=F0Treo) Collkac(=T)=TVS Collkac(=T)=TVS Curac(=T)=TVS	FeldPTWS(das) FeldP1=1000(Trec) Pbtactch)=TVS Mn(cdr)=VVS Mn(ch)=VVS(das) Hotdh)=001(Tpt)	Nijacičnj=TVS Se(acičn)=TVS Agićn)=TVS(U) Znječnj=TVS(U)	See namative photophotus standard below
 Mainfillinin of Bear Chask from the outled of Bear Creek Reservoir to the confluence with the South Platte Ryser 	5	Aq Life Warm 1 Recreation 1a Water Supphy Agnouture	D 0 =5.0 mg/ pH =6.5-9.0 F Coli= 2004100ml E Coli= 1261100ml	NH Justicinia TVS ChildCie 0.019 ChildCie 0.011 CN=0.005	5=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CD=250 SO ₄ =WS	Astach=50(Triec) Cotac(ch)=TVS Crititact=50(Trec) Crititact=50(Trec) Crititact=1VS Culactch)=TVS	Feld")WS(des) Feld")WS(des) Polaciden=TVS Mn(aciden)=TVS Mn(cb)=VVS Mn(cb)=VVS(des) Hg(cb)=001(Tes)	Ngadchja TVS Sejaudchja TVS Agladchja TVS Znjadchja TVS	
All tributaries to Bear Creek including at lakes reservoirs and wellands from the source to a point immediately below the confluence with Cub Creek Essept to specific listings in Begment 7		Ag Life Cold * Recreation 1a Water Supply Agriculture	D 0 =5.0 mg/l D 0.(sp)=7.0 mg/l pH=6.52-9.0 E Coll= 52-9.0 E Coll= 126/100ml	NHyjadoni=TVS Clydehe0 019 Clydehe0 011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CP=250 SO ₄ =WS	Asjac)=50(Trec) Cd(act=TVS(tr) Cd(act=TVS Cd(act=TVS Cd(actor)=TVS Cd(actor)=TVS Cd(actor)=TVS	Fe(ch)wS(dis) Fe(ch)=1000(Trec) Pb(auch)=TVS Mn(actm)=TVS Mn(ch)=0 P1(50)	Neadon=TVS Secardhi=TVS Agraci=TVS Agracim=TVS(III) Zreadon=TVS	
43 All Inturusines to Beak Creek, including plisaks, reservers and velocitor from a point intreductly polow the confluence with Club Creek to Pro- confluence with the South Plate Avie: except for specific holing in Segments db. 4c. 5 and 5.	Ъ	Aut/reWarm 2 Recreation 1a Water Supply Agroutiure	D 0.=5 6 mg1 pH=6.5-9.0 F Col=200190ml E Col=126/100ml	NH (320km)=TVS Cbj6c(=0.019 Cbjch)=0.011 CN=0.006	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10.5 CI=250 SD ₄ =WS	Asi ac)+50(Trec) Cd(ac/ch)=TV5 Cn(i)ac/ch)=TV5 Crvi((ac/ch)=TVS Cu(ac/ch)=TV5	Fa(ch)=WS(ds) Fe(ch)=1000(Trec) Pb(auton)=TVS Mn(ac(ch)=TVS Mn(ch)=WS(ds) HS(ch)=WS(ds)	N(actoh)=TVS Selactoh)=TVS Agradithi=TVS Zn(actoh)=TVS Zn(actoh)=TVS	Water + Fran Organios Temporary modification NHL/acidnj=TVS(sidi) [Type I) Exploration date of 12/3/2011
ib Swede Guton molecting all pondis lakes' reservors and vertance from its headwatchs is its confluence with Ker Guton.		Ag Lrie Colo 2 Recreason 1a Water Supply Agriculture	2.0 =5.0 mg1 0.0 (sp)-7.0 mg1 pH=6.5-8.0 F Cole=2007100mi E Cole=128/100mi	NH/Hexton)= TVS CULARIAD 019 CULARIAD 0019 CM=0 005	5=0,002 B=0.75 NOy=10 CI=250 SD_WS	Asjac)=S0(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS(tr) Cd(tac)=TVS Cd(tac)=TVS Cd(tac)=TVS Cd(tac)=TVS Cd(tac)=TVS	Fe(ch)=WS(da) Fe(ch)=1000(Trec) P(lauth)=TVS Mn(ac/ch)=VVS(da) Mn(ch)=VS(da)	Nijac/chi=TVS Se(sc/ch)=TVS Ag(ch)=TVS(s) Ag(ch)=TVS(s) ZN(sc/ch)=TVS	Water + Fish Organics

Warrisve Prosporus Standard for Segmen 19 di Bear Creek Concentrations of total prosphorus in Bear Creek. Reservas shall be timited some extern recessary to prevent sumulation of adjust growth the protection description of adjust growth the surveat and gravity of the surveat and gravity for the surveat and gravity of
REGION L	DESIG	DESIG CLASSIFICATIONS			NUMER	NUMERIC STANDARDS			MODIFICATIONS
BASIN BEAR CREEK Sirean Segment Description			BIOLOGICAL BIOLOGICAL	INORGANIC	NIC		METALS		QUALIFIERS
4c Swede Guidth including all ponds lakes, reservoirs and weblands from its confluence with Kein Guidth to its confluence with Bear Greek.		Aq Life Cold 2 Recretion ta Water Supply Apriculture	0.0 =6.0 mg/ 0.0 1661=7.0 mg/ pH=6.5=9.0 F.Cok=200100ml E.Cok=126100ml	NHyac/crizTVS Clyaci=0.019 Clyan=0.011 CN=0.005	S=0.002 B=0.75 N0_j=0.05 N0_j=10 CI=250 SO_s=WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(th)=TVS Cnll(ac)=50(Trec) Cv/(ac/ch)=TVS Curacich=TVS	Feich/#WS(dis) Feich/#TVS Miniac(D)=1000[Trac) Miniac(D)=TVS Miniac(D)=VS Miniac(D)=VS(dis) Higid)=WS(dis)	Nijacichi = TVS Seljacichi = TVS Aglacic= TVS Aglchi = TVS(tr) Znijacichi = TVS	Waller + Fish Organics
5 Savmit Troublesome and Cold Springs Guidners and mannation of Lukey Creek including all trobutanes lakes reservors and wetlands from the source to the confluence with Bear Creek except for spectric tisting in Segment 6	đ	Aq, Life Cold 2 Recreation 1a Water Supply Agriculture	D. 0 =6 0 mg/ D. 0.(sp)=7.0 mg/ pH=6.5-9.0 F. Cale=200/100mi E. Cale=126/100mi	NHylacich)=TVS Clylach=0.019 Clylach=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CH=250 SO ₂ =WS	Ast act = 501 Trec) Col(act = TVS;tr) Col(act = TVS Crititiac) = 501 Trec) Crititiac) = 501 Trec) Crititiac(h) = TVS Cutadoh) = TVS	Fe(ch)=WS(ds) Fe(ch)=1000(Trec) Pb(auch)=TVS Mn(acton)=TVS Mn(ch)=TVS Mn(ch)=WS(ds) Hq(ch)=001[ds]	N(ac/cn)=TVS Sa(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS(tr)	Water + Fish Organics
6 Manstern of North Turkey Creek. from the source to the conthaence with Turkey Creek.		Ao Lifé Cold 1 Recreation 1a Water Supply Agriculture	D. 0 +6 D mg/ D. 0 (sp)=7 0 mg/ pH=6 5-9 0 F Cole=126/100m/ E. Cole=126/100m/	NHylactent=TVS Divise = 0.019 Divise = 0.011 CN=0.005	5+0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =VIS	Asjac)+50(Trec) Co(so)=TVS(t) Co(ch)=TVS Coligac)=50(Trec) Coligacias=50(Trec) Coligacias=TVS Coligacias=TVS	Fatch)=WS(dis) Fetch)=1000(Trec) Pt(actch)=TVS Mn(actch)=TVS Mn(act))=TVS Mn(act)=WS(dis) Hg(ch)=cu 0h(fin)	Niacich)=TVS Se(acich)=TVS Ag(ac)=TVS Ag(ac)=TVS Zn(acich)=TVS	
7 All troutimes to Blair Creak, including lakes, reservoirs and wettands, writin the Mr. Evans Wildemess Area.	MO	An Life Cold 1 Recreation 1a Water Supply Agnouture	0.0.=6.0 mph D.0.(sp)=7.0 mph pH=6.5-9.0 F Coli=200/100ml E Coli+126/100ml	NH4/6001=TVS Cl6/801=0.019 Cl6/801=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =10 NO ₂ =10 CI=250 SO ₄ =WS	Asjac)=50(Trec) Co(rec)=TVS(tr) Co(re)=TVS Coffil(ac)=50(Trec) CrVI(acCe)=TVS Cu(acCe)=TVS	Felcht=WS(drs) Felcht=TVS Pt(exicht=TVS Mn(acicht=TVS Mn(ctht=TVS Mn(ctht=US) Hn(cth=0.01(fet) Hg(cht=0.01(fet)	Madenj=TVS Selacen)=TVS Aglac)=TVS Aglab)=TVS (n)=TVS Zn(ac/ch)=TVS	

REGION 1	DESIG	CLASSIFICATIONS			NUMER	NUMERIC STANDARDS			TEMPORARY
BASIN CLEAR CREEK Stream Semman Date Anon			PHYSICAL	INDRGANIC	NIC		METALS		MODFILM FROMS AND OUALIFIERS
			BIOLOGICAL	ngn			hgu		
Manestern of Clear Creek, including all trabutaries lakes reservoirs and wetlandsr frain the source to the I-10 bridge above Silver Paine.		Ag Life Cold 1 Reveation 1a Water Supply Agrouture	D 0 =6 0 mg/ D.0 (45)=7.0 mg/ pt+e6.5.9.0 F Cole=2001100m1 E Cole=1261100m1	NHy/addn/=TVS Cljac)=0.019 Cljdn/=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0 05 NO ₂ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Colon=TVS(h) Colon=TVS Critiliac)=50(Trec) Critiliac)=50(Trec) Critiliac)=50(Trec) Critiliac)=50(Trec)	Fe(ch)=V/S(ds) Fe(ch)=1000(Trec) Pb(ac(ch)=TVS Mn(ac(ch)=TVS Mn(ac(ch)=VS Mn(ac(ch)=VS) Mn(ch)=01(Tb()	Ni(ac/dh)=TVS Se(ac/dh)=TVS Ag(ac)=TVS Ag(ch)=TVS[u] Zr(ac/dh)=TVS	
2 Manasem of Desk Creek, including all tributanes, lakes reservers and wetands from the 1-10 broage above Silver Plume to the Arge Tunnel discharge alcopit for specific wrings in Segments 3 through 10		Alq Life Cold 1 Recreation 1a Water Supply Agriculture	0.0 =6.0 mg/ 0.0 (sp)=7.0 mg/ PH=6.5-9.0 F.Coli=200/100ml E.Coli=26/100ml	NH4.80(b)=TVS CR480=0.019 CM401=0.011 CM40.005	S=0.002 B=0.75 NO ₂ =0.05 SO ₄ =WS NO ₅ =10 CI=250	As(ac)=5b(Trec) Cd(ac)=TVS(tr) Cd(ac)=TVS Cd(ac)=1VS Cd(ac)=TVS Cd(ac)=1VS Cd(ac)=1VS	Fe(ch)=V/S(dis) Fe(ch)=1000(Trec) Pb(addh)=TVS Mn(ch)=V/S(dis) Hg(ch)=01(Tot) Ni(addh)=TVS Se(addh)=TVS	Agiac)=TVS Agich)=TVS(tr) Zn(ac)=TVS Zn(ch)=200	Temporary modifications Cuichies 1, up/1 (ds). Mn(cn)=105 up/1 (ds). Zn(cn)=257 up/1 (ds). type 4: Expression date of 2/01/09
39 Manchen of Sputh Chear Creek, Including all trausaries, takes, reservoirs and wellands from the source to the confinence with Clear Creak, except for the specific terrig in Se and 19.		Ag Life Cold 1 Recreation 1a Water Supply Agriculture	0.0.1401=7.0 mg/ 0.0.1401=7.0 mg/ pH=5.5-8.0 F.Cot=200/100m1 E.Cot=200/100m1	NH, 46/01) - TVS Cl-(46)=0.019 Cl-(47)=0.011 CN=0,005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CH-250 SO ₄ =WS	Astac)=50(Trec) Cot(ac)=TVS(tr) Cot(ch)=TVS Cot(i)=TVS Cot(i)=TVS Cot(i)=Cot(Trec) Cot(i)=TVS Cot(acion)=TVS	Fe(ch)=V/S(dis) Fe(ch)=1000(Trec) Potacich)=TVS Mn(ac(ch)=VS Mn(ch)=VS(dis)	Ng(ch)=0.01,1 or N(acton)=TVS Selacich)=TVS Ag(ac)=TVS Ag(ac)=TVS Zvyacich)=TVS	Temporary modification Zh(ch)=100 µg/l (dis) type == E spiration date of 7/01/09
36 Maintatian Di Lealwerkworth Creek from source to confluence with South Creat Creek.		Ag Lrie Cold 2 Recreation 1a Water Supply Agriculture	D. 0 +6 0 mg/ D.0 (48)=7 0 mg/ pH=6 5-9 0 F Cole - 2001 00m/ E Cole - 1261 00m/	NH # ackb)=TVS Cl_act=0.019 Cl_ach=0.011 CN=0.005	S=0.002 B=0.75 NO ₃ =0.05 NO ₃ =10 CJ=250 SO ₄ *WS	As(sec)=50(Trac) Cd(ac)=TVS(tr) Cd(ch=TVS Cd(th)=TVS Cd(th=TVS Cd(thac)=50(Trac) Cd(thac)=1TVS Cd(thac)=1TVS	Fe(ch)=WS(ds) Fe(ch)=1000(Trec) Poi acidn)=TVS Mn(ch)=VVS(dis) Mn(ch)=VVS(dis) Hig(ch)=001(fet)	N(ackh)=TVS Sejac(m)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac(m)=TVS	Temporary modifications Pb(ch)=47 ug/l (dis), ZN(ch)=220 ug/l (dis), Expression date of 2/28(10)
 Mannsiem of West Cleak Creek from the source to the confluence with Woods Creek 		Aq Life Cold 1 Recreation 1s Water Supply Agriculture	D.0. +6.0 mg/l D.0. (4p)=7.0 mg/l pH=6.5-3.0 F. Cot=200100mi E. Cot=126/100mi	NH (ac/ch)=TVS Cl(ac)=0.019 Cl(ch)=0.011 CN+0.005	S=0 002 B=0 75 NO ₁ =0 75 NO ₁ =10 CP=250 SO ₄ =WS	Asi aci = 50(Trec) Colaci = TVS(F) Colchi = TVS Colchi = TVS Collisaci = 50(Trec) Collisaci = TVS Colebch) = TVS	Fetch)=WS(dis) Fetch)=1000(Trac) Pbiaccoh=TVS Mn(abt=WS(dis) Mn(abt=WS(dis) Hatch=0.51(Tot)	N((ac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	
 Manatiam of West Diese Dreek from the confluence with Woods Creek to the confluence with Clease Creek 	5	Aq Life Celd * Research 1a Agrisshure	0.0.46.0 mg/ 0.0.1597 0 mg/ H=6.5.9 0 F. Doine 200100ml E. Colie 128/100ml	NH-s/actor)= TVS CI-stach=0.019 CI-stach=0.011 CN=0.005	S=0.002 B=0.75 NO3#0.05	Asich)=100[frec] Colast)=1VS(tr) Colast)=1VS Colact=1VS Colacterh=TVS Colacterh=TVS	Falchi=1000(Fred) Selado Poladoh)=TVS Agrad Moradoh=TVS Agrad Moradoh=TVS Agrad Moradoh=TVS Agrad Nuadoh=TVS Zh(acree)=01110(1 Zh(acree)=040(hnamonal)=1372 Zh(acree)=040(hnamonal)=1372	Selacich=TVS Ag(ch)=TVS(c) Ag(ch)=TVS(c) assil=1 \$127 assil=1 \$127	
6 At transmise to West Clear Creak, including all lakes, reservoirs and wetlands from the source to the confluence with Clear Creak, except for spectra listings in Segments 7 and 9.		Aq Life Cold 1 Recreation 1a Vitater Supply Agriculture	D.O ~6.0 mp/ D.O (spi=7.0 mp/ pH=6.5-9.0 F.Coi=200100ml E.Coie 126/100ml	NH ₄ Iac/ch)=TVS Clyac)=0.019 ClyIch=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Col(ac)=TVS(tr) Col(ac)=TVS Crit(ac)=50(Trec) Crit(ac)=50(Trec) Crit(ac)=TVS Cu(ac(ab)=TVS	Felich)=WS(dis) Felicini=1000(Trec) Pt(actor)=TVS Mnt(actor)=TVS Mnt(actor)=TVS Mnt(actor)=105	Netac/ch)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zh(ac/ch)=TVS(tr)	Temporery modification Zrych)=38 µg/ (dis) type w Experation date of 1/01/09
7 Marratem of Woods Creek from the outlet of Upber Urad Reservour to the confluence with West Cleak Creek.	€	Ag Life Cold 2 Recreation 2	D 0 =5 0 mg/ 0.0159/r7.0 mg/ PH=6 0.9.0 F Cot=2000/100m/ E Cot=2001/100m/	NH Jarche TVS Cl_jac)=0.019 Cl_sch)=0.011 CN=0.005	S=0.002 ND_1=0.05	WIQSvc = KQvc * Quecc) X WQSvccr. WIQSvc * Verset Querk, Standards for W Ourc = Flow for Wrods Creek Ource = Flow for West Fork Clear Clear Creek Water Outling Standards for	WOSker = ROue = Ouscel X WOSker - FOrece X Ouecci/Wow DSker = Marker Outliny Standards for Woods Creek Oue = Flow for Weast Creek Standards for Woods Creek Ouece = Flow for Weast Fork Clear Creek Ouece = Flow for Weast Fork Standards for West Fork Clear Creek Creek Ambeind Contentration in West Fork Clear Creek Curc S.	ecc X Cwecc)MOwc S Creek St Fork Clear Creek Clear Creek	Standards shall be applied using the Segment 7 equation
 Manziern of Linn Creek from the searce to the confluence w/m West Creek. Creek. 	5	Ag Lee Cold 2 Recreation 1a	D 0 = 6 0 mg4 D.0 (sp)+7 0 mg4 D+1 = 3.0-9 0 F.Col=200/100m4 E.Col=126/100m1						

region J	DESIG	CLASSIFICATIONS			NUME	NUMERIC STANDARDS			TEMPORARY
BASIN CLEAR OREEK			PHASICHT	NORGANIC	AIC.		METALS		NODIFICATIONS AND DUALIFIERS
Skoen Segment Description		11	BIOLOGICAL	ligm			1/0/1		
54 Markstein Ib thir Fael Kheir including all imputanes lakes reservoirs and wetdinkds, from this shurds to the confluence with Claier Greek		Aq Life Cold F Recreation 1.a Waier Supply Agriculture	D.O. = 6.D mg/ D.O. (sp)=7.0 mg/ pH = 6.5-3.0 F Cole=200100ml E Cole=200100ml	NH 482011 TVS Cl ₃ (ac)=0 019 Cl ₃ (ch)=0 011 CN=0.005	S=0.002 B=0.75 NO ₁ =0.05 NO ₁ =10 CH=250 SO ₄ =WS	As(act+50(Trec) Cd(act=TVS(r) Cd(act=TVS Cd(act=TVS Crititact=FVS Crititact=FVS Curactart=TVS	Fetch1=V00[Trec) Fe(ch)=1000[Trec) Pb(actn)=TV5 Mn(actn)=TV5 Mn(ch)=V8(the) Hq(ch)=0.21(the)	N(addh)=TVS Selsotch1=TVS Agiac)=TVS Agich1=TVS(tr) Zn(addh)=TVS	Fernporary modificator Cuton)=11 µgh (dis) type ill 701/09 701/09
do Manstern of Trai Creak including all Providence, lakes reservers, and wellands from the source to the confluence with Clear Creak		Aq Life Cold 1 Receasion 1a Mater Suply Agrophue	D.0 =5.0 mg/ D.0.0epr3.0 mg/ pH=0.5.9 d F.Cou=200100ml E.Col=126/100ml	MH-Jac(m)=TVS CJJach20019 CJJah20011 CN=0035	S=0.002 B=0.75 NO ₂ =0.05 SO_2=WS NO ₃ =10 CI=250	Astach=50(Trec) classTVSstrt cdiant=TVSstrt cdiffiad)=50(Trec] criftijad)=50(Trec] criftijad)=50(Trec] cuitaddh]=TVS Cuitaddh]=TVS	Fe(ch)=WS(04) Fe(ch)=000(Trec) Poladon)=TVS Marich)=TVS Marich)=WS(04) Marich)=TVS Se(adoh)=TVS Se(adoh)=TVS	Agiaci=TVS Agiaci=TVS(Ir) Zrigos=TVS Zrigos=TVS Zrigos=200	Temporary modrations Calcon-4.6 up01 Culcon-4.6 up01 Culcon-7.48 up01 Discrimine 7.6 up01 MMCD)=5488 MMCD)=5488 MMCD)=5488 MMCD)=5488 MMCD)=5488 M
Tit Mainstein of Chicago Creek, including all inductaves, lakes with constraints and wellands from the sound; to be confluence with Clear Creek, exception Schedic halmgs in Segment 19		Aq Life Cold 1 Recreation 1, Water Supply Agriculture	0.0 * 5.0 mg/l D.0. (spl=? 0 mg/l PH = 6.5-9 0 F Col=200*00ml E Col=178/100ml	MH_(ADICH)=TVS Cly(ach=0.019 Cly(ch)=0.011 CN=0.005	S=0 002 B=0 75 NO ₂ =0 05 NO ₃ =10 CI+250 SO ₄ *WS	As(ac)=50(Trec) Cd(ac)=TUS(tr) Cd(ac)=TUS Cd(Rec)=50(Trec) CVR(ac)=50(Trec) CVR(ac)=50(Trec) CVR(ac)=50(Trec)	Fe(cn)+WS(dis:) Fe(cn)+T000(Trec) Pb(addn)=TVS Mn(cn)=VS(dis) Mn(cn)=VS(dis) Hg(cn)=0 (n1 fac)	Nraofchir TVS Selabibhir TVS Aglac I TVS Aglahir TVS(II) Zniadbhir TVS	
11 Mansien of Clear Creek from the Argo Funnel discribite to the Farmans Highline Canal diversion in Golden Colorada	В	Ang Lrife Colid * Reacteatron 1.a Water Supply Agriculture	0.0 % 6 0 mgf D.0 (sti=7 0 mgf pH = 6 55 0 F Cole=200'00ml E Cole=126'00ml	NHJACON TVS Class=0019 Class=0011 CN=0001	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 CI=250 SO_4WS	As(ac)=50(Trac) Collacion)=TVS Coll(ac)=50(Trac) CrvI(ac(ch)=TVS Col(ch)=77	Fe(ch)=WS(drs) Fe(ch)=1000/Trec) Pb(ac(ch)=TVS Mn(ch)=WS(drs) Hg(ch)=01(Trec)	N(actor)=TVS Se(actor)=TVS Ag(ac)=TVS Ag(ch)=TVS(tt) Zn(ch)=300	Temporary modification Zn(ch)=339 µgli (nis) Mn(ch)=861 µgli (ds), type ii Expresion date of 7/01/09
12 All including to Clear Creek including all takes reservoirs and webands, from the Argo Turnel discretege to the Farmors Hophes Canal divorsion in Golden Colorada except for specific listings in Segments 15a and 13b.	8	Ag Life Cold 2 Recreation 1a Waan Supply Agrouture	D.O. = 6.0 mg/ D.O. (180)=7.0 mg/ PH = 6.5 % 0 F.Cole=1269100ml E.Cole=1269100ml	NH4.40(ch)=TVS Clgac)=0.019 Clgch)=0.011 CN=0.005		Asi ac)=50(Trec) Colon=TVS(P) Colon=TVS Critikac)=50[Trec] Critikac)=50[Trec] Critikach=TVS	Fe(ch)=WS(cds) Fe(ch)=1000(Trac) Pb(ac/ch)=1VS We(ac/ch)=TVS Me(ch)=WS(cds) Mg(ch)=001(Tot)	Nu acidhi = TVS Sei scidhi = TVS Agiaci = TVS Agidhi = TVS(U) Zhiacidhi = TVS	
13a Manistern of North Lieae Create and Flour Mate Quich including a unburaneel takes instancio: ano wellandu hom thorir sourcest to the bowast water supply intake increated in each stream and Chase Guidh nothodng all infortances takes reservoirs and wellands from its source forths confluence with North Clear Cleark.		Aq Life Cold 1 Recreation 13 Water Supple Agrouthure	D 0 + 6.0 mg/ D 0 (spi=? 0 mg/ pH = 6 590 F Cole 200100ml E Col=126/100ml	NH-Jauchy=TVS Cl(ac)=0.019 Cl(ch)=0.011 CN=0.001	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SD ₄ =WS	Asiach=50(Trec) Colach=TVS(II) Col(ch)=TVS Col(ch)=TVS Col(act=1)=TVS Col(actch)=TVS	Cuiadeni=TVS Fetchi=WS(als) Fetchi=WS(als) Pbjactoni=TVS Mniadchi=TVS Mniadchi=TVS Mniadchi=TVS Mniadchi=TVS	New Construction In VS Set acconstruction Agriculture Agriculture ZhilacochilarTVS	
130 Maintern of Norm Clear Creek melvaling al Inductanes auss: reservoirs and wellands from the source to the confluence with Clear, accert and the specific fistings in segment 138.	9	Aq Life Cold 2 Recreation 1a Agriculture	D.0 = 6.0 mg/l D.0 (spi=7.0 mg/l PH = 6.5-9.0 F Cole=726/100ml E Cole=126/100ml	NevJac/chi=TVS Cigacj=0.018 Cigacj=0.011 CN=0.005	S 002 2000 2001	Astiact=100Htec) Collect=1VS(rt) Collect=1VS(rt) Coll(col=50(rt)ec) CrV(lac(ch)=TVS	Eulch)=54 Exich=5400(Trec) Ph(acta)=TVS Mn(acta)=TVS Hig(ch)=0.0.(Tot)	Nyactohi=TVS Sejacchi=TVS Ag(ch)=TVS(tr) Zn(ch)=T40	Temporary modr calciens Cq(di)=6,0 ugil (dis) Mer(di)=5,283 ugil (dis) Ze(cn)=1,864 ugil (dis) type i Expression date of 701/09
	93	Aq Life Waim 7 Receistion 2 Water Supply Agriculture	D.0 = 5 0 mg/ pH = 5 5-5 0 F Col~2003/100ml E Col=63000ml	NH4 acton=TVS Cl_stact=0.019 Cl_steh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₂ =WS	Asiaci=50(Trec) Collac/2h)=TVS Crillaci=50(Trec) Crillacich)=TVS Culac(ch)=TVSX3 55	Felch)=V/S(ds) Fe(ch)=1000(Trec) Potecton)=TVS Mm(ch)=500 Hg(ch=0.0100) N(ac/ch)=TVS	Selacion)=TVS Aglacion)=TVS Zolacion)=TVSX 1.57	
Als. Manavery of Clear Creati Namine Dervey Water conduit #15 Drossing to Youngriefid Street in Wheat Rube. Colorado:	B)	Aq Life Warm 2 Recreation 1s Water Supply Agriculture	Dr D = 5 0 mg/ pH = 6 5-9.0 F Cole-2201100mu E.Cole-126/100mu	NH4Jac/cnj=TVS Cl4ac)=0 019 CL4ch+0.011 CN+0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ =V0	Asjac,=50,Trec) Colaotch)=TVS Crittant=50(Trec) Crittant=TVS Colaotch]=TVSX3 68	Fe(ch)=VS(gts) Fe(ch)=1000(Trec) Pb(acdh)=TVS Mh(ch)=500 Hg(ch)=D01(001 Naacm)=TVS	Selactori=TVS Aglactori=TVS Zhiactori)=TVSX 1.57	

REGION 3	DESIG	CLASSIFICATIONS			NUME	NUMERIC STANDARDS		2	TEMPORARY
BASIN CLEAR CREEK			PHASICAL	INORGANIC	NHC		METALS		MODIFICATIONS AND AND
Stream Segment Description			BFOLOGICAL	ugm			Ngu		CUALIFIENS
*5 Marratem of Clear Creek from Youngriate Streer in Whiteat Riage Crossado to the confluence with the South Platfe River.	5	Aq Life Warm * Recreasion ta Water Supply Agriculture	D.0 =5.0 mg/ PM = 6.5-5.0 F. Col=200100mf E. Col=1.26/100mf	NH4(ecta)= TVS Cly(act=0.019 CLy(act=0.019 CN=0.005	S=0.002 B=0.75 NO:=0.5 NO:=10 CI=250 SO:=WS	Asiaci+50(Trec) Coladon=TVS Crititac=50(Tvac) Crititac=50(Tvac) Crutitac=50(Tv3c) Crutitac=100	Fetchj=WS(dis) Fejchj=WS(dis) Fejcadchj=TVS Mnjaddhj=TVS Mnjaddhj=TVS Mnjaddhj=TVS Mnjaddhj=TVS	Niacich)=TVS Ssiacich)=TVS Agiacich)=TVS Znacich)=TVSx1 57*	Aquatic life warm 1 goal qualifier Temporary modification MH/(secth) Expranon (Type I) Expranon date of 1231/2011
15a Marristem of Larva Guildh triching all moutaries, lakes reservers and vertaints from its source to the outlet of Majole Grove Reservor	3	Aq Life Waim 2 Repression 1a Water Supply Agriculture	D 0 =5 0 mg/ pH=6 5-9.0 F. Cal= 7200:100ml E. Cal= 126/100ml	NH4/acch2=TVS CH4ac3=0 019 CH4ac3=0 019 CH4ch2=0 011 CN=0.005	S=0 002 B=0.75 NO ₂ =0 05 NO ₂ =10 CI=250 SO ₂ =WS	Asi act=50(Traci Cd(ac)=TVS Cd(h)=TVS Cd(h)=TVS Cd(h)=C0(Traci Cd(h)=TVS Cd(acb)=TVS	Fe(ch)=V/S(des) Fe(ch)=1000[Trac] Pb(actch)=TVS Minactch)=TVS Minactch)=TVS Min(ch)=VS(das) Hg(ch)=001(Tal)	Nyacidhi=TVS Sel ad/chi=TVS Ag(ad/dh)=TVS Zn(ad/dh)=TVS	
Stir All Intrudicies to Clear Creak from the Farmers Highline Canal diversion in Goldien Coldinate Lando to the cardiugnice with this South Patiela River extract for specific listings in Segments that 17.4.17.6.188 and 180.	G.	Aq Life Warm 2 Recreation 2 Agnouture	D O =5.0 mg/l pH=6.5-8.0 F Cot=700W100mf E Cot=630100mf	NH (Jac/ch)=7VS CL(ac)~0.019 Cl(dh)=0.011 CN=0.005	S-0.002 B=0.75 NO ₂ =0.5	Astchje100,Trec) Cd(actu)=TVS Cd((actu)=TVS Cd((acton)=TVS Cu(acton)=TVS	Feich)=1030[Trac] Pelacrich=TVS Mn(acidy)=TVS Hgich)=0.0117 et/	M(actch)=TVS Selac(ch)=TVS Ag(actch)=TVS Zn(actch)=TVS Zn(actch)=TVS	
17 a Arvada Reservo.	5	Ag L/le Cold 2 Recreation 2 Water Supply Agroutture	D 0 =6 0 mg/l D.D.4sp1=7,0 mg/l pH=5 5-9.0 F. Col=200/100ml E. Col=120/100ml	NH+(3000)=1VS C5(36)=0.019 C5(36)=0.011 C5(36)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ *WS	As(ac)=50(Trec) Cd(ac)=TVS(tr) Cd(ar)=TVS Cd(ar)=TVS Cd(ar)=TVS Cr(t)=ac)=50(Trec) Cr(t)=ac(b)=TVS Cu(addh)=TVS	Fe(ch)=WS(da) Fe(ch)=1000(Trec) Pb(ac(ch)=TVS Mn(ac(ch)=TVS Mn(ch)=VS(das) Hg(ch)=001(Tal)	Ny(addh)=TVS Se(addh)=TVS Ag(addh)=TVS Zh(addh)=TVS Zh(addh)=TVS	Water + Fath Organize
17b Mainstein of Ralition Creek Iron the pounde to the inkis of Arvada Reservoir Including Ratston Reservoir and Upper Long Lake	9	Aq Like Cold 2 Recreation 1a Water Supply Agriculture	 D. O. =6.0 mg/t D. 0. 400=7.0 mg/t D. 0. 400=7.0 mg/t F. Coli=1261(00ml) E. Coli=1261(00ml) 	NHJacton)=TVS Cbjach=0.019 Cljcm=0.01* CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ *WS	Astach=50/Treet Cdiach=TVS(tr) Cdich)=TVS Cdich)=TVS Critt(act)=50/Trect Critt(act)=50/Trect Cuitadch)=TVS	Feich=WS(dis) Feich=1000(Tec) Pbjackh=TVS Mn(actch=TVS Mn(actch=TVS Mn(ch)=0.01[Tal]	N(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS	Water + FISH Organiza
Namitism of Relation Creek, including all takes and reservors. From the oxidist of Arriada Reservor to the confluence with Clear Creek.	đ	Aq Life Warin 2 Recreation 1a Water Supply Agriculture	D.0 = 5.0 mg/ pH = 6.5-9.0 F Col=200/100m/ E Col=126/100m/	NHulacith)=TVS Clyacit0:019 Clyich:=0.011 CN=0.005	5=0.002 8+0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₂ =WS	As(ac)=50,Trec) Cd(ac(ch)=TVS Cr(i)ac(ch)=TVS Cr(i)ac(ch)=TVS Cu(ac(ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1VS Polac/ch)=TVS Mn(ac/ch)=TVS Mn(ch)=WS(dis) Hg(ch)=D01(Tot)	N(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS	
•IB Maintiger of Leyden Creek and Van Bitbier Creek from their source to ther confileence with Ralston Creek Mainteence with Clear Creek from its source to its confilience with Clear Creek.	÷	Aq Life Warm 2 Recreation 2 Water Supply Agriculture	D 0. =\$ 0 mg/ pH=5 5-8.0 F.Cel=2030100ml E.Col=530100ml	NH_JIACICHI=TVS CL_JIAC)=0 019 CL_JIAN)=0.011 CN=0 005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ *WS	Asiac)=50(Trec) cdiacth)=TVS Cdiacth)=TVS Cdiacth=FVS Curacth=TVS	Feichi=WS(dis) Feichi=10000Trect Pbi-acchi=TVS Mn(acch)=TVS Mn(acch)=TVS Mn(acch)=TVS Mn(ach)=VS(dis) Hg(di)=0.01(Tot)	N(acich)=TVS Se(acich)=TVS Ag(acich)=TVS Zn(acich)=TVS	
19 All tradutaries to Clear Creek including lakes, reservors and wellands, within the Mill Evans Whiteness Area	OW	And Life Cold A Recreation 14 Water Supply Agriculture	D.0.=6.0.mg/ D.0.ispl=7.0.mg/ pH=5.5-9.0 F.Coli=226/100m/ E.Coli=126/100m/	NH ₃ softh =TVS Cl ₃ (sc)=0.019 Cl ₃ (ch)=0.011 Cl ₃ (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 504=250	Astac)=50(Trec) Cotach=TVS(tr) Cot(ch=TVS) Cot(ch=TVS) Cr(t)(cac)=50(Trec) Cr(t)(cac)=50(Trec) Cr(cac)ch]=TVS	Fe(ch)=WS(det) Fe(ch)=1000(Tec) Pb(actor)=TVS Mn(ch)=VS(det) Mn(ch)=VS(det) Hg(ch)=0.01(Tec)	Ni(addh)=TVS Setacion)=TVS Agtaci=TVS Agtan)=TVS(tr) Zniaddh)=TVS	

TVS x thmes) the FWER (final water effect ratio) = site-specific standard

	DESIG	CLASSIFICATIONS			NUMERI	NUMERIC STANDARDS			TEMPORARY
HASIN HRADRY CREEK			PHYSICAL	NORGANIC	RC RC		WETALS		MUDIFICATIONS AND QUALIFIERS
Singan Segment Descriptor.			BIOLOGICAL	mol			1,Con		
Mannstein of Big Dry Creek including all tripungries lates theservoir and writings from the Source to the confutures with the South Patria River's scent for special hyling in Segment 2, 3, 4,8,8,5 and 5	đ	Aq Life Warm 2 Recreation 1b Agrouture	0.0 =5.0 mg/ INH = 6.0 mg/ F Coli=235/100ml E Coli=235/100ml	NH4,acrch)=TVS C15,ecu1019 C15,ecu1019 CN=0 005 CN=0 005	S=0.002 B=0.75 NO ₂ =4.5	Aviati= 100/Tec) Be(ch)=100 Cdta=ch)=TVS Cdtta=ch)=TVS Cdtta=ch)=TVS CMtaelch)=TVS	Curacion = TVS Felicitaria allon franci Pelicacion = TVS Miniacion = TVS Higidahia TVS	N((add))=TVS Ag(add))=TVS ZY(add))=TVS ZY(add)=TVS Sy(ad)=TVS Sy(ad)=1.4 Sy(ad)=1.4 Sy(ad)=1.5 Sy(ad)=1.5 Sy(ad)=1.5 Sy(ad)=1.5 Sy(ad)=1.5	Temporary modifications ML datcol=TVS(ob)(Type II Expression date of 12(5)(2011)
Slandley Lake		Ag Life Warm 1 Recreation 1a Water Supphy Agnounture	D. 0. =5.0 mg/ pH=6.5=9.0 F. Col=250/100ml E. Col=126/100ml	NHylacidhj=TVS Chlac)=0 019 Chjch)=0 011 Chjch)=0 011	S=0.002 B+0.75 N0_20 5 N0_210 CI+250 S0_2WS	As(ac)=50(Trec) Co(acidn)=TVS Crtit(ac)=50(Trec) Crvit(acidn)=TVS Cu(acidn)=TVS	Fe(cn)=WS(dis) Fe(cn)=1000(1 frec) Pb((addn)=TVS Mn((actch)=TVS Mn(ch)=VS(dis) Hg(ch)=VS(dis)	N(addh)=TVS Sejac(d)=TVS Ag(add)=TVS Zn(add)=TVS Be(d1)=4	See attached Table 2 for additional standards for segment 2 See "for narrative Standard
Overal week presidential	5	As Life Warm 2 Recreation 2 Viaier Supply Agrouture	D 0 =5 0 mg/ pH=5 59 0 F 0 pH=5 500 00mt E 0 al=520100mt	CN+0.005 CN4ch=0.011 CN4ch=0.011 CN+0.005	S=0.002 B=0.75 NO ₁ =2.7	Aslact=100(Trec) Berch=100 Colauch)=TVS Colauch)=TVS Crivilacch)=TVS Crivilacch)=TVS	Duracidnja TVS Falchia 1000(Trec) Pbljacidnja TVS Min(acidnja TVS Hg(chja0.01(Tot)	Ny aoloh j= TVS Se(actor)= TVS Ag(actor)= TVS Zn(aolch)= TVS	See strached Table 7 for segment 3 standards for segment 3 transforman Two Job 17 Stand (Type II: Expression date of 1231/2011
	\$	ke Life Warm 2 Recreation 1s Waek Supply Agroubure	D.0 =5 0 mg/l pH=6 5-9 0 F Cole=200:100m/ E Cole=128/100m/	NH (I action of a Control of a	5=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10	Asiact=50(Trec) Be(ch)=4 Collacch)=TVS Colligact=50(Trec) Crul(actch)=TVS Cullacth=TVS	Fetch=1000(Trac) Pb(ac0th)=TVS Mn(ac0th)=TVS Hg(ac1=0.01(Tot)	N(addh)=TVS Se(addh)=TVS Ag(addh)=TVS Zr(addh)=TVS	See sitached Table 2 for addisonal standards for segment 4a
4t. Namin and South Wahurd Creek and Wahling Creek. Incom the outlet of pands A-4 and B-5 to Interna Sireat	9	An Life Warm 2 Recreation 2 Water Supply Agroutine	0.0.45.0 mg/ pH=8.5.9.0 F.Coix:2000/100ml E.Coik=630/100ml	Cly(ant=0.019 Cly(ant=0.011 Cly(ant=0.005 S=0.002 B=0.75	01=CON	Asjacj=50(Trec) Bej(ch)=4 Od(sotch)=TVS Critit(ac)=50(Trec) Crvti(actch)=TVS Cu(sotch)=TVS	Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ac)=0.01(Tot)	Nijacich)=TVS Se(acich)=TVS Ag(acich)=TVS Zr(acich)=TVS	See attached Table 2 for addicinal standards for segment 45
Maintaiems of North and Sguth Wahuri Creek, Including all thousanes, Taking reservicing and wellands. from there sources to the outlets of ponds wellands. From there sources to the Ond 5, 2, on Wennah Creek. All three ponnes are located on Rocky Flats property.	đ	Aq Life Varm 2 Recreation 2 Vater Supply Agnouture	D.O =5.0 mpf pH=6.5-9.0 F Colr=23020100ml E Colr=6301100ml	Ch(ac)=0.019 Ch(ac)=0.011 CN+0.005	S=0.002 B=0.75 NO ₃ =0.5 NO ₃ =10.5	As(ac)=50(Trec) Co(ac)=50(Trec) Crill(ac)=50(Trec) Crill(ac)=50(Trec) Crill(ac)=1VS Cu(ac)(h)=TVS	Fe(ch)=1000(Trec) Po(actr)=TVS Mr(actr)=TVS Hg(ch)=0 01(Tol)	N(ac(ch)=TVS Selac(ch)=TVS Ag(ac(ch)=TVS Zr(ac(ch)=TVS Be(ch)=A	568 attached Tables 2 and 3 for additional standards and temporary modifications for seg 5 Goal qualifier for all use classifications expres 12/31/09
6. Upper Big Dry Create and South Ustrue Big Dry Creek ທິວາກ Their source to Standley Lake	₫.	Aq Life Warm 2 Recreation 2 Water Supply Agriculture	D.O =5.0 mp/ pH=6.5-9.0 F Cel=2000/100m1 F.Cel=530/100m1	NH ((ac)th)=TVS CU(ac)=0 018 CU(ch)=0 015 CN=0 005	5+0.002 B=0.75 NO ₂ +0.5 NO ₂ +10 CI+250 SO ₄ =WS	Asi acirs50(Trec) Cdi ac/ch)=TVS Crill(aci=50(Trec) Crvi(ac/ch)=TVS Cui ac/ch)=TVS	Fe(ch)=WS(0ls) Fe(ch)=7VS Pb(actor)=7VS Mn(ch)=VVS Mn(ch)=VVS(0ls) Hg(ch)=0.01(Tot)	N(sc/ch)=TVS Setac(ch)=TVS Ag(ac(ch)=TVS Zn(sc/ch)=TVS	

ĥ. Narraine standard for Segment 2, big Dry Creek Standey Lake. The popment status of Standey Lake shall be maintained as mesorophing as m oxygen. Indementation of this narraine standard shall only be by Bast Management Practices and controls implemented on a voluntary basis

	DESIG	CLASSIFICATIONS			NUME RI	NUMERIC STANDARDS			TEMPORARY	
			PHYSICAL and BIOLOGICAL	INDRGAMIC	90		METALS		QUALIFIERS	
-	MO	Art Life Cold 1 Recreation 1s Water Supply Agriculture	D. 0. =6.0 mg/t D. 0. (sp)=7.0 mg/t pH=6.5-9.0 F. Coli = 200/100mf F. Coli = 126/100mf	NH4/80/ch)=TVS Cly(act=0.019 Cly(ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 C=250 SO ₄ =V/S	As(ac)=50(Trec) Co(ac)=TVS(1t) Co(ch)=TVS Co(th)=TVS Co(l(ac)=TVS Co(l(ac)ch)=TVS Co(ac)ch)=TVS	Felch=VS(dis) Felch)=1000/Trec) Pb(such)=TVS Mn(naclch)=TVS Mn(ch)=VS(dis) Hg(ch)=C01(Tes)	Nijacich)=TVS Sejacicn)=TVS Agiacicn)=TVS Agiacicn)=TVS(h) Znijacich)=TVS		
		Ad Life Cold 1 Recreation 12 Water Supply Agriculture	D.O. 46.0 mg/ D.O. (sp)=7.0 mg/ pH=6.5.9.0 F. Col+2001100m E. Col+2001100m	NH4/acron/#TVS C5/acr=0.019 C15(ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 Cr=250 SO ₄ =WS	As(ac)=50(Thec) Cd(ac)=TVS(tr) Cd(ab)=TVS Cd(h)=TVS Cd(h)=CVS Cd(h)=TVS Cd(h)=TVS Cu(ac(ch)=TVS Cu(ac(ch)=TVS	Felchi=WS(dis) Felchi=1000[Trec) Pt(addh)=TVS Mr(cardh)=TVS Mr(ch)=VS(dis) Hg(ch)=0.01(Tet)	N(soldh)=TVS Se(acldh)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(acldh)=TVS		
		Aq Like Cold 1 Recreation 1a Water Supply Agnouture	D 0. +6.0 mg/t D 0.(sp)=7.0 mg/t pH=6.5-9.0 F.Col=200(100m/t E.Col=125(100m)	NH JJackmar TVS Cly(chi=0.019 CN=0.005	S=0.002 B=0.75 NO ₂ =10 NO ₂ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cd(ac)=TVS(ir) Cd(ac)=TVS Cd(ac)=TVS Cd(ac)=TVS Cutacion)=TVS Felcon=VVS(drs)	Fejch)=1000(Trec) Pb(actch)=TVS Mn(solch)=TVS Mn(ch)=WS(ns) Hg(ch)=0.01(Tet) N(actch)=TVS	Selauton)=TVS Aglac)=TVS Aglac)=TVS(tr) Zn(ad/ch)=TVS		
		Aq Life Cold 1 Recreation 13 Water Supply Agriculture	0.0.=5.0 mg/l 0.0.(sp)=7.0 mg/l pH=6.5.9.0 F.Cali=200/100mi E.Cali=2201100mi	NHJ(ac)m()=0.01 0Hac)=0.019 0Hac)=0.011 0H=0.005	S=0.002 B=0.75 N0 ₂ =0.05 N0 ₂ =10 CI=250 S04=WS	Astac)=50(Trac) Colena TVS(tr) Colena TVS Crititac)=50(Trac) Crititac)=50(Trac) Crititac)=50(Trac) Crititac)=1VS	Fe(ch)=WS(dis) Fe(ch)=YOO()Trec) Po(actin)=TVS Mo(carch)=TVS Mo(ch)=WS(dis) Hg(ch)=0.01(Tot)	Nijaclen)=TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(t)) Zn(ac/ch)=TVS		1
		Aq Life Cold 1 Recreation 1a Water Supply Agnouture	0 0.=5 0 mg/ 0.0 (sp)=7 0 mg/ PH=6 5-9.0 F Coli=2001100ml E Coli=2201100ml	NH4/ac/ch)=TVS Cl_6(ac)=0.019 Cl_6(b)=0.011 CN=0.005	S=0.002 B=0,75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =WS	Astarc)=50;Trec) Collac)=TVS(tr) Collar)=TVS Critikac)=50(Trec) Critikac)=50(Trec) Critikac)=TVS Critikac/tr)=TVS	Felch/=WS(die) Fe(ch)=1000(Trec) Pb(ackh)=TVS Mn(ackn)=TVS Mn(ch)=VS(dia) Hu(ch)=VS(dia)	Ni, auton) = TVS Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS		1
	\$	Aq Life Warm 2 Recreation 1a Water Supply Agriculture	D. U. =5.0 mg/l pH=5.5-9.0 F. Coli=2200100ml E. Coli=125/100ml	NH-Jackhu-TVE Clylath=0.019 Clylath=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ +0.5 NO ₂ +0.5 CE=250 SO ₄ =WS	Astiac)=50(Thec) Cotac(h)=TVS Cotac(h)=FVS Cotac(h)=TVS Cotac(h)=TVS	Fa(ch)=VS(dis) Fa(ch)=1006(Trec) Pb(ac(h)=TVS Mh(ac(h)=TVS Mh(ch)=VS(trs) Hg(ch)=0.01(Tau)	Nnackhi=TVS Se(ackhi=TVS Ag(ackhi=TVS Zn(ackhi=TVS		
	5	Ag Life Warm 2 Recreation ta Water Supply Agrouture	D. 0. +5 0 mg4 pH=6.5-9.0 F Col=200100ml E Col=126,100ml	NHMACICH)= TVS Cl_Jach=0 019 Cl_Jch=0 011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=260 50,=WS	Asjac)=56(Trec) Co(ac(ch)=TVS Collacc)=56(Trec) Collacc)=50(Trec) Collacc)=TVS Colacch)=TVS	Fe(ch)=WS(das) Pblac/ch)=TVS Mn(ch=WS(das) Mn(ch=WS(das) Hg(ch)=0.01/150) M(cccb)=TVS	Se(acidh)=TVS Ag(acidh)=TVS Zn(acidh)=TVS		
	dh H	Ag Life Warm 1 Recreation 1a Water Supply Agroulture	D.O. <5.0 mgf pH=6.54.0 F Col=2904100ml E Col+126/100ml	NH4/ac/ch1=TVS C5/ac)=0.019 C5/ch1=0.011 CN=0.005	5=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ =WS	Asiac)=56(Trec) Collisech>TVS Collisech>TVS Collisech=54(Trec) Collisech=1VS Colleetoh=TVS	Ferch1=WS(das) Pb(acton)=TVS Mn(acton)=TVS Mn(an)=VS(das) Mg(an)=VS(das) Mg(an)=0.01(7 at) Mr(acton)=TVS	Se(ac/ch)=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS		
	В	Ag Life Cold 2 Recreation 1a Water Supply Agrouture	D 0.=5,0 mg/ D 0.1sp1=7,0 mg/ pHe5 5,9 0 F Cole 200/100ml F Cole 200/100ml	MM/acidni=TVS Dijaci-0.019 Dijaci-0.019 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CH=250 SO ₂ =WS	As(ac)=56(Trec) Ca(ac)=TV5(tr) Ca(ch)=TV5 Ca(ch)=TV5 Ca(hac)=56(Trec) Cr(hac)=7V5 Ca(ac)ch)=TV5	Felch)-WS(dis) Eelch)=1000(Trec) Pb(auch)=TVS Mn(arbh)=TVS Mn(arbh)=WS(dis) Hg(ch)=0.01(Tes)	Nijadon)=TVS Sejadon)=TVS Agion=TVS Agion=TVS(tr) Zriadoh=TVS		

	DESI	CLASSIFICATIONS			NUME	NUMERIC STANDARDS			TEMPORARY MODIFICATIONS
BASIN BOULDER CREEK Stream Segment Descruber			PHYSICAL	DINORGANIC	SIL		METALS.		AND QUALIFIERS
			BIOLOGICAL	10m			ligu		
7a. Manstern of Cost (Creek from highwar 93 to nighear) 36 (Boulder Turnplee)	d I	Agriculture Agriculture	D 0.=5.0 mg/ pH=6.5-9.0 F Cel=526/100m/ E Cel=526/100m/	NH yackthat Clyact=0.019 Clyath=0.011 CN=0.005	5-0.002 B=0.75 NO ₂ =0.5	As(ch)=100(Trec) Cd(adch)=TVS Cr/lil(adch)=TVS Cr/lil(adch)=TVS Cu(adch)=TVS	Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mm(ac/ch)=TVS Mg(ch)=0.01(Tot)	Ni(acich)=TVS Se(acich)=TVS Ag(acich)=TVS Zn(acich)=TVS	
7b. Manstern of Coal Ereak from Highway 36 lathar confluence with Bouloer Creek	Ч	Aq Life Warm 2 Recreation 1a Agriculture	0 0 = 5.0 mg/ pH=6.5-9.0 F Col=200100ml E Col=1261100ml	NH1, acroh - TVS CH3, exi=0,019 CH3, chi=0 011 CN=0,005	5=0.002 B=0.75 NO_e0.5	As(ch)=100(Trec) Co(actch)=TVS Critt(=c/ch)=TVS CVI(actch)=TVS Cu(actch)=TVS	Fe(ch)=1000(Trac) Pb(ac)ch)=1VS Mn(ac)ch)=1VS Hg(ch)=0 01(Tot) Ni(ac)ch)=TVS	Se(ac/ch)=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS	Temporary . modifications NHJ(actor)=TVS(old) (Type -) Exteration date of 12031/2011
All vibuaries to South Boulder Creek, including all lakes reservors and welfands from South Boulder Road to the continence with Boulder Creek, and all tradiness to Coal Creek, including all lakes, reservors and wellands from Highway 93 to the confisence, with Boulder Creek.	5	Ad Life Warm 2 Recrement a Agriculture	0.0=5.0 mg/ pH=5.5=9.0 F Coli=200100ml E Coli=126/100ml	NH, 62001=7VS Cl, 821=0.019 Cl, 601=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ =250	Asjacj=50,Trec/ Coljac/ch)+TVS Crift,ac/ch)+TVS Crift,ac/ch)+TV5 Cuitac/ch)+TV5 Eu(ac/ch)+TVS Fe(ch)=VS(as)	Feldh)=1000[Te0) Pb(actch)=TVS Mm(actb)=TVS Mm(act)=VS(de] Hg(d)>0.01[Ta8] Milacth)=TVS	Selacion)= TVS Aglacion)= TVS Zin(adion)= TVS	
9 Manstein of Boulder Creek from a park immediately above the comburces with Skuth Boulder Creek to the confluence with Coat Creek		Ag Life Warm 1 Recordation 1a Waren Supply Agrouiture	D.O. = 5 0 mg/t PH=5 5-9 0 F Cole-2001 00ml F Cole-126/100ml	CN+0.005 CH40=0.011 CH40=0.011 CH40=0.011	5=0.002 B=0.75 N0 ₂ =0.5 N0 ₂ =10 CH-250 SO ₄ =WS	Astacl=50(Trec) Cotacorh=TVS Cotacorh=TVS Cotacorh=TVS Cotacorh=TVS Fe(ch)=TVS Fe(ch)=TVS	Fe(ch)=1000(Trac) Pb(acch)=TVS Mn(co/ch)=TVS Mn(ch=vVS(ds) Mn(ch=vVS(ds) Hg(ch)=0 01[T01] Ne(ec/ch)=TVS	Seladoth=TVS Agracthe TVS Zriedoth=TVS	Temporary modifications type (a) Cu (addh)=Currens Caratition Expression date of 12:512009. NH5(eCt)=TVS(cid) (Type I) Expression date of 17:31/2011
10 Marstern of Boulder Creek from the confiltence with Coal Creek to the confuence with St Vrain Creek	5	Ag Lée Warm 1 Recreation 1a Water Supply Agriculture	D 0 =5.0 mg/ pH=6 5-9.0 F Coli=200/100mt E Coli=126/100ml	NHylacidhe TVS Clyacteo D19 Clycheo 019 Clycheo 011 CN=0 005	S=0.002 B=0.75 NO ₂ -0.5 NO ₂ -10 CI=250 SO ₂ =WS	Aslacy=50/Trec) Colac(h)=TVS Crititac(h=50(Trec) Crititac(h=7VS Curac(h)=TVS	Fetcht=VS(gst) Fetcht=1000(Trec) Pb(ac(ch)=TVS Mn(act)=VS(dst) Mn(ch)=VS(dst) Hg(cn)=0.01(Tot)	Netacton)=TVS Setacton)=TVS Aqlacton)=TVS ZNacton)=TVS ZNacton	Temporary modifications NHJ_gad/phisTVS(old) (Type if Expression date of 12/31/2011
 All troudanes to Boulder Creck including all lakes reservors, and wellands from a point mimepately above into confluence with South Boulder Creak to the confluence with St. Vrain Creek, except for specific Astrigs in Segments 5 7.3 and 7b 	9	Ag Life Warm 2 Represent 1a Water Supply Agrouture	E 0 = 5 0 mg/ pH=5 5-5 0 F Colr=200100mi E Colr=126/100mi	NH/Actoh=TVS Chracte0.019 Clychh=0.011 CN=0.005	5+0.002 B=0.75 N02+0.5 N02+10 CI+250 S0,=WS	Asiacl=50(Trec) Collectin=TVS Crill(acl=50[Trec) CrVI(acl=50[Trec) CrVI(acl=50[Trec) Fe(cr)=TVS Fe(cr)=VVS(ds)	Fai(ch)=1000(Tred) Ptd(ac/ch)=TVS Mm(ac/ch)=TVS Mm(ch)=V65 Mm(ch)=V65 Hg(ch)=0.01(Ted) Ni(ac/ch)=TVS	Selacton=TVS Agiacton=TVS ZN(acton)=TVS	
12 Debied				-					

REGION 2 AND 3	DESIG	CLASSIFICATIONS			NUMER	NUMERIC STANDARDS			TEMPORARY
BASIM ST VRAIN CREEK			PHYSICAL	INORGANIC	VIC		METALS		AND AND AND
Stream Segment Description			BIOLOGICAL	10m			UBn		CONTINENS
 All pribuismes to St. Vram Creak, woluding all bakes inservans amo wetainds which are within tha Inglan Peaks Wademess Arieb and Rocky Mountiam Naronal Park. 	мо	Aq Life Cold 1 Recreation 1a Water Supply Agriculture	D. 0. =6,0 mg/ D. 0. (sp)= 7 0 mg/ pH=6 5-9 0 F 7 Oil = 200/100ml E Coli= 126/100ml	NH-46441FTVS C6(act=0.019 C34(cn=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =WS	Asi act=60/Trect Collact=TVS(k) Collact=TVS Collact=FVS Crititact=50/Trect Crititact=TVS Cullactch=TVS	Fetch)=WS(dis) Fetch)=1000(Trec) Pb(addh)=TVS Mn(addh)=TVS Mn(addh)=TVS Mn(adh)=VS(dis) Hg(ch)=VS(dis)	Niladoni = TVS Se(acid) = TVS Ag(aci= TVS Ag(ch)= TVS(tr) Zrijaddh) = TVS	
 Mainteem of Si Vrain Creek including all industance takes reservoir and webands from the boundarry of the Induan Peers Avait and Rocky Mountain National Park to Hygene Road 		Aq Life Cold * Recreation 1a Water Supply Agriculture	D 0.46.0 mg/l D 0.46p1=7 0 mg/l PH=6.5-8 0 F Cole=200100 F Cole=226/100m1	NH_80(t)+TVS C5(at)+0.019 C15(ch=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₂ =V/5	Ak(ac)=50(Trec) Cd(ac)=TVS(h) Cd(ch)=TVS Cr(l)(ac)=50(Trec) Cr(l)(ac)=50(Trec) Cr(l)(ac)=50(Trec) Cr(l)(ac)=1VS Cr(l)(ac)=1VS	Fe(ch)=WS(dis) Fe(ch)=1000(Tred) Pt)(apticn)=TVS Mn(acch)=TVS Mn(ch)=VS(dis) He(ch)=VS(dis)	Nijacichya TVS Selacichi-TVS Aglaci=TVS Agichi=TVS[v] Zvijacichj=TVS	
 Mainstein of St Vravi Creek frem Hygena Road to the confluence with the South Platta River and Berbour Ponds. 	đ	Aq Life Warm 1 Recreation 1a Agnouture	D. 0.=5.0 mg/l pH=6.5-9.0 F. Cole=200/100ml E. Cole=126/100ml	NHy/ac(ch)= TVS Cl_5(ac)+0.019 Cl_5(ch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5	Asimir 100 Colacidhe 100 Colacidhe 1VS Critikaechie 1VS Critikaechie 1VS Culacidhe 1VS	Fe(ch)=1000(Trec) Pb(actch)=TVS Mn(actch)=TVS Hg(ch)=0.01(Tot)	N(ac/ch)=TVS Selacich)=TVS Aglacich)=TVS Zn(acich)=TVS	Temporary modification NH-jac(ch)=TVS(old) (Type 4, Expranor date of 12/31/2011
4a Manstern of Left Hand Creek Including all troutaries Takes, reservoirs and wellands from the source to highway 36 except for specific listings in Segment 4b		Aq Life Cold 1 Recreation 1s Water Supply Agriculture	0.0 =6.0 mg/ 0.0 isbj=7.0 mg/ pH=6.5-9.0 F.Coi=2001:00ml E.Coi=126/100ml	NH4.44001=TVS CLeacton=0.019 CLeb=0.019 CN=0.005	\$=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₂ =WS	Astact=50(Trac) Collact=TV5(v) Collact=TV5(v) Collicatent=TV5 Criticatent=TV5 Curvicatent=TV5	Fe(ch)=1000(Trec) Fe(ch)=1000(Trec) Po(ac(ch)=TVS Mn(ac(ch)=TVS Mn(ch)=WS(cis) Harch)=WS(cis)	N(,addh)=TVS Seladdhi=TVS Aglaci=TVS Aglabi=TVS(tr) Zh(addh)=TVS	
4b Manstern of James Creek including all tributaries lakes reservoirs and wetlands from the source for the confluence with Left Hand Creek.		As Life Cold 1 Reservation 1a Water Supply Agroutiture	0.0 = 6.0 mg/l 0.0.19p = 7 0 mg/l pH=6.5-9 0 F Cole=2000100ml E Cole=126/100ml	NH_Jac(ch)=TVS Cb(ec)=0.019 Ol_(ch)=0.011 CN=0.005	\$=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 C1=250 SO ₄ =WS	As(ac)=50(Tred) Cd(ac)=TVS[tr) Cd(ac)=TVS Cd(it)=TVS Cd(it)=CVS Cd	Felch)=WS(dis) Felch)=1000(Trec) Pt(addh)=TVS Mn(acth)=TVS Mn(dn)=VS(dis) Hot dh)=VS(dis)	N(ac/ch) = TVS Se(ac/ch) = TVS Ag(ac) = TVS Ag(ch) = TVS(tr) Zh(ac/ch) = TVS	
5 Mannalem of Left Hand Creek, inclusing all intrudiates takes resonance and wetlands from highway 3610 the confluence with St. Vrain Creek.	5	Ag Life Warm 2 Recreation 1a Water Supply Agroutiure	D 0 =5 0 mph pH+6 5-9 0 F Col=200100ml E Col=126190ml	NFJIacch =TVS Clgac)=0.019 Clgch)=0.011 CA=0.0011 CA=0.003	5+0.002 B=0.75 NO ₂ =0.5 NO ₂ =0.5 SO ₄ =WS	As(ac)=50(17ec) Cd(ac/c0)*TVS Critical=50(17ec) Critical=50(17ec) Critical=1VS Cutlac(ch)=TVS Cu(ac(ch)=TVS	Fe/ch)=WS(dis) Fe/ch)=WS(dis) Pt(ac/ch)=TVS Mn(ch)=WS(dis) Mn(ch)=WS(dis) Hg(ch)=0.01(Tot) N(disch)=T.01	Se(ac/ch)=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS	
All Inibutatives to 51 Vram Creek, including fakes reservoirs and werkands from Hygeria Road to the comfuence with the South Plante River except for specific trainings in the Boulder Creek subbash and in segments 4a. 4b and 5	\$	Ag Life Warm 2 Recreation 1a Agriculture	D.0.550 mgf Pft=6550 F.Cdi=200100ml E.Coli=126100ml	NH4Jac(cn)=TVS CU4(ac)=0.019 CU4(ch)=0.015 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5	Astchi=100 Ediadchi=TVS Ediladchi=TVS Ediladchi=TVS Euladdhi=TVS	Felch/=1000(Trec) Pblactor)=TVS Mn(ac/b)=TVS Mn(cb)=VS(6(s) Hg(cn)=0.01(Tot)	N(ac/ch)=TVS Se(ac/ch)=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS	Temporary modifications Selch)=6 6 µgh (das) Selch)=6 6 µgh (das) Exprement asis of 2/28/10 WHJ.acUch=TVS(red) (Type il 6 zpration date at v2/31/2011
F Boulder Reservor Cook Lake, and Left Hand Valley Reservor		Aq Life Warm 1 Recreasion 1a Water Supply Agriculture	D.0 =5.0 mg/ pH=6.5-8.0 F C.bh=2001100 E.Coh=126/100ml	NHJacien)=TVS Clyacie0019 Clyche0011 CN=0 C05	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =0.5 CI=250 CI=250 SO ₄ =WS	Astac)=50(Trec) Od(acth)=TVS Drill(ac)=50(Trec) Drill(ac)=50(Trec) Drill(ac)=105 Cu(acth)=TVS Cu(acth)=TVS	Fa(ch)=WS(64) Pe(ch)=1000(Trec) Pb(acbh)=TVS Mn(ch)=UVS Mn(ch)=VS(45) Hg(ch)=0.01(Tet)	Nilacich)=TV5 Se(acich)=TV5 Ag(acich)=TV5 Zn(acich)=TVS	

REGION 2	DESIG	CLASSIFICATIONS			NUMER	NUMBRIC STANDARDS			TEMPORARY
BASH MIDDLE SOUTH PLATTE RUCH			PHYSICAL and	NORGANIC	HC.		METALS		MODIFICATIONS AND OUALIFIERS
Shear Segment Desorption			BIOLOGICAL	Tgm			ngu		
I.e. Manatam of the South Phate Revertions a point minimutation before the confluence with St. Vrain Craek to the confluence with St. Vrain Craek	2	Aq Life Warm 2 Rectation 1a Water Supply Agriculture	0.0 - Petro 5.9 0 Petro 5.9 0 F. Cole=125/100ml F. Cole=125/100ml	MH4,ac/D1=TV5 C5J400-0019 C3J401=0011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 S:O ₄ =WS	Action = 50(Trec) Collinations TVS Collinations TVS Collination = TVS Collination = TVS Collination = TVS	Feichthark (145) Feichtharthoch Marchartharthos Marchartharthos Marchartharthos Higcorped 011761 Nijacichtarthos	Selectoria TVS Zniecona TVS Zniecona TVS	 "See attached table for side-specific Described Droygen and Ammicrus attantards Fash Ingreation Organics Fash Ingreation Organics Transpection MH4(acichter TVS(08) MH4(acichter TVS(08) Gale of *2/37(2011)
1b. Manktern of the South Plate Rivel familie point immeautely before the confluence with \$, Vrain Creek to the WeldPforgan County Line	8	Ag Lee Warn 2 Recreation 1a Water Supply Agreuture	0.0 +5 0 mg/ pH=6 5-9 0 F Col=200100ml E.Col=1261100ml	NH4(ac/cn)+TVS Cly(ac)=0 019 Cly(ac)=0 011 Cly(ac)=0 011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CH=250 SO ₄ =WS	As(actor)=TVS Co(actor)=TVS Crititac)=50(Trec) Crititac)=TVS Criv(actor)=TVS Cu(actor)=TVS	Fe(ch)=MS(As) Fe(ch)=1000(Trec) Pb(ac(ch)=1VS Mn(ac(ch)=WS(as) Mn(ac(ch)=WS(as) Mn(ac(ch)=1VS	Sefacion=TVS Agiacion=TVS Zroacion=TVS	Fish Ingestion Organus Temporany modifications NNHAL(acce)=TVS(od) (Type I) Experimen date of 12/31/2011
2 Defeied									
3.3 All Youndary of the South Plate River, including all lakes reservors and wedlands, from a point immediately below the control endowing and Dry Control with the NetaMosgan Contry line, except to speerfic learnings in the subbasins of the South Plate River and in Segments 30. 4. Sa 50. 50 and 6.	3	Aq Life Warm 2 Recreation 13 Agrouture	0.0 =5 0 mpl pH=5 5-9 0 F Coli=2001 00ml E Coli=1261 00ml	NH4/arch7TVS C1_(acred are C1_(are)=0 011 CN=0 005	S=0.002 8=0.75 NO_=0.5	As(dn)=100(Trec) Cotac(dn)=1VS Cotac(dn)=1VS Cot(ac(dn)=1VS Cot(ac(dn)=1VS	Felch)=1000(Tec) Pb(actch)=TVS Mit(actch)=TVS Mit(act)=0.01(Tel) Nitec(h)=0.01(Tel)	Sei ackn)=TVS Aglacch)=TVS Zn(actch)=TVS	Fish Ingestion Crganes Tempdeartor NHs(actor)=TVS(of 04(1)pe i) Expresen date of 1228/2019
30 Hayser/ourit Troutaries extering the Upper Haysemoun Troughts (from the source to the acritication with Box Elder Cirrels and the Lower Hudson Cartal the source to the Demier Hudson Cartal	41 	Ao Life Warm 2 Recreation 1a Agrouture	D 0 (m)= pH=6.5-9.0 F Col=200/100ml E Col=126100ml	NH (130/ch)+ TVS C1_(30/m0.019 C1_(ch)=0.011 C1_(ch)=0.011 CN=0.005	S=0.002 B=0.75 NO_2=0.5	As(ch)=100(Trec) Do(uc/ch)=TVS Do(uc/ch)=TVS Do(uc/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=1000(fred) Ph(ac/dh)=TVS Mir(ac/dh)=TVS Mir(ch)=0.01(fet) Ng(ch)=0.01(fet) Ng(cch)=0.01(fet)	Selacioni=TVS Agracioni=TV5 Zhracioni=TVS	When water is present. D.O. concentrations small be manifold reacting at levels that protect dassried as
4. Ban Lake snd Millon Reservoir	ç.	Ag Life Warm 2 Recreation 1a Water Surphy Agroutine	D 0 ~5.0 mg/ pH=6.5.9.0 F Col=200/170ml È Col=126/100ml	NH Jactonie TVS Cidatio 0.019 Cidatio 0.11 CN=0 005	S=0.002 B=0.75 NO ₂ =10 CI=250 SO ₄ =WIS	Asi sc) = 50 Trec) Colsecton = TVS Crititican = 105 Crititican = TVS Crititican = TVS Crititican = TVS	Fe(ch)=WS(dis) Fe(ch)=V000(Tec) Pb(ac(ch)=TVS Mn(ac(ch)=TVS Mn(ch)=VS(dis) Hg(ch)=0.01(Tet) N(ac(ch)=TVS	Se(acidh)=TVS Ag(acidh)=TVS Zn(acidh)=TVS	Fish Ingento
5a Manstains of Lone Tree Creek. Crow Dreek are Beer Eider Creek from their soundes to freek an function the Sound Platte Dreef andept for specific lightings in Segment St.	ŝ	Aq Life Warm 2 Recreation 2 Agriculture	D.D =5.0 mg/l pH=6.5-8.0 F Celi=2000/100ml E Celi=630/100ml	NH4/ac/ch)= TVS Clyac)=0 019 Cly(ch)=0 011 CN=0 D05	S=0.002 B=0.75 NO ₂ =0.5	Asich1=100, Frac) Celac(ch)=105, Erac) Criti(ac(ch)=1VS Criti(ac(ch)=1VS Cu(ac(ch)=1VS	Fe(ch)=1000[Tec] Pbjadch)=TVS Mn(ac/ch)=TVS Hg(cn)=0.01[Tot] Ni(ac/ch)=TVS	Se(ac/ch/=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS	

REGION 2	DESKG	CLASSIFICATIONS			NUMER	NUMERIC STANDARDS			TEMPORARY
BASIN MIDDLE SOUTH PLATTE RIVER			PHYSICAL Bread And Calification	INDRGANIC	DIN		METALS		MODIFICATIONS AND QUALIFIERS
56. Manatam of Boxelder Creek from the confluence with Coyole Run to the Denver Hudson Canal	đ	Aq L/e Warm 2 Recreation 2 Agriculture	D.0.1ch)=4.7 mg/l pH=6.5-9.0 F.Cal=530/100ml E.Col=530/100ml	NH4(ac/dh)=TV5 Cl_(ac)=0.019 Cl_(ach=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =10 NO ₂ =100	Astern=100(Trec) Cd(ac(en)=TVS Crtillac(en)=TVS Crtillac(en)=TVS Curlac(en)=TVS	Feychy+100007 rect Pblactch)=TVS Mr(gch)=0.01(Tot) Ngch)=0.01(Tot) Ngcch)=TVS	Setaotch/FVS Agtaotch/=TVS Zriadch)=TVS	15" percentile of D.O. measurements collected between 6.30 a m and 6.30 p.m.
6 Lost Creak from Interstate To south including all 4s industries stock ponds and wellands	đ	Aq Life Warm 2 Recreation 2 Agrouture	0.0 =5.0 mg/l pH+6.5-9.0 F. Col=2000100ml E. Col=630100ml	N0.#100 N0.#10 CN=0.2 CN=0.2	S=0.002 B=0.75	As = 100(Thec) Be(ch)= 100(Thec) Cd= 10(Thec) Cd= 10(Thec) Crille 100(Trec) Cv/I=100(Trec) Cui=200(Trec)	Pbs100Trec) Mmr200Trec) N=200Trec) Se=20(Trec)	Zn=2000, Fres)	

Site-Specific Minimum Dissolved Oxygen and Ammonia Standards for Middle South Platte Segment 1a

Dissolved Oxygen:

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STANDARDS
Early Life Stage Protection Period (April 1 through July 31)
1-Day 3.0 mg/L (acute)
7-Day Average 5.0 mg/L
Older Life Stage Protection Period (August 1 through March 31)
1-Day 2.0 mg/L (acute)
7-Day Mean of Minimums 3.2.5 mg/L
30-Day Average 4.5 mg/L
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Footnotes

1. For the purpose of determining compliance with the standards, dissolved oxygen measurements shall only be taken in the flowing portion of the stream at mid-depth, and at least six inches above the bottom of the channel. All sampling protocols and test procedures shall be in accordance with procedures and protocols approved by the Division.

2. A minimum of four independent daily means must be used to calculate the average for the 7-Day Average standard. A minimum of eight independent daily means must be used to calculate the average for the 30-Day Average standard. The four days and the eight days must be representative of the 7-Day and the 30-Day periods respectively. The daily mean shall be the mean of the daily high and low values. In calculating the mean values, the dissolved oxygen saturation value shall be used in place of any dissolved oxygen measurements which exceed saturation.

3. The 7-Day Mean Minimum is the average of the daily minimums measured at a location on each day during any 7-Day period.

4. During a 24 hour day, dissolved oxygen levels are likely to be lower during the nighttime when there is no photosynthesis. The dissolved oxygen levels should not drop below the acute standard (ELS acute standard of 3.0 mg/L or the OLS standard of 2.0 mg/L). However, if during the ELS period multiple measurements are below 3.0 mg/L during the same nighttime period, the multiple measurements shall be considered a single exceedance of the acute standard. For measurements below 2.0 mg/L during either the ELS or the OLS periods, each hourly measurement below 2.0 mg/L shall be considered an exceedance of the acute standard.

5. In July, the dissolved oxygen level in Segment 1a may be lower than the 3.0 mg/L acute standard for up to 14 exceedances in any one year and up to a total of 21 exceedances in three years before there is a determination that the acute dissolved oxygen standards is not being met. Exceedances shall be counted as described in Footnote 4.

Ammonia:

Early Life Stage Protection Period (April 1 through July 31)

Ammonia	Warm Wate	r = (mg/l as N)Total	
		0.411	58 4
	acute	$10^{-7} 204 - p/l = 1$	+ 10 pH = 7 204

$$chronic (Apr] - Auly31) = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{PH-7.688}}\right) * MIN \left(2.85, 1.45 * 10^{0.028(25-77)}\right)$$

$$chronic (Aug1 - Mar 31) = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{PH-7.688}}\right) * 1.45 * 10^{0.028*(25-MAX(T, 7))}$$

 $NH_3 = old TVS$

Warm Water Acute = 0.62/FT/FPH/2^(4 old) in mg/ (N)

REGION 2	DESIG	CLASSIFICATIONS		2	NUMER	NUMERIC STANDARDS			TEMPORARY
BASIN BIG THOMPSON RIVER			PHASKOW	INDRGANIC	ALC .		WETALS		MODIFICATIONS AND
Stream Segment Description			BIOLOGICAL	10L			lign		GUALFIERS
 All Instudies to the Big Thompson River system, including all lokes reservoirs and welfands, which are writh Rocky Mountian National Plark, except for specific lawnes in Segment 2. 	MO	Ag Lite Cold 1 Recreation 1a Water Supply Agrouture	D 0 = 5.0 mg/ D.0 tap)=7.0 mg/ pH = 6.5-9.0 F Col=200/100mi E.Col=126/100mi	NH-Jackhj=TVS Cljac)=0.019 Cljatnj=0.011 CN=0.005	S=0 002 B=0 75 NO ₂ =0 05 NO ₂ =10 CH250 SO ₄ W/S	As(act=50(Frec) Co(act=TVS(tr) Co(cot=TVS Cr01(act=TVS Cr01(act=1)=TVS Cr01(act=1)=TVS Cr01(act=1)=TVS	Feich)=W5(0x) Feich)=1000(Trac) Peracton)=TV5 Mn(ac(ch)=VV5 Mn(ch)=VV5(drs) Hg(ch)=001(Tac)	Nijacich)=TVS Sejacich)=TVS Aglac)=TVS Aglah)=TVS(tr) Znjacich)=TVS(tr)	
 Mainstein of the Eig Thompson River, including all tobutanies basis reservors, and wignowing the boundary of Rodsy Mountain National Park to the tistine Supply Ganti diversion except for the specific fisting in Segment 7 misristem of Black control Creek and Glaciar Creek below Eater Park water registrent puert 		Aq Lefe Cold 1 Receasion 1a Vistor Supply Agnouture	D.0. = 6.0 mg/ D.0. (sp)+7.0 mg/ pH = 6.5.9.0 F.Cole=200/190m) E.Cole=2501/190m)	NHIJACCI)=TVS C5JACP1=0 011 C5JACP1=0 015 CN=0 015	S=C 002 B=D 75 NO ₂ =0.05 NO ₂ =0.05 CI=250 SO4=WS	Astact=50(Trec) Colorb=TVS(tr) Colorb=TVS Crilitac)=50(Trec) Crilitac)=50(Trec) Culac(dr)=TVS Culac(dr)=TVS	Fe(cn)=VVS(0is) Fe(ch)=1V00(Trec) Pb(ac(ch)=TVS Mn(ac(ch)=TVS Mn(c(ch)=TVS(dis) Hg(ch)=0.01(Tot)	N(addh)=TVS Sq(adh)=TVS Sq(ac)=TVS Ag(ch(=TVS)r) Zn(addh)=TVS	Temporary modifications D.O.E.colin NHS, NOS B.Cd.O.P.D. Hig Mi Se.Aq.Zr.e.existing quarkiy. Wapht Meedlow wellands at the tan of Lake Estes Dam Expression date of 12/31/2009
 Manuferr of the Big Thompson River from the Hame Supply Canal diversion to the Big Barnes Dictrip diversion 	5	Aq Life Cold 2 Recreation 1a Water Supply Agnouture	D 0. = 6 C mgl D.0 (spl=7 g mgl pH = 6 5-9 0 F Coin-200100ml E Coin-200100ml	NHy actro)=TVS Clyac)=0.019 Clych)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI*250 SO ₄ =WS	Astach=50(frec) Cotach=TVS(tr) Cotach=TVS Cotach=TVS Cotach=TVS Cotacch=TVS Cotacch=TVS	Fe(ch)=WS(chs) Fe(ch)=1000(Trec) Pe(autr)=TVS Mn(adh)=TVS Mn(ch)=WS(chs) Halch)=01(Tel)	Nijac/ch1=TVS Sejac/ch1=TVS Ag(ac)=TVS Ag(ch1=TVS(tr) Zh(sc/ch1=TVS	Water + Figh Organiza
4a Mäurstein of the Bug Thompson from Lite Big Barnes Drich litviersion to the Greeky-Loveland Canal threeson	ē	Ara Life Cold 2 Water Supply Agroutine 5,1 - 1015 Recreation 1a 10/16 - 400 Recreation 2	D.0 + 6.0 mg/l D.0. (so)+7.0 mg/l pH = 6.5.9.0 S1 + 1015 F Cal=2001100ml E Cal=2001100ml E Cal=2000100ml F.Cal=2000100ml	NH4JeC(M)=1VS C(340)=0.019 C(340)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =10 CI=2500 SO ₄ =40 SO ₄ =40	Astact=50(Trec) cidact=TVS(tri cidiact=TVS(tri cidilact=50(Trec) crift(acton)=TVS culac(tr)=TVS	Feicht)=WS(das) Feicht=1000(Trac) Pstacch=TVS Mr(acch)=TVS Mr(acch)=VS Mr(dh=WS(ds) Hg(dh)=0.01(Tat)	Neacrichi=TVS Serecth)=TVS Serecth)=TVS Serecth=TVS Agi dhi=TVS Zhi eddh]=TVS	Waler + Fish Organics
di: Mainstein of the Big Thompson from the Greeley-Loveland Garlal aversion to County Road 11H	5	Aq Life Warm 2 Agriculture 5/1 – 10/15 Recreation 1a 10/16 – 4/30 Recreation 2	Dr 0 = 5.0 mp/ DH = 6.5 9.0 5/1 = 10/15 5/1 = 10/15 5/1 = 200/100ml E Cole=120/100ml 10/16 = 4/30 F Cole=500/00ml	MH,(actr)-TVS CJ(dh)=0.019 CJ(dh)=0.011 CJ(dh)=0.011 CJ(dh)=0.011	S=0.002 B=0.75 NO-n0.5	Asidn)«10/11/ecl colaedhy=TVS colaedh=TVS colaedh=TVS colaedh=TVS culaedh)=TVS	Fu(ch)=1000(Trec) PN(add)=TVS Mn(add)=01TVS Hqchi=01(T0) Nd(add)=TVS	Serac(ch)=TVS Agrac(ch)=TVS Zn(ac(ch)=TVS	Fish Ingestion Organics Temporary modification Sechol=5 Sigh (dits) type in Expression date of 2/28/10.
4c Munstern of Ine Big Thompson from County Read 11H to I- 25	ц	An Life Warm 2 Agrouture 5/1 - 10/15 Repression 1a 10/15 - 40/0 Recreation 2	D 0. = 5.0 mg/ pH = 6.5-9 d 5.1 - 10/15 5.1 - 10/15 F. Col=2001100ml F. Col=2001100ml F. Col=200100ml F. Col=20100ml	MHJach)=TVS Classes 019 Classes 011 Classes 011 CN-0.005	S=0 002 8=0 75 NOy=0.5	Astch)=100(Trac) Colradon=TVS Colfil acton=TVS Colfil acton=TVS Colladon=TVS	Falch/= 1000/Trec) Pb(acch)=TVS Mn/acch)=TVS Hd(z) +40.017/191 Ni(acch)=TVS	Sejacon)-TVS Agiacon)-TVS Znjaconj=TVS Znjaconj=TVS	Fish Ingestion Organics
5. Marristem of The B.g. Thompson River from 1-25 to the confluence with the South Platte River	d1	Ad Ufe Warm 2 Aground e 5/1 - 10/15 Receation 18 10/16 - 4/50 Recreation 2	D 0 = 5 9 mg/ pH = 6.5-9 0 5/1 = 10/15 F Cole325/100ml E Cole325/100ml E Cole326/100ml E Cole3200/100ml E Cole3200/100ml	MM_acichie TVS Columne 011 Columne 011 Columne 011 Columne 001	S+0.002 B=0.75 NO2=0.5	Astohi=100,Trec) Collascohi=TVS Collascohi=TVS Collascohi=TVS Culascohi=TVS	Fe(ch)=1000(Trec) Pb(acch)=TVS Me(cen)=TVS Hg(ch)=D 01(Tot) M(acc(n)=TVS	Selacichi=TVS Agacichi=TVS Zniacichi=TVS Zviacichi=	Temporary modification NHJ accinit= TVS(old) (Type I. Experation data of 12/31/2011

REGION 2	DESIG	CLASSFICATIONS.			NUMERD	NUMERIC STANDARDS			TEMPORARY
EASIN BID THOMPSON RIVER Stream Segment Description			PHYSICAL BIOLOGICAL	INDRGANIC	4C		METALS vgi		MODELICATIONS AND QUALIFIERS
6 All initializations to the Big Thompson Rever, including all lakes reservoirs and wellands, from the Home Supply Canal diversion to the confluence with the South Plane River except for specific listings in Segments 12.	9	At Lfe Ware 2 Raceation 1a Agriculture	D.O = 5.0 mg/ pH = 6.5-9.0 F. Cel-200/100m1 E. Cele=126/100m1	NH4, ac/cn)= TVS Cly ac)=0.019 Chydhy=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5	As(ch)=100(Trec) Cataoth)=TVS Critiliacicn)=TVS Critiliacicn)=TVS Cuiacicn)=TVS	Fe(th)=1000(Trec) Pb(addh)=TVS Mn(addh)=TVS Hg(ch)=201(Tot) N(adoh)=TVS	Se(addh)=TVS Ag(addh)=TVS Zniaddh)=TVS	Fish Ingestion Organics Temporary modification NHy/action=TVS(old) (Type, Expiration date of 1231(2011
Manyistim of the North Fork of the Big Thompson River from the boundary of Roby Mountain Nanovali Park to the confluence with the Big Thompson River manalem at Buckhom Creek from the source to the confluence with the Big Thompson River		An Life Cold 1 Recreation 1a Water Supply Agriculture	D. O. =6.0 mg/ D. O.(15p)=7.0 mg/ pH=6.5-9.0 F. Coli+126/100ml E. Coli+126/100ml	NHJ/362011 TVS Classre0.019 Classre0.019 CV=0.005	S=0.002 B=0.75 NO ₂ =0.0 5 NO ₂ =10 CI=250 SO ₄ =WS	Asyacie Softract) Catacle TVS(tr) Catacle TVS Catacle TVS Catacle Softract) CVII(accente TVS Cut acchite TVS	Felch/#WS(dis) Felch/#WS(dis) Pb(acch)=1000(Trec) Pb(acch)=1VS Mr(ach)=VS Mr(ach)=0.01(Tot) Hg(ch)=0.01(Tot)	Nujac/ch)=TVS Sejacch-TVS Agiac/=TVS Agich)=TVS Zh(ac/chj=TVS	
R Manustern of the Little Thompson Rover moluting all is buildings. Bakes reservants and wellands from the source to the Culver Districtionerscon.		Aq Life Cold 1 Recreation 1s Water Supply Agriculture	0.0.=6.0 mg/ 0.0.(sp)=7.0 mg/ pi+16.5.9 0 F.Cai=200100m E.Coi=126/100m	NH Jacich - TVS C(Jac)=0 019 C(Jac)=0 011 CM=0 005 CM=0 005	S=0.002 B=0.75 NO ₂ =0.0 5 NO ₂ =10 CH=250 SO ₄ =WS	Astact=50(1*ec) Cotact=TVS(br) Cotact=TVS Cotact=50(1rec) Crititact=50(1rec) Crititact=50(1rec) Crititact=1VS Cutacth]=TVS	Felch1=WS(dis) Felch=WS(dis) Pb(addh=TVS Mn(ch1=WS(dis) Mn(ch1=WS(dis) Mn(ch1=0.01(Tot)	Ni(ad/dr)=TVS Se(acrb)-TVS Ag(ac)=TVS Ag(dr)=TVS[tr) Zn(acrdr)=TVS	
4 Manuater of the Little Thompson River from the Cullver Drich diversion to the confluence with the Big Thompson River.	٩	Ag Life Warm 2 Recreation 1a Agriculture	D. 0 = 5.0 mg/ pH=6.5-9.0 F. Coli=200100mi E. Coli=126/100mi	NH 4(ad/ch)- TVS Cl ₃ (ac)=0.019 Cl ₃ (ch)=0.011 CN=0.005	S=0.002 6=0.75 NO ₇ =0.5	As(dr)=100(Trec) Colacidn)=TVS Criti(ac(dr))=TVS Criti(ac(dr))=TVS Criti(ac(dr))=TVS Cu(ac(dr))=TVS	Fs(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01(Tot) Ni(ac/ch)=TVS	Se(acton)=TVS Ag(acton)=TVS Zn(acton)=TVS	Temporary modifications AHydactory=TVS(old) (Type) (Expration date of 12/31/2011
10. As treasures to the utility Thompson River including all lakes meanures and wellands from the Curlee doch diversion to the Big Thompson River except for specific fistings in Segments (1, and 13).	đ	Ag Life Warm 2 Recreation 13 Agrouture	0.0 =5.0 mg/l pH=6.5.9 0 F.Col=200100mg E.Col=126/100mr	NH4(ac/on)=TVS Cly(cn)=0.019 Cly(cn)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5	As(ch)=100(Trec) Cetactone TVS Critit(actone TVS Critit(actone TVS Critit(actone TVS Cutactone TVS	Fe(ch)=1000(Trec) Pb(adch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01(Tot) Ni(ac/ch)=TVS	Selecton)=TVS Aglacton)=TVS Zn(acton)=TVS	Temporary modifications NH4(acten)=TVS(old) (Type i) Experation date of 12/31/2011
-1 CarterLatio		Ag Lee Cold 1 Recression 1a Water Supply Agriculture	D 0 =6 0 mg/ 0.0 (sp)=7.0 mg/ pHe6.5.9 0 F Col=200100m/ E Col=126/100m/	NHyadon=TVS Clyad=019 Clyde1=0.011 CN=0.005	5+0.002 8=0.75 NO ₂ =0.05 NO ₂ =10 CF 250 50,=WS	Astache50(Tred) Colact=TVS(tr) Colact=TVS Crtitiact=S0(Trec) Crtitiact=S0(Trec) Crtitiact=S0(Trec)	Fe(dh)=WS(dx) Fe(dh)=V000(Trec) Pb(acddh)=TVS Mn(addh)=TVS Mn(adh)=V5(du) He(dh)=WS(du)	Nijaciónj=TVS Se(acton)=TVS Agtaci=TVS Agtch=TVS[tt] Zn(jacton)=TVS	
12 1.8º6 Loveland Harseshoe Lake. Boyd Lake		Aq Life Warrin 1 Recretion 1a Water Supply Agrouture	D.O = 5.0 mpl pH = 6.5-9.0 F. Col=126/100ml E. Col=126/100ml	NH-%acton=VD 010 0=019 010 0=019 010 0=019 010 0=000	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO4=W5	As(ac)=50(Trec) Ed(soldn)=TVS Crth(sol=20(Trec) Crth(soldn)=TVS Eu(soldn)=TVS	Fo(cn)=WS(dis) Fo(cn)=1000(Trec) Po(actoh)=TVS Mn(actoh)=TVS Mn(ch)=0.01(Tet) Hg(cn)=0.01(Tet)	N(acto)=TVS Selecto)=TVS Ap[actoh]=TVS Zh(actoh]=TVS	
13 Benhous Reservor Johnstown Reservor	3	Aq Life Waim 2 Recression 1a Waim Supply Agriculture	D.0 =5.0 mg/ pH=5.5-9.0 F. Coi=202100m/ E. Coi=126100m/	NH (action = 7VS Cl_(act)=0.019 CN=0.005 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ =W5	As(ac)=50/Trec) Ediac/ch)=TVS Critiac/ch)=TVS Critiac/ch)=TVS Cultac/ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pe) addrh=TVS Mn(adch)=TVS Mn(adch)=TVS Mn(ch)=WS(dis) Hg(ch)=01(Tot)	N (ac/ch)=TVS Selacion=TVS Aplacion=TVS Zni(ac/ch)=TVS	
14 Welch Reservoir Loneiree Reservoir Boedecker Lähle Lon Hagter Reservoir		Aq L/e Wayn * Recreation 1.a Water Supply Agriculture	D 0 =5 0 mg/ tH=6 5-5 0 F Cole=200100ml E Cole=261100ml	NH3/32/Ch)=TVS Cl_(36)=0.019 Cl_(10)=D.011 CN=0.005	S+0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ =VNS	Asfact=50(Triec) Collacionie TVS Crititiac)=50; Triec) Crititiac)=50; Triec) Crivitiacich)=TVS Culacich)=TVS Fe(ch)=775[dis)	Fe(ch)=1000(Trec) Pb(acton)=TVS Mn(acton)=TVS Mn(ch)=WS(des) Hg(ch)=01(Tot) N(acton)=TVS	Se(actoh)=TVS Ag(actoh)=TVS Zniacton)=TVS	

REGIÓN 7	DESIG	CLASSIFICATIONS			NUME	NUMERIC STANDARDS			TEMPORARY
BASIN CACHE LA POUDRE RIVER			PHYSICAL	INDRGANIC	100		METALS		MUDIFICATIONS AND Duto refer
Siream Segmers Description			BIOLOGICAL	hgm			hgu		GUAL FIERS
Marinstein of the Cische La Pouldre River and all inductives including lakes teachroins and wellands within Rocky Mountain Rational Park and the Ravain Neetla Comanche Peak, and Cische La Pouldre Wildemsis Areas	MO	Agr Life Cold 1 Recretion 1a Water Supply Agrouture	D.0 =6.0 mg/ D.0 (sp)=7.0 mg/ PH+6.5.9.0 F.Col=200/100m1 E.Cole 126/100m1	NHJ adoh = TVS Cl4c == 0 019 CLeb) = 0 011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CH=250 SO ₂ =WS	As(ac)=50(Trec) Co(co)=TVS(tr) Co(ch)=TVS Cr/ll(ac)=50(Trec) Cr/ll(ac)=50(Trec) Cr/ll(ac)=1VS Curlacth)=TVS	Fe(ch)=MS(das) Fe(ch)=1000(Trec) Pb(acdh)=TVS Mn(aclch)=TVS Mn(ch=WS(das) Mn(ch=201(Tch)	N(ac/ch)=TVS Selac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zh(ac/ch)=TVS	
2 Marnetern of the Cache La Poudre River and all interuitaires including lakes, restervoirs and wellands from the boundaires of Rouxy Mountain Pails and the Rawin Neolal, Comanche Peals, and Cache La Poudre Wildminesis Areas to the Monroe Gravity Canalithorth Poudre Supply, canal diversion		Aq Line Cold 1 Recretion 1a Water Supply Agreeding	D 0 = 6 0 mg/ 0 0 (sp)=7 0 mg/ pH=6 5-9.0 F Col=200/100m) E Col= 126/100ml	NH4/adch)= TVS Clyac)=0.019 Clyan)=0.015 CN=0.005	5=0.002 8=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Colac)=TVS(tr) Colach=TVS Criti(ac)=50(Trec) Criti(ac)=50(Trec) CVV(actch)=TVS Cu(actch)=TVS	Fetch1=VVS(dix) Fa(ch1=1000(Trec) Pb(actch1=TVS Mn(actch1=TVS Mn(ch1=VVS(dix) Hd(ch1=VVS(dix))	N(ac/dr)=TVS Set(ac/dr)=TVS Ag(ac)=TVS Ag(ch)=TVS(ar) Zn(ac/dr)=TVS	
 Desisted A Desisted 									
 Mainstein of the North Fork of the Cache La Pourtre River including all unbukines: takes reservoirs and vertiants from the source to the inter of Hallingan. Reservoir 		Aq 1.46 Colo 1 Recression 1a Wate Supply Agnouture	0.0 =6.0 mpf 0.0 (sp)=7.0 mpf pH=6.5.9.0 F. Col=2000100ml E. Col=2000100ml	NH Jackh J-TVS Charle 019 Charle 011 CN+0.005	5=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CH-250 SO ₄ =WS	Aktac)=50(fiec) Co(ce)=TVS(tr) Co(ce)=TVS Cr01(ac)=50(frec) Cr01(ac)=50(frec) Cr01(ac)=1VS Cr01(ac)=1VS	Feich)=WS(dis) Feich)=1000(Trec) Po(iscor)=TVS Mr(ac/bh)=TVS Mr(ch)=WS(dis) Hs(ch)=WS(dis) Hs(ch)=0.01(Tot)	N(addrh)=TVS Sejadoh)=TVS Aglacj=TVS Aglch)=TVS(tr) Zh(adch)=TVS	
Manistern of the North Fork of the Cache La Poude River from the inlet of Hatilgan Reservor to the confluence with the Cache La Poudre River	5	Aq Lrie Cotol 2 Recreation 1 a Vraek Supply Agriculture	D. 0. =6.0 mg/l D. 0. (sp)=7.0 mg/l PA+56.5-9.0 F. Coli+ 2:00/100ml E. Coli+ 2:01*120ml	NHJ/ac(m)=TvS Clyaci=0.019 Clycn)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec) Cotac)=TVS(n) Cot(on)=TVS Cot(of)=TVS Cot(l(ac)=50(Trec) CrVI(ac(of))=TVS Cutac(of))=TVS	Felch)=WS(des) Felch=1000(1rec) Pelcackn=TVS Mrcds=Ch=TVS Mrcds=Ch=TVS Herch=01(1ret)	N(gulch)=TVS Sejac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(th) Zn(ac/ch)=TVS	Wauer + Fish Organics
All Intuitance to the North Fork of Imp Cache La Poudre River including all takes reservors and wellands from The intel of Hallgan Reservor to the comfuence with the Cache La Poudre Rivel istocet for specific Istings in Segment 9	an	Ad Life Cold 7 Recretion 1a Water Supph Agriculture	D D ==6.0 mg/ D 0 (spi=7.0 mg/ pH=6.5=9 0 F Coli=126/100mi E Coli=126/100mi	NHJJBUCh)=TVS ClJJBCJ=0.018 CJSCh)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CH-250 CH-250 SO ₄ =WS	Asiac)=50(Trec) Colon)=TVS(r) Colon)=TVS Colon)=TVS Coliliac(=)=50(Trec) Coliliac(=)=TVS Collac(=)=TVS	Fe(ch)=VIS(dus) Fe(ch)=1000(Trec) Po(acch)=TVS Mn(ac(ch)=TVS Mn(ch)=VIS(dus) Hg(ch)=C01(Tat)	Nijaddnj=TVS Sejazichj=TVS Ag(chj=TVS(tr) Znjacichj=TVS	Water - Fish Organics
9 Marristem of Rabbit Creak and Lone Price Creak from the source to the confuence with the North Fock of the Cache La Pounte River		Aq Life Cold 1 Recrement 1a Wate Supply Agriculture	0.0 =6.6 mg/ 0.0 (tp)=7.0 mg/ pH=6.5-9.0 F.Coh=200(100m1 E.Coh=126/100m1	NH (Jacuth)= TVS CH(aci=0.019 CH(ch=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =WS	Astact=56(Trec) Cd(ac)=TV5(tr) Cd(ac)=TV5 Cd(acd)=TV5 Cd(acd)=TV5 Cd(acd)=TV5 Cd(acd)=TV5	Fa(ch)=V/S(dis) Fa(ch)=1000(T/rec) P()ac/ch)=TVS Mn(ac/ch)=TVS Mn(ch)=V/S(s) Mn(ch)=V/S(ra)) Hg(ch)=0.01(Tat)	Netecthy=TVS Selacth=TVS Ag(ch)=TVS(P1 Zn(ac(ch)=TVS(P1 Zn(ac(ch)=TVS	
10 Manisteri ol the Cache La Poudro River from the Monroe Gravy Canatificinin Poudre Supply Canati diversion to Shietds Sreee in Fit. Collins. Colorado.	പ	Ag Life Cold 2 Recreminen 1a Water Supply Agnouture	D.0.+6.0 mg/ D.0.(spix7 d mg/ pH=6.5-9.0 F Col+200100mi E Coler200100mi	NH-y(ac/un)=TVS CI-(ac)=0.019 CI-(ab)=0.011 CN=0.005	S=0.002 8=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₄ =WS	Asiacj=50, Tract Colacj=TV5(tr) Colacj=TV5 Cr(Nacj=50, Trac) Cr(Nacimj=TV5 Cuv(cacimj=TV5 Cuv(cacim)=TV5	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb(ac)ch)=TVS Mn(acch)=TVS Mn(acch)=TVS Mn(ch)=001(Foi) Hg(ch)=001(Foi)	Nijacichi=TVS Sejacichi=TVS Agiacj=TVS Agichi=TVS(V) Zv(scichj=TVS	Whiter + Frish Organics
 Marrutem of the Coorte La Pounte River from Shelda Street in Fr. Colins to a point immediately above the circlituence with Boxelate Greats 	5	Aquite Warn 2 Recenting Agrouture	0.0.50 mgl Freeso E cole126/10ml E Cole126/100ml	NH4,86001-TVS Clack=0.019 Clack=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =2.7	As(th)=100(Trec) Coll(ac(b))=TVS Coll(ac(b))=TVS Coll(ac(b))=TVS Coll ac(b)=TVS	PE(ach)= 1000(frac) PB(ach=1VS Mn(ach)=7VS Hg(ch)=0 01(Tat) Niac(ch)=TVS	Selecton: TVS Aglaeton: TVS Zruadon: TVS	Minne as a 30 day average Fish hopesion Crganucs Ternomary Modificatures Uppe (in Cu (da)(ch)=Current Cu (da)(ch)=Current Cu (da)(ch)=TVS(chd) MHy(ac(ch)=TVS(chd) (Type () Expiration date of 12/31/2005

REG	REGION 2	DESIG	CLASSIFICATIONS			NUMER	NUMERIC STANDARDS	8	2	TEMPORARY
Stre	BASIN CACHELA POUDRE RIVER Stream Segment Description			BIOLOGICAL BIOLOGICAL	NORGANIC	2		METALS		MODIFICATIONS AND QUALIFIERS
ti	Mainstein of the Cache La Poudre River from a poerly immediately above the contuiving with Bouelder Creek to the confluence with the South Platts River	5	Ao Life Warm 2 Recreation 1a Agriculture	D.0 = 5.0 mg/ F Hole 2:00 0 ml E Cole 125/100ml E Cole 125/100ml	MH y action TVS Cloten = 0 0 1 Cloten = 0 0 1 CN = 0 005	8=0.002 8=0.75 NO ₂ =2.7	Akich)=100(Trec) Colligarch)=TVS Colligarch]=TVS Covigarch]=TVS Covigarch]=TVS	Fe(ch)= 1000(Trec) blactor)= TVS Mn(actor)= TVS Hg(ch)=0.01(T cf) M(actor)= TVS	54(ad/cn)=TVS Agracon)=TVS Zn(ad/cn)=TVS	Nitrite as a 30 day average Fish Ingestion Organics Temporary monthcations Condition Expiration date of 12/31/2009 Nitsyet (Expandion date of 12/31/2009
134	All tratecharies to the Cache La Poudra Ruyer, including all lakes reservoirs and wellances from a point immediately above the confluence was the North Fork of the Cache La Poudra River to the confluence with the Squith Platta River acception specific hamps in Segments 13b, 14 15 and 15	5	Aq Life Warm 2 Recreation 1a Agriculture	D 0 =5 0 mg/l pH=6.5-9 0 F. Col= 2261 00ml E. Col= 1261 00ml	NH4/accn= TVS Class=0 019 Class=0 011 CN=0.005	5-0.002 B=0.75 NO ₂ =0.5	Asichi=100(Trec) Caladah=7VS Criti(acich)=7VS Criti(acich)=7VS Criti(acich)=7VS Cu(acich)=7VS	Fe(D)=1000(Trac) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Mg(ch)=0.01(Tet) M(ac/ch)=TVS	Sefaulchi-TVS Aglactchi=TVS Zn(aetchi=TVS	Temporary modification NH ₁ (acton) = TVS(old) (Type I) Expiration date of 12/31/2011
8	Maintem of Bouelder Creek from its source to the confluence with the Cache la Poucré Ruwe	4 2	Aq Life Werm 2 5/15-9/15 Racreation 1b 9/16-5/14 Recreation 2 Agrouture	0.0 = 5.0 mg/l pH=6.5 ± 0. 5/15.4/15 F. Col=205/100ml E. Col=205/100ml E. Col=200/100ml E. Col=200/100ml	NHyacthe IVS Cyache 019 Cyache 011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5	Asichier (00(Trec) Colescient)=TVS Colilicacióni=TVS Colilacióni=TVS Colilacióni=TVS	Fe(dh)=1006(Trec) Pb(actdh=TVS Mn(actdh)=TVS Hng(dh)=01(Ted) N(actdh)=TVS	Selautch)=TVS Agazuth)=TVS Zniauthi=TVS	Temporary modification NHyackin)=TVS(idd) (Type I), Experition date of 12/31/2011
19 19	Hursetooth Reservoir		Ag title Cold 1 Recreation 1a Water Supply Agriculture	D.O. =5 0 mg/ D.O. (spi=7.0 mg/ PH=5 5-8.0 F.Coli=200100mi E.Coli=126/100mi	NHJJADCH1=TVS Cl_karch=0.019 CN=0.005 CN=0.005	S=0 002 B=0.75 NO ₁ =0.05 NO ₁ =10 CH=250 SO ₄ =W/S	As(ac)=50(Trec) As(cn)=50(Trec) Co(ac)=TVS(h) Co(ch)=TVS C(h)=TVS C(h)=TVS C(h)(ac)=50(Trec)	Curractech= tVS Fe(ch)=VVS(dis) Fe(ch)=1006(Trec) Pb(ac/ch)=TVS Mn1sc/ch)=TVS Mn1sc/ch)=VVS(dis)	Hg(dh)=0 01(To 1) N((aodm)=TVS Secarbh=TVS Ag(dh=TVS(th) Ag(dh=TVS(th) Zh(addh=TVS	
2	Wutson Lake		Ag Life Celd 1 Recreation 1a Water Supply Agriculture	D 0 =5 0 mgA D 0 159/47 0 mgA PH46 5:59 0 F 0 phi=200/100ml E 0 phi=200/100ml	NH// ac/ch/=TVS Cb// ac/=0 019 Cb//ch+=0 011 CN=0.005	5=0.002 8=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 S0_=W5	Aslact=50(Trec) Colact=TV5(tr) Co(ch)=TV5 Crititact=50(Trec) Crititactch=TV5 Cu(actch)=TV5	Fe(ch)=V00(Tiet) Fe(ch)=V00(Tiet) Pbiarch)=YV5 Mm(ac(ch)=VV5 Mm(ach)=VV5(dis) Hg(ch)=V03(Tiet)	NijacchieTVS SelecichieTVS AgracieTVS AgracieTVS AgracieTVS ZricadchieTVS	
12	Reservor #4 (T S N R 58 W), Water Supply Reservor #3 (T 8 N R 58 W), Claymore Lake College Lake Duck Reservor Robert Benson Lake Black Hoflow Reservor Seefley Lake	đ	Aq Life Warm 1 Recreation1a Agrouture	D.O =5.0 mg/l pH=6 5-9 0 F.Coi=200/100ml E.Coil=126/100ml	NH4(ac/ch)=TVS Cly(ac)=0.019 Cly(ch)=0.011 CN=0.005	S=0.002 B+0.75 NO ₂ =0 5	As/ch)=100(Trec) Col(ac/ch)=TVS Cr(II(ac/ch)=TVS Cr(II(ac/ch)=TVS Cr(I(ac/ch)=TVS	Felch)=1000(Trec) Pti(ac)dh)=TVS Mn(ac/dh)=TVS Hg(cn)=0.01(Tch) M(ac/dh)=TVS	Se(ac/ch)=TVS Ag(ac/ch)=TVS Zr(ac/ch)=TVS	

REGULATION NO. 38 SOUTH PLATTE RIVER BASIN (continued) STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

REGION 2	DESHC	CLASSIFICATIONS			NUMERIC	NUMERIC STANDARDS			MODIFICATIONS
HASIN LARAME RIVER Stream Segment Description			PHYSICAL and BIOLOGICAL	INORGANIC	NC		METALS		AND QUALIFIERS
1. All tribularies to the Laram e River, including all lakes reservoirs and wellanips, which are written the Rawah Wildemess, Alleia.	MO	Ag tife Cold 1 Recreasion 1a Waran Supply Agrouture	D 0 = 5 0 mpl 0.0.ispl=7 0 mpl pH=6.5-9 0 F Coli=200/100ml E Colie126/100ml	NHyleCith)=TVS CL(ac)=0.019 CJy(ch)=0.011 CN=0.005	\$=0.002 8=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 50,=W5	Astac)=50(Trec) cd(ac)=TV5(tr) cd(ac)=TV5 cf(trac) crititac)=50(Trac) crititac)=50(Trac) crititac)=TVS cd(ac)=1VS	Fe(ch)=V/S(dm) Fe(ch)=1000(Trac) Pb(addn)=TVS Mn(addn)=TVS Mn(adn)=VS(dm) Hg(ch)=0.01(fot)	Nejac/27)=TVS Seleace/h=TVS Aglac1=TVS Aglac1=TVS(P1 Zn(acidh)=TVS(P1	
 Manistern of the Latartue River including all throutanes takes reservors and wellands from the source to the Colorado/Wyommig Dorder except for specific lishing m Segment 1 		Ag Life Cold 1 Recreation 1.a Water Supply Agrouture	D. 0 =6 0 mg/ D. 0 169.7 0 mg/ pH=6.5.9.0 F. Coli=200100ml E. Coli=126/100ml	NH4,800019 CH(eb)=0.019 CH(eb)=0.011 CN=0.005	5+0.002 B=0.75 NO ₂ =0.05 NO ₂ =10 CI=250 SO ₂ =WIS	Asiach=50(Trec) Collop=TVS(tr) Collop=TVS Colling=TVS Colling=50(Trec) Colling=20(Trec) Colling=205	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb)=c/ch)=TVS Mn(ac/ch)=TVS Mn(ac/ch)=VS(dis) Hg(ch)=0.01(Tet)	Ni(actch)=TVS Sellacicn)=TVS Aglac)=TVS Aglac)=TVS(ir) Zn(acich)=TVS	

REGULATION NO. 38 SOUTH PLATTE RIVER BASIN (continued) STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

REGION 1	Desed	Classifications			NUMB	NUMERIC STANDARDS			MODIFICATIONS
BASIN Lower South Platte River			PHYSICAL	NORGANIC	Q		METALS		DUALIFIERS
Sheem Sogment Description			BIOLOGICAL	¹ ,gim			hgu		
 Meanstein of the South Palito River From the WoldMisrogen County line to the Colorado/Nebrasha border 	d ⊃	Aq Life Vkaim 2 Reciestion Ta Water Supply Agnouture	0.0 =5.0 mgl pH=5.5-9.0 F.Col=200100m E.Col=125/100mi	NHJJac/ch)=TVS CIJac/e0.019 CIJch)=0.011 CN=0.005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI=250 SO ₄ =WS	As(ac)=50(Trec Cd(ac)ch1=TVS Cd((ac)ch1=TVS Cd((ac)ch1=TVS Cd((ac)ch1=TVS Cd((ac)ch1=TVS Cd(ch1=TVS	Fe(ch)=V/S(det) Fe(ch)=1000(Trec) Pe(acch)=TVS Mn(acch)=TVS Mn(ch)=WS(det) Hu(ch)=01(1et)	N(ac/ch)=TVS Setac/ch)=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS	Temporary modifications NHy accmis-TV5(0Hd) (Type I) Expeation (3496 0f 12/31/2011
24 All Mouthres to the South Platte Rower encoding all takes reservoirs and wetlands. Then the WetlaMongan County free to the EcloradolNetdakia bordior except for the specific plange in Segments, 20 and 3.	3	Aq Life Warm 2 Recreation 2 Agriculture	D. 0 =5.0 mg/l pH=6.5-8.0 F.Col=2000/100ml E.Col=630/100ml	CN=0.2 NO ₂ =10 NO ₂ *100	B=0.75	As(en)=100(T/ec) Be(ch)=100(Trec) Col(ch)=10(Trec) Col(ch)=10(Trec)	CaVI(dn)=100(Trec) Cu(cn)=200(Trec) Pb(cn)=100(Trec)	Nujch)=200, frec) Se(ch)=20(Trec) Zn(ch)=2000(Trec)	
26. All bituitanes to the Geuch Flatte Rever incurping all Bioas reasons are and wellands norm of the Stouth Platte River and Partice Al 500 legit in elevation in Morgan County, north of the South Platte Rever in Washington County, north of the South Platte Rever and below 3 X00 legit in elevation in County norm of the South Plante River and plates at 700 fast in Revertion in South Plante River and the manistering of Beaver Carb. Algoin Creek and Kowat Creek from Platte River and Conflightone with the South Platte River.	3	Aq Life Warm 2 Recreation 18 Agriculture	D. 05 0 mg/l bH-6.2 50.4 F Cola 2004 00ml E Cola: 126/100ml	NH4Jectch)=TVS CGyacheD 019 CGyacheD 011 CGyeD 005	S=0 002 B=0, 75 NO ₂ =0.5	As(ch)=100(Trec) cdisacht)=TVS Critiliac(ch)=TVS Critiliac(ch)=TVS Culad(ch)=TVS	Fe(ch)=1000(Trec) Ptyach)=TVS Mn(actch)=TVS H0(ch)=0.01(Tct) N(actch)=TVS	Se(acton)=TVS AQ(acton)=TVS Zn(acton)=TVS	Temporary modicapons MHyacohi TVS(ad) (Type I) Expiration date of 12/312011
 Jack son Reserver Prewet Rekerver, Nonth Staffing Reserver Jumbo (Juleaburg) Briggspale Rejervor and Vanol Regervor 	5	Ag Life Warm 1 Recroation 1a Agnouture	D 0 ×5.0 mg/ pH=6.5-9.0 F Col=200100ml E Col=126/100ml	NH-J(acton) = TVS C5Jac) = 0.019 C1_J(ch) = 0.011 CN=0.005	S=0 002 B=0 75 NO ₂ =0 5	As(ch) = 103(Trec) Cd(ac)ch)= TVS Critit(ac(ch)= TVS Crivit(ac)ch)= TVS Cu(ac)ch)= TVS	Fa(ch)=1000(Tred) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01/Tott Ni(ac/ch)=TVS	Se(ac/ch)=TVS Ag(ac/ch)=TVS Zn(ac/ch)=TVS	

REGULATION NO. 38 SOUTH PLATTE RIVER BASIN (continued) STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

REGION 1 and 5	Desig	Classifications			NUMER	NUMERIC STANDARDS			TEMPORARY
BASIN Recupican River			PHYSICAL	INORGANIC	tic.		METALS		MODIFICATIONS
Sfream Segment Descriction			BIOLOGICAL	l/6m			yon		QUALIFIERS
 Mainsiem of the South Fork of the Republican River from a point 10 miles anove Bohny Reservoir to the Colorado-Kansas horder 	g.	Aq Life Warm 1 Recreation 1a Water Suppti; Agriculture	D. D =5 0 mg/ pH=5 5-9 0 F. Golie 200790mi E. Colie 128/700mi	NH y(acten)= TVS Cs(act=0 019 Cr(ch)=0 011 CN+0 005	S=0.002 B=0.75 NO ₂ =0.5 NO ₂ =10 CI+250 SD_7NS	Astact=50(Trec) Cdtac/cn/a TVS Cr/litacf=50(Trec) Cr/litacfch)=TVS Cutacfch)=TVS	Fe(ch)=MS(dis) Fe(ch)=1000(Trec) Pt)actor)=TVS Mn(di)=TVS Me(ch)=TVS Me(ch)=VS(dis) Hat(ch)=0(Tf)eff	N(addth)=TVS Se(addh)=TVS Ag(addh)=TVS Zn(addh)=TVS	
2 Bonny Reservor Stalker Lake		Ag Life Warm 1 Recreation 13 Water Supply Agnouture	0.0 +5.0 mg/ pH=6.5.9.0 F. Col=200/100m1 E. Col=126/100m1	NH4/addh=TVS Cl4(adh=019 Cl4(cm=0011 CN=0005	\$=0.007 B=0.75 NC2=0.05 NC2=0.05 CI=250 SO4=WS	Asiac.P50/Treci C6(actch)=TVS Crili(ac)=50(Treci Crili(ac)=50(Treci Crili(ac)=50/Treci Crilicacth=TVS Cuiactch=TVS Fe(ch)=WS(ds)	Fe(ch)=1000(T=ec) Pb(ac(ch)=TVS Mn(ac(ch)=TVS Mn(ch)=WS(dis) Hg(ch)=0.01(Tal) N(ac(ch)=TVS	Se(m/ch)=TVS Ag(addn)=TVS Zn(ed/ch)=TVS	
 Mantiterri di the Marth Fock of the Reputation River from the source to the Colorado/Netbrasha border and the mantiterri of Chiel Creak 		Aq Life Coler 1 Recreation 1a Water Supply Agrouture	D 0 =6 0 mg/ D 0 (sp)=7 0 mg/ pH=5 5-9 0 F Color100ml E Coli=126/100ml	NHJ/acie/111VS Clyacie/0019 Cl_(cn)=0011 CN=0005	S=0.002 B=0.75 NO_=0.05 NO_=0.05 CM_250 SO_=WS	Astac)=50(Trinc) Col(ac)=TVS(hr) Col(ac)=TVS Col(ch)=TVS Col(ch)=TVS Col(act=50(Trinc) Col(acten)=TVS Col(acten)=TVS	Fe(chi=WS(dis) Fe(chi=1000[Trec) Pb(ac(ch)=TVS Mn(ac(ch)=TVS Mn(ch)=WS(dis) Hg(ch)=WS(dis)	Nijadičnji TVS Sejadichji TVS Ag(ac)# TVS Ag(ch)# TVS(tr) Ze(adichj# TVS	
 Maintaim of the Avietare River from the confinence of the Norm and South Forks to the Califoredol Manuas border 		Aq. Lo Warm 1 Recreation 1a Agriculture	D 0 =5 0 mg/ pH=6 5-9 0 F Coli=200/100mi E. Coli=126/100mi	NHy(acted 019 Clylacied 019 Clylacied 011 CN=0.005	S=0.002 8=0.75 NO ₂ =0.5	Asichi=100 Tree; Cataotoi=TVS Crittactoi=TVS Crittactoi=TVS Curactoi=TVS	Feichi=1000Trec) Pb(acidh)=TVS Mn(acidh)=TVS Hg(ch)=0.01(Tat) Ni(acidh)=TVS	Secarchy TVS Aglactchy TVS Znyac/ch/= TVS	
MarkStern of the Black Wolf Creek from the source to the confluence with the Ankaree River	5	Aq Life Warm 2 Recreation 18 Water Suph Agriculture	0.0 ==5.0 mg/ pH=6.5-9.0 F Coli=205-100ml E.Coli=126/100ml	NH_(GC/0)=TVS CI(act)=0.019 CI(act)=0.011 CN=0.005	S=0 002 B=0 75 NO ₂ =0 5 NO ₂ =10 Cir250 SO ₄ =WS	As(ac)=50(Trec) Co(ac(ch)=TVS Crat(ac)=50(Trec) Crat(ac)=50(Trec) Crvt(ac(ch)=TVS Cu(ac(ch)=TVS Fe(cn)=WS(dra)	Figlicans=1000(17/sc) Pb(accdny=TVS Mn(cn)=W05(dis) Mn(cn)=W05(dis) Hg(ch)=0.01(Tot) N(acch)=101	Setac/cn)=TVS Aglac/cn)=TVS Zniac/ch)=TVS	
6 All tributances to fine Republican Rhoer system in Colorado including all lakes, reservoirs and wellands, except for specific killings in Segments 1 through 5	В,	Aq Life Warm 2 Recreation 2 Agriculture	D-0 ~5 0 mg/l pH=6 5-9 0 F Coli=2000/100ml E Coli=530/100ml	CN=0.2 NO ₂ =10 NO ₂ =100	۲. ۲	Asych)=100(Trec) Be(ch)=100(Trec) Cd(ch)=10(Trec) Cd(ch)=10(Trec)	CrVI(ch)=100(Trec) Cu(ch)=200(Trec) Pb(ch)=100(Trec)	Nich)=200(Trec) Se(ch)=20(Trec) Zn(ch)=2000(Trec)	
Mainterent of the Namh Flork of the Smoky Hell Rives and mainsteem of the Smoky Hill River including all stributanes lakes reservors and wedlands from the source to the ColoradoMarkas border	8	Aq Lfa Warm 2 Recreation 2 Agriculture	D 0 =5 0 mgA pH=6 5-9.0 F Cole=2000/100m1 E Coa=630/100m1	CN=0.2 N02=10 N02=100	8=0.75	As(ch)=100(Trec) Be(ch)=100(Trec) Cd(ch)=10(Trec) Cdl(ch)=300(Trec)	CuVI(cn)=100(Trec) Cu(cn)=200(Trec) Pb(cn)=100(Trec)	Ni(ch)=200(Trec) Se(ch)=20(Trec) Zn(ch)=200(Trec)	

Table 2 SITE SPECIFIC RADIONUCLIDE STANDARDS* (in Picocuries/Liter)

The radionuclides listed below shall be maintained at the lowest practical level and in no case shall they be increased by any cause attributable to municipal, industrial, or agricultural practices to exceed the site specific numeric standards.

	Segment 2 Standley Lake	Segment 3 Great Western Reservoir	Segment 4a Segment 5 Woman Creek	Segment 4a Segment 4b Segment 5 Walnut Creek
Gross Alpha	6	5	7	11
Gross Beta	9	12	8	19
Plutonium	.03	.03	0.15** ***	0.15** ***
Americium	.03	.03	0.15** ***	0.15** ***
Tritium	500	500	500	500
Uranium	3	4	11	10

*Statewide standards also apply for radionuclides not listed above.

**0 15pCi/l Statewide Basic Standards.

***For plutonium and americium measurements in Segment 5 in Woman Creek and Segment 5 in Walnut Creek, attainment will be assessed based on the results of a 12-month flow-weighted rolling average concentration (computed monthly).

Table 3 Temporary Modifications (type i) Big Dry Creek, Segment 5

Effective until December 31, 2009 for the Walnut Creek portions of segment 5:

Parameter	mg/l
Nitrate	100
Nitrite	4.5

Effective until December 31, 2009 for all of segment 5:

Parameter	mg/l
Benzene	0.005
Carbon tetrachloride	0.005
1,2-Dichloroethane	0.005
1,1-Dichloroethene	0.007
Tetrachloroethylene	0.005
Trichloroethylene	0.005
All other organic and radiologic p	parameters are covered by the Basic Standards.

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RESPONSE TO COMMENTS ON DRAFT EA

Response to Comments on the Draft EA (September 2008)

COMMENT LETTER FROM: Colorado Department of Public Health and the Environment Bonie B. Pate, Project Coordinator, Restoration and Protection Unit - Water Quality Control Division October 14, 2008

CDPHE-1: As mentioned in the Draft EA, Wolford Reservoir is on the 2008 303(d) list of impaired waters as shown in Regulation #93 Section 303(d) List Water-Quality-Limited Segments Requiring Total Maximum Daily Loads for dissolved oxygen. Although there may be only minor changes in Wolford reservoir content, implications for compliance with the dissolved oxygen standard should be considered in the proposed action during substitution years.

Response: The project team coordinated with Phil Hegeman, CDPHE on October 23, 2008 regarding their comment letter. In summary, CDPHE is concerned about the changes in volume in Homestake and Wolford Mountain reservoirs and potential resultant change to dissolved oxygen content and temperature levels. Refer to Section 3.5.1 Affected Environment (Water Quality) and Section 3.5.2 Environmental Consequences (Water Quality) Proposed Action, which better clarifies the locations for the analysis determination. Further, as discussed in Section 3.3.2 Environmental Consequences (Hydrology), the hydrologic modeling for this project demonstrated that there would be minimal stream flow changes and a proportionate minimal change in content in these reservoirs. Specifically, the model results showed that a minimal drop in the Homestake Reservoir content occurred only one time in a 56-year period. Minimal changes in flow and content are within the natural variation of these water bodies and are not anticipated to result in water quality impacts from the project.

CDPHE-2: Potential changes to water quality in Homestake should also be considered since changes to reservoir content are likely to be more significant. Prevention of future impairments is highly recommended.

Response: See response to comment CDPHE-1, and revisions made to Final EA in Section 3.5.1 and 3.5.2.



COMMENT LETTER FROM: Bureau of Land Management David Stout, Field Manager, Kremmling Field Office, Colorado October 14, 2008

BLM-1: BLM requests clarification of the outstandingly remarkable values (ORVs) recognized for each of the eligible stream segments identified by BLM, portrayed in the EA. BLM provided clarifying information for Blue River Segments 2 and 3, and Colorado River Segments 3, 4, 5.

Response: Comment noted. See changes made to Final EA on Section 3.3.1.1 Blue River Basin and Section 3.3.1.4 Colorado River Basin, under the heading BLM Wild and Scenic Rivers Designation.

BLM-2: BLM is concerned about the cumulative effects analysis in this EA, particularly in relation to the proposed Windy Gap firming project. BLM notes that collectively, the individual reasonably foreseeable projects (which includes the Green Mountain Reservoir Substitution and Power Interference Agreements EA) could have substantial impacts on the ORVs over time. BLM suggests that Reclamation consider some limited measures to minimize cumulative impacts to the ORVs, such as operational restrictions on the proposed projects during very limited periods when changes in flow rates could be detrimental the ORVs.

Response: The changes in flow under the Proposed Action would be well within the normal range of flows that have historically occurred on the segments of the Colorado River and supported the flow-related ORVs as they exist today. Based on the magnitude and frequency of flow changes on the Colorado River, there would be no more than negligible direct impacts of this project on flow-related ORVs and a potential Wild and Scenic Rivers designation. Correspondingly, the incremental effect of the Proposed Action would be negligible in relation to other reasonably foreseeable projects. This response is reflected in the text on Page 3-51 of the Draft EA. The Final EA clarifies this in the cumulative effects analysis in Section 3.3.3.1 Cumulative Effects for the Proposed Action (Hydrology).

BLM-3: BLM presents a flow-related concern of this project and its effect on the Colorado River below the confluence with the Williams Fork River. When combined with potential flow decreases associated with the Windy Gap Project, does the additional flow decrease compound stream temperature impacts? BLM suggests that Reclamation and water users consider establishing triggers for both flow rates and stream temperatures when the substitution operation would not be implemented, to minimize impacts to fish populations. This may require establishing a real-time stream temperature monitoring station near the confluence with Williams Fork.



Response: Because of the requirements of the Blue River Decree, Springs Utilities must implement the substitution operation in August if Green Mountain Reservoir does not fill. The flow changes that occur in August along the Colorado River mainstem are the result of changes in the location of substitution releases under the Proposed Action versus the No Action Alternative. More water is released from Wolford Mountain and Homestake reservoirs than from Williams Fork Reservoir under the Proposed Action. Springs Utilities diversions from the Upper Blue River do not deplete the Colorado River from the confluence of the Williams Fork downstream to the confluence to the Blue River. In substitution years, water released from Williams Fork Reservoir for substitution payback augments flows in the Colorado River below the confluence of the Williams Fork River. Therefore, the effect on flows in the Colorado River from the confluence with the Williams Fork River downstream to the confluence with the Blue River under the Proposed Action is a reduction in the amount of water **added** to the river due to a change in substitution releases from Williams Fork Reservoir. However, in both the Proposed Action and the No Action Alternative, flows in this reach are higher as a result of substitution operations than in years when there are no substitution operations.

The flow reductions BLM refers to are *maximum* flow reductions. The flow reduction of 4.1 cfs below the confluence with the Williams Fork River occurs in only **one** year out of a 56-year study period. The next highest flow reduction is 2.0 cfs and the average flow reduction in the driest years and substitution years is only 0.6 cfs and 0.2 cfs, respectively. The average flow change in the driest years and substitution years is also less than 1 cfs at the Kremmling gage. These flow changes are considerably less than the accuracy of flow measuring devices at these locations.

Additional discussion of instream flow requirements and flow reductions along the Colorado River was added to Section 3.3.2.2 Proposed Action (Hydrology) of the Final EA.

BLM-4: BLM presents a flow-related concern of this project and its effect on the Colorado River below Kremmling. When combined with potential flow decreases associated with the Windy Gap Project, does the additional flow decrease extend the length and frequency of periods during August when flows are not acceptable for floatboating? BLM suggests that Reclamation and water users consider establishing triggers for flow rates when the substitution operations would not be implemented, to minimize impacts to floatboating recreation.

Response: See response to comment BLM-3.



COMMENT LETTER FROM: Trout Unlimited Amelia S. Whiting October 10, 2008

TU-1 TU is concerned about the cumulative impacts of transmountain diversions on upper Colorado River, particularly the reach between Granby Reservoir and the Blue River. This reach of the river is a designated Gold Medal trout fishery and eligible for Wild and Scenic Rivers Act designation. TU states that a more detailed analysis of cumulative effects should be presented in the EA, even though the Proposed Action would create a negligible to minor cumulative effect in comparison to the reasonably foreseeable actions.

Response: Springs Utilities' transmountain diversions from the Upper Blue River do not deplete the reach of the Colorado River between Granby Reservoir and the Blue River. However, substitution operations affect the amount of additional water released to this reach. The cumulative effects analysis was supplemented and additional analysis completed of potential hydrologic effects due to reasonably foreseeable actions (Section 3.3.3 Cumulative Effects-Hydrology). See analysis and discussion added to Section 3.1.3 (Reasonably Foreseeable Water-Based Actions Considered in Cumulative Effects Analysis) and the cumulative effects analysis for all other resources (Sections 3.4.3 through 3.9.3) of the Final EA.

TU-2: TU recommends that Reclamation delay a determination of the Proposed Action pending the completion of the Windy Gap Firming Project Final EIS or supplement the Draft EA for this project.

Response: Reclamation does not believe that a delay in the decision on the Green Mountain Reservoir Substitution and Power Interference Agreements Project is warranted. The Windy Gap Firming Project (WGFP) is a proposed water supply project that would provide more reliable water deliveries to the Front Range and West Slope through additional physical connections to the Colorado-Big Thompson Project facilities. However, this Green Mountain Reservoir project is not to increase water deliveries but rather to provide operational flexibility in meeting substitution obligations under the Blue River Decree and the ability to assure replacement water and power generation to the West Slope of Colorado. This Green Mountain Reservoir project is also intended to fulfill Springs Utilities' obligations to Green Mountain Reservoir. Also, any potential changes to the Colorado River that would occur as a result of this Green Mountain Reservoir project would occur in a geographically distinct location and during a different season from those potential impacts resulting from the WGFP. Reclamation believes that the scopes of these separate actions are distinct and a decision on this project should not be contingent on a decision on the WGFP.



Additional analysis and discussions of potential hydrologic effects due to reasonably foreseeable actions was included in Section 3.3.3 (Hydrology) and Sections 3.4.3 through 3.9.3 (other resource topics) of the Final EA, as described in the response to comment TU-1.

TU-3: TU states that the Draft EA should address the potential impacts of climate change on the project and whether the need for the project will be triggered more often in the future based on historical data (i.e., the substitution requirement has required more in the last five years than previous years combined).

Response: The Proposed Action would provide additional operational flexibility to Springs Utilities by allowing Wolford Mountain and Homestake reservoirs to be used as additional substitution sources. Under certain climatic conditions, effects associated with this project may change. However, it is not possible to predict those anticipated changes or if climate change would increase need for future substitutions. If future impacts under the Proposed Action are determined to be outside those analyzed in this EA, additional NEPA compliance would be completed. The Final EA includes a discussion (Section 3.1.2) on how climate change may influence water resources in the West.

TU-4: TU states that the cumulative impacts of the Green Mountain Pump Back project combined with the Proposed Action on the Blue River downstream of Green Mountain Reservoir should be evaluated in the EA.

Response: Refer to the new section in the Final EA, Section 3.1.3 Reasonably Foreseeable Water-Based Actions Considered in Cumulative Effects Analysis. The Green Mountain Pump Back project was not considered a reasonably foreseeable project because there is not reasonable certainty as to the likelihood of this action occurring. The Green Mountain Pump Back project has only been studied at the feasibility level, and the formulation of a project, if any, to move forward has not been made by the study participants. In addition, there is currently not sufficient information available to define this action and conduct an analysis to quantify the cumulative effects of pump back options.

TU-5: TU states that the use of gage data from Kremmling (0905800) is too far downstream to adequately assess the direct impacts of flow changes on the Colorado River below the Williams Fork confluence. TU recommends evaluating data from the Parshall gage (i.e., Colorado River immediately below the Williams Fork River confluence) in the EA.

Response: Table 3-12 in the EA shows the modeled differences in flows for the Colorado River immediately below the confluence with the Williams Fork River. The



title of Table 3-12 was mislabeled and has been corrected in the Final EA to read "Colorado River below the Confluence with the Williams Fork River."

TU-6: TU states that the EA should evaluate impacts on Colorado Water Conservation Board (CWCB) Instream Flow rights in the portion of the Colorado River between Granby Reservoir and the Blue River.

Response: Refer to the additional discussion of instream flow requirements and potential effects on these requirements that was added to Sections 3.3.1 and 3.3.2 in the Final EA.

TU-7: TU states that the use of a monthly time step model to assess impacts on aquatic resources within potentially affected streams is inadequate.

Response: As discussed in Section 3.3.2 of the Draft EA, a monthly model was considered adequate given the magnitude of hydrologic effects anticipated under the Proposed Action. Additional discussion regarding this issue was added to Section 3.3.2 in the Final EA.

TU-8: TU states that the discussion of direct and cumulative water quality impacts, particularly temperature, in the EA is too general to support that these impacts are not significant. Direct and cumulative impacts on water quality should be quantified.

Response: A qualitative water quality direct and cumulative analysis was conducted for the EA. It was determined that the Proposed Action would create none to minor short-term direct impacts on water quality. An agency is only required to conduct analysis to the point that the level of impacts can be determined. Since the qualitative analysis resulted in none to minor short-term impacts, a qualitative analysis is considered appropriate for this NEPA analysis.

TU-9: TU states that the EA should evaluate whether the Proposed Action will directly or cumulatively interfere with obligations under Senate Document 80.

Response: Reclamation does not believe that this project directly or cumulatively interferes with its obligations under Senate Document 80. Senate Document 80 specifies the manner of operation of Colorado-Big Thompson (C-BT) Project facilities. Green Mountain Reservoir is a component of the C-BT Project and is therefore subject to the provisions of Senate Document 80. There would be no change in Green Mountain Reservoir operations under the Proposed Action nor would there be any effect on other West Slope C-BT facilities, including Lake Granby, Grand Lake, Shadow Mountain Reservoir, and the Adams Tunnel. Green Mountain Reservoir will continue to be operated in accordance with Senate Document 80 under the Proposed Action. The



explicit purpose of the requested substitution operation is to assure the fill of Green Mountain Reservoir which in turn assures and protects Reclamation's ability to perform its obligations under Senate Document 80.

TU-10: TU states that the Project Purpose and Need and the alternatives are too narrowly defined. Is the purpose of the project to "provide a reliable source of municipal water to the citizen owners and customers of Springs Utilities" as stated in § 1.1, page 1-1 of the Draft EA? Or is it to "allow Springs Utilities to comply with the Blue River Decree?"

Response: The purpose and need of the proposed project is adequately defined in Section 1.2 of the EA and provides Springs Utilities a broader range of operational flexibility under the Blue River Decree, which in turn provides Reclamation and WAPA the certainty they need to approve a long-term substitution plan.

The range of alternatives analyzed in the EA is sufficient for this level of NEPA analysis. An alternatives screening process was conducted (see Section 2.2 of the Final EA), where a reasonable range of alternatives was evaluated (Section 102(2)(E) of NEPA). Reasonable alternatives considered were those that were practical or feasible from technical and economic standpoints using common sense, rather than simply desirable from the standpoint of the applicant. The range of alternatives initially screened were assessed to determine if they could reasonably achieve the need that the Proposed Action is intended to address, while simultaneously minimizing environmental impacts. Unlike the Proposed Action, all of the preliminary alternatives that were considered required the construction of new facilities, which would result in significant environmental impacts.

TU-11: If a Power Interference Agreement were to be granted by Reclamation, specific conditions which reflect the scope and assumptions of the EA should be specifically stated in the Agreement. The 2003 Memorandum of Agreement is an agreement between private parties that could be subject to negotiated amendments. The Power Interference Agreement, on the other hand, is a federal agreement, subject to public review. Accordingly, the Agreement should contain all necessary conditions, including conditions that formed the basis of the assumptions used in the EA. In addition, the Agreement must include specific provisions precluding operation of the Agreement if such operation results in injury to the CWCB's Instream Flow water rights within pertinent reaches. Other terms and conditions may be needed to prevent or mitigate impacts to the human and natural environment as a result of the Proposed Action and to ensure compliance with Senate Document 80. Trout Unlimited would like to be notified if and when a draft Power Interference Agreement is ready for public review.

Response: WAPA may include language in the Power Interference Agreement referencing the Blue River Decree. The Power Interference Agreement is a means to document and formalize the terms of compensation between Springs Utilities and WAPA. WAPA has historically received compensation from Springs Utilities without



the benefit of an agreement and will continue to do so in the absence of an agreement because WAPA is entitled to and has historically been compensated by court order (i.e., under the Blue River Decree). WAPA holds that the Power Interference Agreement can neither allow nor disallow stream depletions granted by the Blue River Decree and public review of and comment to the agreement is therefore not required.



COMMENT LETTER FROM: Petros & White, LLC, on behalf of the Board of Commissioners, Summit County, Colorado Charles B. White October 14, 2008

SC-1: Summit County states that recent comments made by the Colorado Attorney General's Office in pending water court Case No. 03CW320 may have undermined and contradicted one of the 2003 MOAs assumptions. More specifically, 250 AF in the West Slope Account in the Upper Blue Reservoir would be administered as an exchange from Wolford Mountain Reservoir with a 2003 priority date, rather than a contractual bookover of storage between the two reservoirs. If implemented, this administrative policy would prevent the Substitution MOA from operating in a manner that the parties, including Summit County, intended. Summit County requests that the Proposed Action not be approved by Reclamation if the reservoir bookover cannot be implemented as contemplated by the 2003 MOAs.

Response: The Draft EA states (Section 1.2, Project Purpose and Need) that the MOAs form the basis of the Substitution and Power Interference Agreements. This NEPA action is being conducted concurrently to Colorado water court Case No. 03CW320, which is still pending a final determination. Any alteration to the terms and conditions of the agreements would require amendments to the agreements, and additional NEPA compliance if the impacts are determined to be outside those analyzed in this EA. Springs Utilities has not retracted their request to Reclamation for a substitution and power interference agreement. Therefore, Reclamation will continue to proceed with this NEPA process.

SC-2: The statement in the Draft EA that Springs Utilities' 1929 rights "are not governed by the terms and conditions of the Blue River Decree" is incorrect.

Response: The intent of this statement was with regard to substitution operations. This is clarified in the Final EA in Section 1.4.4 Springs Utilities' Collection Systems and Customers, under the heading Continental-Hoosier Transmountain Diversion System.



SC-3: The EA should also discuss the water rights Springs Utilities claimed in water court Case No. 03CW314. The EA should evaluate the impacts of exercising these rights of exchange and expressly incorporate the limitations of the Exchange MOA.

Response: Springs Utilities pending exchange water rights claimed in Colorado water court Case No. 03CW314 are separate and distinct water rights, unrelated to substitution operations as described in the Blue River Decree. The exchanges proposed in that water rights case are not part of the Proposed Action or No Action alternatives. Please refer to Section 3.3.3 of the Final EA for further discussion of these pending exchange rights in the cumulative effects analysis.

SC-4: The discussion of Springs Utilities Reuse Program is incomplete. The Draft EA should discuss Springs Utilities' reuse obligations under the Blue River Decree and consider opportunities for additional reuse of water that would be created by the approval of the Proposed Action.

Response: Springs Utilities' Continental-Hoosier System diversions would not change under the Proposed Action or the No Action alternatives. While diversions would not change, the net yield to Springs Utilities Continental-Hoosier System under the Proposed Action may increase in a limited number of substitution years when releases are made from Springs Utilities Wolford account or from Homestake Reservoir since they would not have to release as much water from Montgomery Reservoir or the Homestake system to payback Denver Water for substitution releases made on Springs Utilities behalf on the West Slope. However, because of West Slope delivery obligations in the MOA, the net yield to Springs Utilities' system, and subsequently reuse opportunity, may be reduced in some non-substitution years under the Proposed Action. To the degree that Springs Utilities has any additional yield from their Continental-Hoosier System, that water would be reused consistent with their current reuse program and the Blue River Decree. Springs Utilities currently reuses all water generated from their Continental-Hoosier System and would reuse any additional yield if it is generated under the Proposed Action.

SC-5: The Draft EA states that Denver Water supplied Springs Utilities with additional water to operate a Williams Fork to Hoosier Tunnel exchange after Green Mountain Reservoir and the Continental-Hoosier water rights were our of priority. Summit County requests that Reclamation describe the amount of water exchanged, if approval was obtained from Reclamation for power interference, and whether the exchange was administered by the Division 5 Engineer.

Response: The Williams Fork exchange included in the Draft EA in Table 1-1 Summary of Historical Substitution Year Operations (Section 1.4.6 Substitution Year Operations) does not relate to substitution but was listed for informational purposes only. To avoid confusion, this exchange has been removed from the Final EA in Table 1-1 as well as



from the discussion in Section 1.4.6 Substitution Year Operations under the heading 1964 Substitution Year.

SC-6: The EA should examine the implications for water rights administration of a power interference agreement, including the effect on the Green Mountain power call of the State Engineer's policy on administration.

Response: The administration of Springs Utilities' power interference is carried out under the authority of the Blue River Decree. Springs Utilities must replace the power that would have been generated by Reclamation at Green Mountain Reservoir's hydroelectric plant had Springs Utilities not diverted water. Springs Utilities has historically provided the replacement power year-to-year by mutual agreement with the WAPA. There would be no change in the Green Mountain Reservoir power call nor would there be any change in the administration of a power interference agreement under the Proposed Action. The Proposed Action would establish a long-term power interference agreement with Reclamation and WAPA that would be operated in the same manner as under the No Action Alternative.

SC-7: Under certain circumstances, a Summit County 1041 permit may be required for the change in operation proposed in this EA.

Response: Comment noted. Clarification was added to the Final EA in Section 1.5 Required Permits and Approvals to note that additional County permits may be required, including a 1041 permit.

SC-8: The assumption that Denver Water would provide replacement water under the No Action Alternative does not appear to be valid since they do not have a legal obligation to provide this water. Thus, under the No Action Alternative, Springs Utilities would not have sufficient replacement water to divert the projected volume in its Continental-Hoosier System in a substitution year. This would result in much different impacts on the Blue River than those described in the Draft EA.

Response: The assumption that Denver Water continues to provide replacement water in the future on behalf of Springs Utilities in substitution years under the No Action Alternative is reasonable given that it is consistent with the manner in which Springs Utilities' substitution obligation has been paid back in all but one substitution year and it is consistent with the letter provided by Denver Water to Springs Utilities dated July 23, 2008, which states that Denver Water is willing to consider performing similar operations in the future.



SC-9: All or a portion of the 250 AF may be used for augmentation purposes, in which case it would be used to replace out-of-priority depletions to the Blue River or its tributaries, directly or by exchange, resulting in full consumption. Summit County beneficiaries of the water retain the right to reuse, successively use, and dispose of the effluent and return flows resulting from the use of that water.

Response: The assumption that all of the 250 AF is consumed is reasonable for modeling purposes and conservative from the standpoint of estimating flow changes. See additional discussion added to Section 2.4 in the Final EA regarding how this water might be used.

SC-10: Minimum bypasses from Dillon Reservoir are governed by the terms of the FERC Order. The relevant conditions require a bypass of 50 cfs or the inflow, whichever is less, without any exceptions.

Response: See discussion added to Section 3.3.1 in the Final EA regarding the 50 cfs bypass requirement per the FERC Order. The CDSS Model reflects the 50 cfs bypass or inflow, whichever is less, without exceptions, which is consistent with the FERC Order.

SC-11: The EA should identify the current issues surrounding the administration of the Green Mountain Reservoir water rights and the impact on the administration of the proposed substitution if the State Engineer's Interim Policy is changed (see pg. 3-14).

Response: The CDSS Model accurately reflects the current administration of the Green Mountain Reservoir water rights, which is defined in the 2008 Interim Policy adopted by the State Engineer. Potential changes to the State Engineer's Interim Policy and the associated effects on the administration of substitution operations are difficult to assess since there is no certainty regarding when or how the Interim Policy may change. Potential changes to the State Engineer's Interim Policy are not addressed in the Final EA since that is not a reasonably foreseeable action. Even so, the Interim Policy's primary effect is the calculation of the paper fill of Green Mountain Reservoir. Any change to this policy might result only in a change in the amount of fill deficit in substitution years, or the amount water required to complete the fill of Green Mountain Reservoir. However, regardless of how the fill deficit is calculated, the method of substitution operations under either the Proposed Action or the No Action Alternative would not be affected.

SC-12: Summit County refers to comment SC-8 [6], and refers to a statement in the CSU EA that assumes that CSU is able to obtain a sufficient supply of replacement water from Denver Water. Summit County suggests that there is a possibility under the No Action Alternative that CSU would not have sufficient replacement water to divert the projected volume in its Continental-Hoosier System in a substitution year.



Response: See response to comment SC-8.

SC-13: Summit County refers to the following statement "In years the substitution obligation is less than 2,100 AF and the total contents in the Upper Blue Reservoir are sufficient to fully payback the substitution obligation, there would be no difference in the location, amount or timing of substitution payback under the Proposed Action. Summit County indicated this statement does not take into account the requirement of the Substitution MOA that the timing or releases from Upper Blue Reservoir be coordinated between the River District, CSU and Denver Water to provide environmental benefits in the late summer and early fall.

Response: See additional discussion added to Section 3.3.2 in the Final EA.



COMMENT LETTER FROM: White & Jankowski, L.L.P, on behalf of the Board of County Commissioners, Grand County, Colorado David C. Taussig October 30, 2008

GC-1: Grand County is concerned with the use of monthly averages rather than a daily stream flow model especially during the 13 substitution years. The use of monthly average flows is not adequate to address daily stream flows and the factors that affect the aquatic environment. The monthly timing and amount of average releases ignores the changed location of the releases from Williams Fork Reservoir to locations downstream. On any day when the release is at the downstream locations the effect is 100% decrease to the Williams Fork and Colorado River above the confluence with Muddy Creek.

Response: See response to Trout Unlimited's comment TU-7. Also, Tables 3-8 and 3-12 in the EA show the hydrologic effects to the Williams Fork River and Colorado River below the confluence with the Williams Fork River, respectively associated with the changed location of releases from Williams Fork Reservoir to locations downstream. Whether the analysis is completed on a daily basis or monthly basis, changes in substitution releases from Williams Fork Reservoir would only occur in years the last increment of Denver Water's substitution obligation is released from Williams Fork Reservoir. In those years, substitution releases from Williams Fork Reservoir would decrease. In years when the last increment of Denver Water's substitution obligation is released from Wolford Mountain Reservoir, the same amount of substitution water would released from both Wolford Mountain and Williams Fork reservoirs as explained below. A break down of the 13 substitution years during the study period and the associated flow changes in the Colorado River reach of concern follows.

- In 5 years, contents in Upper Blue Reservoir are sufficient to cover Spring Utilities entire substitution bill. In those years, there would be no change in releases from Williams Fork or Wolford Mountain reservoirs between the No Action and the Proposed Action alternatives.
- In one year (1977), contents in Upper Blue Reservoir would not be sufficient to cover Spring Utilities' entire substitution bill, which was estimated to be 1,606 AF. However, under both the No Action and Proposed Action alternatives, Denver Water would meet Springs Utilities' entire substitution obligation of 1,606 AF. Water would not be released from Springs Utilities' accounts in Wolford Mountain or Homestake reservoirs for substitution payback. Therefore, there would be no difference in releases from Williams Fork or Wolford Mountain reservoirs between the No Action and the Proposed Action alternatives.
- In 7 years, contents in Upper Blue Reservoir would not be sufficient to cover Spring Utilities substitution bill, in which case releases from Springs Utilities' account in Wolford Reservoir would be made under the Proposed Action. In six of those years,



the last increment of Denver Water's substitution obligation would be released from Wolford Mountain Reservoir. The total amount released from Wolford Mountain Reservoir for substitution payback would be the same; however, the amounts releases from Springs Utilities' and Denver Water's accounts would be different. Likewise, the total amount released from Williams Fork Reservoir would be the same; however, the amount allocated to payback Denver Water substitution bill would increase and the amount allocated to payback Springs Utilities bill would decrease by a commensurate amount. In summary, there would be no change in the total amount of substitution water released from Wolford Mountain and Williams Fork reservoirs and no corresponding change in flows along the Colorado River in those years under the Proposed Action. **Table 1** illustrates why there would be no change in flows in 6 of these 7 years.

In one of these substitution years (1963) there would be a flow change in the reach of the Colorado River downstream of the confluence with Williams Fork River because of the changed location of the releases from Williams Fork Reservoir to Wolford Mountain and Homestake reservoirs. In 1963, the total substitution bill would be 4,319 AF. Of that amount, Denver Water would release 2,100 AF for Springs Utilities, 1,750 AF would be released from Springs Utilities' account in Wolford Mountain Reservoir, and 470 AF would be released from Homestake Reservoir. In that year, the last increment of Denver Water's substitution obligation would be released from Williams Fork Reservoir. As a result, the total substitution release from Wolford Mountain Reservoir for Denver Water and Springs Utilities would increase, while the total substitution release from Williams Fork Reservoir would decrease. However, the reduction in release from Williams Fork Reservoir is only 570 AF instead of the full 2,100 AF released by Denver Water for Springs Utilities as shown in Table 2. Model results show the reduction in substitution water released from Williams Fork Reservoir occurs over the period from August 1963 through March 1964. It is possible that the daily flow changes could be greater than an average monthly changes predicted by the model in those months, depending on the schedule of releases from Williams Fork Reservoir. However, Springs Utilities diversions from the Upper Blue River do not deplete the Colorado River from the confluence of the Williams Fork River downstream to the confluence of the Blue River. In substitution years, water release from Williams Fork Reservoir in August and September for substitution payback augments flows in the Colorado River below the confluence with the Williams Fork River. Therefore, the flow change associated with the change in location of substitution release to downstream locations would be a reduction in the amount of water added to the river.

In addition to the monthly model results, historical daily substitution releases in 2002 were evaluated because it is a recent substitution year and the driest year in the 56-year study period evaluated. In 2002, Springs Utilities' substitution operations were consistent with the Proposed Action. Their total substitution obligation was 3,143 AF of which 1,923 AF was paid back with a release from Denver Water's account in Wolford Mountain Reservoir. Denver Water's substitution bill was paid back in part by a release from Williams Fork Reservoir of 10,000 AF. Had 1,923 AF of Springs Utilities' substitution obligation been paid back with a release from



Williams Fork Reservoir consistent with the No Action alternative, the total release from Williams Fork Reservoir would have still been 10,000 AF. This is due to the manner in which Denver Water's substitution obligation is paid back with alternating releases from Wolford Mountain and Williams Fork Reservoir. Under the No Action alternative, 1,923 AF of the total substitution release from Williams Fork Reservoir would have been allocated to payback Springs Utilities obligation and the 1,923 AF released from Denver Water's account in Wolford Mountain Reservoir for Springs Utilities would have been released to payback Denver Water's obligation instead. As a result, there would have been no change in daily flows as a result of the Proposed Action in 2002.

GC-2: The maximum rate of exchange of 30 cfs is a significant amount of stream flow in the reach of the Colorado River below the confluence with the Williams Fork River. The 30 cfs rate of flow should be utilized as the maximum rate of impact under the Proposed Action to remove 30 cfs from the Williams Fork River and the Colorado River and instead release it from Wolford Mountain and Homestake reservoirs.

Response: The 30 cfs exchange referred to in Attachment A of the 2003 MOA is a separate exchange not associated with substitution operations. This exchange was included in the MOA and discussed in paragraph 4.e. as it pertains to the reuse of return flows from the 250 AF that would be provided to Summit County from Upper Blue Reservoir. The intent of that paragraph is that the reuse of any returns flows associated with the use of the 250 AF can not impact the exchanges listed in Attachment A. The 30 cfs should not be utilized as the maximum rate of impact from substitution operations as suggested by Grand County. The examples provided of potential flow changes in 2006 do not apply since that was not a substitution year, and Springs Utilities Proposed Action would not affect flows in these reaches of the Colorado and Williams Fork rivers during non-substitution years. Flows in 2006 are discussed in the response to Trout Unlimited's comment TU-6.



 Table 1

 Summary of Substitution Releases from Williams Fork, Wolford Mountain, and Homestake Reservoirs in 1966

 Values in Acre-Feet

		No Action	Alt.		Proposed Acti	on Alt.	Difference in
	CSU	Denver Water	Total Release	CSU	Denver Water	Total Release	Total Releases
Wolford Mtn Reservoir							
Release from Springs Utilities Account	0	0	0	224	0	224	
Release from Denver Water Acct.	0	13425	13425	0	13201	13201	
Total Release	0	13425	13425	224	13201	13425	0
Williams Fork Reservoir							
Release for Springs Utilities	2324	0	2324	2100	0	2100	
Release for Denver Water	0	7676	7676	0	7900	7900	
Total Release	2324	7676	10000	2100	7900	10000	0
Homestake Reservoir	0	0	0	0	0	0	0
TOTAL RELEASE	2324	21101	23425	2324	21101	23425	0



Table 2
Summary of Substitution Releases from Williams Fork, Wolford Mountain, and Homestake Reservoirs in 1963
Values in Acre-Feet

		No Action	Alt.		Proposed Acti	on Alt.	Difference in
	CSU	Denver Water	Total Release	CSU	Denver Water	Total Release	Total Releases
Wolford Mtn Reservoir							
Release from Springs Utilities Account	0	0	0	1750	0	1750	
Release from Denver Water Acct.	0	25067	25067	0	23418	23418	
Total Release	0	25067	25067	1750	23418	25168	101
Williams Fork Reservoir							
Release for Springs Utilities	4319	0	4319	2100	0	2100	
Release for Denver Water	0	6251	6251	0	7900	7900	
Total Release	4319	6251	10570	2100	7900	10000	-570
Homestake Reservoir	0	0	0	469	0	469	469
TOTAL RELEASE	4319	31318	35637	4319	31318	35637	0



GC-3: Grand County is concerned with the cumulative impacts of various pending projects on the Colorado River and tributary headwaters. The cumulative impacts analysis conducted does not comply with NEPA. This EA could be supplemented based on information developed from the Denver Water Moffat Collection System Project and Windy Gap Firming Project (WGFP) and the use of PACSM in the cumulative impacts review. Grand County stated that NEPA does not involve a comparison. Rather impacts can result from individually minor actions that have a collective significant impact over time. Grand County also stated the lack of utilizing a daily time step stream flow model limits the ability to conduct a proper cumulative impact review.

Response: As suggested by Grand County the cumulative effects analysis was supplemented based on available information from the WGFP and Denver Water's Moffat Collection System Project. Additional analysis was completed of potential hydrologic effects due to reasonably foreseeable actions. See analysis and discussion added to Section 3.3.3 of the Final EA.

GC-4: The EA needs to be supplemented to include the information from the Grand County Stream Management Plan (GCSMP) and to include a discussion of potential mitigation measures developed in the GCSMP. The GCSMP studies some of the same reaches impacted by this project. The EA needs to include a discussion of ways to mitigate the cumulative adverse impacts.

Response: The Final EA has been supplemented to include a discussion of *Grand County's Stream Management Plan, Phase 2, Environmental and Water Users Flow Recommendations.* See Section 3.3.1.7 (Grand County Stream Management Plan in the Hydrology Section), Section 3.5.2 (Environmental Consequences for Water Quality), Section 3.8.1 (Affected Environment for Recreation), and Section 3.8.2 (Environmental Consequences for Recreation) in the Final EA. The Final EA also includes a discussion of mitigation measures for the Blue River above Dillon Reservoir in Section 2.4 and 3.3.2.2. As discussed in response to Grand County comment GC-1, there would be little to no change in flows under the Proposed Action along the Williams Fork River, Muddy Creek, Eagle River, and Colorado River mainstem under the Proposed Action, therefore, mitigation measures have not been proposed for those river reaches.

The Draft EA states (Section 1.2, Project Purpose and Need) that the MOAs form the basis of the Substitution and Power Interference Agreements. Paragraph 9.a. of the 2003 MOA states the timing of releases from Upper Blue Reservoir for substitution payback will be coordinated between the River District, Springs Utilities and Denver Water with releases made in the late summer and early fall to provide environmental benefits.



