Sealaska Native Corporation

RENEWABLE ENERGY FEASIBILITY STUDY

Sealaska Project Manager: Russell Dick

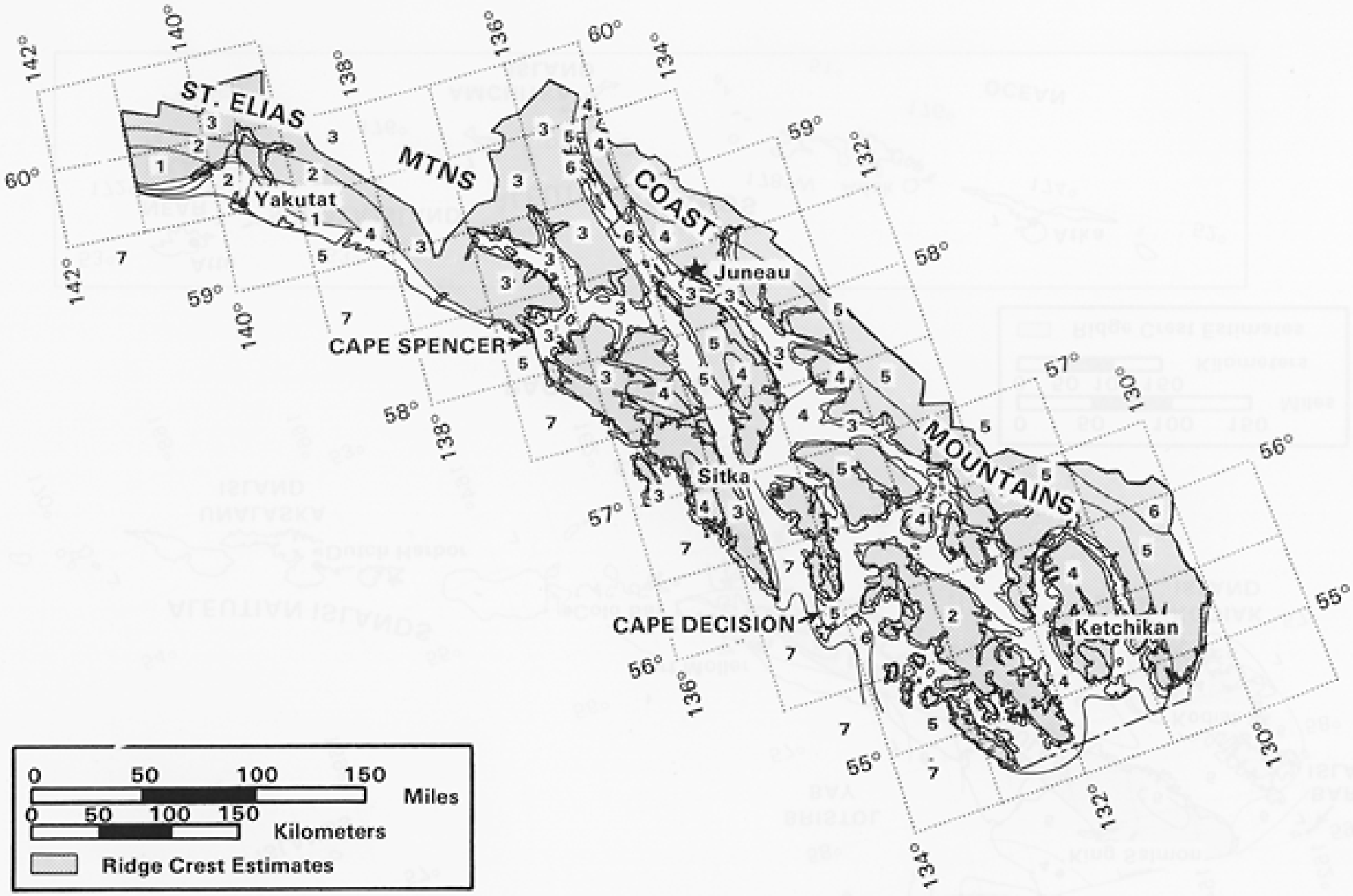
Technical Contact: Bob Lynette

October 1, 2002

Sealaska Native Corporation

- The Alaska Native Claims Settlement Act (ANCSA) - 13 Native corporations in Southeast Alaska.
- 12 native village and urban corporations in the region and Sealaska Native Corporation, the regional corporation.
- Sealaska represents nearly 16,000 shareholders, approximately half of whom live in Southeast Alaska.

Study Area – SE Alaska
12 Native American Villages


ST. ELIAS
MTNS
COAST
MOUNTAINS
Yakutat
Juneau
Sitka
Ketchikan
CAPE SPENCER
CAPE DECISION
0 50 100 150
Miles
0 50 100 150
Kilometers
Ridge Crest Estimates

Participants

Project Participant	Contact	Role
Sealaska Corporation	Russell Dick, Rick Harris	Tribal planner, Project manager / liaison
Springtyme Company, LLC	Robert Lynette	Technical contact, Wind consultant
AP&T Solutions,	Bob Grimm	Financial analyst
	Larry Coupe	Engineer, hydropower
Terranova Power	John Wade	Meteorologist, wind power
Met Tower Services	Mike Sailor	Tower installation
Northwest Wildlife Consultants	Karen Kronner	Biologist

*A subsidiary of Alaska Power & Telephone Company

Project Overview

Objectives

- Determine if deploying wind turbines and/or small hydro facilities make sense for the Sealaska villages that are currently using diesel fuel for power.
- If answer is positive, develop a business plan to implement development program(s).

Major Considerations

- Villages' energy needs (inc. back-up pwr.)
- Export Potential (PPAs, transmission)
- Job creation (construction, O&M)
- Economic and other benefits to the communities
- Compatibility with cultural, social, and long-term goals of communities

One Day Course-Wind Energy

- Technology (small and large WTGs)
- Siting considerations
  - Wildlife (e.g., birds)
  - Visual
  - Noise
- Wind resource assessment - wind speed, shear, direction, turbulence
- Energy production calculations
- Installation, operation & maintenance

The Work – Wind Energy

Narrow to 3 or 4 potential sites based on:

- Past wind resource assessments
- Topography
- Climatic conditions
- Anecdotal information
- Location of current and planned human activities
- Transmission infrastructure

Wildlife Study

- Conduct a study to determine potential avian conflicts within the candidate sites.
- Identify areas where wind turbines should be prohibited based on potential conflicts with biological resources such as level of avian use or presence of unique habitat.

Wind Resource Assessment

- Based on previous work, narrow down to two sites
  - Primary site: 2 – 40 meter towers/ anemometers suitable for large WTGs.
  - Secondary site – 1 – 10 meter tower/anemometer suitable for small WTG(s)
- Monitor for one year

Final Site Feasibility Report

- Site layout
- Interconnect and transmission diagrams
- Equipment, infrastructure
- Annual energy output
- Financial analyses
  - COE
  - Financing options and potential financing sources

Micro/Small-Hydroelectric Power

- Collect feasibility reports for studies that have previously been conducted (10 known sites with potential)
- Evaluate whether application of newer technology or construction methods could result in cost savings
- Evaluate the potential and cost impacts of alternative financing methods

Environmental Impacts

- Conduct a preliminary assessment to determine if there are any major issues that would likely preclude development. Major issues could include the following:
  - **Anadromous fish**
  - **Threatened or endangered species**
  - **Old-growth forest or other highly-valued land characteristics**
  - **Native cultural sites**

Regulatory Assessment & Report

- Conduct a regulatory assessment to determine and describe the required regulatory processes
- Estimate the costs and schedules for these processes
- Provide Sealaska with report within 4 months of project go-ahead

Report and Business Plan

Prepare business plan based on feasibility results

- Match to the tribes' social and economic development needs
- Implementation plan
- Financial analyses

Requested Technical Support

- Supply a CD with power curves of current WTGs
- Can NREL provide visual terrain/windpark simulation software?