



Wind Energy Assessment on Alaska Native Lands in Cordova, Alaska

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Native Village of Eyak

Native Village of Eyak

- Federally Recognized Tribe in Cordova, AK
- Governed by a five-member tribal council
- Provides health and social services, economic development, job training and environmental and resource management
- 525 Tribal members



Location of Project



Current Energy Systems:

- *Hydroelectric power:*
- Cordova has a bounty of precipitation
- two run-of-river hydroelectric facilities:
- Power Creek and Humpback Creek.



Current Energy Systems:

- *Diesel electric power.*
- current major supply of our power generation mix
- waste heat recovery and fuel efficiency improvements
- reducing costs and improving air and water quality

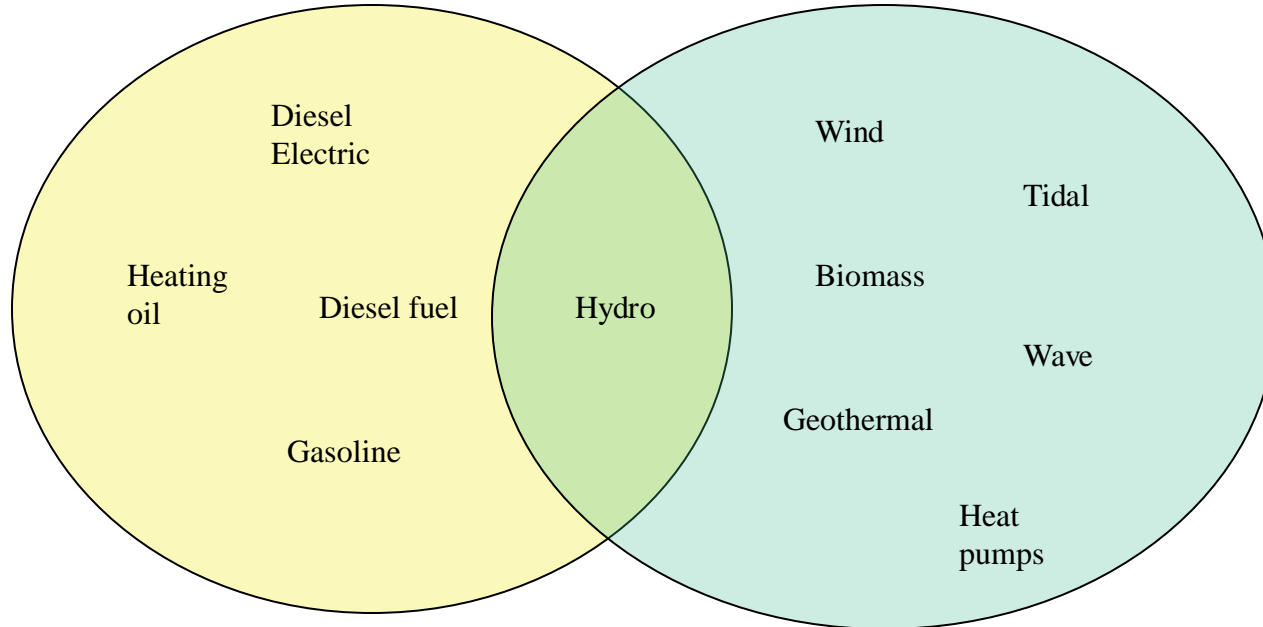




Cordova: Energy Snapshot

Energy generation

Local resources

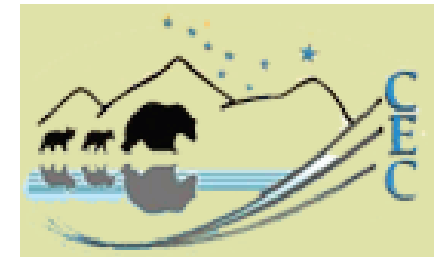


Project Participants

- Native Village of Eyak



- Cordova Electric Cooperative



- Eyak Corporation





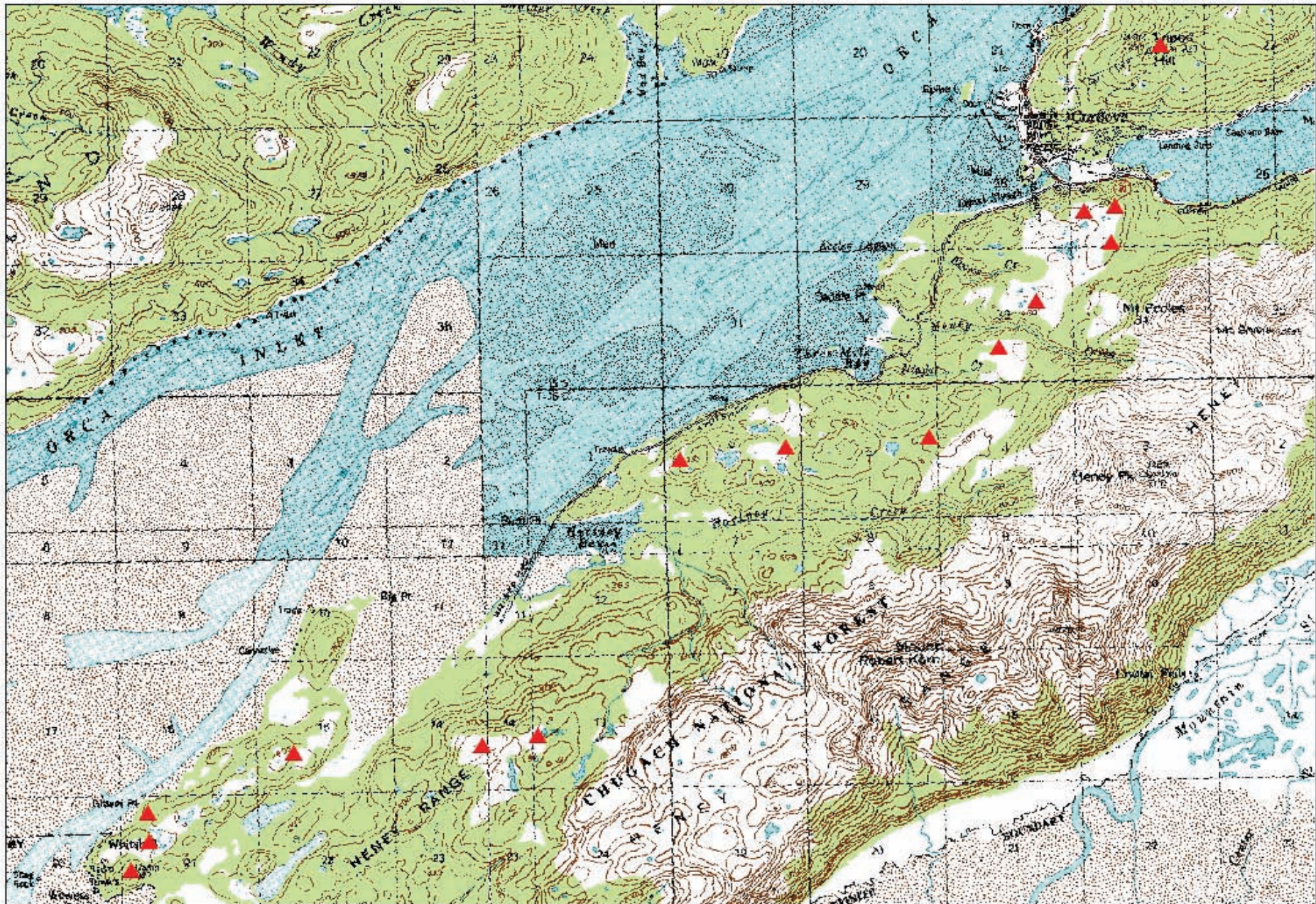
Wind Project Overview

- Integrate wind energy into Cordova's energy system
- Reduce utility bills
- Create jobs and improve the environment
- Can use excess wind power for district heating or electric vehicles
- Potential for up to 10 MW of wind power generation – more than Cordova's peak load!

Previous Work on Project

- Collaborated with NREL
- Anemometer data collected at 10, 20 and 30 meters at Point Whitshed
- Class 4 and 5 winds exist with 13 mph average
- 10 meter data will be correlated with other anemometer sites





Wind Monitor Sites

Native Village of Eyak



Whitshed Road Extension

- Class 4-5 wind has been observed at Point Whitshed
- Eyak Corporation is developing roads and home sites in this direction, providing synergy with the expanding power grid



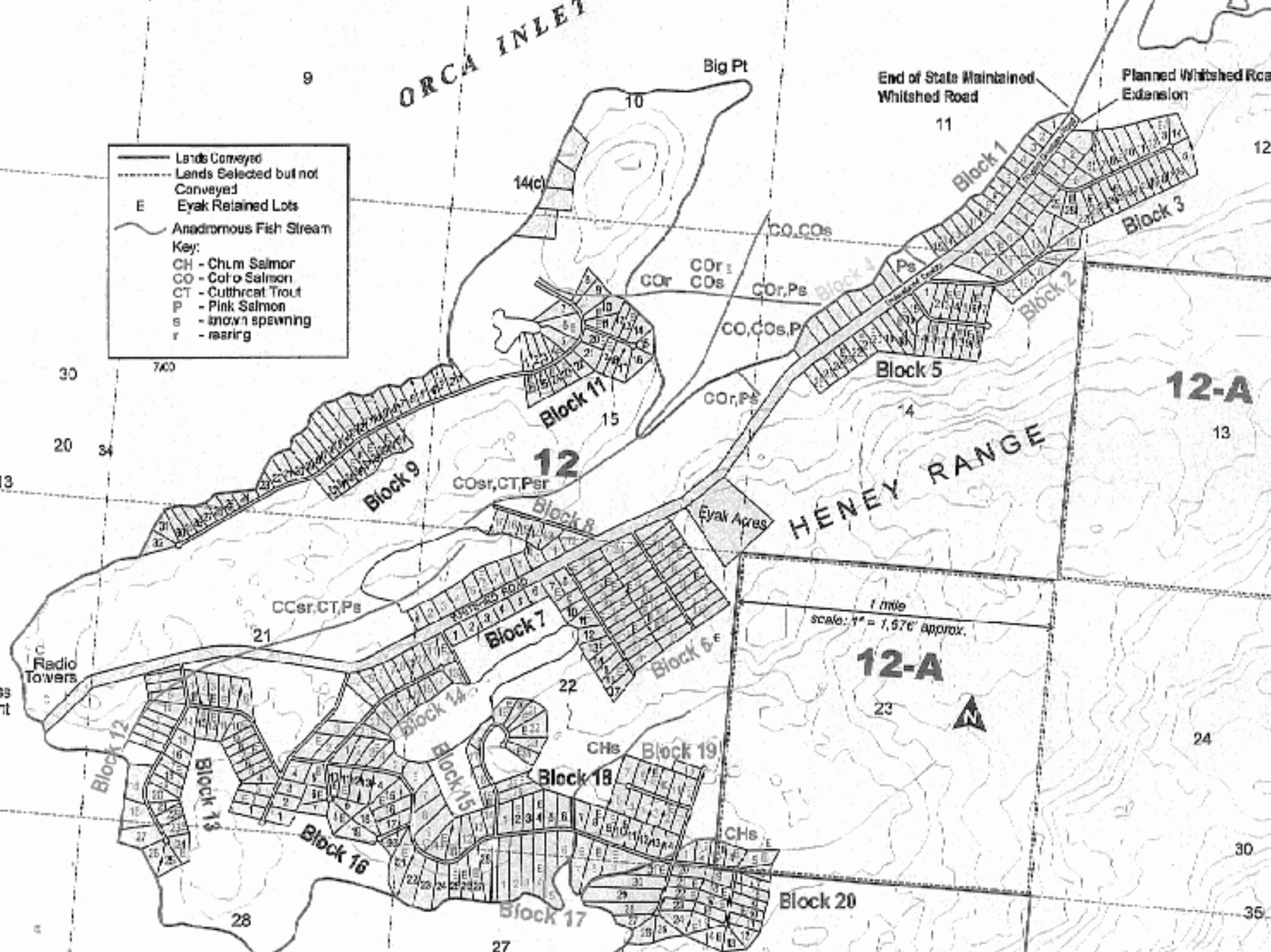
ORCA INLET

Big Pt

End of State Maintained
Whitshed Road

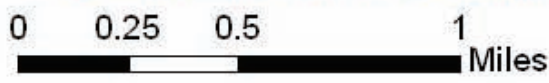
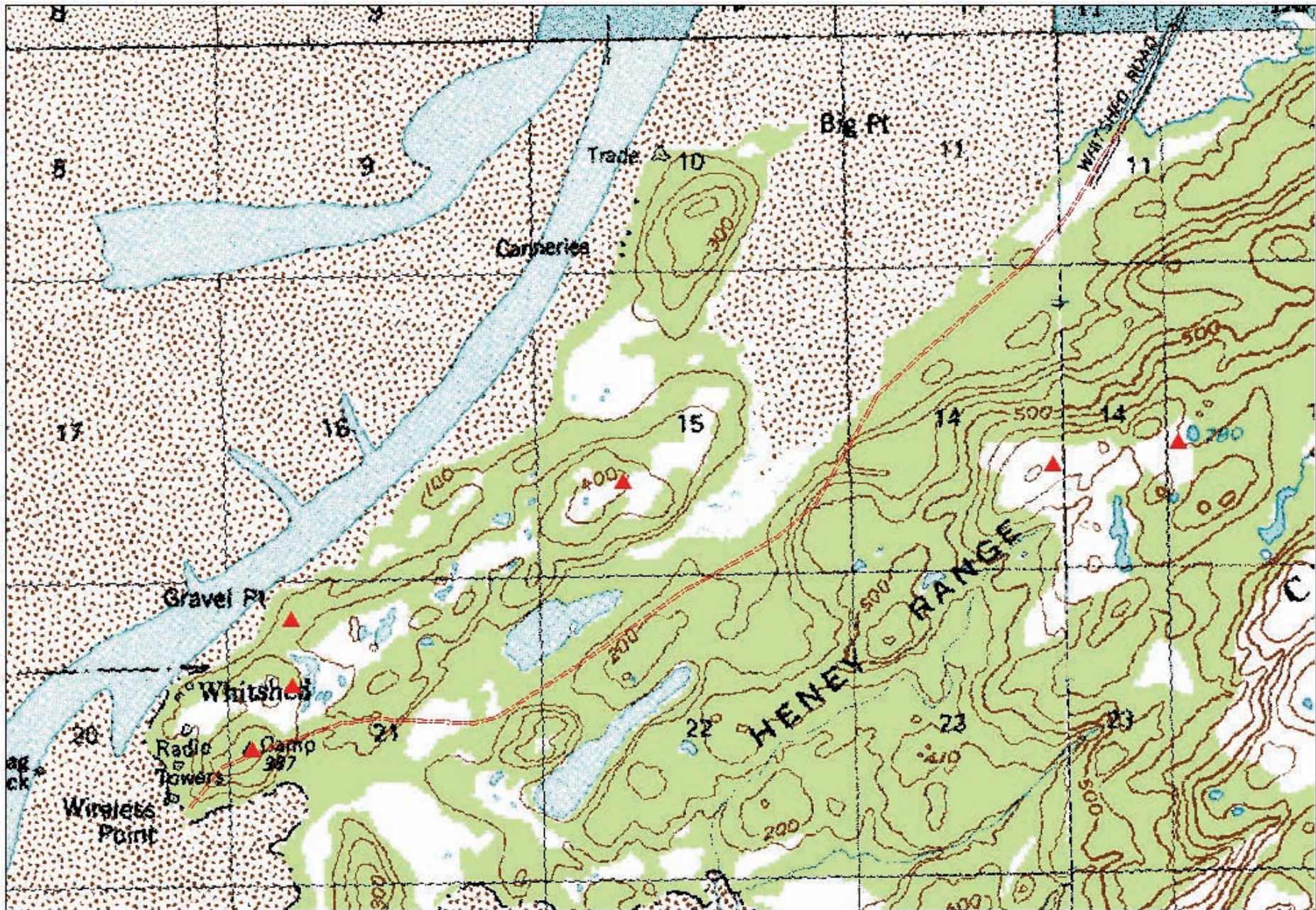
Planned Whitshed Road
Extension

— Lands Conveyed
 - - - Lands Selected but not
 Conveyed
 E Eyak Retained Lots
 ~ Anadromous Fish Stream
 Key:
 CH - Chum Salmon
 CO - Coho Salmon
 CT - Cutthroat Trout
 P - Pink Salmon
 S - spawn spawning
 r - rearing



12-A

12-A



- ▲ Wind Monitor Sites
- Whittshed Road Extension

Native Village of Eyak



Key focus areas:

- From this:



- To this:

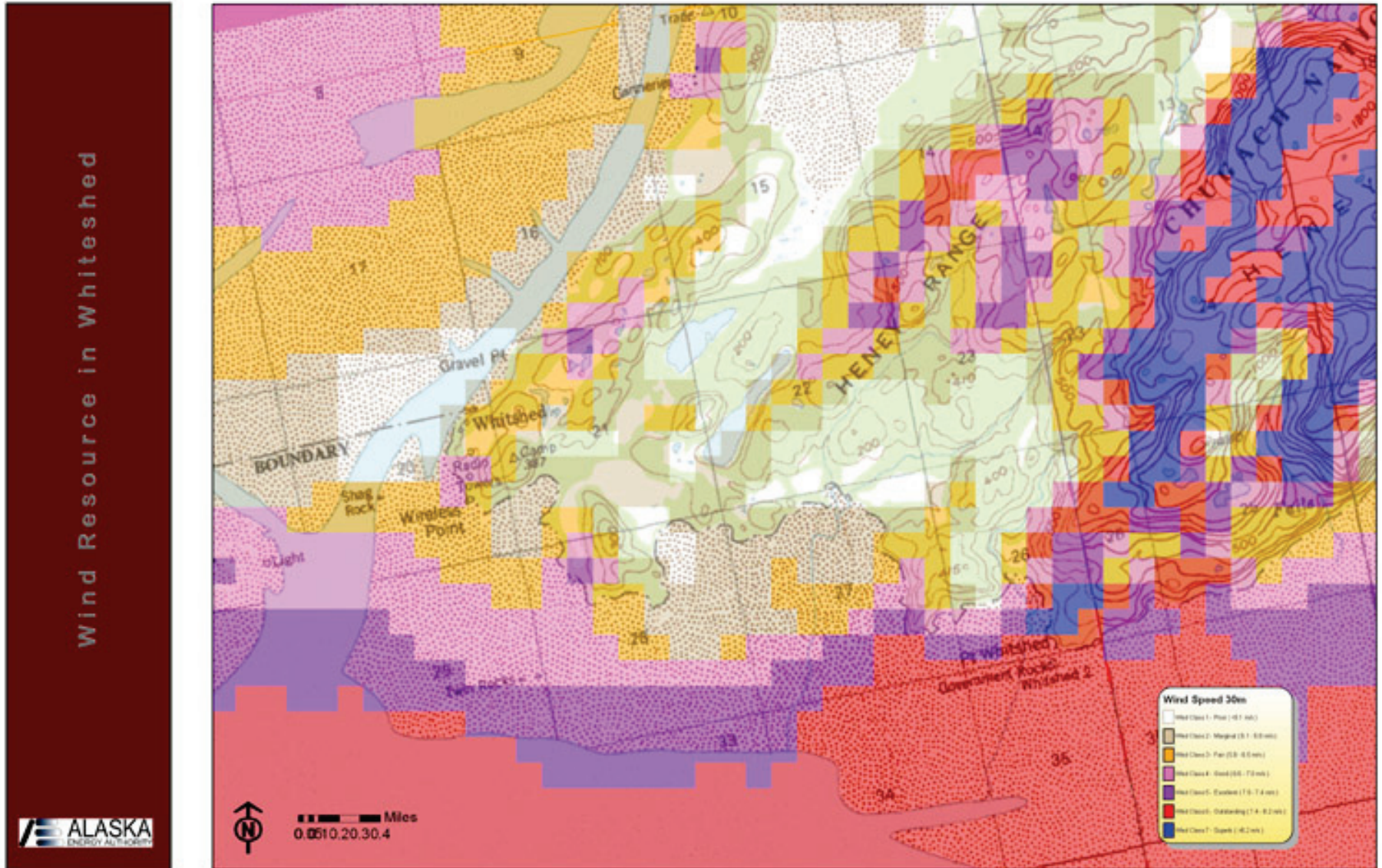




Goals and Objectives

- Improve wind data maps
- Learn from other existing wind projects
- Public education and awareness
- design and permitting
- Be ready for construction and implementation

Improve Wind Maps





Improve Wind Maps

- Current maps based on 10 m MET towers at airport and harbor
- need to verify the current resource maps with additional data collection
- 10-meter mobile anemometers placed on areas believed to have good wind resources
- Correlate to 10-meter tower at Pt Whitshed reference site
- Extrapolate data to 30 and 50 meters and use GIS modeling to map wind resources
- Method identifies more sites with less money in a quicker amount of time
- May require additional 30-meter anemometer study at preferred site

Learn from other wind projects

- Visit existing wind facilities around AK
 - Kodiak
 - Kotzebue
 - Fire Island
- Best known methods will be used from each of these sites



Public Education and Awareness

- Cordova Renewable Energy Workgroup (C.R.E.W.) meetings open to the public
- Host additional wind program updates in the community as project progresses





Design and Permitting

- Ownership/operation decision (CEC or NVE)
- Power sharing agreement
- Turbine model/size selection
- Installation (crane access, soil report, foundation requirements, delivery logistics)
- Environmental studies and avian impact along with aviation concerns
- Long term service and support



Vision - Impacts

“Electric cars might work in Los Angeles, but they don’t work in Alaska, where you can drive hundreds of miles without seeing many people, let alone many electrical sockets,”

- Sarah Palin

Cordova’s minimal road system makes the community ideally suited for electric vehicles. If we can reduce our electricity costs, our transportation fuel costs can be greatly reduced.



Ultimate Goal

In the shadow of the devastating Exxon Valdez oil spill and lingering effects to the economy and the environment, Cordova desires to be North America's first petroleum-free community.

Wind power alone will not achieve our ultimate goal, but it is a key component along with our other focus areas of increasing our hydroelectric capabilities and generating heat and electricity from our waste streams.



Contact Info and Questions

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