

# Hydropower Storage Reallocation Team



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# Hydropower Storage Reallocation Team (HSRT)



- Issue
- Background
- Concerns
- Past Efforts
- Current Progress - HSRT

# Hydropower Storage Reallocation Team (HSRT) - Issue



Reallocation of water storage to water supply without proper compensation for the renewable hydroelectric power purpose, resulting in **cost-shifting**, **reduced production**, and **increased electricity rates**.

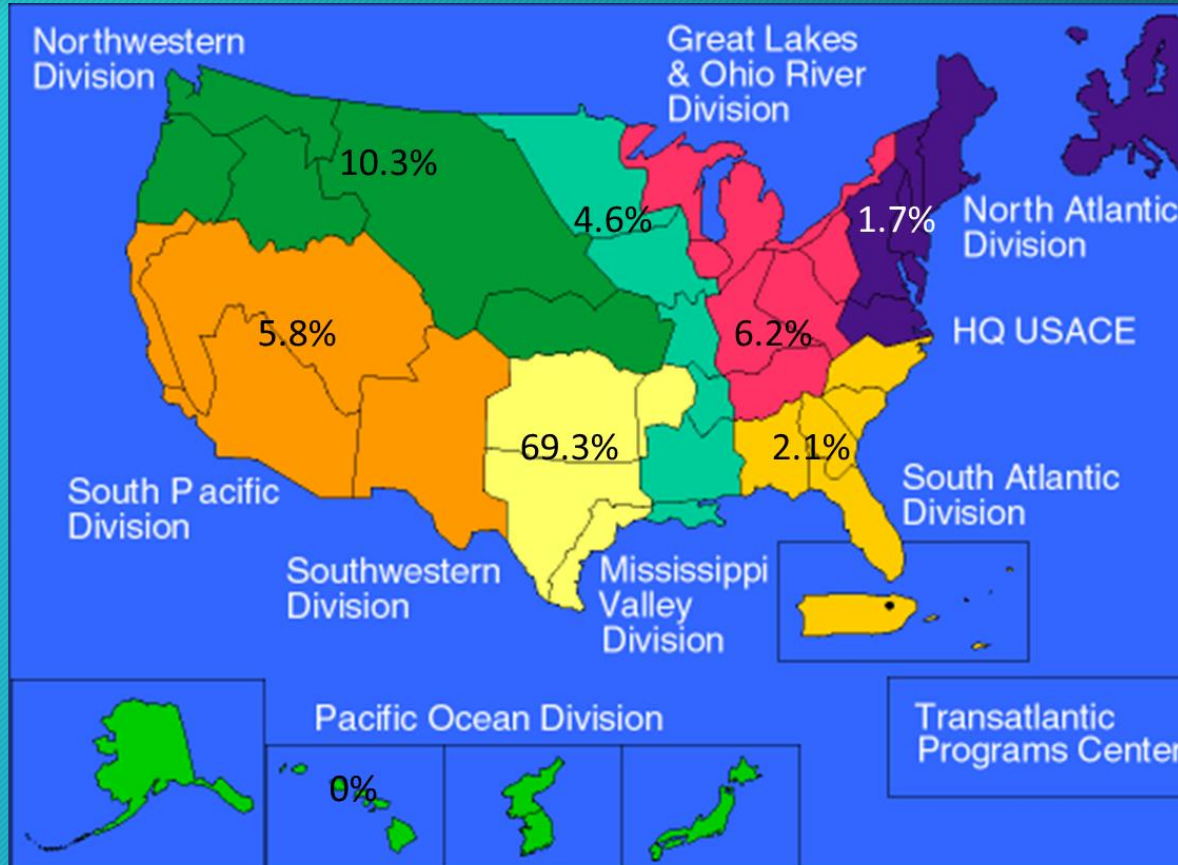
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# HSRT - Background

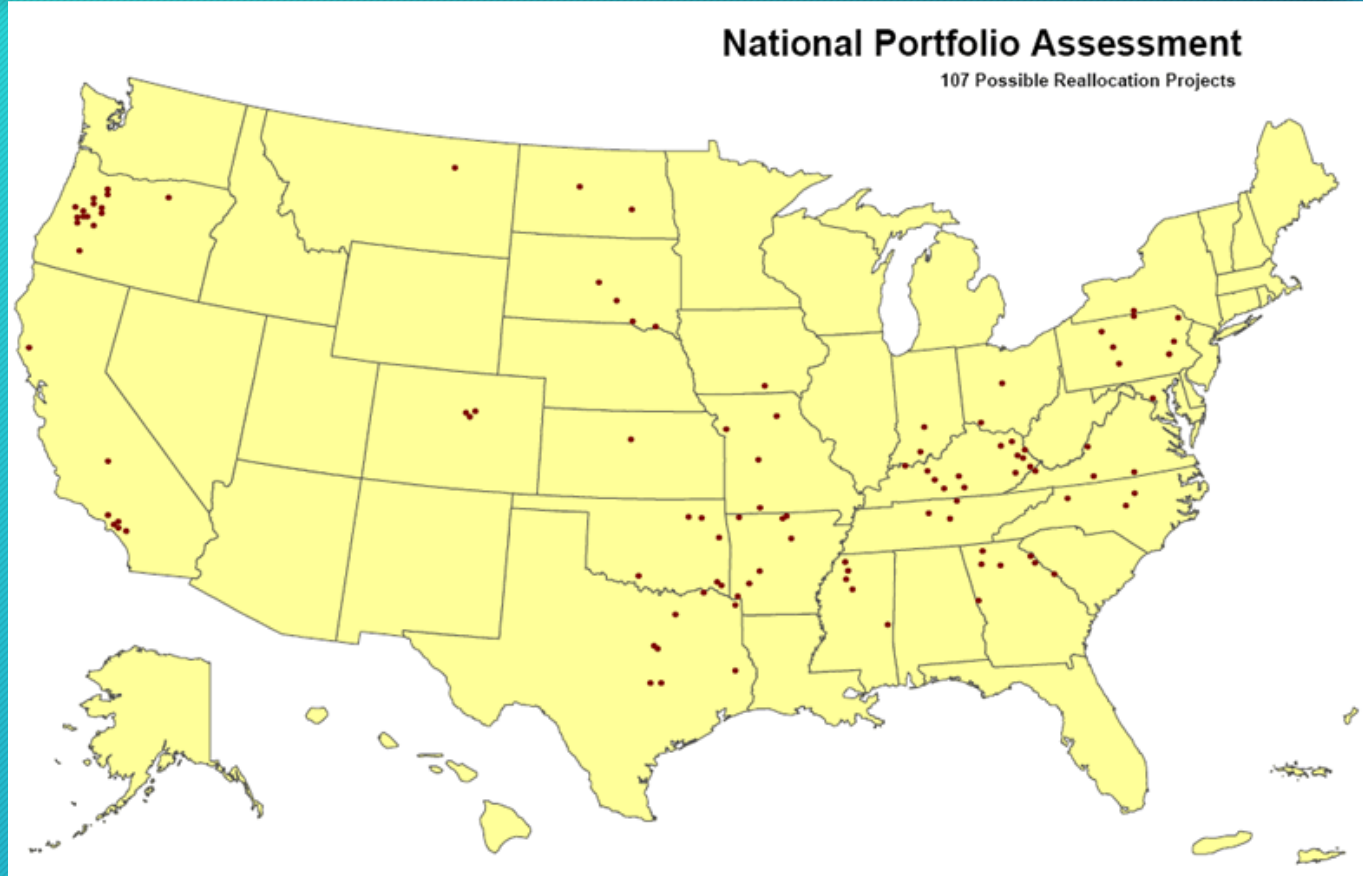
The need for water supply storage is only increasing across the Nation.



Distribution of M&I Storage Space by Corps of Engineers Division (%)  
Source: IWR Report 2015-R-02 dated August 2015

# HSRT - Background

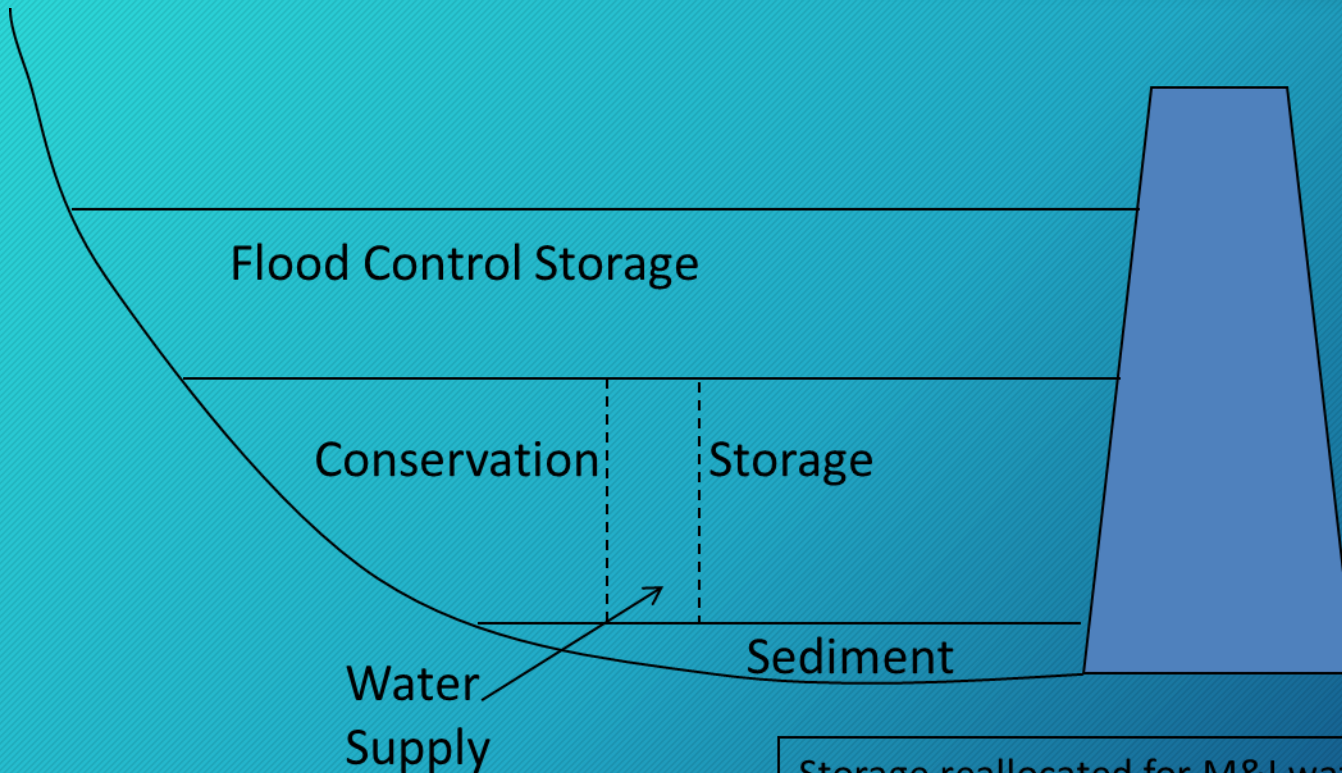
The need for water supply storage is only increasing across the Nation.



Possible Projects for Water Supply Storage Reallocation  
Source: IWR Report 2016-RES-01 dated May 2016

# HSRT - Background

## Water Supply in a Multipurpose Project



Storage reallocated for M&I water supply generally comes from conservation storage (hydropower storage) or flood control storage.

# HSRT - Background

The Water Supply Act of 1958 (WSA1958)  
(Public Law 85-500)



- Defines the Federal interest in Water Supply
- The Corps' primary authority for storage reallocations
- Reallocations that would “**seriously affect**” authorized purposes, including hydropower, -or- that constitute a “**major change**” (operational or structural), require Congressional approval
- All costs to be repaid by the Water Supply User
- The Corps defines its reallocation authority in Engineering Regulation (ER) 1105-2-100



# HSRT - Background

## Typical Water Storage Reallocation Process



1. Water Supply Request
2. Yield Study
3. Determination of Water Supply Cost / Hydropower Compensation
4. Draft Report for Review / Comments
5. Final Report
6. Water Supply Storage Agreement

# HSRT - Background

## Typical Water Storage Reallocation Process



### Corps of Engineers Determination of Water Supply Cost for Reallocated Storage

#### Highest of:

1. Benefits foregone
2. Revenues foregone
3. Replacement costs
4. Updated cost of water storage

# HSRT - Background

## Hydropower Compensation Financial Credits



1. **Revenues Foregone Credit:** Revenues lost to U.S. Treasury from reduced hydropower production
  2. **Replacement Cost Credit:** For remainder of existing hydropower contracts
- The Corps typically offsets hydropower credits with water supply income
  - Credits applied to hydropower purpose and documented in Corps financial statements

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# HSRT - Concerns

## Methodology



- PMA disagreement with Corps methodologies used in storage reallocation studies for evaluating the impact to the hydropower purpose:
  - Determining hydropower capacity and energy lost
  - Valuing the lost capacity and energy
  - Term of subsequent financial credits due to hydropower purpose
- Underdetermining and/or undervaluing the lost capacity and energy has several consequences:
  - Skews study results to favor reallocation from the conservation pool versus the flood pool or other water supply options.
  - Reduces the financial credit due to the hydropower purpose for the reallocation (cost burden remains without the benefit).

# HSRT - Concerns

## Extent of WSA 1958 Corps Discretionary Authority



- Past Corps practice and ER 1105-2-100 defined WSA1958 “seriously affects” as the lesser of 50,000 acre-feet or 15% of total storage (extent of Corps’ discretionary authority).
- More recently internal Corps policy guidance memo and Corps legal opinions have clarified there is no “bright-line” threshold for determining “seriously affects”.
- Loss of threshold = loss of any level of certainty on extent of WSA1958 reallocations = extreme difficulty assessing risk to the hydropower purpose.

# HSRT - Concerns

## Financial Credits to Hydropower



- Difficulty discerning on Corps financial reports, provided to the PMAs for repayment purposes, the **revenues foregone** financial credit (**1<sup>st</sup> credit**) due for water supply storage reallocations in effect.
- No process for PMAs to submit to the Corps request for the **replacement power purchases** financial credit (**2<sup>nd</sup> credit**).

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# HSRT - Past Efforts



- **Public process** - SWPA and its customers continue the Draft Reallocation Report Review / Comment process
  1. SWPA and SWPA's customers provide thorough review and comprehensive comments, including estimated hydropower impacts
  2. Corps finalizes report, typically discounting hydropower's principal comments
  3. Corps enters into a water supply agreement for the water storage

# HSRT - Past Efforts



- Meeting between Corps Hydropower National Business Line Manager and SWPA - Tulsa, Oklahoma, August 2005.
- Water Storage Reallocation Task Force - Dallas, Texas, September 2006. Corps, PMA, and Hydropower Customers Meeting (25 participants)
- Federal Hydropower Strategic Planning Workshop - Las Vegas, Nevada, May 2008. Corps, PMA, and Hydropower Customers Meeting (117 participants)

# HSRT - Past Efforts cont.



- **White River Minimum Flows** - Legislation directed SWPA to determine Federal and non-Federal hydropower impacts, 2008-2010 (over 300,000 acre-feet reallocated)
- **Lake Texoma Storage Reallocation (2006-2010)**
  - Corps / SWPA disagreement on hydropower impacts (150,000 acre-feet reallocated)
  - Assistant Secretary of the Army (Civil Works) agrees with the Corps
  - Customer Intervention
  - Secretary of the Army agrees with hydropower interests
  - Hydropower purpose fully compensated

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# Current Progress - HSRT



- In 2016, the Corps and two PMAs (SEPA and SWPA), with support from DOE HQ, formed a working group called the Hydropower Storage Reallocation Team (HSRT).
- Charter, finalized by the HSRT but not yet signed:
  - Purpose: The purpose of the HSRT is to address issues associated with the reallocation of water storage to water supply and the associated credits to the hydropower purpose.
  - Mission Statement: PMAs and USACE partner to generate, transmit, and market reliable hydropower services at the lowest possible cost consistent with sound business principles to benefit the nation.

# Current Progress - HSRT Sub-Teams



- Created to focus on particular areas of concern
- Hydropower Credit Planning Team
  - Team Leads: Kamau Sadiki (USACE), Brian Shenk (USACE), Janet Herrin (DOE)
  - Team Members from USACE, SEPA, SWPA
  - Purpose: Seek resolution on the methodology differences by consensus; Recommend a mutually agreeable process for the USACE Planning function to determine the revenues forgone credit based on the consensus methodology; Recommend a process for the USACE Planning function to notify the USACE Resource Management (Finance) function of revenues foregone to be credited to the PMA when a new water supply agreement is executed at a hydropower project.

# Current Progress - HSRT Sub-Teams



- Hydropower Financial Credit and Receipt Process Team
  - Team Leads: Cherilyn Gibbs Plaxco (USACE), Karen Renee Robinson (USACE), Fritha Ohlson (SWPA)
  - Team Members from USACE, SEPA, SWPA
  - Purpose: Recommend a uniform, auditable process within USACE Resource Management (Finance) function for booking the revenues foregone credit and notifying the PMA; Utilize current or create processes, if necessary, within the PMA Finance/Repayment function to receive, apply, and document the credit; Resolve ambiguity regarding past revenues foregone credits, and develop an auditable process for PMAs to apply any corrections needed.

# Current Progress - HSRT Sub-Teams



- Hydropower Replacement Power Cost Credit Team
  - Team Leads/Members not yet identified.
  - Purpose: Recommend a process for the PMAs to provide a package submission to USACE for requesting the replacement power cost credit; Create process for USACE to review the package; Recommend process for USACE to provide documentation to PMAs for the replacement power cost credits; Utilize current processes or create processes, if necessary, for PMA Finance/Repayment function to apply the replacement power cost credit.



# Current Progress - HSRT Meetings



- HSRT Entire-Team Meetings:

- 3/9/2016 - Portland, OR
- 4/27/2016 - Teleconference
- 5/20/2016 - Dallas, TX
- 7/25/2016 - Minneapolis, MN
- 8/4/2016 - Teleconference
- 9/15/2016 - Cartersville, GA

- HSRT Team 1 Meetings:

- 7/14/2016 - Teleconference
- 8/18/2016 - Teleconference
- 9/15/2016 - Cartersville, GA

- HSRT Team 2 Meetings:

- 4/20/2016 - Teleconference
- 6/9/2016 - Teleconference

# Current Progress - HSRT



## • Action Items Completed:

- Corps compiled data for study on impact of actual water supply withdrawals not restricted to storage yield for determining energy losses.
- SWPA provided white paper on its water supply storage reallocation comments related to “seriously affect” per WSA1958.
- PMAs provided examples of the Corps financial reports; SEPA provided white paper on handling differences from various Corps districts.
- SWPA provided draft assessment of past revenues foregone credits due.
- Corps provided its Lake Lanier storage reallocation legal opinion and two special case hydropower credits documents.
- PMAs/Corps drafted and finalized HSRT Charter, and created sub-teams.
- Corps performed “deep dive” of Bull Shoals water supply storage reallocations/contracts financial process and credits applied.
- Corps provided information on flood control benefits foregone methodologies being used in current water supply storage reallocation studies.
- SWPA created “Methodology Issues Roadmap” to facilitate discussion
- SWPA provided white paper on using critical year capacity for determining benefits foregone, addressing concerns of “double dipping”.

# Current Progress - HSRT



- Active Action Items Outstanding:

- PMAs/Corps get executive approval of HSRT Charter.
- Team 1 - Working Towards Resolution on Methodology Issues:
  - Flood Control Benefits Foregone - HSRT reached resolution - Corps to disseminate guidance within Corps.
  - Energy Losses
    - Corps to provide definition of “yield” and the “dependable yield”
    - HAC to scope a study on impact of actual water supply withdrawals not restricted to storage yield for determining energy losses.
  - Capacity Losses - discussion on SWPA’s white paper
  - Value of Lost Energy - discussion on how capacity losses does or does not impact resolution on this issue. (possibly close to resolution)
  - Flood Control Storage Reallocation - using Hydropower Yield Protection Operation - SWPA to provide examples for discussion.
  - Term of Benefits Foregone - PMAs to decide whether to escalate.

# Current Progress - HSRT



- Active Action Items Outstanding continued:
  - Team 2 - Financial Credit and Receipt Process Team
    - Corps to provide information on what historical data is accessible to query in the Corps' financial system (SWPA request).
    - Corps to provide “deep dive” of water supply storage reallocations/contracts financial process and credits applied in other districts (Kansas City, Tulsa, Vicksburg) for SWPA.
  - Team 3 - SWPA to provide white paper on methodology to determine replacement power purchases and draft request package for 2<sup>nd</sup> credit.
  - WSA1958 “Seriously Affects”
    - Corps to share its new methodology being developed on a project-specific basis to determine “seriously affect” for WSA reallocations.
    - PMAs to provide information on what they consider “seriously affect”.
  - Corps to follow-up on developments concerning Corps districts' storage accounting, in particular where it's not performed.
  - PMAs to provide presentation on how the storage reallocation issue impacts PMA rates and importance to the federal hydropower program.

# Hydropower Storage Reallocation Team (HSRT) - Questions?

