

# ***Energy***

## ***In the Aleutian Pribilof Islands***

**Rural Alaska Energy Concerns**

**October 23, 2009**

**By Bruce Wright**

**Aleutian Pribilof Islands Association**





## LOGISTICS

- Adak is the only community with jet service.
- During the fishing season a refundable ticket to Nikolski costs \$2,648 rt.
- Last winter in St. Paul the fuel barge delay resulted in rationing gas to 5 gal./week at a cost of \$11/gallon.
- Weather Rules.

## **Aleutian Pribilof Energy Partners**

**AHFC**

**USFWS                      Native Village of False Pass, Native Village of Nikolski,**

**USDA/RUS                      Qagan Tayagungin Tribe of Sand Point, Native**

**Aleut Corporation                      Village of Nelson Lagoon, Native Village of Atka,**

**Denali Commission                      Aleut Community of St. Paul, Native Village of**

**Department of Interior                      Akutan, Native Village of Belkofski, Native**

**Aleutians East Borough                      Village of Unga, Agdaagux Tribe of King**

**US Department of Energy                      Cove, Aleut Community of St. George**

**Aleutian Housing Authority                      Qawalangin Tribe of Unalaska,**

**State of Alaska Energy Authority                      Pauloff Harbor Tribe**

**Aleutian Pribilof Islands Association                      SWAMC Energy Task Force,**

**Tanadgusix Corporation / TDX Power                      REAP**

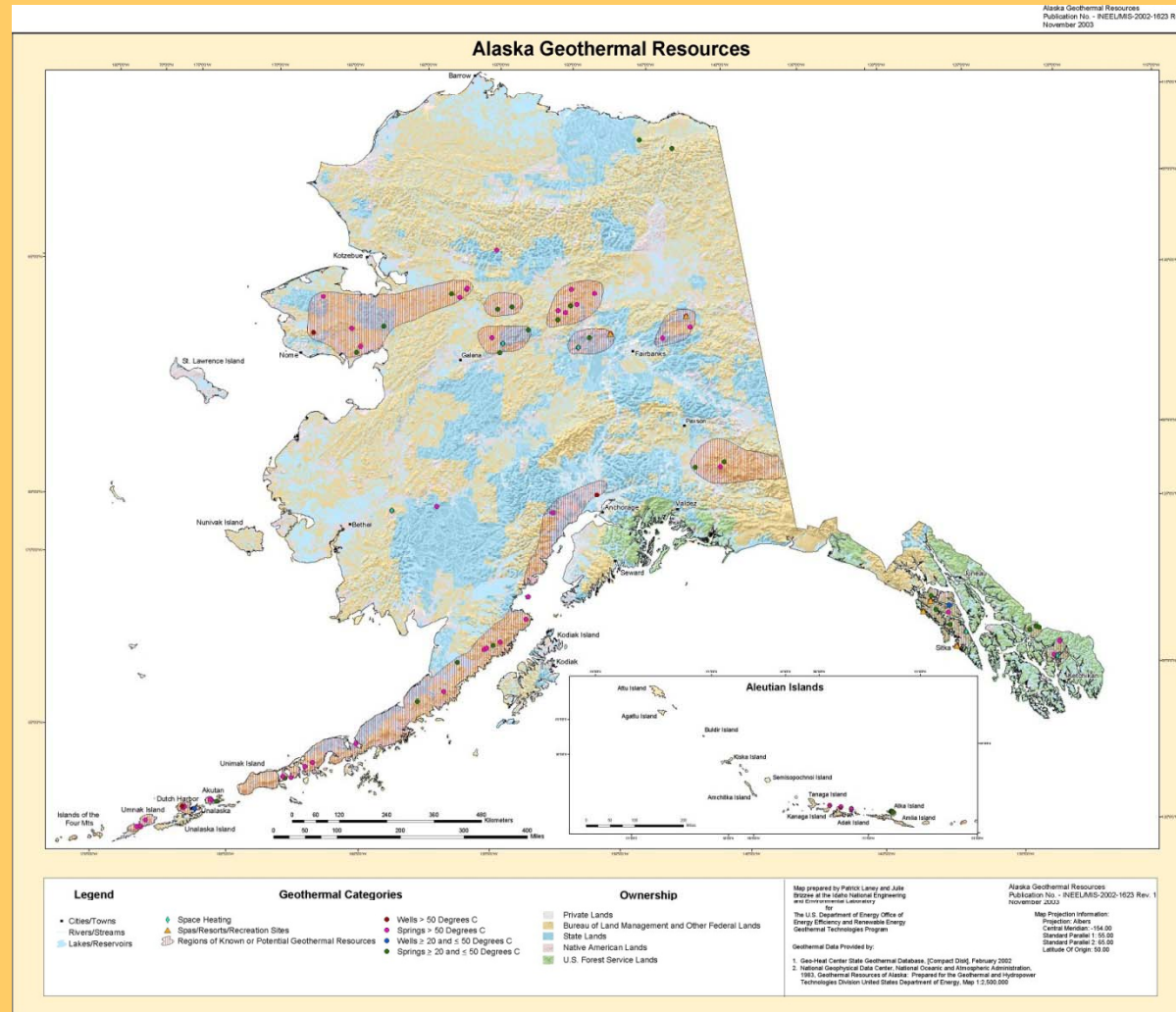
**State of Alaska Renewable Energy Grant Fund**

**Aleutian Pribilof Islands Community Development Association**



**Okmok Caldera on Umnak Island is considered North America's largest geothermal resource.**

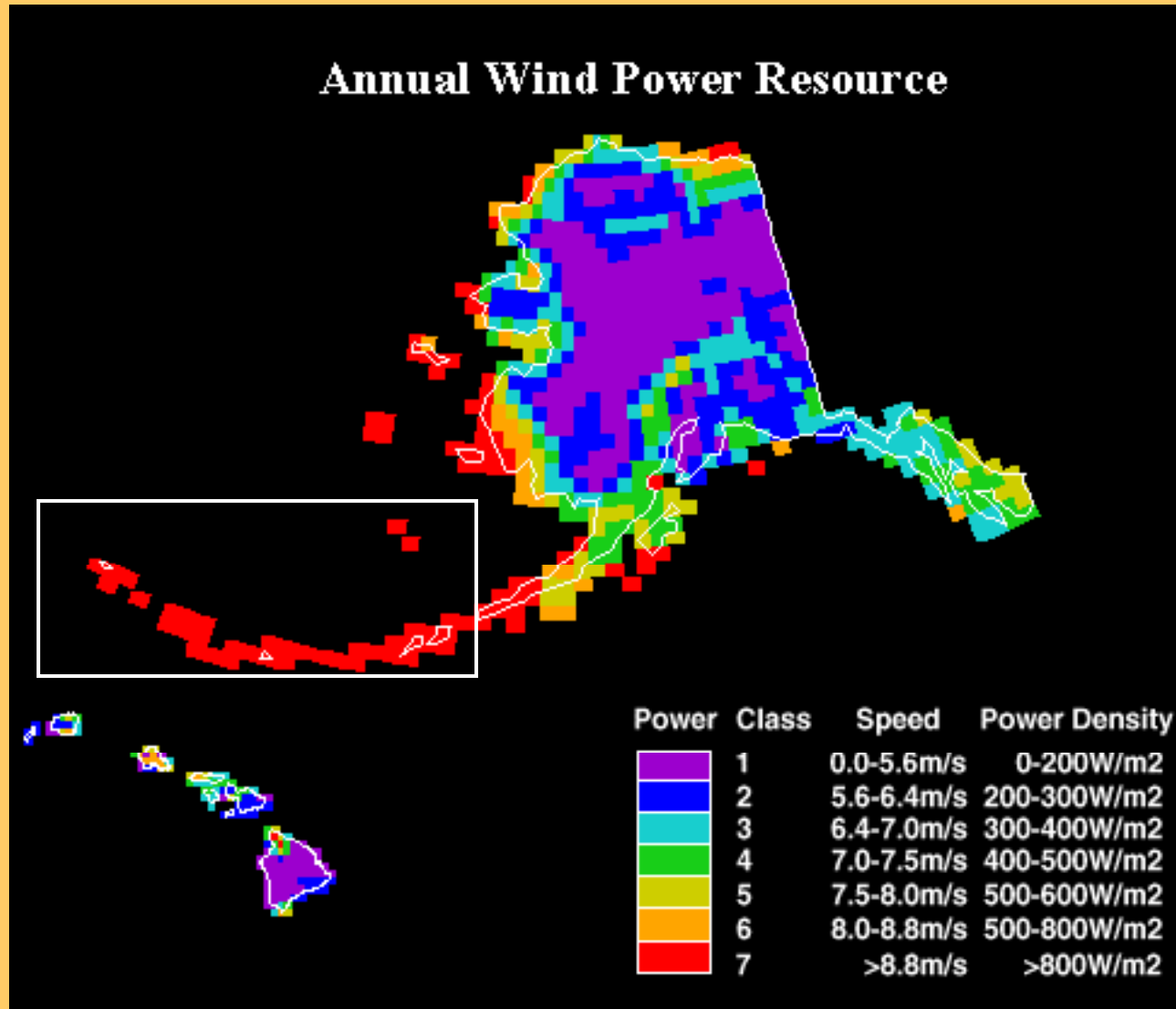
# Geothermal Unalaska and Akutan



# Hydropower in Akutan, Atka, and King Cove



# *World Class Wind: A Mixed Blessing*



- 150 mph gusts
- Extreme Turbulence
- Stranded Resources



**Millions of Migratory Birds  
live in the Region.**

**The World's Largest  
Breeding Colony of Red-  
legged Kittiwakes - St.  
George Island**



**Endangered Eiders**

**molt and over-winter around many islands**

**APIA works with local hunters, bird watchers, students, USFWS and  
power plant operators to prevent and monitor avian interaction.**



*St. Paul Pop. 450*

*The island is shared with thousands of fur seals and millions of migratory birds every summer.*





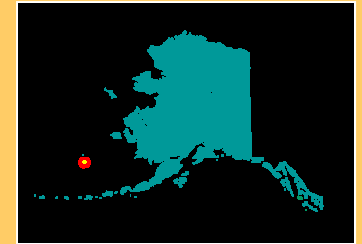
**A charging station for electric vehicles is in the planning stages.**



***Barefoot Motors Electric ATV 9-12-09***

**Two refurbished Vestas V27-225 kW wind turbines were added in 2007, to be integrated as funds become available. Excess electricity will be used for additional heat and charging a fleet of electric vehicles.**

# ST. GEORGE ISLAND



- A refurbished Vestas Vestas V27225kW wind turbine to be installed summer 2010
- Excess electricity will go to hot water tanks in the school and clinic.



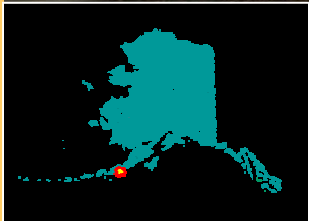
# SAND POINT

## *Population 958*

*Projected fuel savings  
152,000 gal/yr.*



*A DOE required eagle study held up this project for 3 years. These 2 old turbines/eagle perches will be dismantled as a mitigating effort.*



- 2 refurbished Vestas V39-500 kW wind turbines to be installed summer 2010.
- Excess electricity will go to hot water tanks in the school and clinic.
- Waste Heat Recovery System already supplements heat to the utility offices and apartments above.

# FALSE PASS

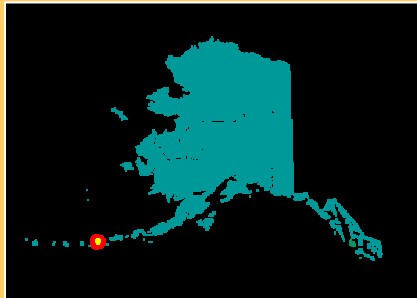
A bear chewed through wiring in July 2005, delaying data collection.



*Mia Devine and George Jackson raise the data logger.*



Raising the data logger to 25' in November 2005 prevented repeat damage. But attempts to install the predator proof fence around the tower (required by USFWS) were abandoned after persistent bear “intervention”.



## Nikolski, Umnak Island

*Continuously inhabited for over 10,000 years*



# Nikolski Wind-Diesel Project

Pop. 27

Projected fuel savings: 15,500 gal./yr.

Sometimes fuel is not available at any price when the barge doesn't deliver.

By the end of 2009 TDX will:

Integrate the wind turbine with the 179 kW diesel plant

Install hot water "dump loads" in the Lodge and School

Install Waste Heat Recovery System to Community Center

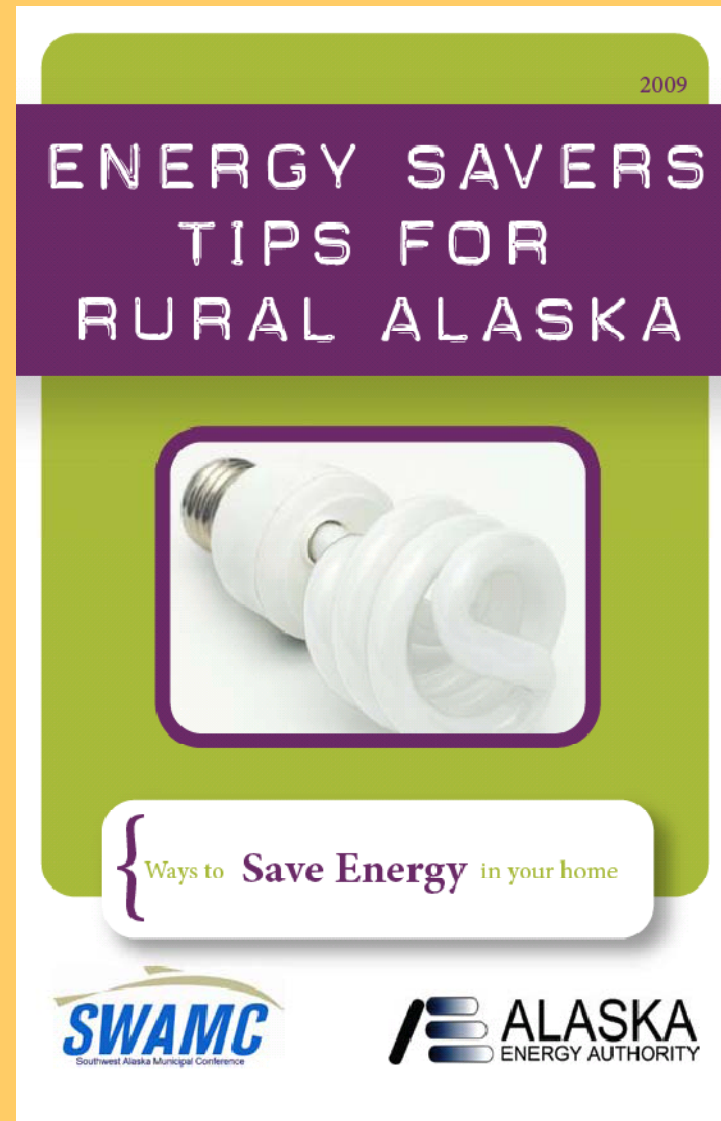
Train operator(s) to safely climb and maintain the wind turbine



This specially designed tilt up tower eliminated the need for a crane.

A refurbished Vestas V17-65 kW wind turbine was installed July 28, 2007.

# Energy Conservation, Education, Weatherization and Planning



## **Energy Project Funding Comes from Multiple Sources:**

**AHFC**

**USFWS**

**USDA/RUS**

**Aleut Corporation**

**Denali Commission**

**Department of Interior**

**Aleutians East Borough**

**US Department of Energy**

**Aleutian Housing Authority**

**State of Alaska Energy Authority**

**Tanadgusix Corporation / TDX Power**

**State of Alaska Renewable Energy Grant Fund**

**Aleutian Pribilof Islands Community Development Association**



## **Concerns and Suggestions**

- **Bulk Fuel Loans – Flexibility and Multi-year loans.**
- **AK Renewable Energy Fund – expedite award and reimbursement process.**
- **Investigate assistance for commercial ratepayers.**
- **Ensure PCE rules are not a disincentive to developing renewable energy resources.**
- **Recognize the value of pre-pay electric meters as conservation tools – and fund accordingly.**