



Native American Wind Resource Atlas

Office of Indian Energy and Economic Development
Division of Energy and Mineral Development
2010 Edition

About this Atlas

The tribes listed in this atlas are actively seeking wind development companies and investors. The Wind Atlas serves as a useful tool for potential investors and developers who are interested in commercial-scale wind development on Indian lands. Twenty-nine tribes with wind potential are represented in the atlas. A map of each reservation, publicly available wind data, transmission lines, and digital elevation models are featured.

Within tribal reservation boundaries there are uniquely different land ownership statuses which may consist of tribal lands, tribal member allotments, federal trust lands, fee, state and other classifications. The maps herein display general information about the wind resource potential within a reservation boundaries and the state in which the reservation is located. The wind power class potential is the latest information available from the National Renewable Energy Laboratory validated maps at 50 meters.



Division of Energy and Mineral Development

The Office of Indian Energy and Economic Development's Division of Energy and Mineral Development (DEMD), provides economic and technical advice to assist tribes in assessing and developing their energy and mineral resources with the ultimate goal of helping tribes attain economic self-sufficiency. Several tribes sit on lands with great wind potential, and the Division is helping these tribes actively seek partnerships with companies or investors to develop their wind resources.

Working on Indian lands is affordable, labor forces are available, transportation systems are in place, and some tax benefits exist for companies.

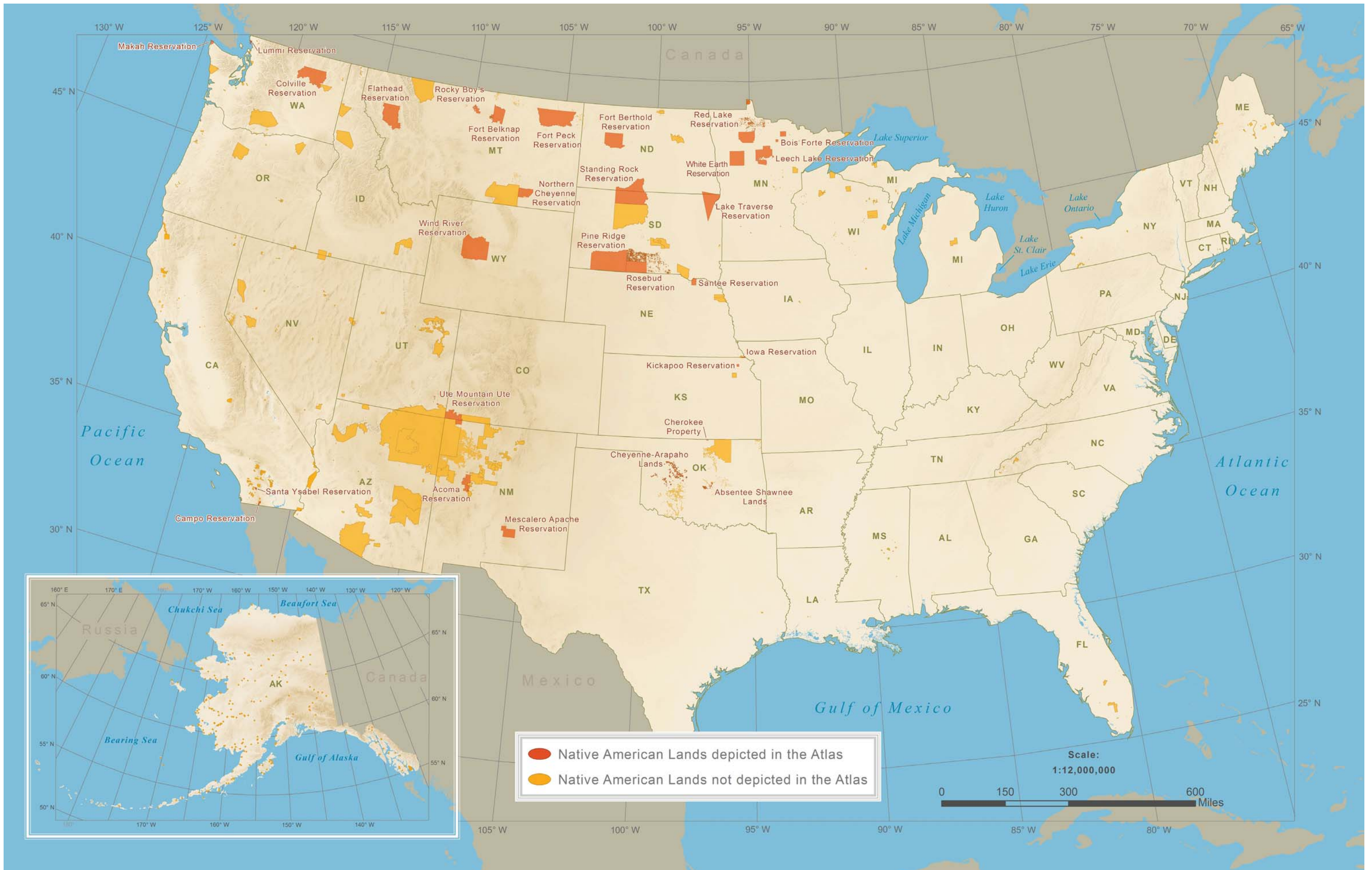
Office of Indian Energy and Economic Development

The office was created by the Secretary of Interior to strengthen Indian communities by stimulating their economies so that all tribes will have the same economic opportunities to prosper as the rest of America.

HUBZone

A Small Business Administration program known as Historically Underutilized Business Zones, or HUBZones, provides contracting assistance to small businesses located in economically distressed communities. The goal is to promote job growth, capital investment and economic development in these areas, including all federally recognized Indian reservations.

The Federal government plans to award three percent of all dollars for Federal prime contracts to HUBZone-certified companies. Benefits include competitive and sole-source contracting, and a 10 percent price evaluation preference in full and open contract competitions as well as subcontracting opportunities.



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File Photo



Photo: Winter Jojola-Talbert

Division of Energy and Mineral Development
a division of the Office of Indian Energy and Economic Development

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Nestled atop the Laguna Mountains in southern California is the Campo Reservation - home of the largest operating wind farm in Indian Country.



The Campo people are part of the Campo Band of Kumeyaay, whose territory extended from northern San Diego County to the Salton Sea, and 50 miles into Baja California. They had a troubled and bloody past with the Spanish until they agreed to work with the American military to overthrow Spanish-Mexican forces in the 1800s.

Muht-Hei, the tribal corporation, was established in 1989 and manages the tribe's economic interests. Projects have included a commercial municipal solid waste facility, a recycling facility, a sand and gravel operation, and a biweekly newspaper.

Location and Climate

The 15,172 acre reservation is located in underdeveloped regions of San Diego County, 45 miles inland from the Pacific coast. Thirty-one miles of streams, 80 acres of wetlands and 10 lakes are found on the reservation. They have an annual average of 14 inches precipitation with yearly temperatures averaging in the 70s.



Photo: Tammy Jacobs

Wind Potential

The reservation has a total potential of about 534 megawatts (MW) covering roughly 13,350 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 6, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 7,686 acres
- Class 4 – 4,672 acres
- Class 5 – 960 acres
- Class 6 – 32 acres

Wind potential is located throughout tribal lands. The higher wind classes can be found in the northern areas of the reservation.

The Campo Reservation is home to the largest operating wind farm in Indian Country. Kumeyaay Wind I. A 50 MW, 25-turbine project has been in operation since 2005. The tribe is currently in the development stages with Invenergy and San Diego Gas & Electric on another 160 MW wind project on the reservation. The tribe has found that the important aspects to consider with wind project development include sensitivity to Native American culture, financial strength, wind development experience, and economics for the tribe.

Roads and Rail

Interstate 8 crosses the northern portion of the reservation in an east-west direction. State Highway 94 also runs east-west through the central area of the reservation. A single railroad passes through the southern end of the reservation.

Transmission

Two transmission lines cross the reservation; one is 69 kV in the northern area and the other is a 500 kV line passing east-west at the southern end of the reservation.

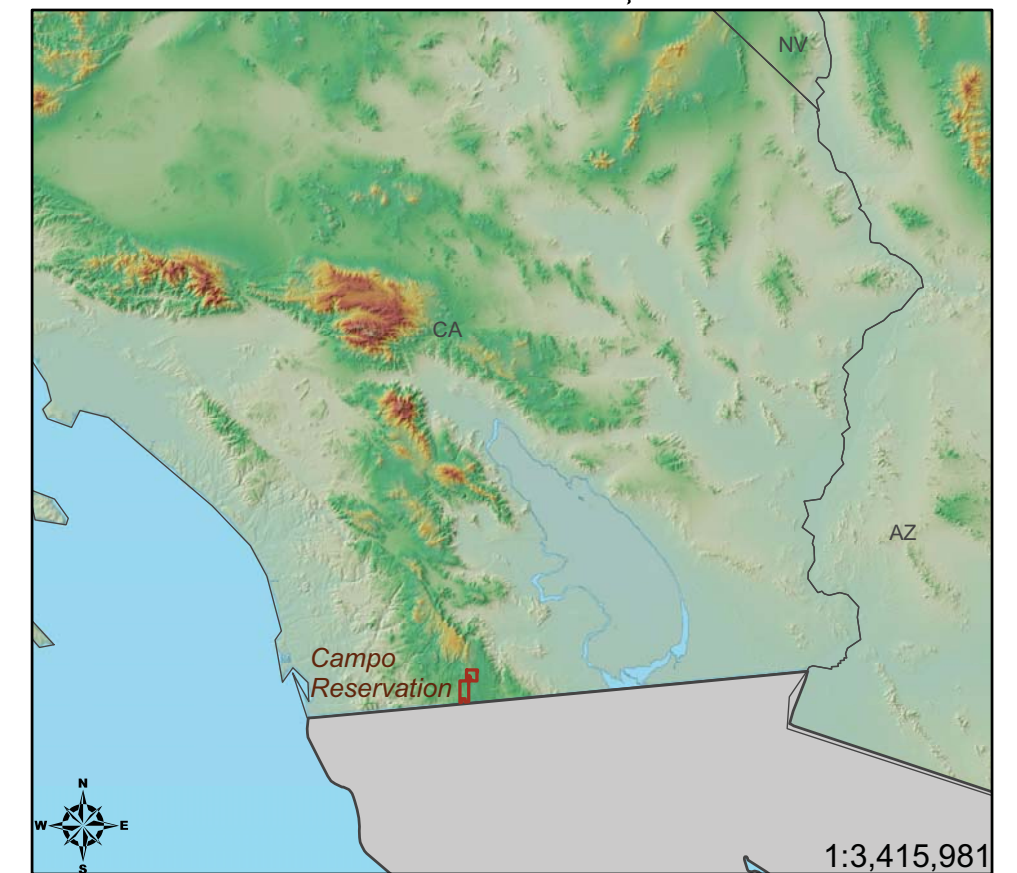
Renewable Portfolio Standard

The current California Renewable Portfolio Standard (RPS) requires all utilities (including investor-owned electric utilities and publically-owned municipal utilities) to have 33 percent of retail sales derived from eligible renewable energy resources by 2010. Unbundled Renewable Energy Credits may be used for compliance with the RPS. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.



Photo: Richard Weissar















Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

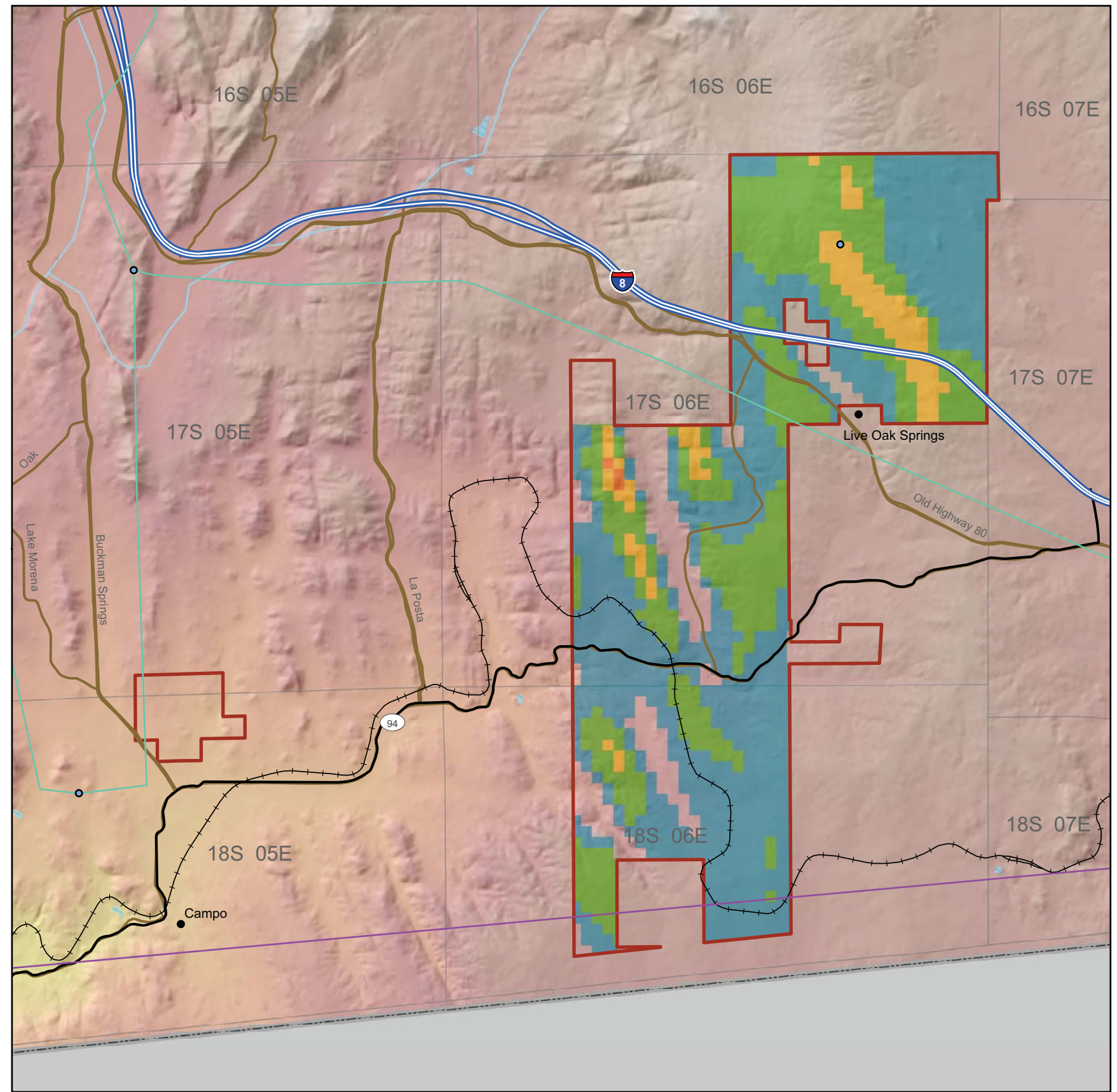
Tribal Contact Information

Chairwoman Monique LaChappa
 Campo Band of Kumeyaay
 36190 Church Road, Suite 1
 Campo, CA 91906
 Phone: 619-478-9046

-  Campo Reservation
-  Townships
-  Substations
- Transmission Lines
 -  69 kV
 -  500 kV
- Wind Power Class : Wind Speed at 50 m**
 -  3 : 6.4 - 7.0 m/s (14.3 - 15.7 mph)
 -  4 : 7.0 - 7.5 m/s (15.7 - 16.8 mph)
 -  5 : 7.5 - 8.0 m/s (16.8 - 17.9 mph)
 -  6 : 8.0 - 8.8 m/s (17.9 - 19.7 mph)
- Major Roads**
 -  Limited Access
 -  Highways
 -  Secondary Roads
 -  Railroads
 -  Bodies of Water

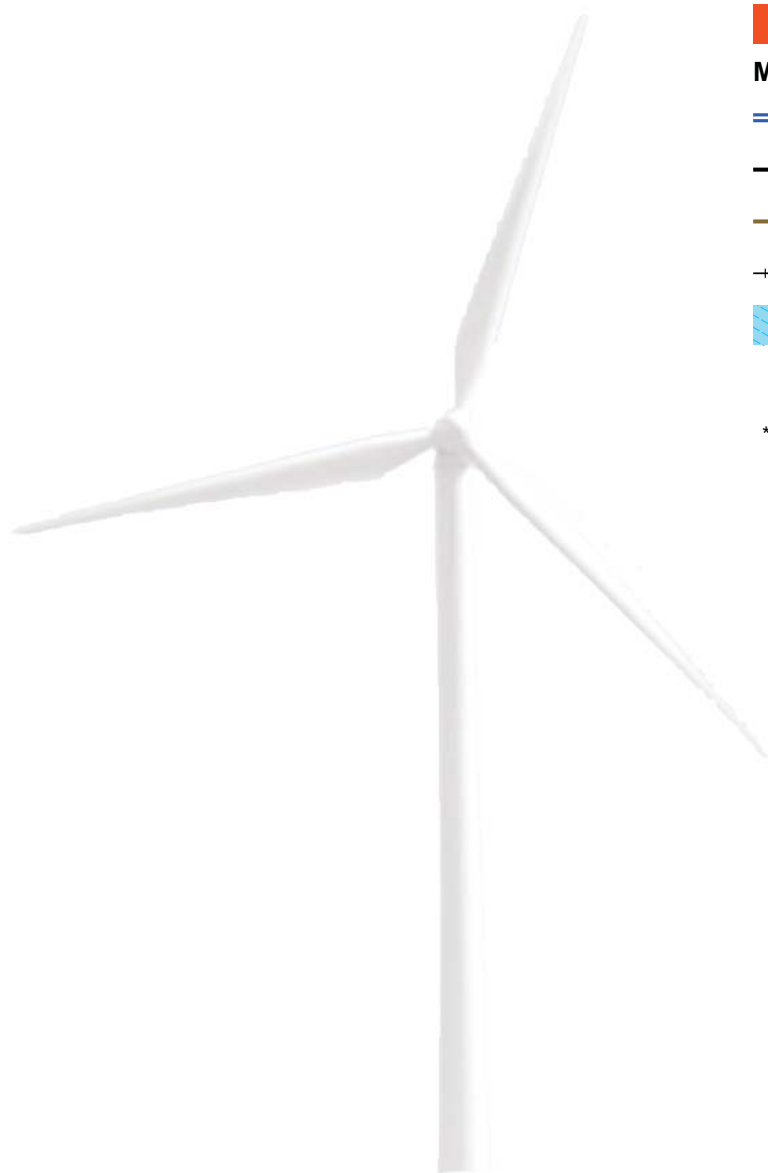
*Wind speeds are based on a Weibull k value of 2.0

Campo Reservation Wind Potential



0 0.5 1 2 3 4 Miles

Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, the Campo Band of Kumeyaay, and the National Geospatial Resource Center.



Santa Ysabel Reservation

The Iipay Nation of Santa Ysabel make their home on the slopes of the Volcan Mountains in San Diego and Imperial counties. The 9,244-acre landscape is largely made up of rugged wooded areas at an elevation of 4,500 feet.



The Tribe is governed by a council that includes a tribal spokesman, a vice-spokesman, a secretary, a treasurer, a councilman, and a councilwoman.

The Iipay Nation is committed to spurring economic growth and self-sufficiency for its people. Gaming is a chief driver of their economy. The Tribe also provides scholarships for higher education.

Location and Climate

The reservation is located about 40 miles east of Escondido on Highway 76. Commercial airline service is available in San Diego. Summer temperatures average in the high 80s with average winter temperatures in the 50s.

Wind Potential

The reservation has a total potential of about 145 megawatts (MW) covering roughly 3,616 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 5, according to the

National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 2,618 acres
- Class 4 – 845 acres
- Class 5 – 153 acres

The wind potential is located in many areas of the reservation, with higher classes in the central region. The Tribe is seeking opportunities for economic growth through all renewable energies including wind development. They are ambitious in their pursuit of renewable energy and are eager to meet potential developers, investors, and partners to learn about the advantages that wind energy development has to offer.

Roads

California Highway 79 runs adjacent to the western edge of the reservation. Other minor roads lead onto the reservation.

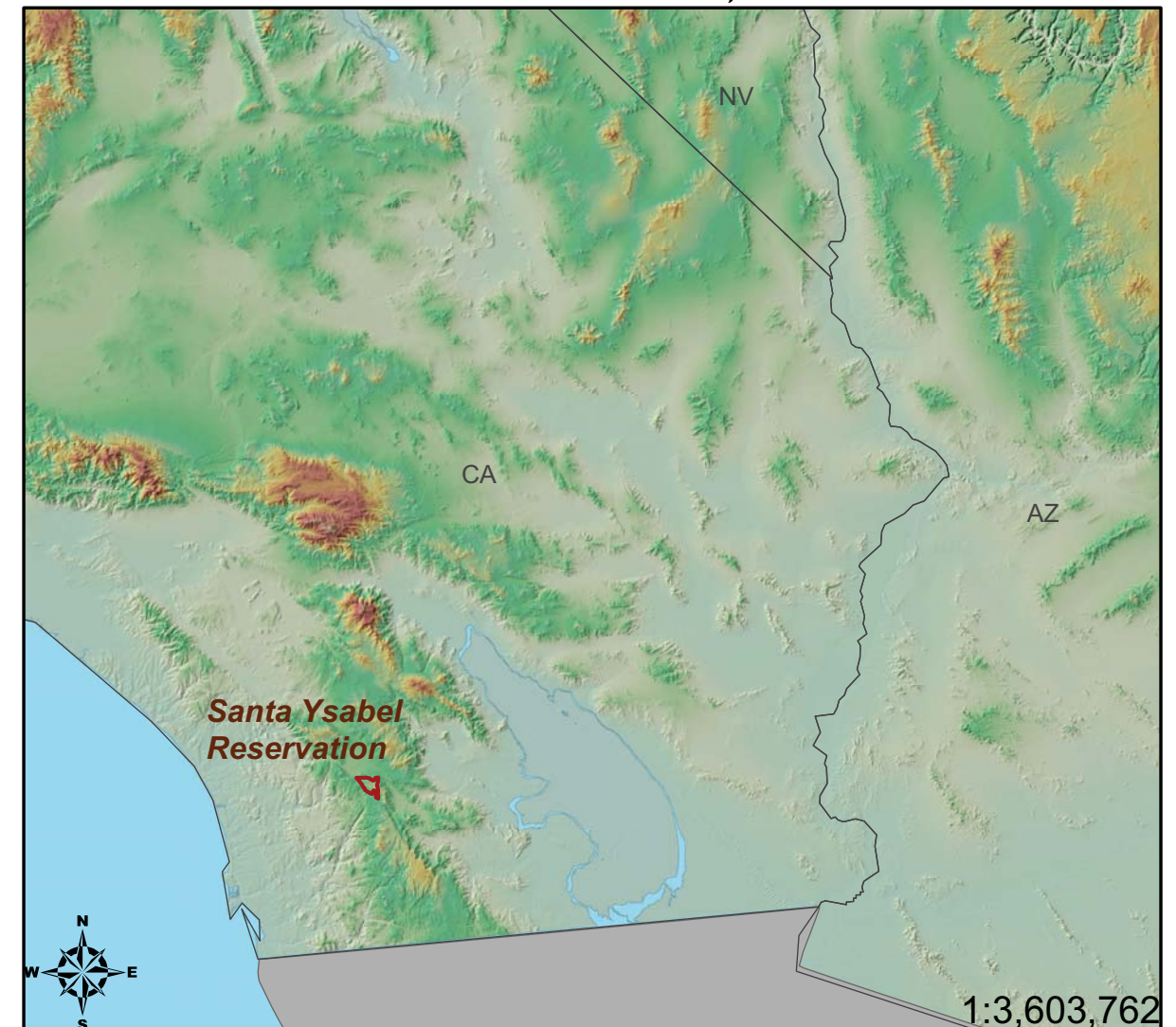
Transmission

One 69 kV transmission line crosses a portion of the western edge of the reservation.

Renewable Portfolio Standard

The current California Renewable Portfolio Standard (RPS) requires all utilities (including investor-owned electric utilities and publically-owned municipal utilities) to have 33 percent of retail sales derived from eligible renewable energy resources by 2010. Unbundled Renewable Energy Credits may be used for compliance with the RPS. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.



Photo: courtesy Santa Ysabel Reservation

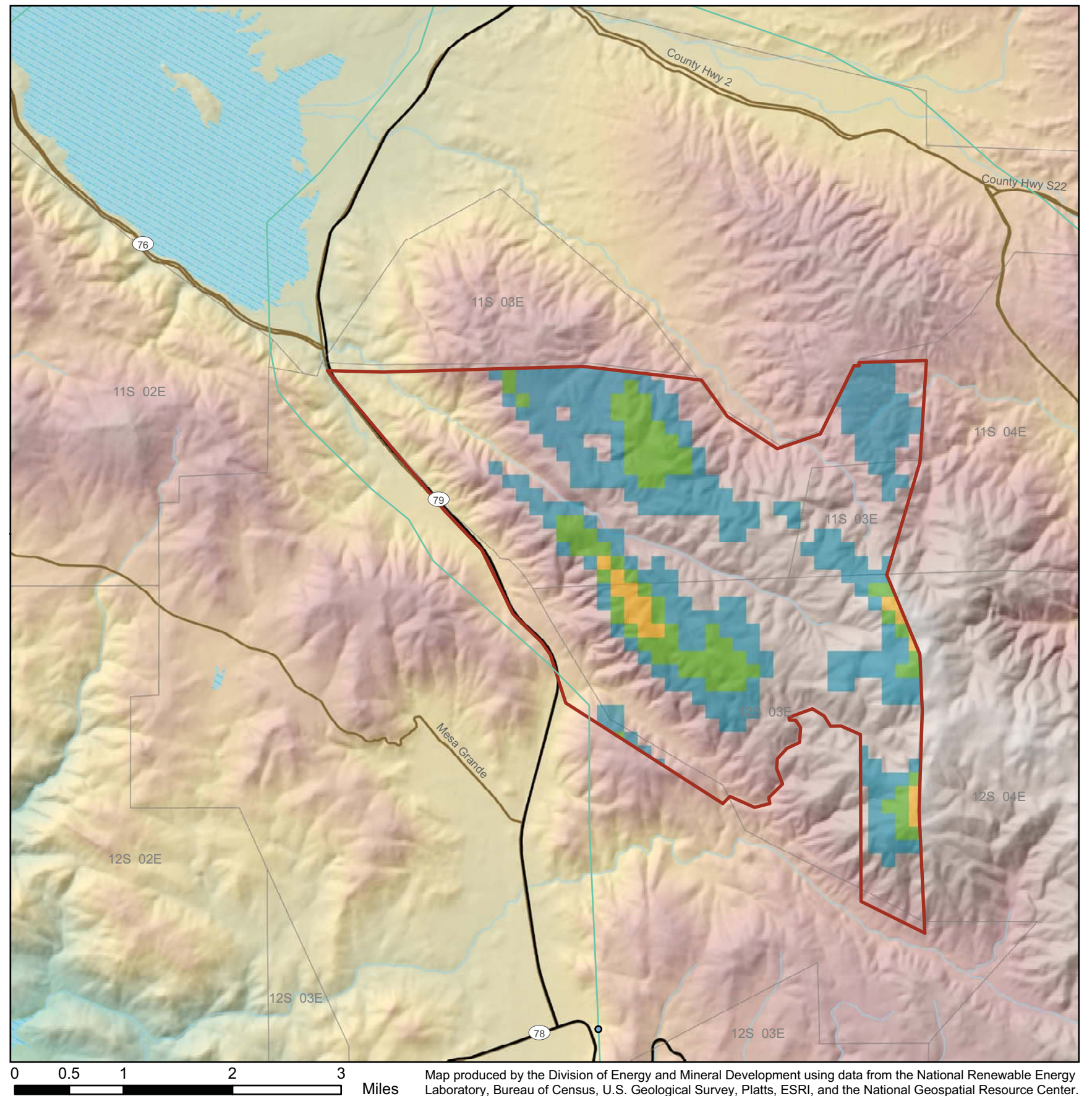
Tribal Contact Information

Spokesman Johnny Hernandez
 Iipay Nation of Santa Ysabel
 P.O. Box 130
 Santa Ysabel, CA 92070
 Phone: 760-765-0846

- Santa Ysabel Reservation
- Townships
- Substations
- Transmission Lines**
- 69 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.4 - 7.0 m/s (14.3 - 15.7 mph)
- 4 : 7.0 - 7.5 m/s (15.7 - 16.8 mph)
- 5 : 7.5 - 8.0 m/s (16.8 - 17.9 mph)
- Major Roads**
- Highways
- Secondary Roads
- Bodies of Water
- Streams

**Wind speeds are based on a Weibull k value of 2.0*

Santa Ysabel Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Ute Mountain Ute Reservation

CONNMUT

Located near the Four Corners area of the southwestern United States and surrounding Mesa Verde National Park on three sides, the Ute Mountain Ute Reservation covers 577,624 acres of Colorado's stunning high mesa country and semi-arid grasslands.



Historically, the Ute Nation roamed throughout Colorado, Utah, and northern New Mexico in a hunter-gatherer society, moving with the seasons for the best hunting opportunities. They represent the oldest, continuous residents of what is now Colorado. The Nation was one of the first Native groups to use horses.

Today, the tribal economy is supported in large part by gaming and by revenue from coal and oil leases. Towaoc is the only town on the reservation, and is the site of the Ute Mountain Ute Indian Bureau of Indian Affairs Agency.

Location and Climate

The reservation is located 15 miles south of Cortez, CO on the Navajo Trail. The nearest large town is Cortez. Summer temperatures average in the high 80s while winter temperatures hover around 30.



File Photo

Wind Potential

The reservation has a total potential of about 167 megawatts (MW) covering roughly 4,185 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 4, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 3,885 acres
- Class 4 – 300 acres

The potential wind areas are located in the northern and southern areas of the reservation.

Roads

US highways 491 and 160 cross the reservation on the western side. Additionally, State Highway 41 connects to US 160 in the southwestern corner of the reservation.

Transmission

Two transmission lines cross the reservation, one 230 kV and one 345 kV on the western half of the reservation. Additional 115 kV and 230 kV lines are south of the reservation within 10 miles.

Renewable Portfolio Standard/ State Goal

Colorado's Renewable Portfolio Standard's requirements are separated for three different entities to either generate or purchase certain percentages of their retail sales. Investor-owned utilities must comply with a 30 percent requirement by 2020. Electric cooperatives have a standard of 10 percent by 2020. Lastly, municipal utilities serving more than 40,000 customers must have 10 percent of retail sales by 2020. Tradeable renewable energy credits (RECs) may be used in standard compliance.

New Mexico has set a Renewable Portfolio Standard for investor-owned utilities and rural electric cooperatives. The investor-owned utilities will have to generate 20 percent of total retail sales to New Mexico customers from renewable energy resources by 2020. Rural electric cooperatives will have to obtain 10 percent by 2020. RECs may be used to demonstrate compliance and must be registered with the Western Renewable Energy Generation Information System.

The state of Utah had implemented a state goal which requires utilities to pursue renewable energy development under cost effective circumstances representing

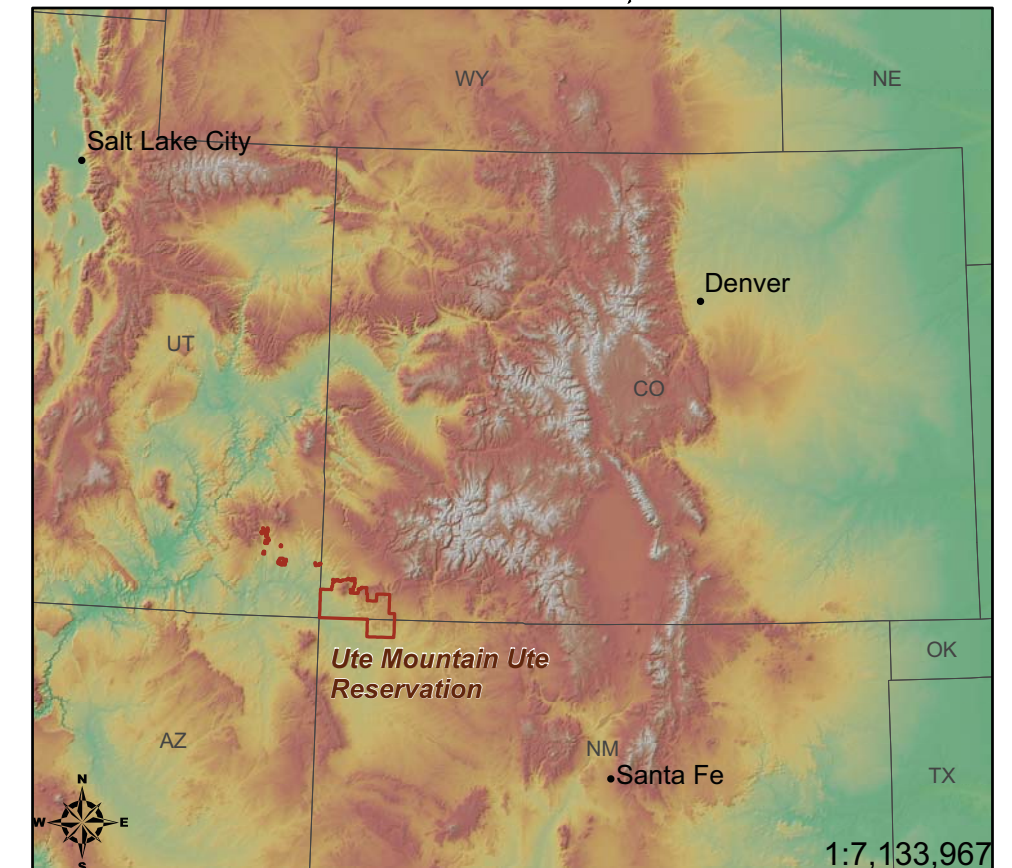
delivery of electricity at the lowest reasonable cost in addition to other factors determined by the Utah Public Service Commission. The state goal applies to investor-owned utilities, municipal utilities and cooperative utilities to use eligible renewable resources to account for 20 percent of adjusted retail sales by 2025. Purchased RECs may be used to demonstrate compliance. Legislation specifically referenced the Western Renewable Energy Generation Information System as an acceptable trading platform.

More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.



File Photo

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

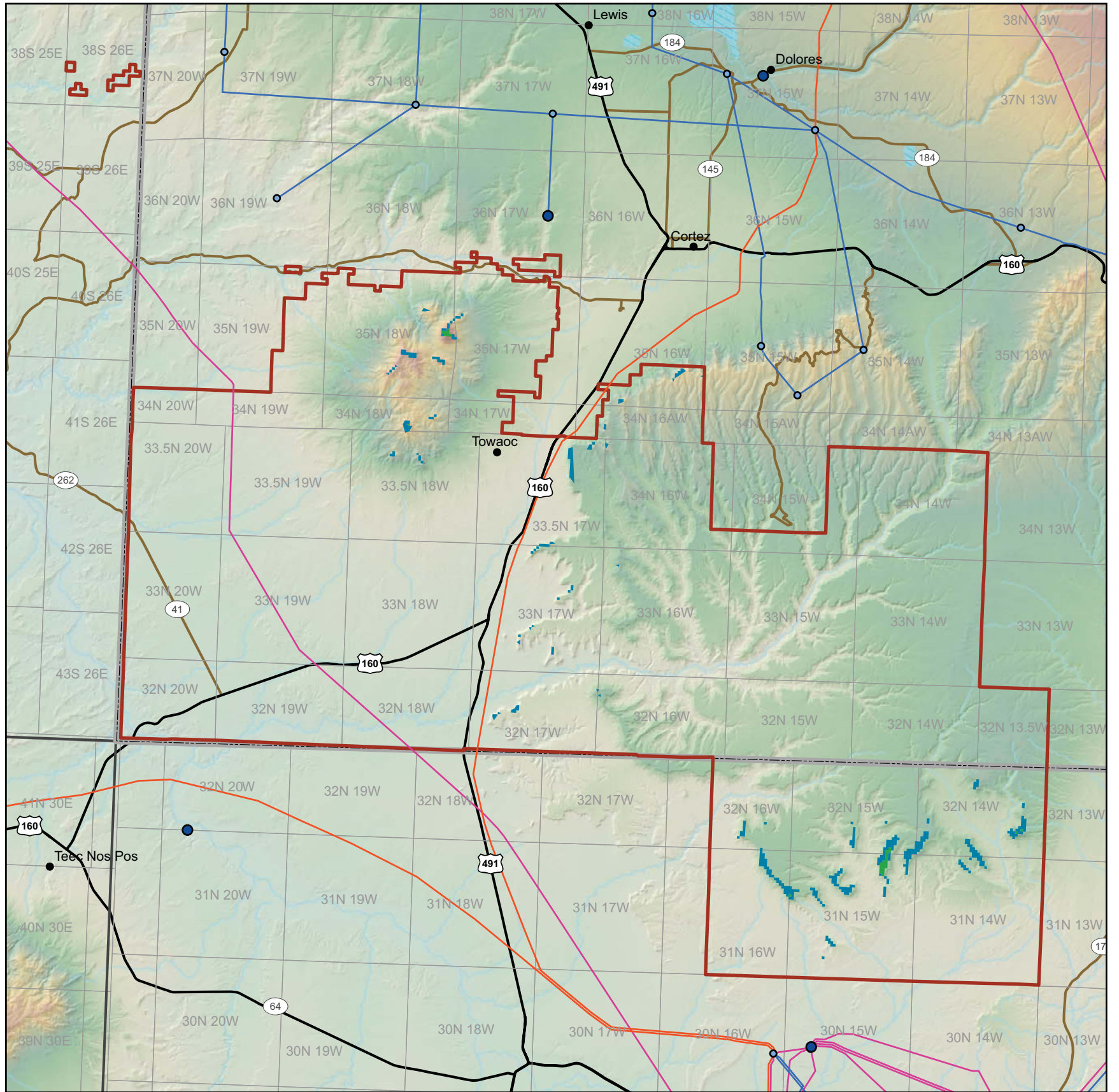
Ute Mountain Ute Reservation Wind Potential

Tribal Contact Information

Chairman Ernest House, Sr.
 Ute Mountain Ute Indian Tribe
 P.O. Box 248
 Towaoc, CO 81334
 Phone: 970-565-3751

- Ute Mountain Ute Reservation
- Townships
- Power Plants
- Substations
- Transmission Lines**
- 115 kV
- 230 kV
- 345 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.7 - 7.4 m/s (15.0 - 16.6 mph)
- 4 : 7.4 - 7.9 m/s (16.6 - 17.7 mph)
- Major Roads**
- Highways
- Secondary Roads
- Bodies of Water
- Streams

**Wind speeds are based on a Weibull k of 2.0 at 1500 m elevation*



0 2 4 8 12 16 Miles

Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Kickapoo Reservation

The Kickapoo Reservation in Kansas is a 19,085-acre reservation whose economy is largely based on farming. Gaming and tribal government also provide employment opportunities, and they are important sources for the tribe's future economic development plans, which include a keen interest in wind development.



Farmlands, rolling grassy hills, and several small rivers and streams make up the general landscape of the reservation. Unlike the Plains Indians who relied on buffalo for food and other needs, the Kickapoo were mostly an agrarian people enjoying a diet of beans, corn and squash, complimented by occasional game. They are one of the many Great Lakes Tribes that occupied the western portion of the woodland area in southern Michigan near Lake Erie.

Today, the Tribe numbers around 1,600, half of whom live on the reservation. The governing body consists of a seven-member tribal council with officers elected from its membership. The tribal chairman acts as the Tribe's administration head.

Location and Climate

The reservation is located in the far northeastern corner of Kansas along the Delaware River. Tribal headquarters are about six miles west of Horton, Kansas, on Highway 20. Year-round daily temperatures average in the 60s with lows in the 40s.

Wind Potential

The reservation has a total potential of about 15 megawatts (MW) covering roughly 383 acres within the reservation boundary (assuming 25ac/MW). The reservation has a wind power class of 3 according to the National Renewable Energy Laboratory validated maps at 50 meters.

The class 3 wind potential is located in the northeastern corner of the reservation.

Roads and Rail

State Highway 20 is adjacent to the reservation's southern boundary. U.S. Highway 75 is within 2 miles of the western boundary of the reservation. A rail line is within 3-4 miles of the northeastern corner of the reservation.

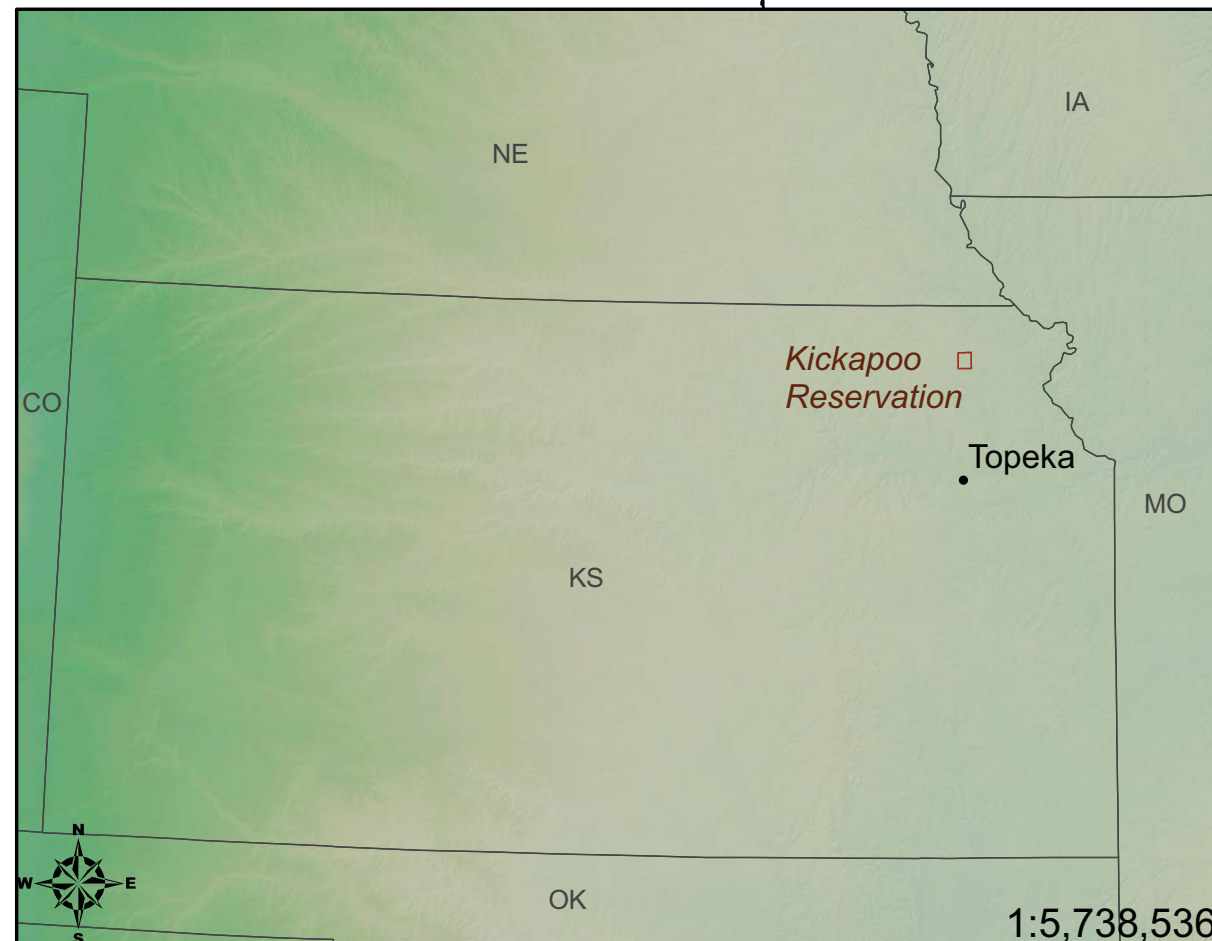
Transmission

A 138 kV transmission line crosses the northwestern corner of the reservation.

Renewable Portfolio Standard

The state of Kansas has enacted a Renewable Portfolio Standard (RPS) for the state's investor-owned utilities and certain cooperative utilities to generate or purchase 20 percent of peak capacity demand by 2020 from eligible renewable resources. The Kansas Corporation Commission establishes rules and regulation for the RPS. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

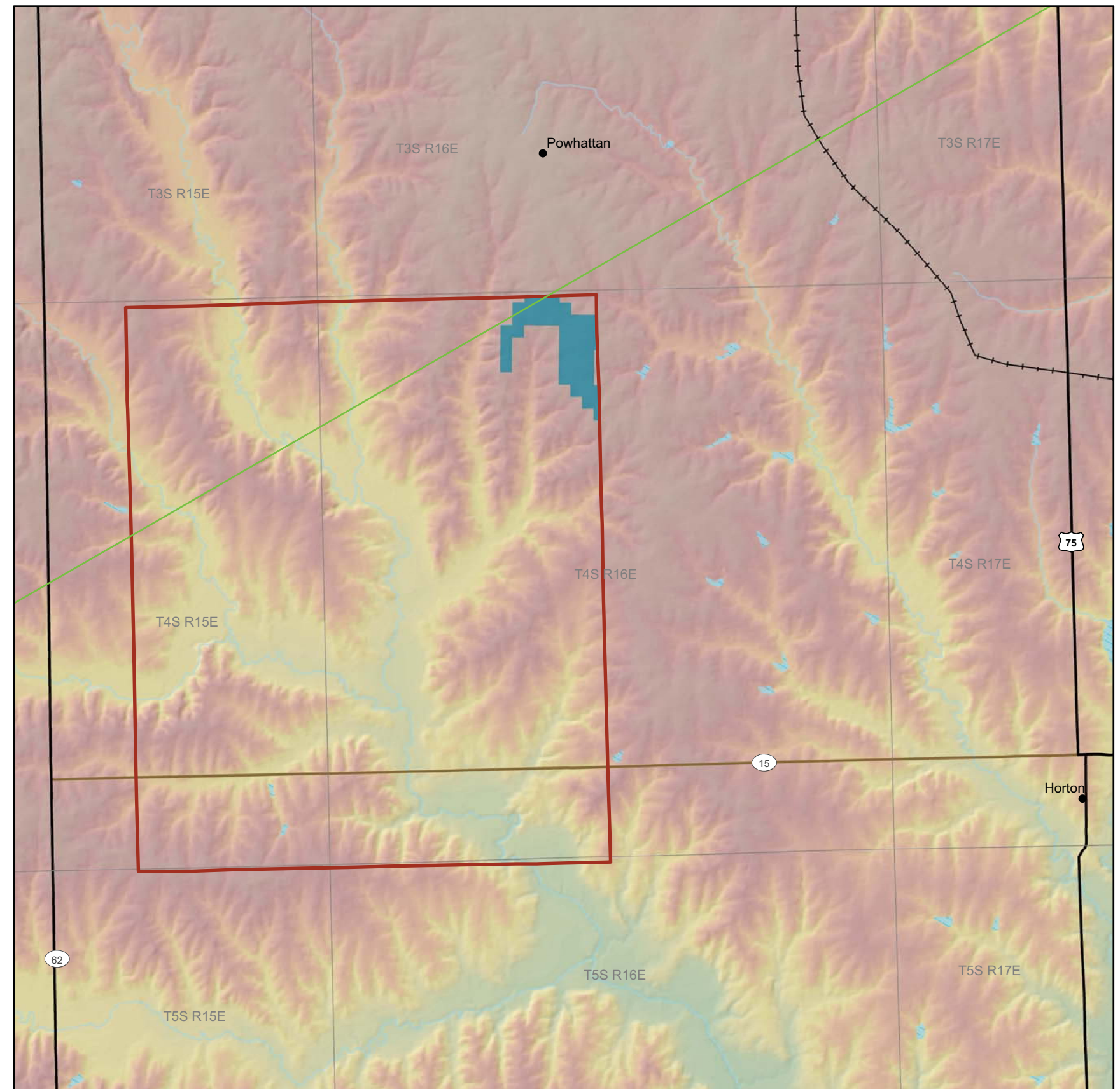
Kickapoo Reservation Wind Potential

Tribal Contact Information

Chairman Arlan Whitebird
 Kickapoo Tribe of Kansas
 P.O. Box 271
 Horton, KS 66439
 Phone: 785-486-2131

- Kickapoo Reservation
- Townships
- Transmission Lines**
- 138 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.8 - 7.5 m/s (15.2 - 16.8 mph)
- Major Roads**
- Highways
- Secondary Roads
- Railroads
- Bodies of Water
- Streams

**Wind speeds are based on a Weibull k of 2.4 at 500 m elevation*



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Iowa Reservation

Straddling Kansas and Nebraska, the 12,038-acre Iowa Reservation has an economy supported primarily by gaming and agriculture.



Historically, they were semi-nomadic hunters, but they also had an agricultural lifestyle similar to the tribes inhabiting the Eastern woods. They planted maize, made pipes, and traded these along with furs with French colonists.

In the early 1800s the tribe moved to their present day locations in Kansas and Nebraska. After the Civil War, another Iowa tribe moved to Indian Territory in Oklahoma and became the Iowa Tribe of Oklahoma.

Today, the Tribe runs a successful farming business and is looking for other business ventures to stimulate their economy. The Executive Committee is the tribe's governing body. Each member serves a three year term.

Location and Climate

In northeastern Kansas the Tribe is located in Brown and Doniphan counties, and in Nebraska, the Tribe makes its home in Richardson County. Temperatures in the summer average in the 80s while winter averages are in the 30s.

Wind Potential

The reservation has a total potential of about 4 megawatts (MW) covering roughly 95 acres within the reservation boundary (assuming 25ac/MW). The reservation has a wind power class of 3 according to the National Renewable Energy Laboratory validated maps at 50 meters.

Roads and Rail

U.S. Highway 159 is just north of the reservation within 5 miles of the reservation boundary. Rail is adjacent to U.S. 159.

Transmission

There is a 345 kV transmission line less than 5 miles to the north and east of the reservation.

Renewable Portfolio Standard

The state of Nebraska currently does not have a Renewable Portfolio Standard (RPS.)

The state of Kansas has enacted a RPS for the state's investor-owned utilities and certain cooperative utilities to generate or purchase 20 percent of peak capacity demand by 2020 from eligible renewable resources. The Kansas Corporation Commission establishes rules and regulation for the RPS. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.



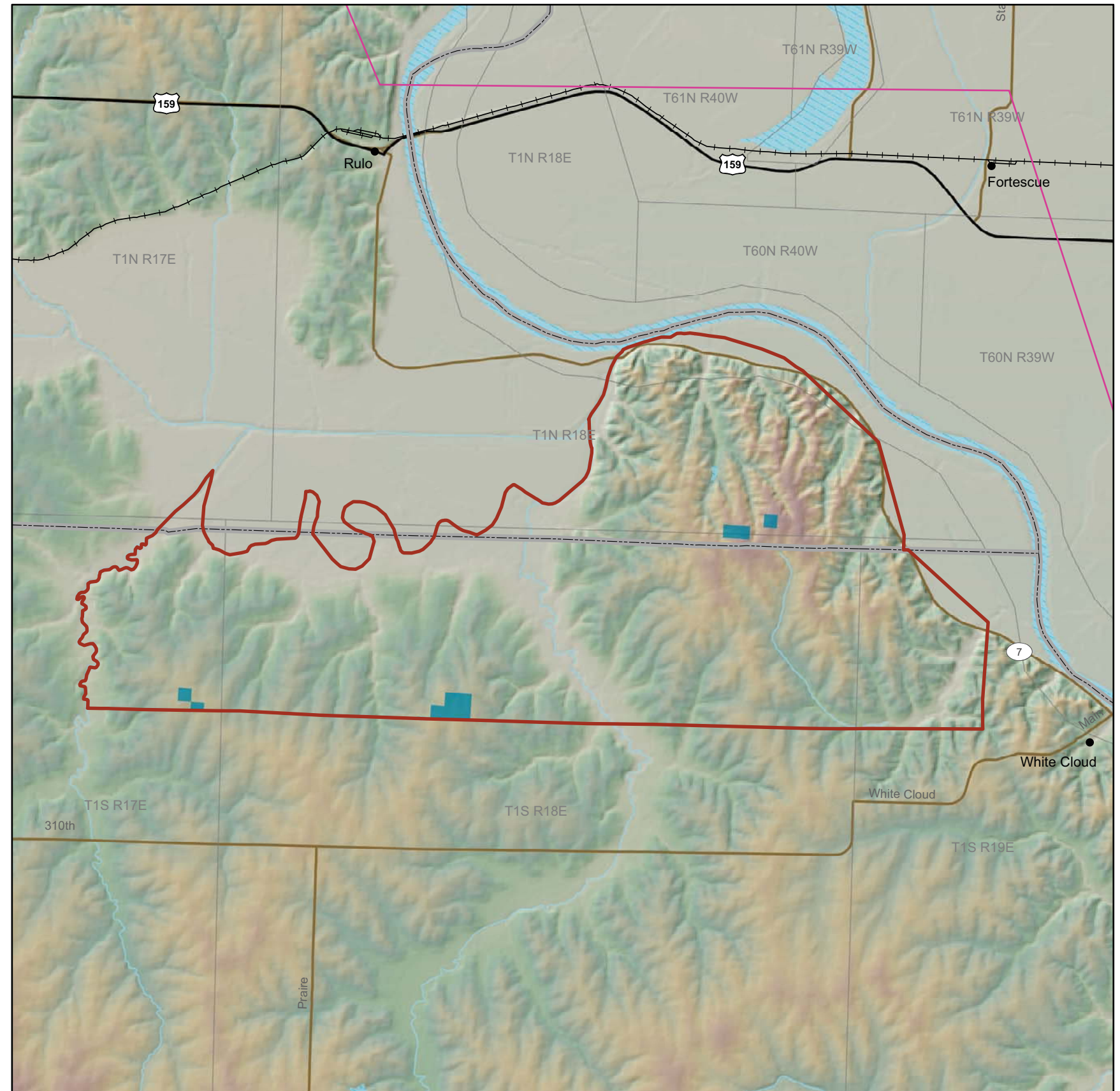
Tribal Contact Information

Chairman Leon Campbell
 Iowa Tribe of Kansas and Nebraska
 3345 Thrasher Rd.
 White Cloud, KS 66094
 Phone: 785-595-3258

- Iowa Reservation
- Townships
- Transmission Lines**
- 345 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.8 - 7.5 m/s (15.2 - 16.8 mph)
- Major Roads**
- Highways
- Secondary Roads
- Railroads
- Bodies of Water
- Streams

**Wind speeds are based on a Weibull k of 2.4 at 500 m elevation*

Iowa Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

The Bois Forte Reservation in northern Minnesota was created for the Bois Forte Band of Chippewa and is divided into three sections; Nett Lake, the largest; Deer Creek in Itasca County; and Vermilion. Nearly 50 percent of the 135,752-acre reservation is wetland. Tribal members currently live in Vermilion and Nett Lake.



Today, the Chippewa are a diverse group active in contemporary society. Many members have received national acclaim in the visual, literary, and traditional arts.

The Bois Forte Reservation is governed by a five-member elected tribal council headquartered in Nett Lake. Each member serves a staggered, four-year term. The council includes a chairman, a secretary/treasurer and district representatives.

The Tribe's economy centers around gaming, tourism, recreation and the cultivation of wild rice - the Bois Forte Band is one of the nation's largest producers.

To further expand its economic base, the Tribe is interested in pursuing wind development on their lands.



Photo: courtesy Bois Forte Reservation

Location and Climate

The reservation lies 75 miles south of the Canadian border. There is no recorded temperature data for the Nett Lake region but the climate is very similar to that of International Falls, MN. There, summer temperatures average in the 70s while winter temperatures range in the 20s, sometimes dipping to below zero. Average annual rainfall is 24 inches with an average yearly snowfall of 64 inches.

Wind Potential

The reservation has a total potential of about 623 megawatts (MW) covering roughly 15,584 acres within the reservation boundaries (assuming 25ac/MW). Wind power class potential in all areas is Class 3, according to the Minnesota Department of Commerce annual wind map at 80 meters.

The two reservation sectors on which wind potential is located are Nett Lake and Deer Creek. The wind potential on Nett Lake is primarily located on the eastern central portion. Deer Creek has wind potential in many areas with an emphasis on the southwest corner of the sector.

The Bois Forte Reservation Tribal Government has explored the possibility of a large scale wind energy project in years past. The Tribe installed a 20-meter anemometer tower and began taking measurements in July of 2006 through 2008. The tower is located on a ridge just over 3 miles south of the town of Nett Lake. Measurements showed an average wind speed of 4.7 meters per second (10.5 mph) in a southeasterly direction.

Roads and Rail

The Nett Lake sector has Minnesota Highway 65 crossing diagonally from the northwest to the southeast. From east to west, Minnesota Highway 1 passes through Deer Creek. Both areas have additional minor roads. The nearest truck route stops in Cook, 36 miles from Nett Lake. The nearest commercial airport is in International Falls, 80 miles northwest of Nett Lake.

Transmission

A 500 kV and 230 kV transmission line passes by the southwest corners of both the Deer Creek and Nett Lake reservation sectors respectively.

Renewable Portfolio Standard

Minnesota has enacted two separate Renewable Portfolio Standards (RPS) for Xcel Energy and other electric utilities. Wind facilities less than 100 megawatts are eligible for the standards. Minnesota RPS for Xcel Energy from eligible resources must account for 30 percent of total retail electricity sales by 2020 (including sales from distribution utilities for which Xcel provides wholesale services). The standard for other state utilities requires 25 percent of retail electricity sales from eligible resources by 2025. Use of Renewable Energy Credits has limitations for use in RPS compliance. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.












Bois Forte Reservation Wind Potential

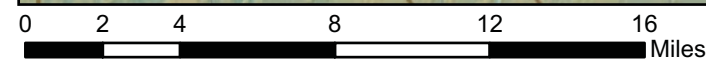
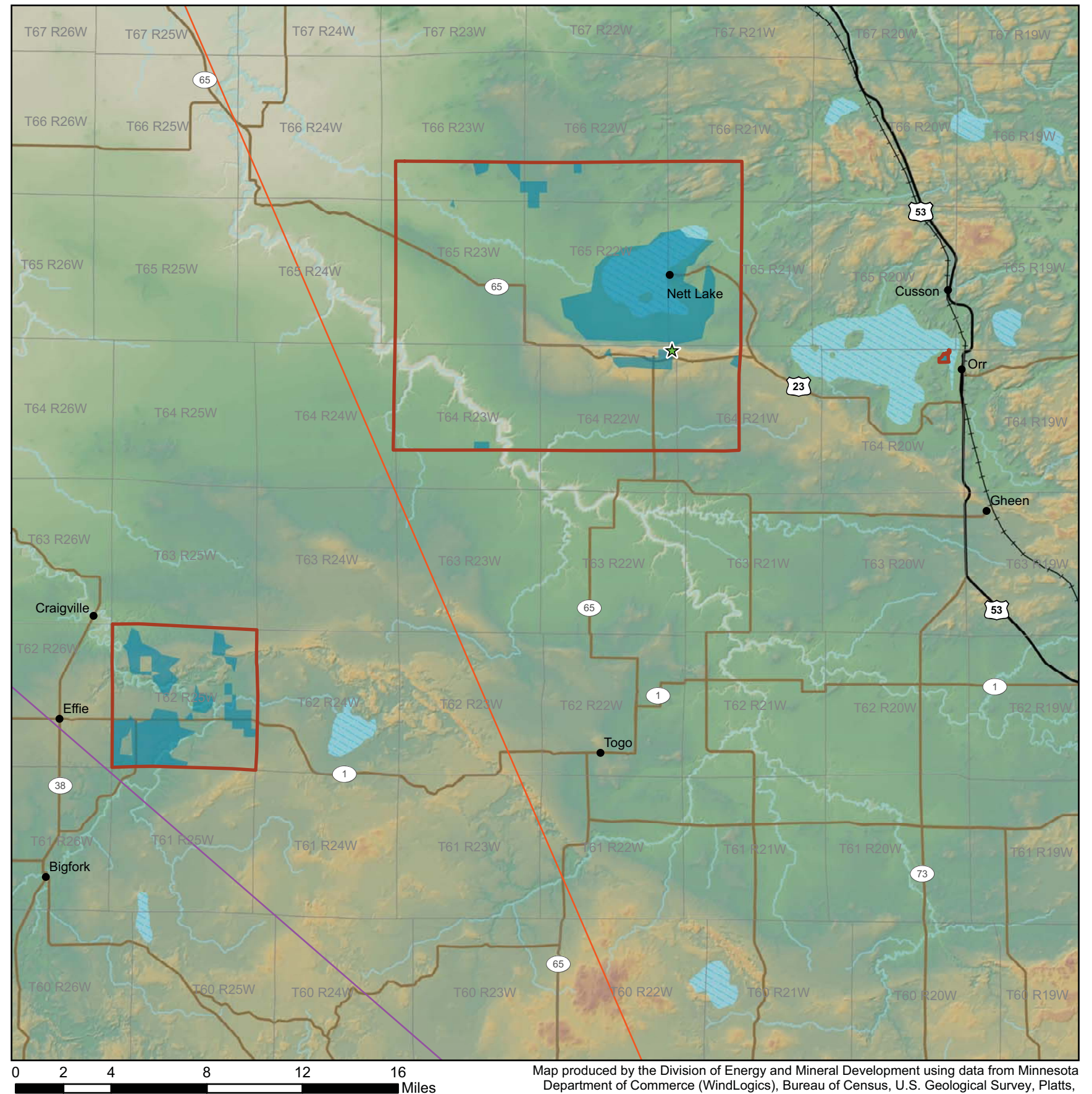
Tribal Contact Information

Chairman Kevin Leecy
 Bois Forte Band of Chippewa
 P.O. Box 16
 Nett Lake, MN 55772
 Phone: 218-757-3261

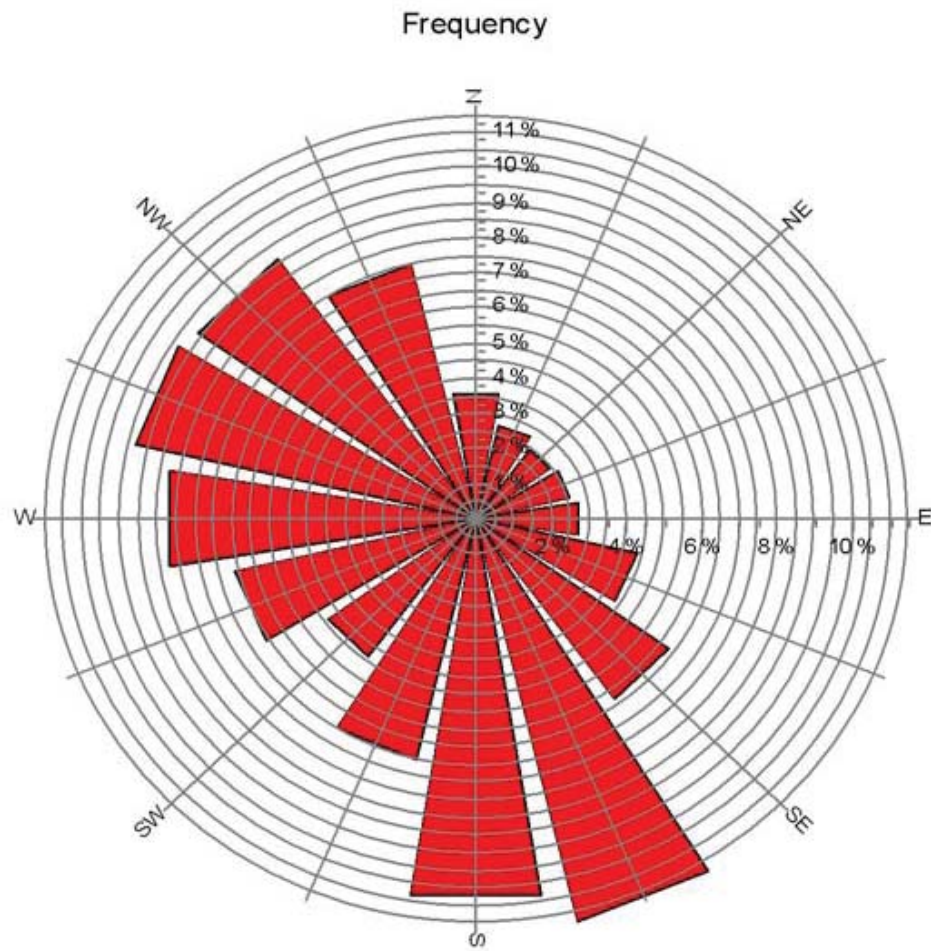
Project Lead Contact Information

William Whiteman,
 Comprehensive Planner,
 Bois Forte Tribal Government,
 Box 16, Nett Lake, MN
 Phone: 218 757-3111

-  Bois Forte Reservation
-  Townships
-  20m Anemometer Tower
- Transmission**
-  230 kV
-  500 kV
- Wind Power Class : Wind Speed at 80 m**
-  3 : 6.9 - 7.3 m/s (15.4 - 16.3 mph)
- Major Roads**
-  Highways
-  Secondary Roads
-  Railroads
-  Bodies of Water
-  Streams



Map produced by the Division of Energy and Mineral Development using data from Minnesota Department of Commerce (WindLogics), Bureau of Census, U.S. Geological Survey, Platts, ESRI, the Bois Forte Band of Chippewa, and the National Geospatial Resource Center.



Wind Rose for 20 meter anemometer tower.

The Leech Lake Band is made up of people belonging to the Ojibwe Tribe. Leech Lake has been home to the Ojibwe peoples since the early 16th century. The traditional homelands of these people covered most of what is now Minnesota and Wisconsin.



Tribal headquarters are located in Cass Lake, MN, the reservation's hub. Other communities include Bena, Inger, Winie Dam, and Pennington.

The Tribe's economy is largely based on tourism, the wood product industry and government. The band's primary source of revenue is gaming. The Ojibwes continue their traditional autumn harvest of wild rice beds, which are plentiful in the area's lake, streams and rivers.

The five-member tribal council has a division of economic development to guide the tribal economy toward self-sufficiency and prosperity. The council formed the Leech Lake Business Incubator Center in Cass Lake to encourage retail businesses on the reservation. The Tribe also created the Heritage Sites Division to protect their cultural resources.

Location and Climate

The 822,954-acre reservation lies 225 miles from Minneapolis - St. Paul and 135 miles from Duluth in the pine forest of north-central Minnesota. Reservation lands lie within the headwaters of three major watersheds and are generally swampy. There are 208 miles of rivers and streams; 232 named and unnamed lakes, including Leech Lake; and 150,000 acres of wetlands, many of which produce wild rice. Year-round daily highs average in the 50s with lows around 25.

Wind Potential

The reservation has a total potential of about 23,863 megawatts (MW) covering roughly 596,582 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 5, according to the Minnesota Department of Commerce annual wind map at 80 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 387,181 acres
- Class 4 – 196,960 acres
- Class 5 – 12,441 acres

The wind potential is located in many areas throughout the reservation.

The Tribe is interested in wind development focusing primarily on community and residential applications. A feasibility study with a 50-meter anemometer tower was completed with assistance through the National Renewable Energy Laboratory anemometer loan program. The Tribe is concerned with the feasibility of a large-scale wind project due to the highly forested areas throughout the reservation. Small scale community projects fit the primary renewable energy goals of the reservation, but they are always willing to speak with potential developers and investors, and learn about the different opportunities and advantages of large scale wind development.

Roads and Rail

U.S. Highway 2 runs through the reservation in an east-west direction at the center of the reservation. Many other state highways provide access to all other areas of the reservation. A railroad crosses the reservation adjacent to U.S. Highway 2.

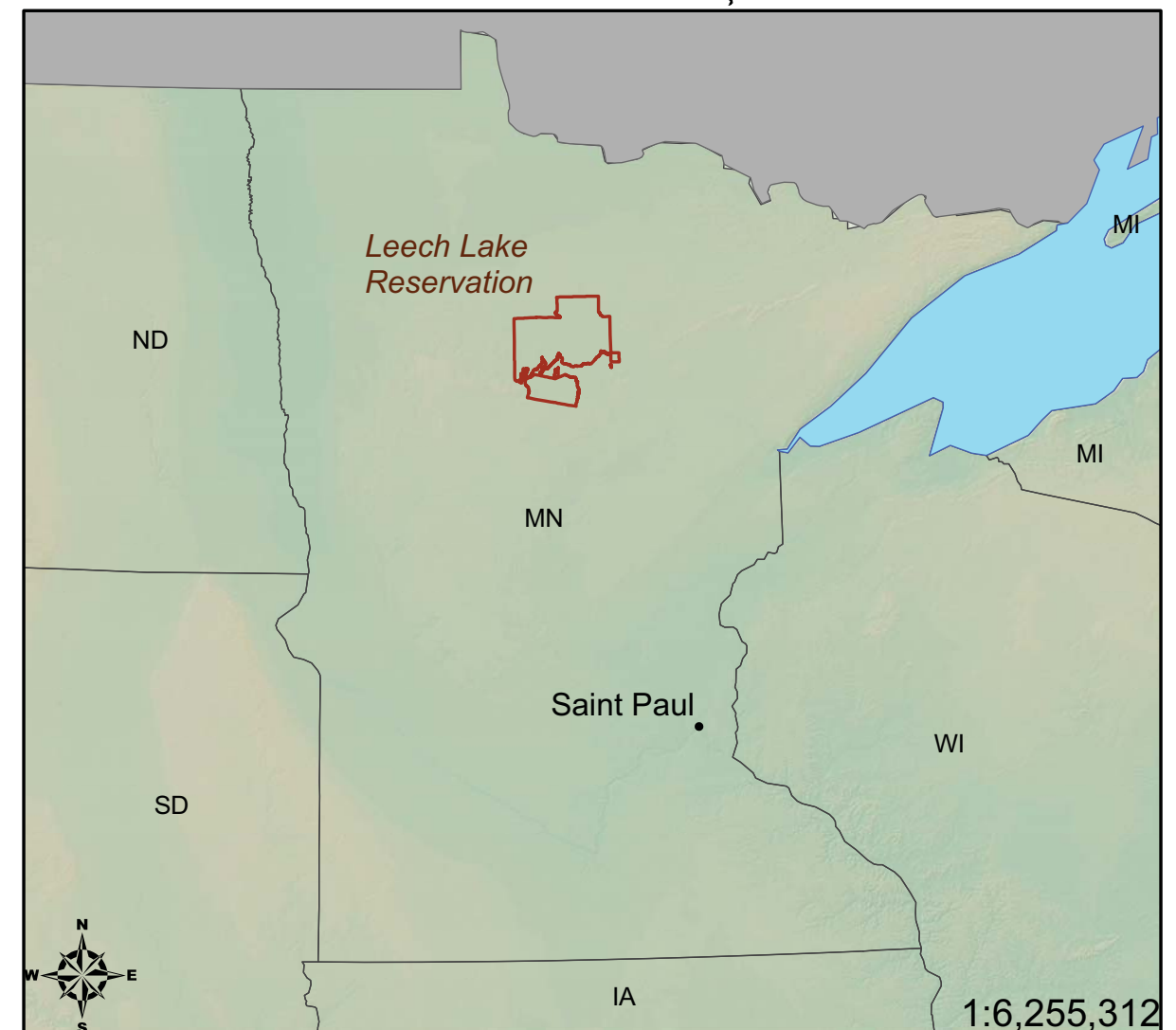
Transmission

Two 115 kV transmission lines cross the western edge of the reservation.

Renewable Portfolio Standard

Minnesota has enacted two separate Renewable Portfolio Standards (RPS) for Xcel Energy and other electric utilities. Wind facilities smaller than 100 megawatts are eligible for the standards. Minnesota RPS for Xcel Energy from eligible resources must account for 30 percent of total retail electricity sales by 2020 (including sales from distribution utilities for which Xcel provides wholesale services). The standard for other state utilities requires 25 percent of retail electricity sales from eligible resources by 2025. Use of Renewable Energy Credits has limitations for use in RPS compliance. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



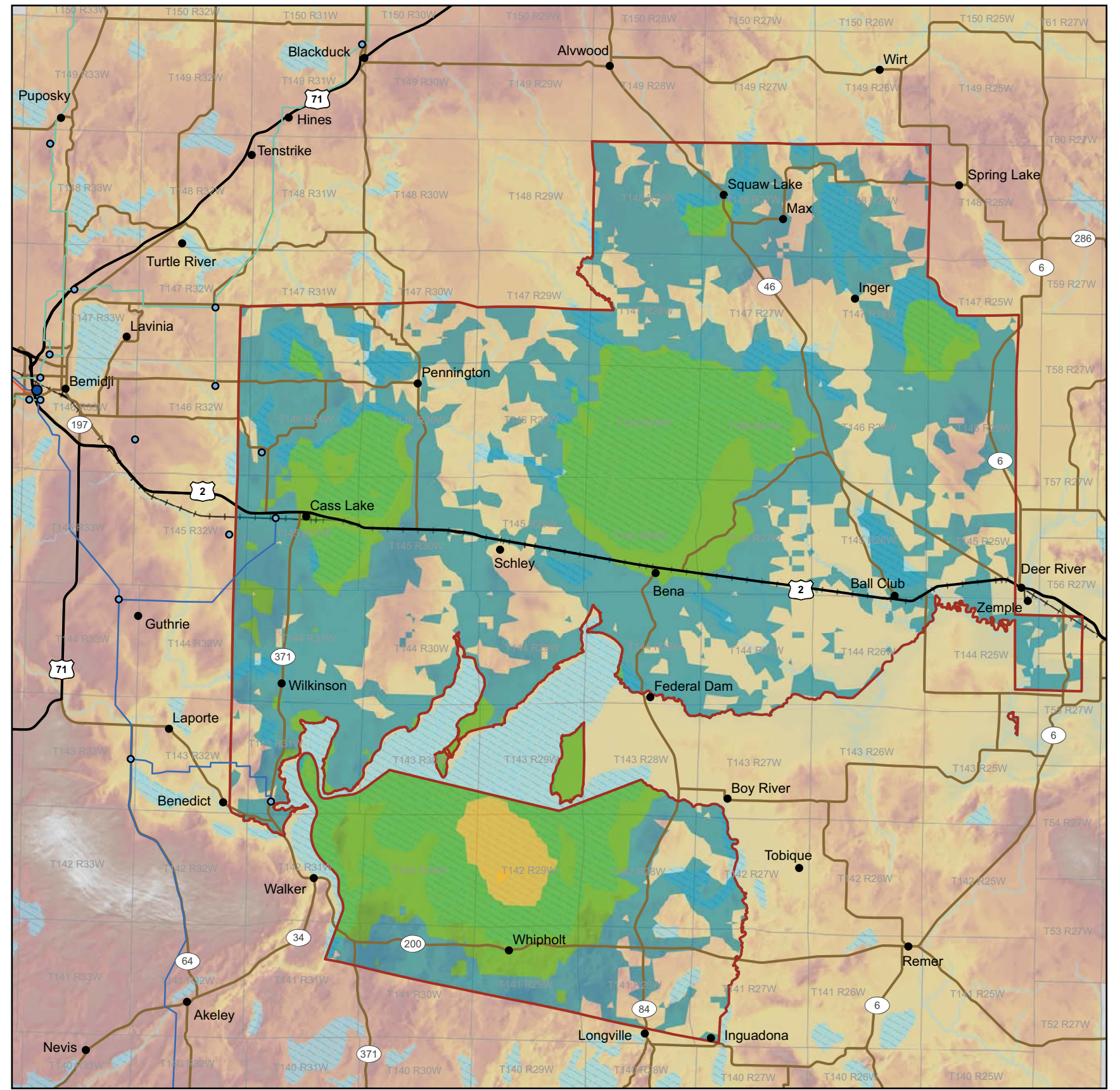
Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Tribal Contact Information

Chairman Arthur LaRose
 Leech Lake Band of Ojibwe
 115 Sixth Street NE
 Cass Lake, MN 56633
 Phone: 800-442-3909

- Leech Lake Reservation
- Townships
- Power Plants
- Substations
- Transmission**
- 69 kV
- 115 kV
- 230
- Wind Power Class : Wind Speeds at 80 m**
- 3 : 6.9 - 7.3 m/s (15.4 - 16.3 mph)
- 4 : 7.3 - 7.7 m/s (16.3 - 17.2 mph)
- 5 : 7.7 - 8.1 m/s (17.2 - 18.1 mph)
- Major Roads**
- Highways
- Secondary Roads
- Railroad
- Bodies of Water
- Streams

Leech Lake Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from Minnesota Department of Commerce (WindLogics), Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Red Lake Band Reservation

Abundant lakes and prairies teaming with wildlife dominate the landscape of the Red Lake Band Reservation in Minnesota. The Chippewas were forest people engaged primarily in hunting and fishing. They also gathered fruits and cultivated wild rice.



The Chippewas are one of the few tribes to have had a lasting peace with the federal government, dating back to 1815, thus experiencing less dislocation than other tribes.

The reservation's abundance of natural resources sustains an economy based on industries such as agriculture, forestry, fisheries, and recreation. Gaming, construction, and manufacturing are also important parts of the tribe's economic portfolio.

Tribal headquarters are in Red Lake, MN. The tribe is governed by the Red Lake Tribal Council consisting of 11 members, elected from four districts. Hereditary chiefs provide advice to the tribal council on matters involving preservation of tribal traditional and cultural values.

Location and Climate

The 805,688-acre reservation is located in the northwest corner of Minnesota, 100 miles south of the Canadian border. The two closest cities are Bemidji, MN, 35 miles to the south, and Thief River Falls, MN, 70 miles to the west.

Wind Potential

The reservation has a total potential of about 31,561 megawatts (MW) covering roughly 789,024 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 5, according to the Minnesota Department of Commerce annual wind map at 80 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 289,883 acres
- Class 4 – 359,500 acres
- Class 5 – 139,641 acres

The reservation's wind potential is found in nearly all sectors of the lands, with higher classes in the southern and west central lands.

Roads and Rail

State Highways 1 and 89 cross the southern end of the reservation which has the largest contiguous wind potential within its boundaries. Other minor roads may also be used to access many other parts of the reservation. Rail is within 20 miles of most reservation lands.

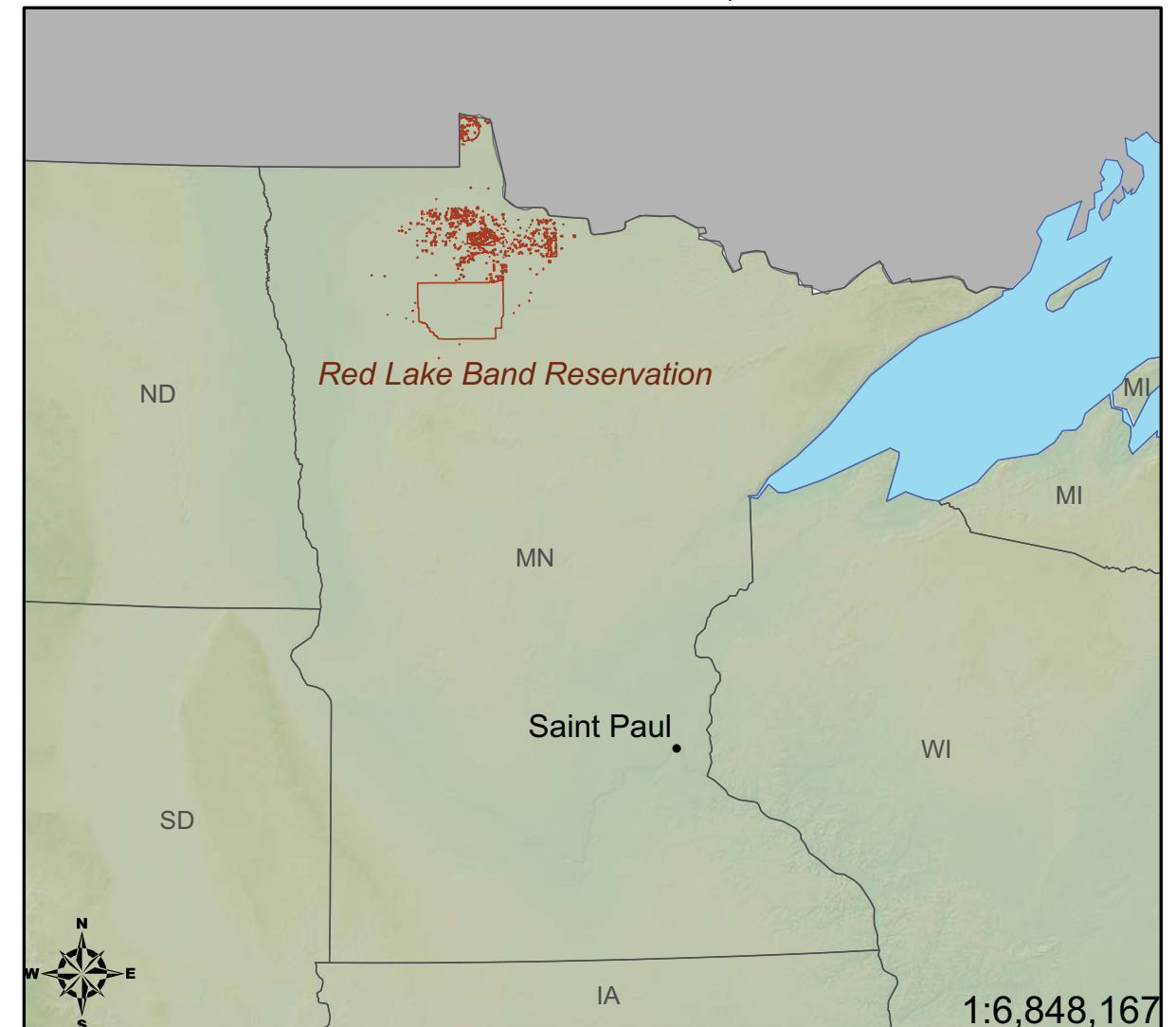
Transmission

One 69 kV transmission line crosses the southeast corner of the reservation. Many other transmission lines are located near the reservation with voltages of 69, 230 and 500 kV.

Renewable Portfolio Standard

Minnesota has enacted two separate Renewable Portfolio Standards (RPS) for Xcel Energy and other electric utilities. Wind facilities less than 100 megawatts are eligible for the standards. Minnesota RPS for Xcel Energy from eligible resources must account for 30 percent of total retail electricity sales by 2020, including sales from distribution utilities for which Xcel provides wholesale services. The standard for other state utilities requires 25 percent of retail electricity sales from eligible resources by 2025. Use of Renewable Energy Credits has limitations for use in RPS compliance. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



















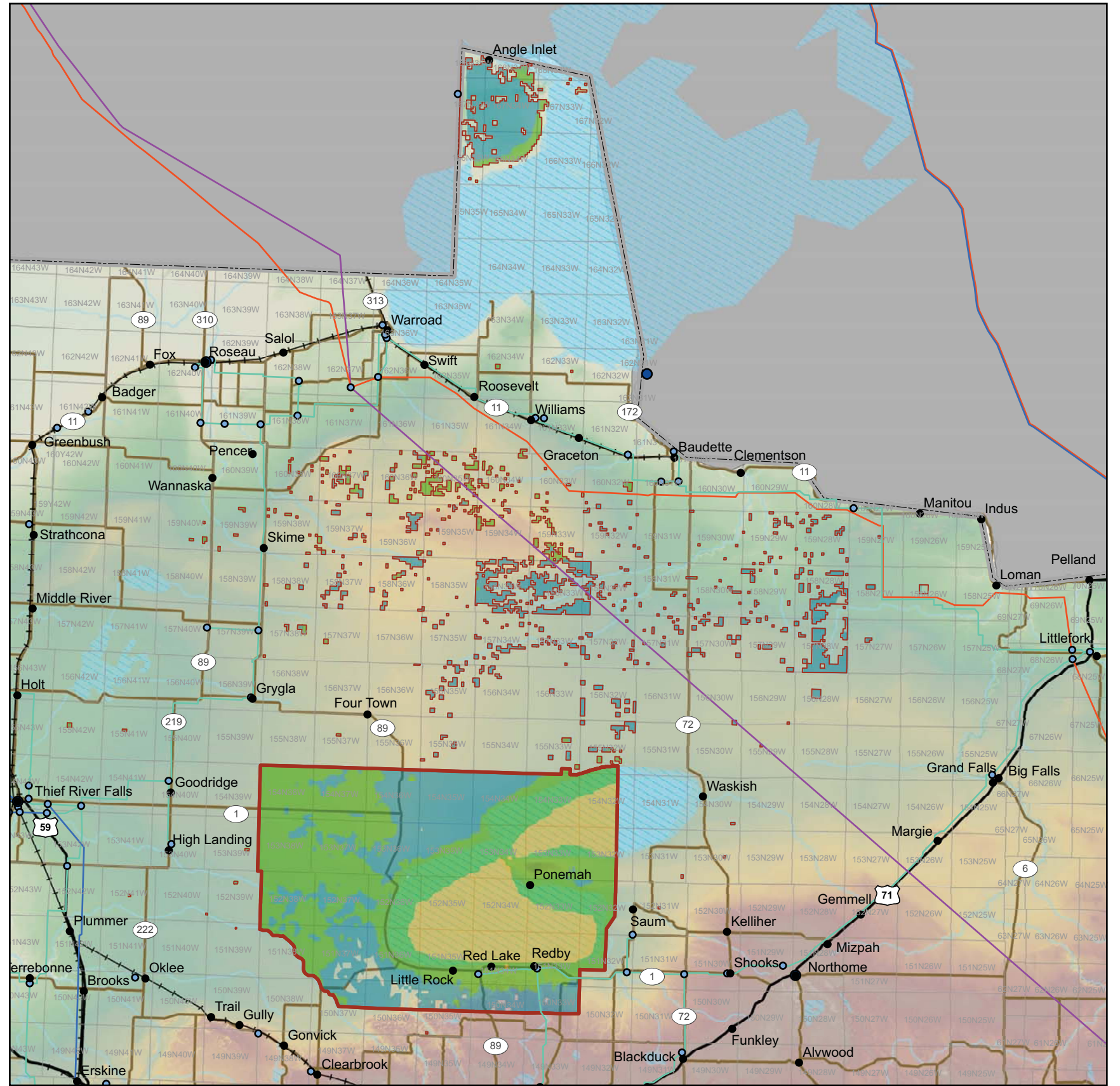
Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Tribal Contact Information

Chairman Floyd Jourdain
Red Lake Band of Chippewa Indians
P.O. Box 550
Red Lake, MN 56671
Phone: 218-679-3341

Red Lake Band Reservation Wind Potential

-  Red Lake Band Reservation
-  Townships
-  Power Plants
-  Substations
- Transmission Lines**
-  69 kV
-  115 kV
-  230 kV
-  500 kV
- Wind Power Class : Wind Speed at 80 m**
-  3 : 6.9 - 7.3 m/s (15.4 - 16.3 mph)
-  4 : 7.3 - 7.7 m/s (16.3 - 17.2 mph)
-  5 : 7.7 - 8.1 m/s (17.2 - 18.1 mph)
- Major Roads**
-  Highways
-  Secondary Roads
-  Railroads
-  Bodies of Water
-  Streams



0 4 8 16 24 32 Miles

Map produced by the Division of Energy and Mineral Development using data from Minnesota Department of Commerce (WindLogics), Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



The White Earth Band of Chippewas live in 36 townships covering approximately 837,076 acres within three Minnesota counties: northern Becker, northeastern Clearwater, and all of Mahnommen.

Outside the townships, the landscape is largely forested, but includes some fertile farmland and pasture.

The Tribe originally lived in small villages in Ontario, Canada, where they first encountered French explorers in the 1600s. By the late 18th century they moved into what is now Wisconsin and Minnesota.

Once successful fur traders, today the Tribe's economy is fueled by gaming, small retail businesses, manufacturing and governmental services. Tribal headquarters are located in White Earth, with additional offices in Mahnommen.

Location and Climate

The White Earth Reservation is located in northwestern Minnesota, near Red River Valley, about 68 miles from Fargo, ND, and 225 miles from Minneapolis-St. Paul, MN. Year-round daily highs average in the 50s with daily lows in the 20s. Average annual precipitation is 23 inches.

Wind Potential

The reservation has a total potential of about 31,499 megawatts (MW) covering roughly 787,468 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 4, according to the Minnesota Department of Commerce annual wind map at 80 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 245,100 acres
- Class 4 – 542,368 acres

The White Earth Nation is interested in small scale wind installations to power tribal buildings and large scale energy generation for sale of electricity to the grid. The tribe previously worked with the National Renewable Energy Laboratory to complete a wind resource assessment for a 750 kW wind turbine to power the White Earth Tribal Village. Annual average recorded wind speed at the site is 6.26 meters per second (14 mph) at 40 meters. An initial environmental assessment was also completed for the turbine in 2009 and installation will be implemented in 2010.

The Tribe is also planning installation of a 60-meter anemometer tower at a proposed turbine site about ¾ mile from the tribal casino where they are anticipating wind speeds at or above 7.6 meters per second (17 mph) at 80 meters. Tribal members initiated a second environmental assessment for a 3 to 6 MW installation to power the tribal casino.

Tribal members plan to install smaller turbines for additional tribal buildings ranging from 33 to 300 kW.

While the Tribe has marketable resources and a strong interest in wind energy development, they need assistance with capital investment. They would like to meet potential partners that are willing to invest in smaller wind projects and pursue joint venture partnerships utilizing the Minnesota flip model.

Roads and Rail

U.S. Highway 59 runs north-south on the western side of the White Earth Reservation. State highways 113 and 200 run east-west near the center of the reservation. Other minor roads give access to many other areas within White Earth's boundaries. Two rail lines cross the reservation; one passes north-south along U.S. 59, and the other dips briefly into the reservation running east and west.

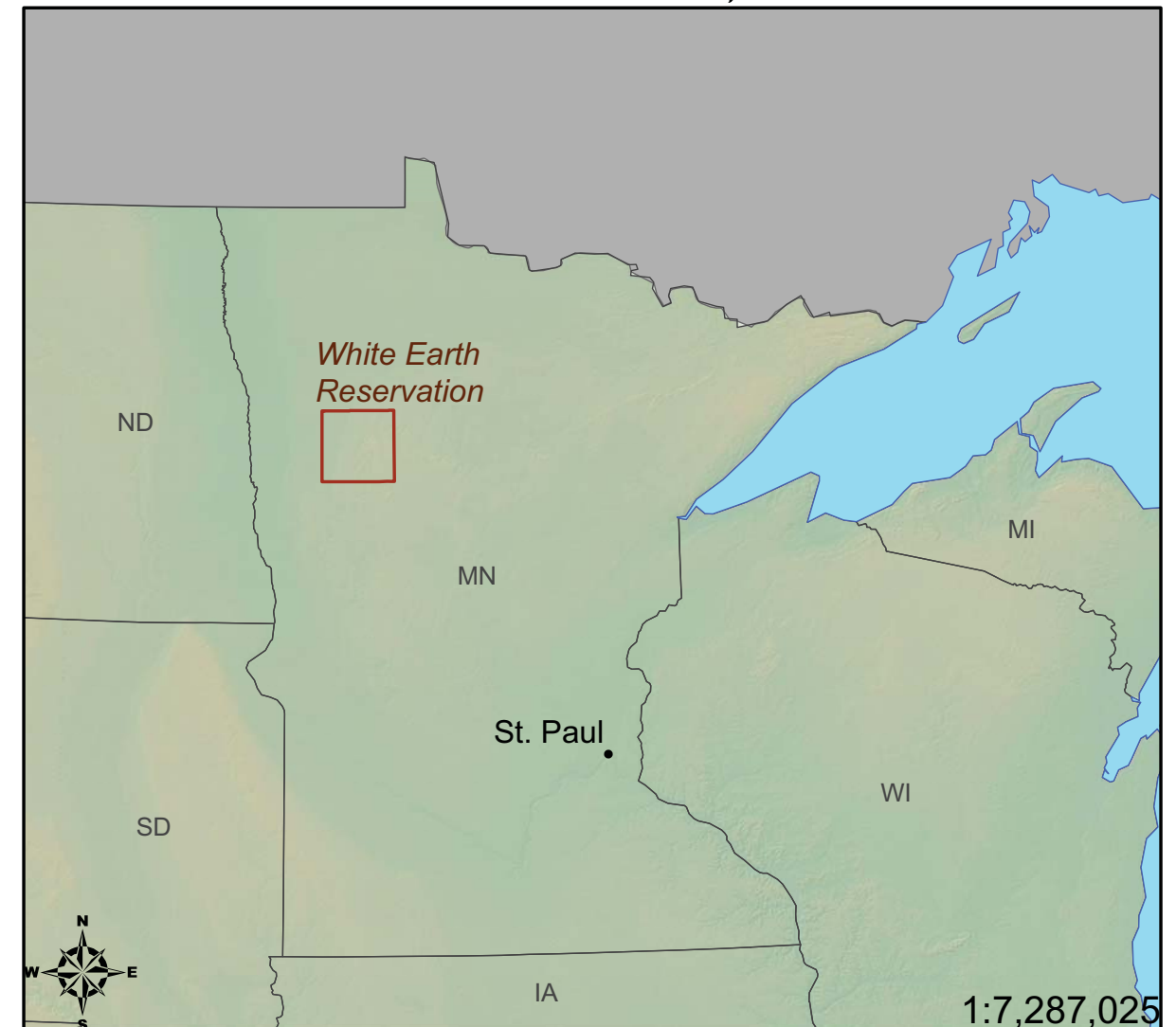
Transmission

A 115 kV transmission line runs adjacent to U.S. 59 in a north-south direction. Two other transmission lines cross the reservation in the northern portion with ratings of 69 kV and 115 kV.

Renewable Portfolio Standard

Minnesota has enacted two separate Renewable Portfolio Standards (RPS) for Xcel Energy and other electric utilities. Wind facilities smaller than 100 megawatts are eligible for the standards. Minnesota RPS for Xcel Energy from eligible resources must account for 30 percent of total retail electricity sales by 2020 (including sales from distribution utilities for which Xcel provides wholesale services). The standard for other state utilities requires 25 percent of retail electricity sales from eligible resources by 2025. Use of Renewable Energy Credits has limitations for use in RPS compliance. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org

Reservation Location Map



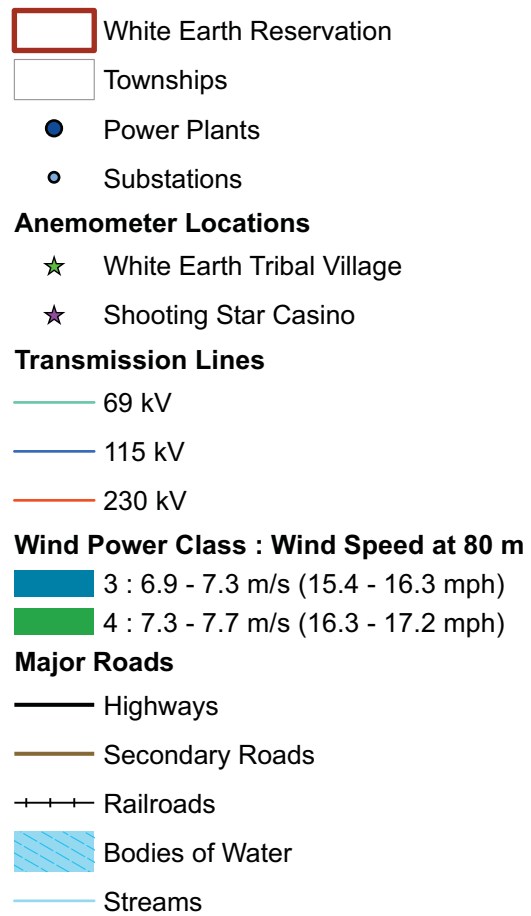
Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Tribal Contact Information

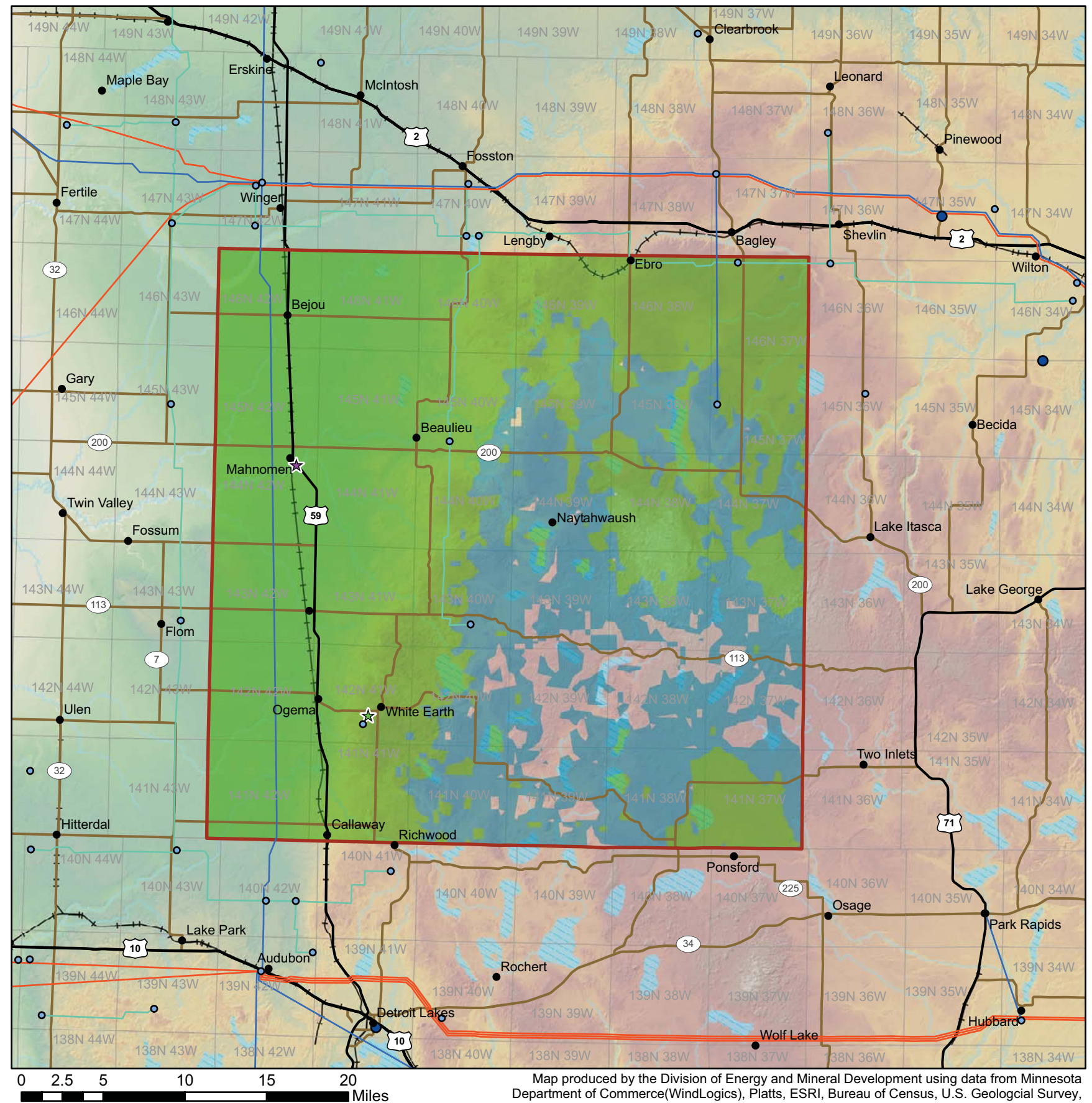
Chairwoman Erma Vizenor
 White Earth Band of Chippewa
 P.O. Box 418
 White Earth, MN 56591
 Phone: 218-983-3285

Project Lead Contact Information

Michael Triplett, Planner
 Economic Development Department
 White Earth Reservation Tribal Council
 P.O. Box 418
 White Earth, MN 56591
 218-983-4640 ext. 5906
 218-983-3641 fax



White Earth Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from Minnesota Department of Commerce (WindLogics), Platts, ESRI, Bureau of Census, U.S. Geological Survey, the White Earth Band of Chippewa, and the National Geospatial Resource Center.

The Flathead Indian Reservation in northwestern Montana encompasses over 1.3 million acres of forested mountains and valleys just west of the Continental Divide. The reservation was founded when members of the Salish, the Kootenai, and the Pend d' Oreilles Indians signed a treaty with the U.S. Government ceding 20 million acres of ancestral lands and retaining over 1.3 million acres for themselves.



A People of Vision

Since the 1940's the Tribes have been buying reservation lands; over 65 percent was tribally owned by 2000. Today, the Salish and Kootenai Tribes are committed to becoming completely self-sufficient. They are actively involved in several business ventures including forestry, gaming, manufacturing, and electric utilities, and are seeking wind development on their lands.

The Tribes are governed by an elected tribal council and chairman.

Location and Climate

South of Kalispel and north of Missoula, MT, the Flathead Reservation is 60 miles long and 40 miles wide. The towns of Polson, Pablo, Ronan, and St. Ignatius are on the reservation. Summer temperatures average in the low 80s while in winter temperatures can dip into the teens.



File Photo

Wind Potential

The reservation has a total potential of about 3,160 megawatts (MW) covering roughly 79,000 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 7, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 36,800 acres
- Class 4 – 17,600 acres
- Class 5 – 9,100 acres
- Class 6 – 9,900 acres
- Class 7 – 5,600 acres

Wind potential is located mainly on the eastern side of the reservation, with some additional areas in the southwestern quarter of the reservation.

The Salish and Kootenai Tribes have completed several wind resource assessments and environmental work on the reservation with assistance from their forestry department, Mission Valley Power, the Office of Economic Development, and their Legal Department. While they have found some potential within their own reservation boundary, they see extended wind development potential among the seven reservations in the state and are eager to combine their resources with the resources of these reservations and create a tribal corporation for managing wind projects on Indian lands in Montana.

Roads and Rail

Several U.S. and state highways cross the reservation. U.S. Highway 93, and State highways 35 and 28 run mostly north and south. State Highway 200 enters from the western side and connects to U.S. 93. Interstate 90 running east and west is located about 25 miles south of the reservation.

The reservation is accessible by railroad from its southern and western borders. The railroad lines lead north to the town of Polson at the southern end of Flathead Lake.

Transmission

Numerous transmission lines cross the reservation with a voltage range from 34.5 kV to 500 kV. The lines are primarily situated in the center of the reservation running north-south, angling to the west.

Renewable Portfolio Standard

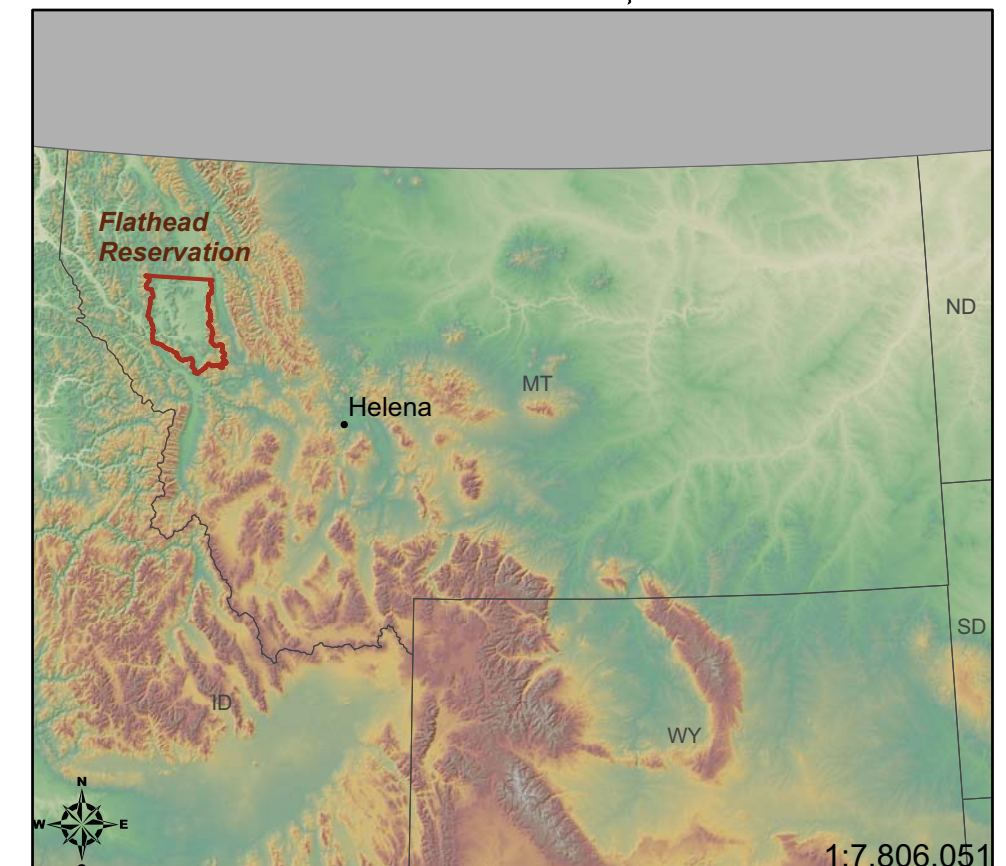
Montana has enacted a Renewable Portfolio Standard which requires public utilities and competitive electricity suppliers to obtain 15 percent of their

retail electricity sales from eligible renewable resources. Bundled and unbundled Renewable Energy Credits (RECs) may be used to meet compliance. RECs sold through voluntary utility green power programs may not be used for compliance. The Montana Public Service Commission must certify that RECs were produced by an eligible renewable resource. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.



Photo: courtesy Flathead Reservation

Reservation Location Map

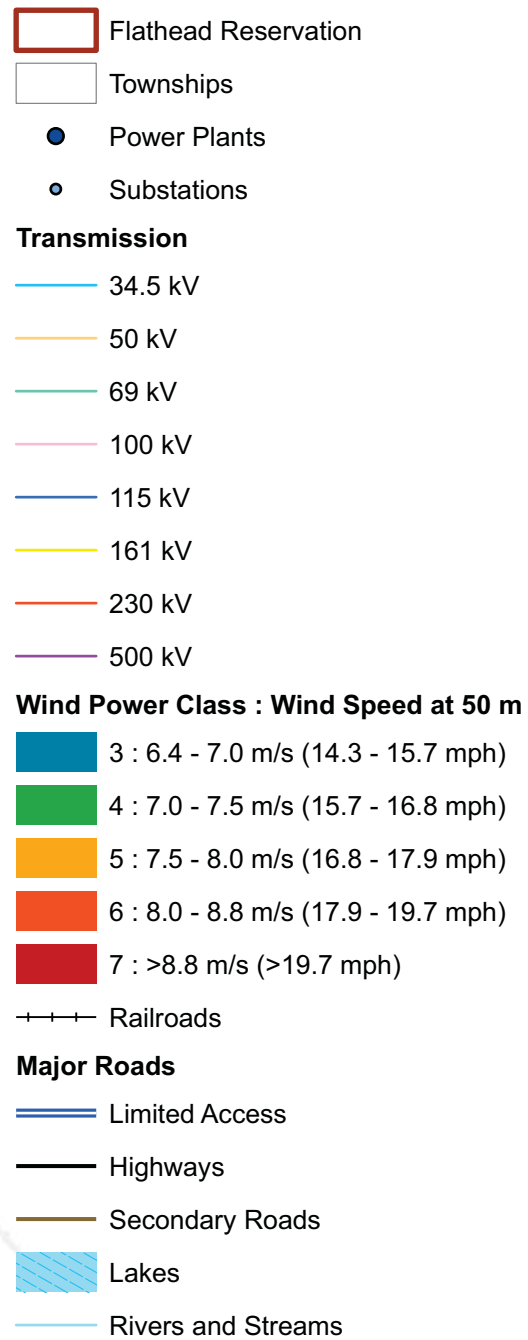


Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

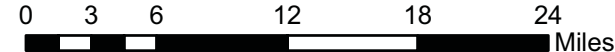
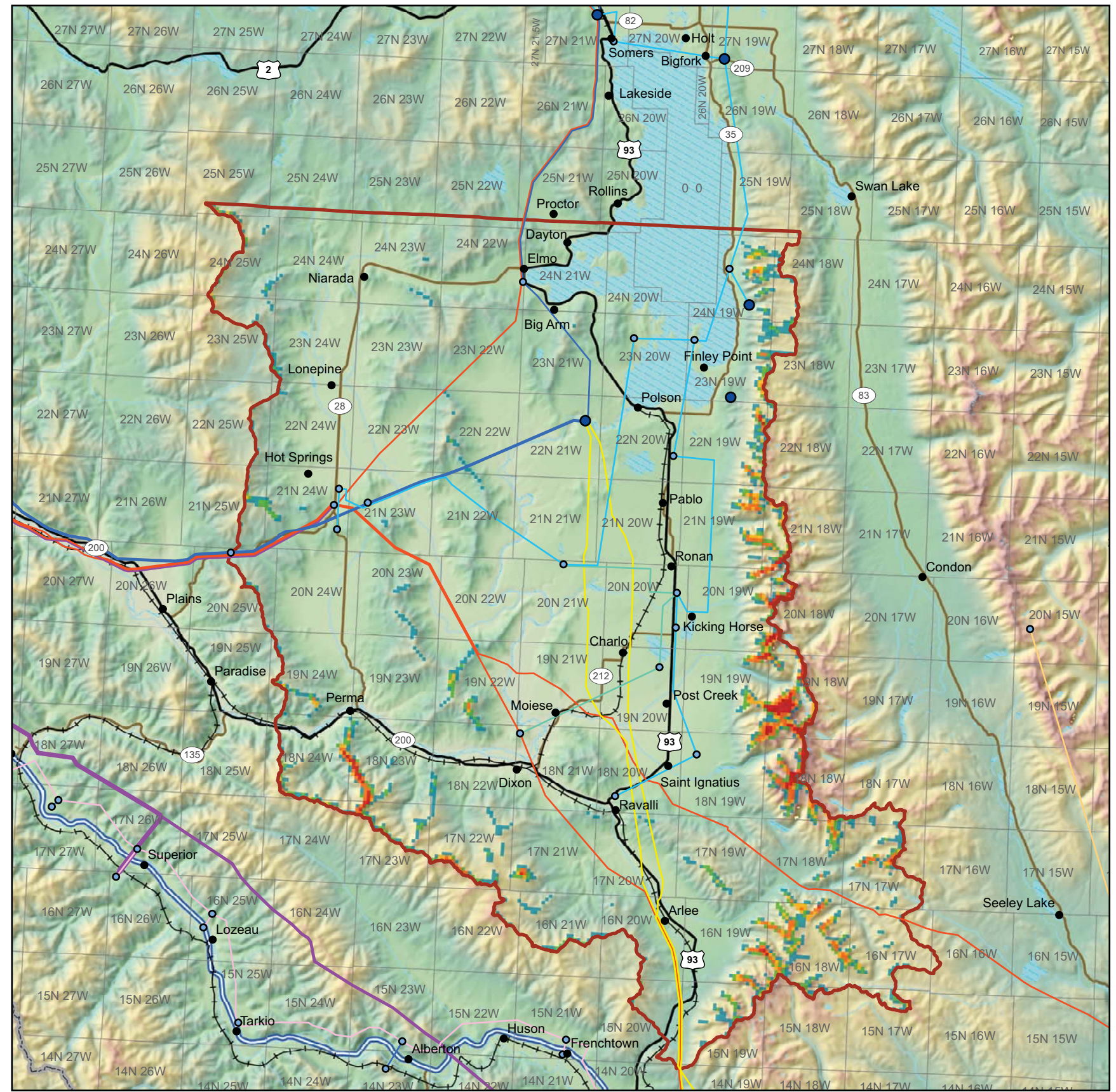
Flathead Reservation Wind Potential

Tribal Contact Information

Chairman E.T. Bud Moran
 Confederated Salish and Kootenai Tribes
 Box 278
 Pablo, MT 59855
 Phone: 406-675-2700



*Wind speeds are approximate and based on a Weibull k value of 2.0



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Fort Belknap Reservation

Established in 1869, the Fort Belknap Reservation in Montana covers an area of 621,935 acres. Fort Belknap Agency is the hub of the reservation and is located three miles southeast of Harlem, MT.



Four major communities make up the reservation: Fort Belknap Agency, Hays, Lodgepole, and Mild River Valley.

The Tribe's economy revolves around a strong agricultural industry, as well as ranching and some mining ventures and lumber operations. The Tribe is seeking to expand their economic base by pursuing wind development possibilities.

Fort Belknap is governed by a 12-member council serving four-year, staggered terms.

Location and Climate

Fort Belknap is located in north-central Montana in a stunning landscape of alluvial bottomland and glacial plains, framed by the Bearpaw and Little Rocky mountain ranges. The reservation's semiarid climate has temperatures ranging from highs of over 100 in summer to minus 50 in the winter. Annual precipitation averages between 10 and 16 inches.



Photo: courtesy Fort Belknap Reservation

Wind Potential

The reservation has a total potential of about 24,190 megawatts (MW) covering roughly 604,742 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 7, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 374,337 acres
- Class 4 – 192,000 acres
- Class 5 – 31,763 acres
- Class 6 – 5,932 acres
- Class 7 – 710 acres

The areas with greater wind potential are on the northwestern and southeastern parts of the reservation. The Tribe began a wind energy feasibility study in 2006 with funding from the Department of Energy Tribal Energy Program. The Tribe installed a 20-meter anemometer tower from the National Renewable Energy Laboratory Anemometer Loan Program in the northwest portion of the reservation and began taking measurements in December of 2006. The annual average wind speed was just over 6.26 meters per second (14 mph), with winds prevailing from a west-northwest direction. They plan to relocate the tower to the Lodgepole Elementary School and install a 50-meter tower at the current location.

Roads and Rail

U.S. Highway 2 crosses the northern part of the reservation for about 20 miles in an east-west direction and U.S. Highway 191 clips the southeastern corner of the reservation. Montana Highway 66 runs in a north-south direction on the western part of the reservation and through the cities of Fort Belknap Agency and Hays. A railroad line is located about 5 miles just north of the reservation.

Transmission

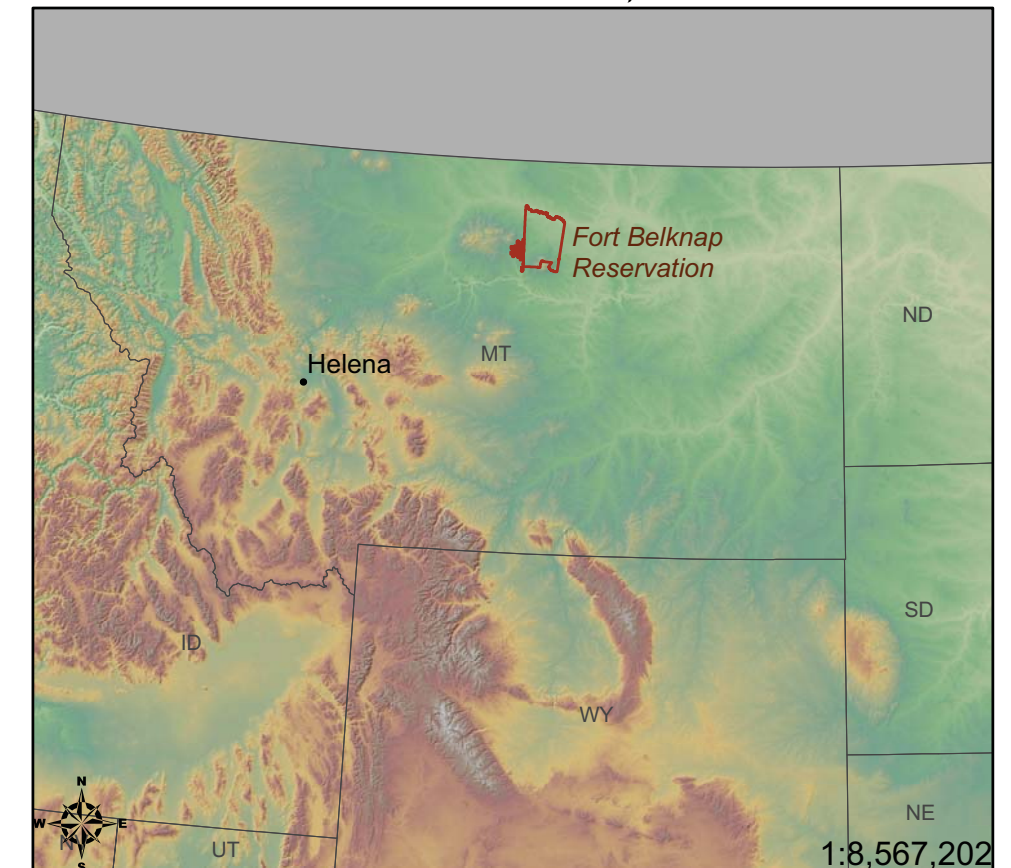
There are two 69 kV transmission lines that cross the reservation. One of the lines runs north-south just west of Montana Highway 66 and near one of the greater wind potential areas on the reservation. The other 69 kV line crosses the northeastern tip of the reservation. Additionally, a 161 kV line is north of the reservation within five to eight miles.

Montana

Renewable Portfolio Standard

Montana has enacted a Renewable Portfolio Standard which requires public utilities and competitive electricity suppliers to obtain 15 percent of their retail electricity sales from eligible renewable resources. Bundled and unbundled Renewable Energy Credits (RECs) may be used to meet compliance. RECs sold through voluntary utility green power programs may not be used for compliance. The Montana Public Service Commission must certify that RECs were produced by an eligible renewable resource. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map

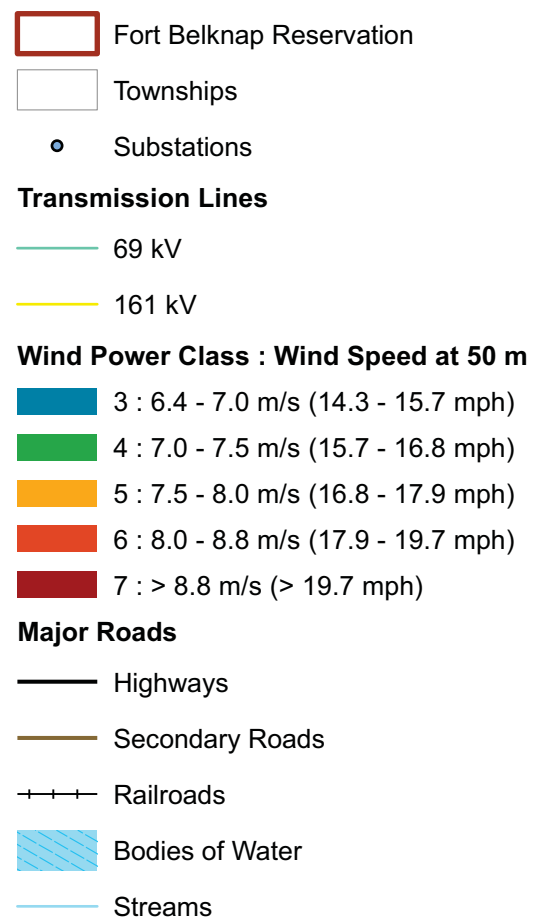


Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

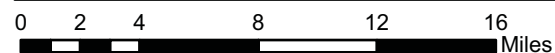
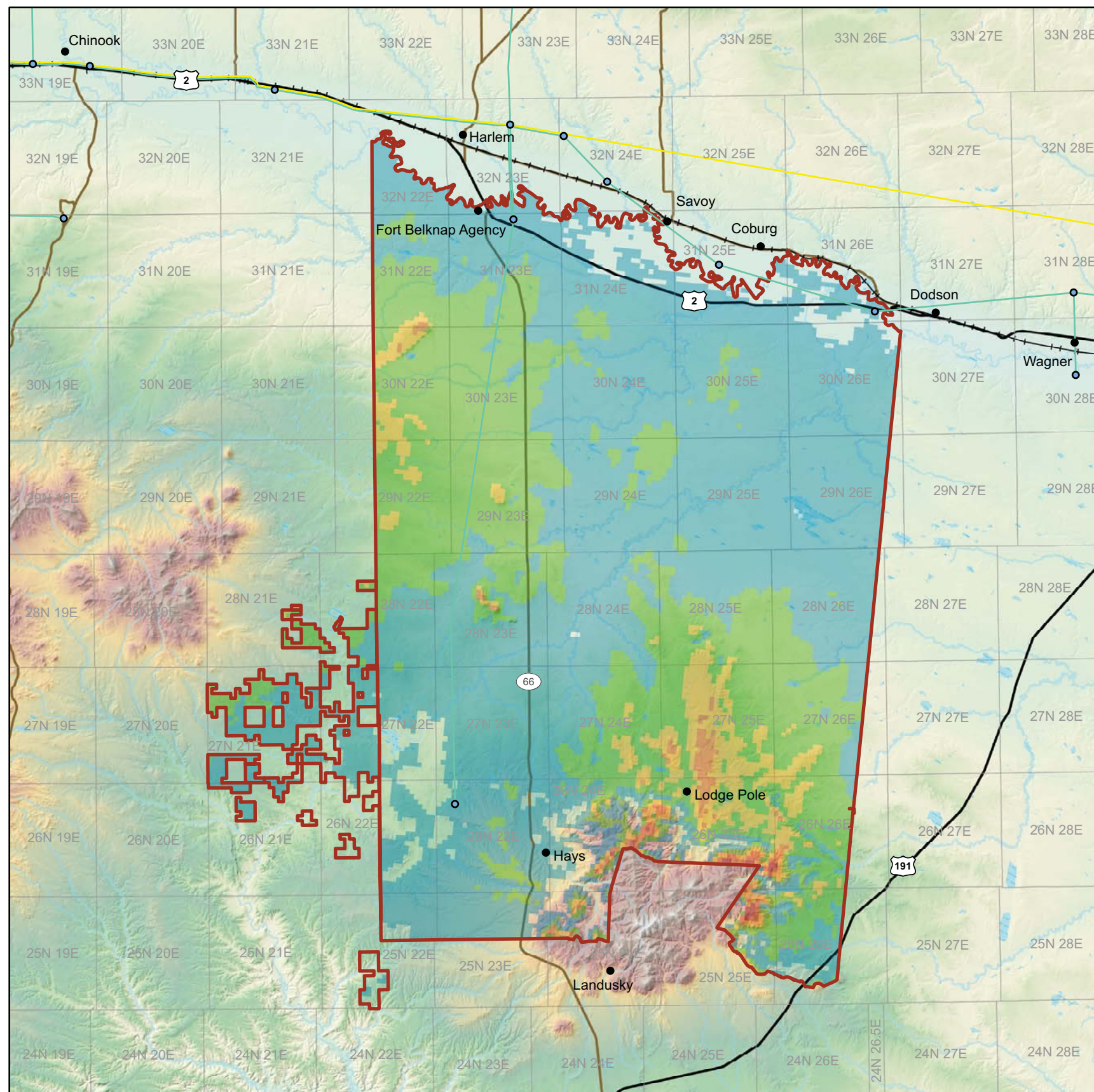
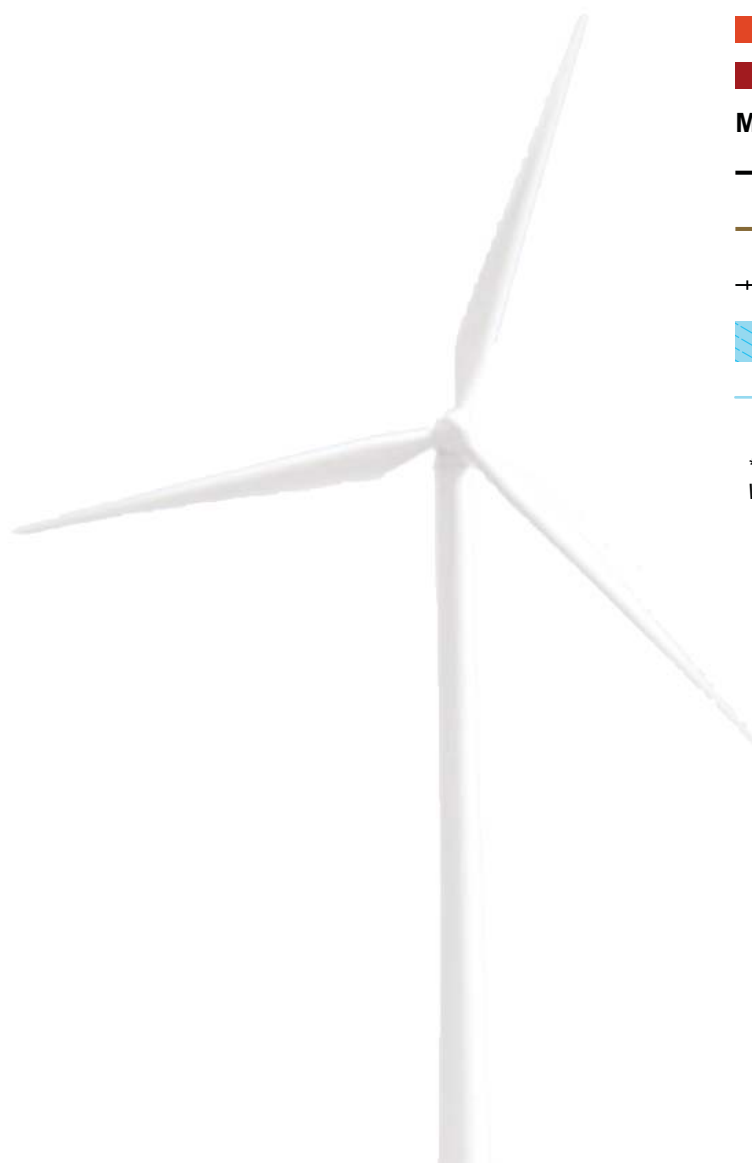
Fort Belknap Reservation Wind Potential

Tribal Contact Information

President Tracy King
 Fort Belknap Indian Community
 Gros Ventre and Assiniboine Tribes
 RR1, Box 66
 Harlem, MT 59526
 Phone: 406-353-2205



**Wind speeds are approximate and based on a Weibull k value of 2.0*



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Rolling hills, glacial till, and river valleys make up the primary landscape of the just over 2 million acre Fort Peck Reservation, with woodlands near the rivers and stock dams.

As early as the late 1600s, tribal ancestors occupied the region surrounding the present day reservation in Montana. Over time, the Tribes moved out of the woodlands and into the prairies. They traded furs and pelts with French Canadian trappers and were allies with the Crees, Chippewas, and Monsonis against the Arikaras, Cheyenne, Blackfeet and Gros Ventre tribes.



Today, the Tribes, made up of Assiniboine and Sioux Indians for whom the reservation was established, maintain a stable economy that is largely reliant on agriculture. They are also one of the first reservations in the United States to develop oil wells. But as the Tribes face growing concerns with their water quality and supply, tribal members are looking at other businesses to support their economies. Manufacturing and mining provide great opportunities for the Tribes, as does wind development.

The largest community on the reservation is Wolf Point, and tribal headquarters are located in the town of Poplar. They are governed by a council made up of 12 voting members. Council officers and members are elected at large and serve two year terms. Council members preside over nine business committees, each dealing with tribal policy and business management.

Location and Climate

The Fort Peck Reservation lies in north eastern Montana, primarily in Roosevelt County, although small portions extend into Valley, Daniels, and Sheridan counties. The reservation is bordered on the south by the Missouri River, on the east by the Big Muddy Creek, and on the west by Porcupine Creek.

Wind Potential

The reservation has a total potential of about 58,678 megawatts (MW) covering roughly 1,466,956 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 4, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 1,436,928 acres
- Class 4 – 30,028 acres

Wind potential is located throughout most of the reservation with the higher Class 4 centrally located. In 1996 the Tribes conducted a feasibility study of the reservation and collected data for one year at five locations. These sites are:

- Cameron Point: 7.4 m/s (16.5 mph) at 30 meters
- Cameron Ridge: 7.5 m/s (16.7 mph) at 40 meters
- Wall Ridge: 7.5 m/s (16.7 mph) at 30 meters
- Scout Mesa: 6.8 m/s (15.2 mph) at 28.87 meters
- Poplar Bluff: 6.1 m/s (13.6 mph) at 30 meters

The feasibility study also displayed results indicating low turbulence intensity with high vertical shear. From the study, the Tribes have identified three locations on tribal lands with wind resources of 7.5 meters per second (16.7 mph) at or above 30 meters.

Although there has been no prior environmental work initiated on the reservation concerning wind energy development, a full environmental impact statement was conducted for a wind project approximately ten miles from the western reservation boundary. However, the study had included a section review of wildlife and migratory patterns for the Cameron Point and Cameron Ridge sites. The Tribes have also identified Cameron Point as a possible area for a tribal wind project. The Cameron Point project area is within Township 32 N, Range 41 E and includes roughly 7,500 acres of tribal, allotted and non-tribal lands. The Tribes are interested in a fair and equitable return on the value of their land and the wind resources in the form of a joint venture agreement, where a partner may use tax credits and incentives associated with large scale wind energy development.

Two 50 kW turbines were installed in 2006 on the reservation in the town of Poplar, MT to provide power to the tribal and the BIA Administrative buildings.

Roads and Rail

U.S. Highway 2 cuts clear across the southern portion of the reservation. Montana Highway 13 runs north and south through the center of the reservation. Other minor roads provide additional access throughout the area. Rail access to the reservation runs adjacent to U.S. 2 in the southern part of the reservation. An additional rail line is within 20 miles of the reservation boundary to the north and east.

Transmission

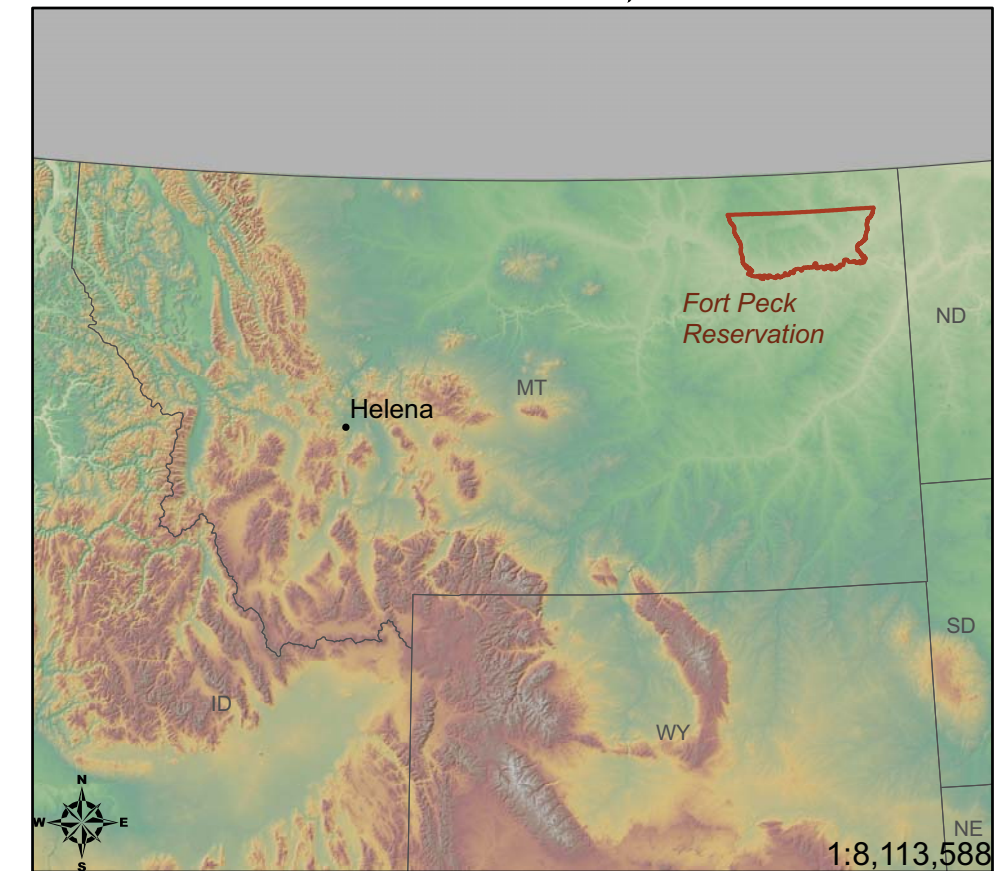
There are many transmission lines crossing the reservation. Their power ratings vary from 34.5 kV to 230 kV. 69, 115 and 230 kV lines enter the reservation from the southwest corner, and the 69 and 230 kV lines continue in an east-west direction for about 30 miles. The 115 kV line continues across the southern portion of the reservation. Additional lines lead north onto the reservation

from the trio of lines previously discussed. These additional lines have voltages of 34.5, 69, and 57 kV and provide access to the western, central and eastern areas of the reservation respectively.

Renewable Portfolio Standard

Montana has enacted a Renewable Portfolio Standard which requires public utilities and competitive electricity suppliers to obtain 15 percent of their retail electricity sales from eligible renewable resources. Bundled and unbundled Renewable Energy Credits (RECs) may be used to meet compliance. RECs sold through voluntary utility green power programs may not be used for compliance. The Montana Public Service Commission must certify that RECs were produced by an eligible renewable resource. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map

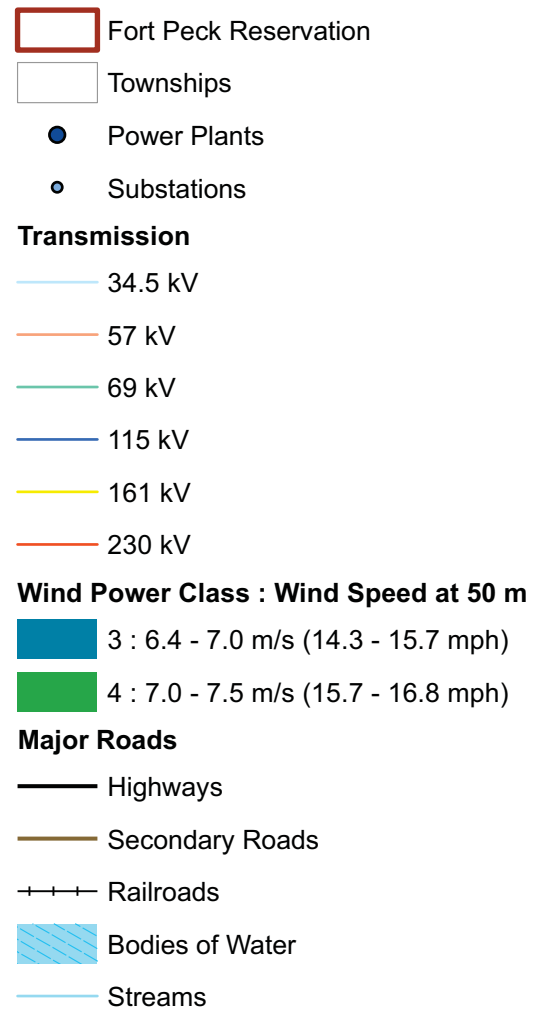


Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Tribal Contact Information

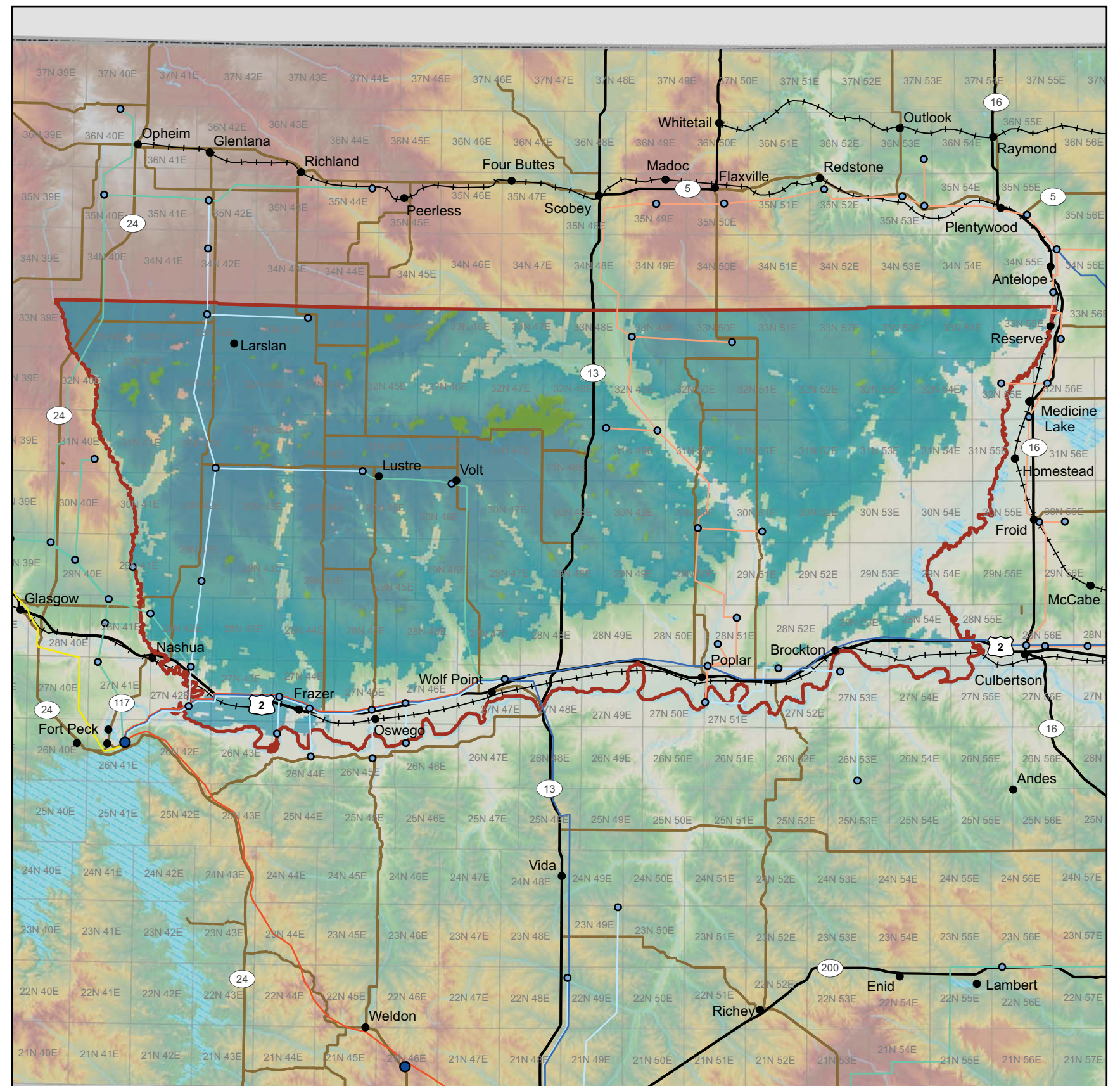
Chairman A.T. Stafne
 Fort Peck Assiniboine and Sioux Tribes
 P.O. Box 1027
 Poplar, MT 59255
 Phone: 406-768-5155

Walter White Tail Feather
 Director
 Fort Peck Assiniboine and Sioux Tribes
 Economic Development Office
 501 Medicine Bear Road, P.O. Box 1027
 Poplar, MT 59255
 Phone: 406.768.2344 (direct line)



*Wind speeds are approximate and based on a Weibull k value of 2.0

Fort Peck Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Northern Cheyenne Reservation

The Northern Cheyenne make their home in southeastern Montana on nearly 450,000 acres of rolling hills and steep outcroppings.

During the 1600's, the Cheyenne began a westward move from the Great Lakes toward the Missouri River to avoid contact with Euro-American settlers.

The reservation was established by an Executive Order in 1884. Today, the Tribe is governed by a tribal council with their headquarters in Lama Deer. Farming, ranching, some forestry, and gaming contribute to their economy.

Location and Climate

The reservation is located 100 miles east of Billings, MT, and 75 miles north of Sheridan, WY. It is bordered on the east by the Tongue River and on the west by the Crow Reservation in Montana.

Wind Potential

The reservation has a total potential of about 3,973 megawatts (MW) covering roughly 99,328 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 5, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 81,108 acres
- Class 4 – 17,542 acres
- Class 5 – 678 acres

The areas on the reservation with higher wind potential are in the southwest and northeast. The Tribe began wind development efforts in 2002 with funding from the Department of Energy Tribal Energy Program. A wind resource assessment found wind speeds in the area to be 7.5 meters per second (16.7 mph) at 65 meters, with a potential capacity factor of 34 percent. The results from the wind resource assessment inspired the tribe to pursue development of a wind power plant, and began preconstruction activities with a second Department of Energy funding award in 2003. Some initial preliminary environmental studies were completed, which identified no significant impacts in the project area thus far.



Roads and Rail

U.S. Highway 212 crosses the reservation in an east-west direction. Montana Highway 39 is found in the northern central part of the reservation leading to the city of Lama Deer. Rail is located 10 miles north of the reservation, near the city of Colstrip, Montana.

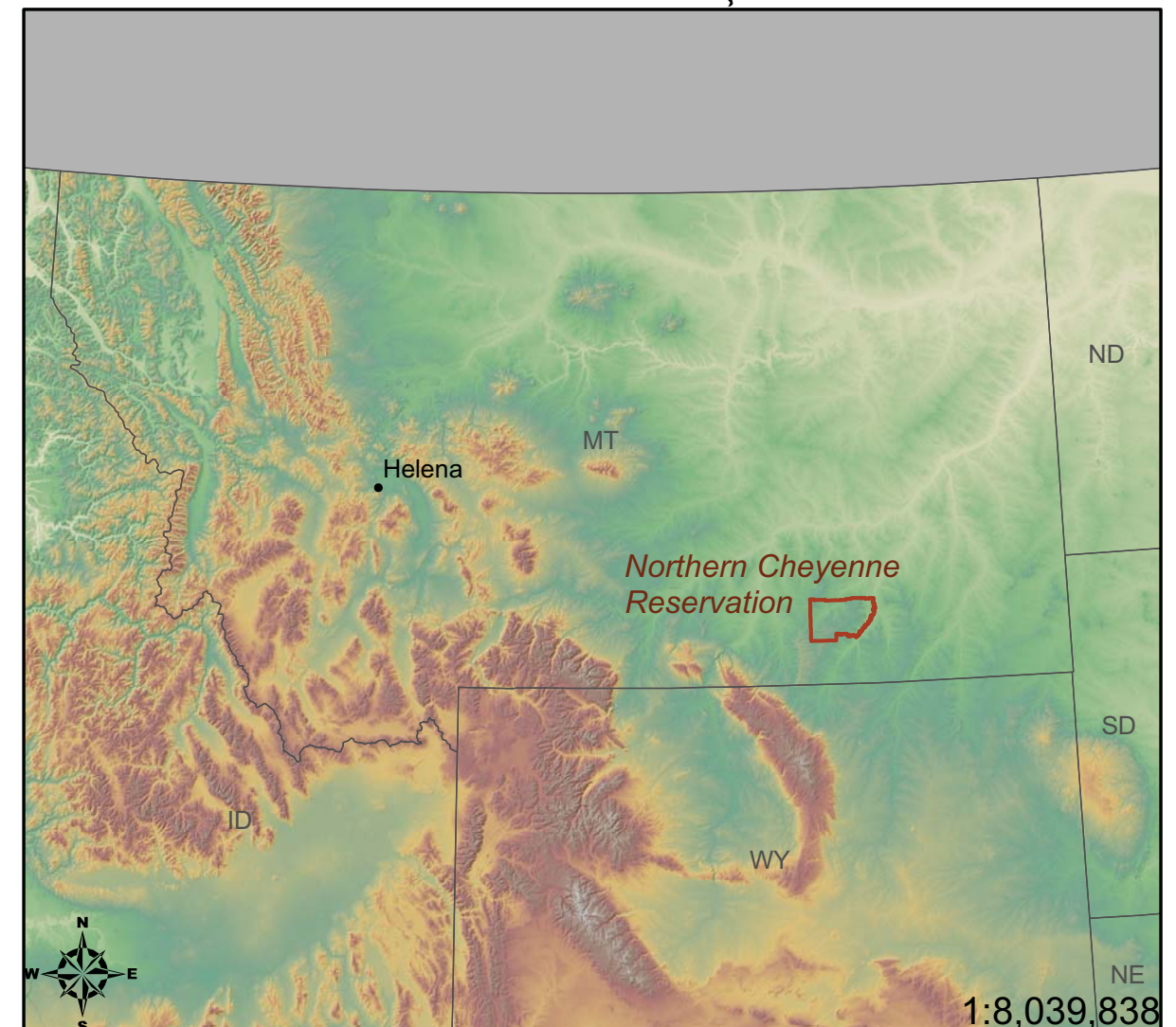
Transmission

A 69 kV transmission line crosses the reservation from the north and leads to the city of Lama Deer, where the line then splits into two transmission lines heading east and west at the northern end of the reservation.

Renewable Portfolio Standard

The state of Montana has enacted a Renewable Portfolio Standard which requires public utilities and competitive electricity suppliers to obtain 15 percent of their retail electricity sales from eligible renewable resources. Bundled and unbundled Renewable Energy Credits (RECs) may be used to meet compliance. RECs sold through voluntary utility green power programs may not be used for compliance. The Montana Public Service Commission must certify that RECs were produced by an eligible renewable resource. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

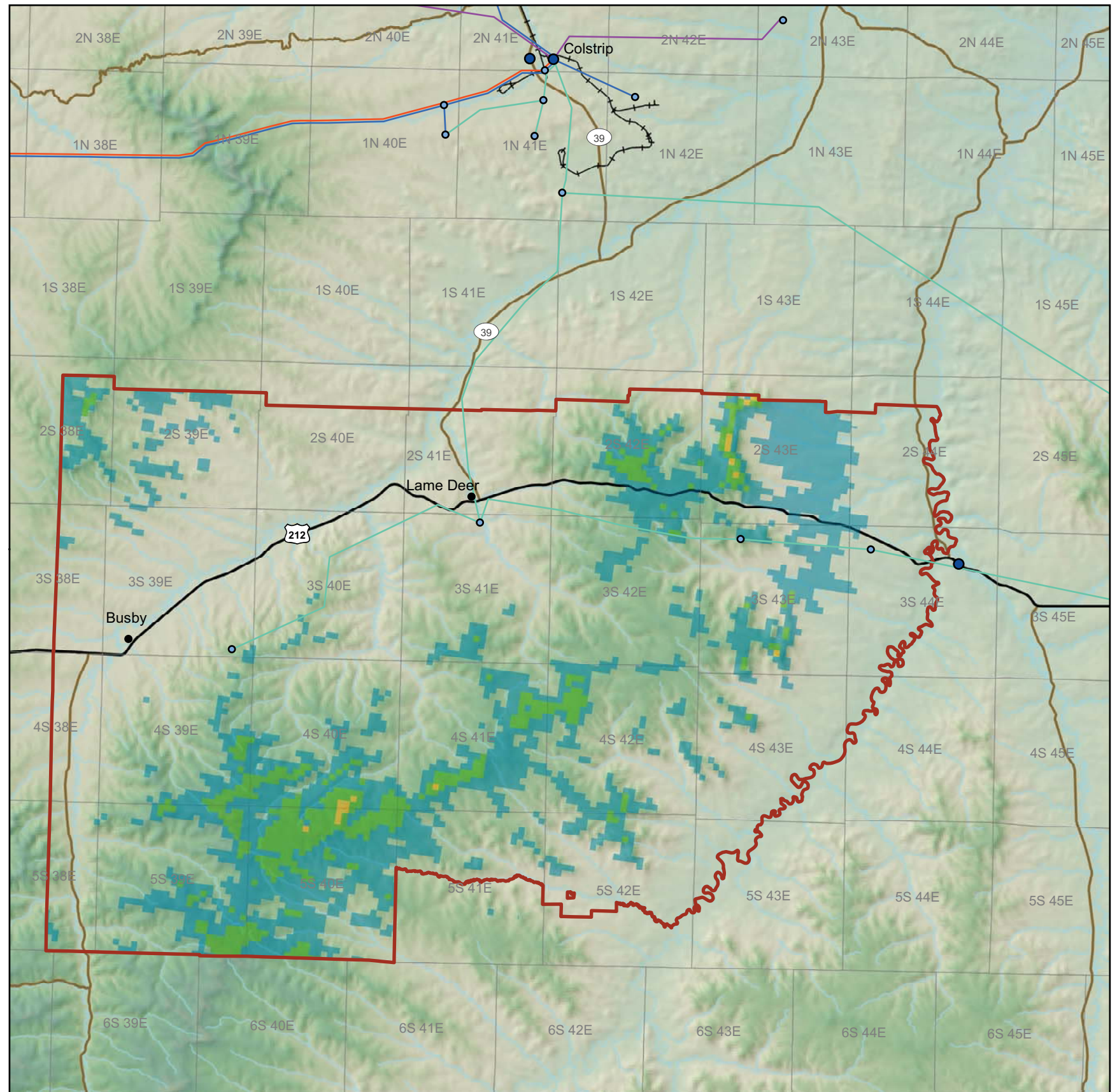
Northern Cheyenne Reservation Wind Potential

Tribal Contact Information

President Leroy Spang
 Northern Cheyenne Tribe
 P.O. Box 128
 Lama Deer, MT 59043
 Phone: 406-477-6284

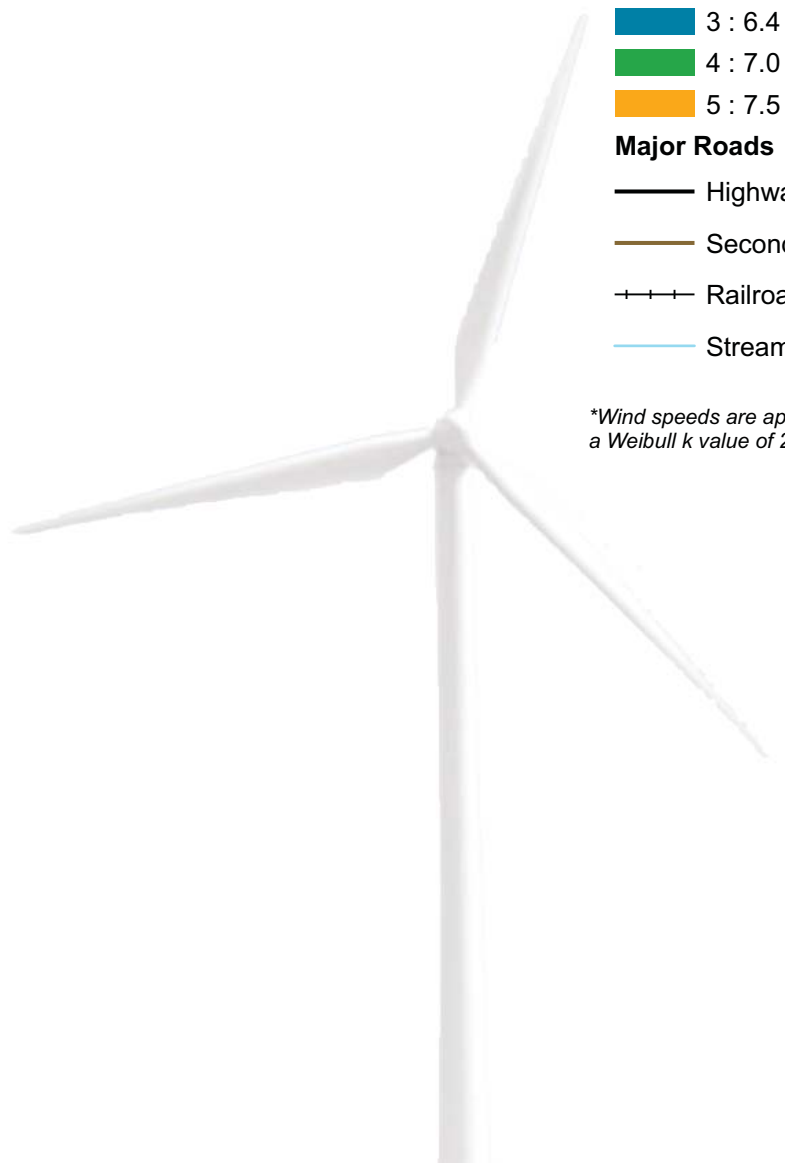
- Northern Cheyenne Reservation
- Townships
- Power Plants
- Substations
- Transmission Lines**
- 69 kV
- 115 kV
- 230 kV
- 500 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.4 - 7.0 m/s (14.3 - 15.7 mph)
- 4 : 7.0 - 7.5 m/s (15.7 - 16.8 mph)
- 5 : 7.5 - 8.0 m/s (16.8 - 17.9 mph)
- Major Roads**
- Highways
- Secondary Roads
- Railroads
- Streams

**Wind speeds are approximate and based on a Weibull k value of 2.0*



0 1.5 3 6 9 12 Miles

Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Rocky Boy's Reservation

The Chippewa Cree Tribe of the Rocky Boy's Reservation is 70 miles south of the Canadian border. The 111,559-acre reservation spans rolling, high-plains grasslands to the subalpine regions of the Bear Paw Mountains.

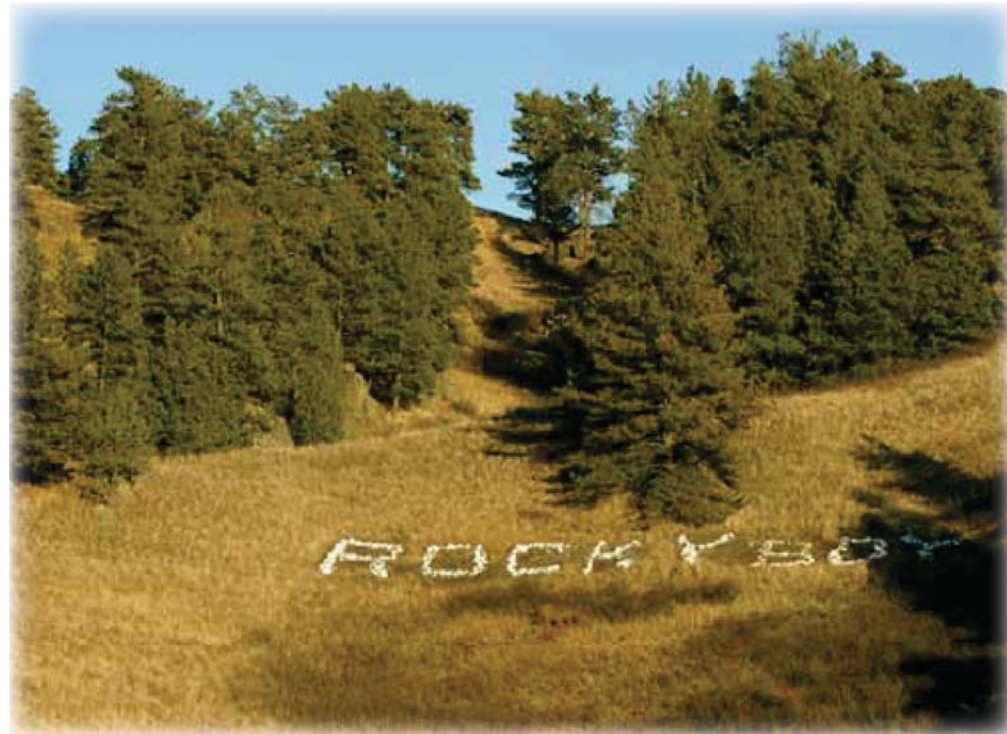


The reservation shares a rich variety of spiritual beliefs and traditions as members continue to live and practice elements of their Cree, Chippewa, Assiniboine, and Metis customs.

Tribal economy is supported largely by ranching, wheat and barley production, and the development of timber and mineral resources. The Tribe is considering development of a scenic byway through reservation lands.

Location and Climate

The Rocky Boy's Reservation is located in north-central Montana. The nearest town is Harve, MT, 32 miles to the north. The nearest urban center is Great Falls, MT, 100 miles southwest of the reservation. Temperatures in the summer average in the 70s while winter temperatures can dip below zero.



File Photo

Wind Potential

The reservation has a total potential of about 2,628 megawatts (MW) covering roughly 65,708 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 7, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 47,195 acres
- Class 4 – 9,990 acres
- Class 5 – 4,358 acres
- Class 6 – 2,988 acres
- Class 7 – 1,177 acres

Wind potential is located mainly along the eastern side of the reservation, increasing in wind power class towards the south.

Roads and Rail

Montana Highway 87 crosses the northwestern corner of the reservation. Other minor roads lead on to different areas of the reservation. Rail lines run adjacent to Highway 87.

Transmission

Several 161 kV and 69 kV transmission lines cross the northern part of the reservation.

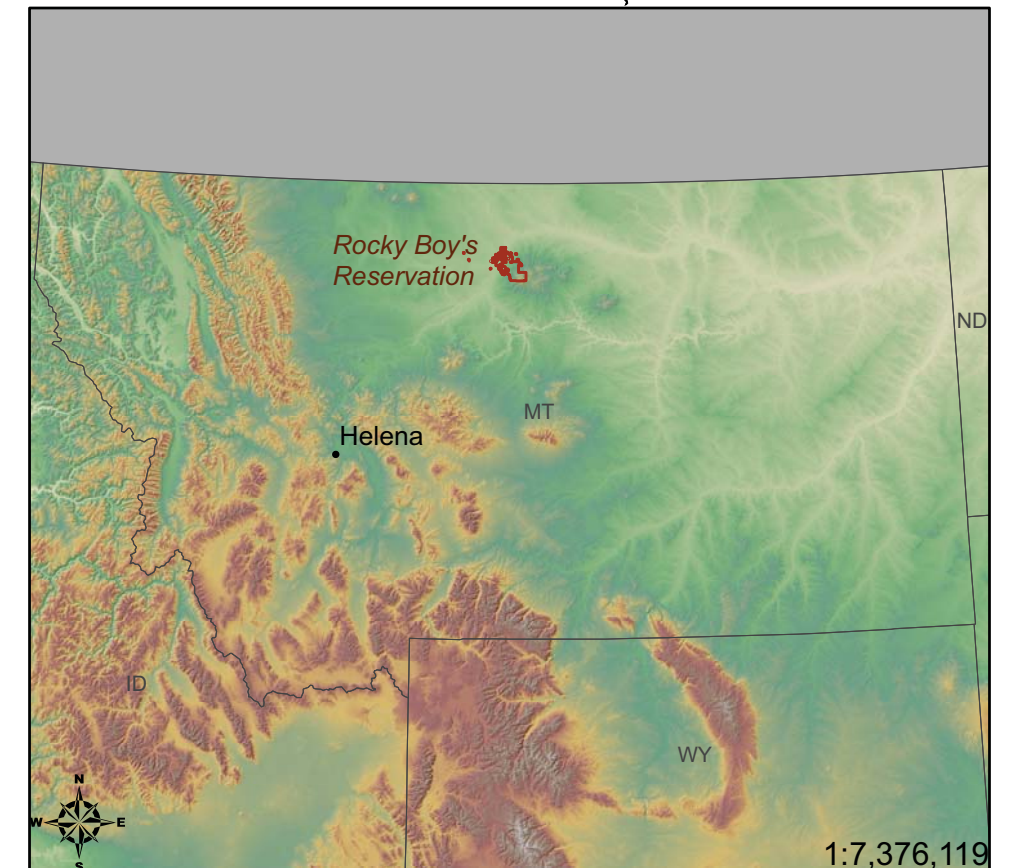
Renewable Portfolio Standard

Montana has enacted a Renewable Portfolio Standard which requires public utilities and competitive electricity suppliers to obtain 15 percent of their retail electricity sales from eligible renewable resources. Bundled and unbundled Renewable Energy Credits (RECs) may be used to meet compliance. RECs sold through voluntary utility green power programs may not be used for compliance. The Montana Public Service Commission must certify that RECs were produced by an eligible renewable resource. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.



File Photo

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

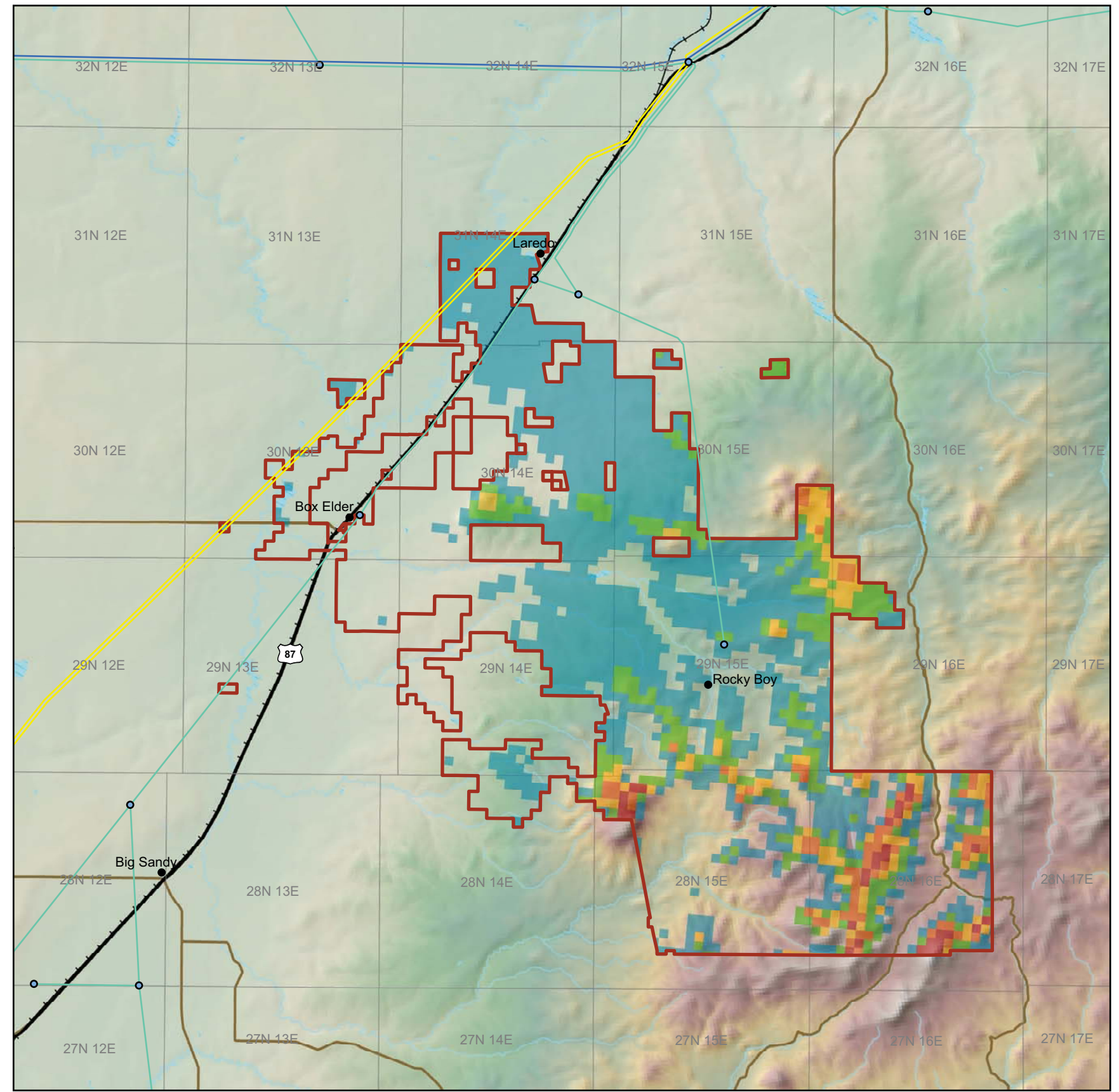
Rocky Boy's Reservation Wind Potential

Tribal Contact Information

Chairman Jake Parker
 Chippewa-Cree Tribe
 RR1, P.O. Box 544
 Box Elder, MT 59521
 Phone: 406-395-4282

- Rocky Boy's Reservation
- Townships
- Substations
- Transmission Lines**
- 69 kV
- 115 kV
- 161 kV
- Wind Power Class : Wind Speeds at 50 m**
- 3 : 6.4 - 7.0 m/s (14.3 - 15.7 mph)
- 4 : 7.0 - 7.5 m/s (15.7 - 16.8 mph)
- 5 : 7.5 - 8.0 m/s (16.8 - 17.9 mph)
- 6 : 8.0 - 8.8 m/s (17.9 - 19.7 mph)
- 7 : > 8.8 m/s (> 19.7 mph)
- Major Roads**
- Highways
- Secondary Roads
- Railroads
- Bodies of Water
- Streams

**Wind speeds are approximate and based on a Weibull k value of 2.0*



0 1 2 4 6 8 Miles

Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Fort Berthold Reservation

The Fort Berthold Indian Reservation in central North Dakota, home of the Three Affiliated Tribes, supports a thriving oil and gas industry as well as gaming, limited ranching and farming. Recently, the tribe established a “one-stop shop” office to streamline all oil and gas leasing activities.



Like many tribes of the northern plains, the Mandan, Hidatsa, and Arikara who make up the Three Affiliated Tribes, were once farmers, hunted wild game and relied heavily on buffalo for food, clothing, and shelter. Tribal members maintained a vast trading system and were considered middlemen by neighboring tribes for different types of trade products.

The reservation today is governed by a body consisting of a chairman, vice-chairman, a treasurer, a secretary, and three at-large members. Business council members are elected to four-year terms by the general membership.

The majority of tribal members live in Mandaree, White Shield, Twin Buttes, Four Bears, and New Town, the location of their tribal headquarters.



File Photo

Location and Climate

The reservation is located southwest of the town of Minot and about three hours from Bismarck. The 1,010,703-acre reservation has both flat prairie land and rolling terrain, intersected by the Missouri River. Eleven percent of the area is covered by Lake Sakakawea, the Tribe’s reservoir.

Year-round daily highs average in the mid 50s, while winter temperatures range in the 30s. The region gets about 16 inches of precipitation annually.

Wind Potential

The reservation has a total potential of about 28,333 megawatts (MW) covering roughly 708,332 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 5, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 274,509 acres
- Class 4 – 404,518 acres
- Class 5 – 29,305 acres

The Tribes recently completed a renewable energy feasibility study through the Department of Energy Tribal Energy Program, which included a 14-month wind resource assessment using a 50-meter anemometer tower. Results of the study showed a Class 5 wind resource with a possible net capacity factor between 29.4 percent and 38.5 percent.

Preliminary environmental work, including avian studies, have been completed. The Tribes are interested in utilizing a Minnesota flip business structure to take advantage of the tax credits available for wind energy generation and thus are open to meeting with potential investors and developers to begin development.

Roads and Rail

There are numerous state highways crossing the reservation, such as 22, 23, 37, 73, and 1804. Rail lines enter from the east in the northern part of the reservation. Commercial air service is available at Minot ND, about 68 miles away, and at Bismarck ND, 160 miles east of the reservation.

Transmission

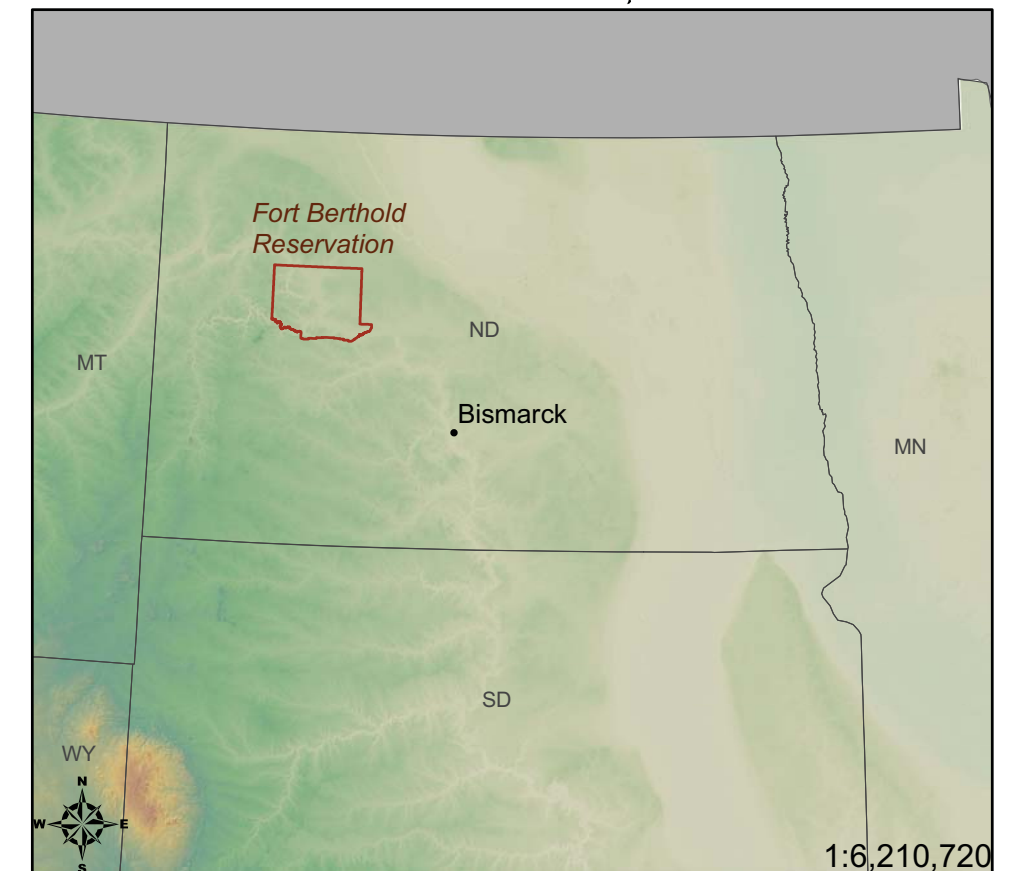
There is a 69 kV transmission line crossing the northwestern corner of the reservation.

North Dakota

Renewable and Recycled Energy Objective

The state of North Dakota has established a voluntary objective that 10 percent of all retail electricity sold in the state be obtained from renewable energy and recycled energy by 2015. Renewable Energy Certificates (RECs) may be purchased to offset non-qualifying retail sales. RECs do not need to be acquired from an in-state facility. To qualify for the objective credits, a generating source must meet the requirements of the North Dakota Public Service Commission rules. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

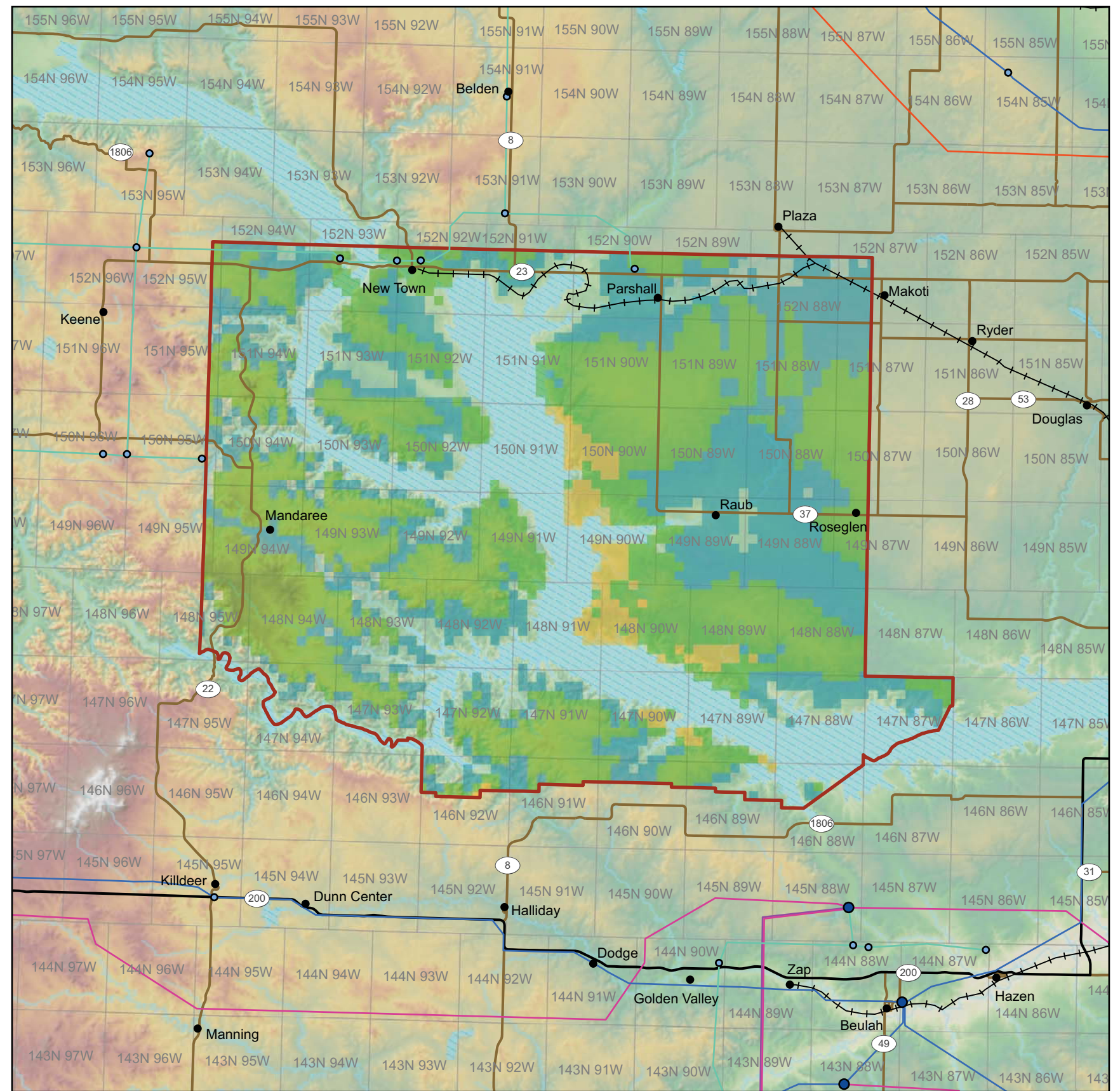
Tribal Contact Information

Chairman Marcus D. Levings
 Three Affiliated Tribes of the
 Fort Berthold Reservation
 404 Frontage Road
 New Town, ND 58763
 Phone: 701-627-4781

- Fort Berthold Reservation
- Townships
- Power Plants
- Substations
- Transmission Lines**
- 69 kV
- 115 kV
- 230 kV
- 345 kV
- 500 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.4 - 7.0 m/s (14.3 - 15.7 mph)
- 4 : 7.0 - 7.5 m/s (15.7 - 16.8 mph)
- 5 : 7.5 - 8.0 m/s (16.8 - 17.9 mph)
- Major Roads**
- Highways
- Secondary Roads
- + + + Railroads
- Bodies of Water
- Streams

*Wind speeds are based on a Weibull k value of 2.0

Fort Berthold Reservation Wind Potential



0 2.5 5 10 15 20 Miles

Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Lake Traverse Reservation

The Sisseton-Wahpeton Sioux live mostly on reservation lands in South Dakota and on a small section of land in North Dakota. They are members of the Great Sioux Nation whose lands were drastically reduced to its present size of 965,319 acres as a result of Homestead Acts that gave land to non-Indian settlers.



Tribal economy is based primarily on farming and cattle grazing. Gaming also supports their economy. The Tribe's long-term goal has been to reduce its reliance on federal projects and programs. The success of gaming has helped realize this goal, but the Tribe continues to seek other business opportunities to stimulate their economy.

The Tribe is governed by a chairman, officers, and council members who serve two-year terms. Council members are chosen by district.

Location and Climate

The reservation is spread over two main geographic areas: The Coteau Hills, which cover most of the eastern and southern portion of the reservation; and the Minnesota River valleys, which cover its northeastern quadrant. Elevation



Photo: Walter Bonora

varies from 2,100 feet in the Coteau Hills to about 1,000 feet at Lake Traverse. Summer temperatures average in the 80s and winter temperatures dip to the 20s.

Wind Potential

The reservation has a total potential of about 37,429 megawatts (MW) covering roughly 935,731 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 6, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 515,463 acres
- Class 4 – 134,336 acres
- Class 5 – 276,268 acres
- Class 6 – 9,664 acres

The higher wind class potential is located mainly in the southwestern half of the reservation.

Roads and Rail

Interstate 29 cuts across the eastern part of the reservation and U.S. Highway 12 runs through the southern end. Numerous North Dakota and South Dakota state routes such as 10, 19, 25, 106, and 127, provide additional access to the northern half of the reservation such as 10, 19, 25, 106, and 127.

Transmission

Several transmission lines cross the reservation. They vary in size, and include voltage ratings of 42, 69, 115, 230, and 345 kV.

North Dakota - Renewable and Recycled Energy Objective

North Dakota has established a voluntary objective that 10 percent of all retail electricity sold in the state be obtained from renewable energy and recycled energy by 2015. Renewable Energy Certificates (RECs) may be purchased to offset non-qualifying retail sales. RECs do not need to be acquired from an in-state facility. To qualify for the objective credits, a generating source must meet the requirements of the North Dakota Public Service Commission rules for tracking, recording and verification. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

South Dakota - Renewable, Recycled and Conserved Energy Objective

South Dakota has established a voluntary objective for all retail providers of electricity (municipal utilities, investor-owned utilities, and rural electric cooperatives) which states that 10 percent of all retail electricity sold in the state will be obtained from renewable energy, recycled and conserved energy by 2015. In order to meet the objective, measurements may be taken of qualifying megawatt-hours delivered at retail or by use of RECs. RECs may be generated by either in-state or out-of-state facilities and must meet the South Dakota Public Utilities Commission rules for tracking, recording and verification. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Tribal Contact Information

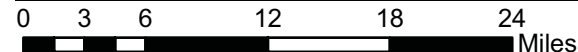
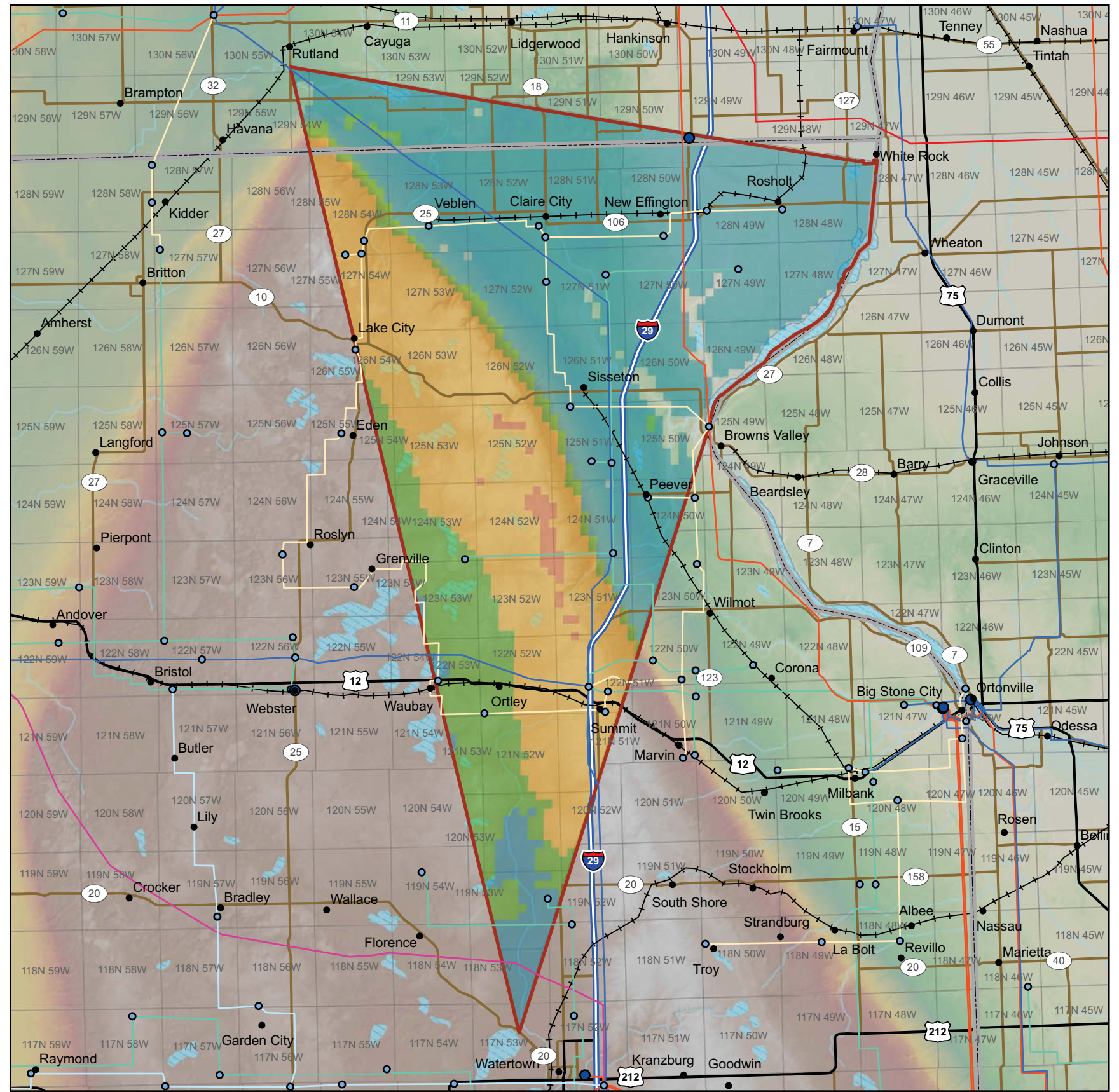
Chairman Michael Selvage, Sr.
 Sisseton-Wahpeton Sioux Tribe of the
 Lake Traverse Reservation
 P.O. Box 509
 Agency Village, SD 57262
 Phone: 605-698-3911

- Lake Traverse Reservation
- Townships
- Power Plants
- Substations
- Transmission Lines**
- 35 kV
- 42 kV
- 69 kV
- 115 kV
- 230 kV
- 345 kV
- 1000 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.4 - 7.0 m/s (14.3 - 15.7 mph)
- 4 : 7.0 - 7.5 m/s (15.7 - 16.8 mph)
- 5 : 7.5 - 8.0 m/s (16.8 - 17.9 mph)
- 6 : 8.0 - 8.8 m/s (17.9 - 19.7 mph)
- Major Roads**
- Limited Access
- Highways
- Secondary Roads
- - - Railroads
- ▨ Bodies of Water
- Streams

*Wind speeds are based on a Weibull k value of 2.0



Lake Traverse Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Standing Rock Reservation

The Standing Rock Reservation straddles the border between North and South Dakota on 2,334,453 acres of classic Great Plains scenery. Prairies, broad valleys, rolling hills, badlands, and buttes dominate the reservation landscape.



The Standing Rock Sioux are descendants of the Teton Band of Sioux Indians (Lakota or Western Sioux) who moved from the Great Lakes area into the region now known as the Dakotas.

Traditionally, the Tribe's income has come from ranching and leasing grazing permits. Today the economy is fueled by gaming, tribal operations, and tribally-owned or individually-owned business enterprises.

The Tribe operates much like a corporation, making business decisions, granting business licenses, and using corporate subsidies to develop tribal economies. The tribal council consists of a chairman, a vice-chairman, a secretary and 14 elected members each serving four-year terms.

Location and Climate

The reservation is located 40 miles south of Bismarck, ND. The reservation's eastern boundary is Lake Oahe, formed by the Fort Randall and Big Bend dams on the Missouri River. The Canon Ball River forms the reservation's northern border, and Perkins and Adams county lines constitute the western border. Annual high temperatures average in the 60s with lows dipping to the 30s.



File Photo

Wind Potential

The reservation has a total wind potential of about 88,943 megawatts (MW) covering roughly 2,223,565 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 5, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 574,931 acres
- Class 4 – 1,154,726 acres
- Class 5 – 493,907 acres

The reservation has wind potential in nearly all areas, with higher classes toward the center and southern parts.

Roads and Rail

U.S. Highway 12 crosses the entire width of the reservation. Other state highways such as 20, 63, 65, 31, 6, 24, and 180 provide access in the central and eastern area. A rail line runs adjacent to U.S. 12.

Transmission

Several transmission lines cross the reservation, including those with voltage ratings of 35, 42, 69, 115, and 345 kV, many of which are near U.S. 12.

North Dakota - Renewable and Recycled Energy Objective

The state of North Dakota has established a voluntary objective that 10 percent of all retail electricity sold in the state be obtained from renewable energy and recycled energy by 2015. Renewable Energy Certificates (RECs) may be purchased to offset non-qualifying retail sales. RECs do not need to be acquired from an in-state facility. To qualify for the objective credits, a generating source must meet the requirements of the North Dakota Public Service Commission rules for tracking, recording and verification. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

South Dakota - Renewable, Recycled and Conserved Energy Objective

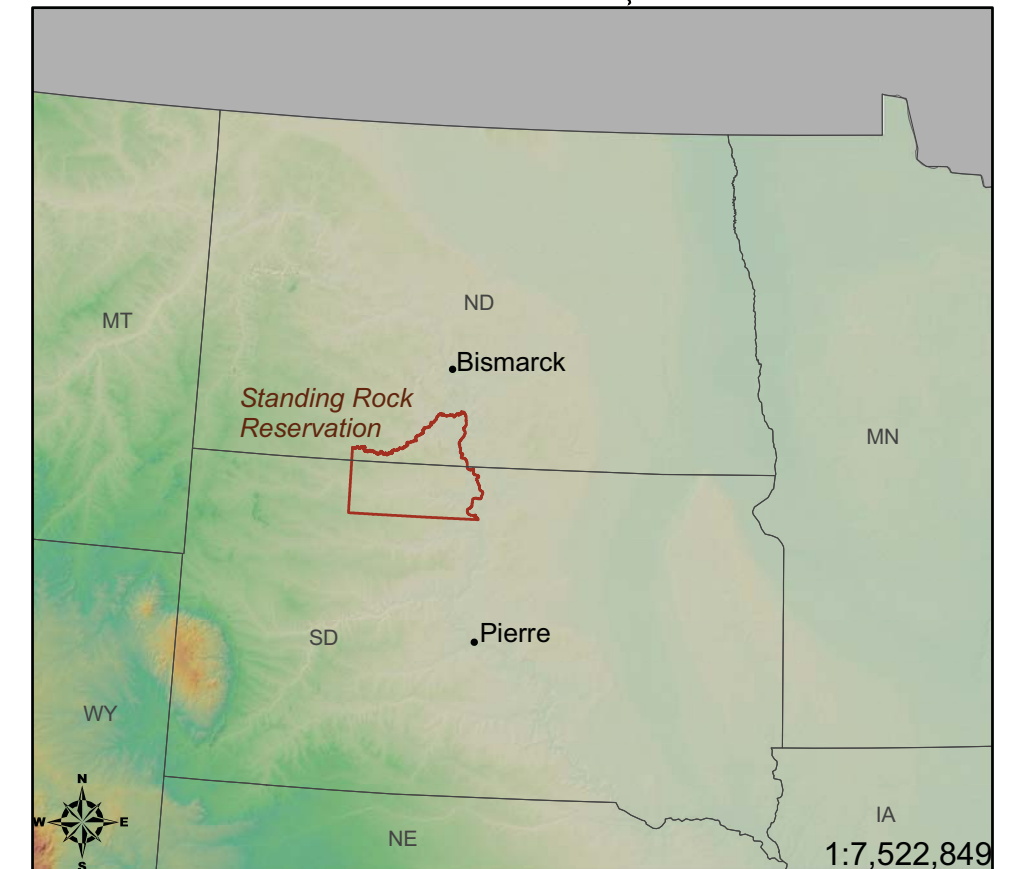
The state of South Dakota has established a voluntary objective for all retail providers of electricity (municipal utilities, investor-owned utilities, and rural electric cooperatives) which states that 10 percent of all retail electricity sold in the state will be obtained from renewable, recycled and conserved energy by 2015. In order to meet the objective, measurement may be taken of qualifying megawatt-hours delivered at retail or by use of RECs. RECs may be

generated by either in-state or out-of-state facilities and must meet the South Dakota Public Utilities Commission rules for tracking, recording and verification. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.



File Photo

Reservation Location Map

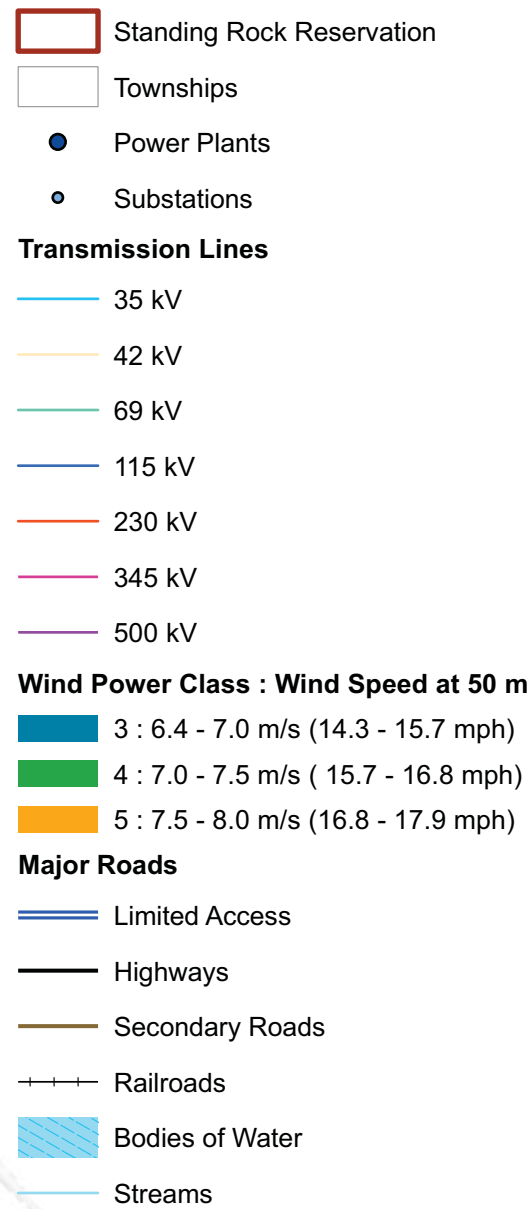


Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

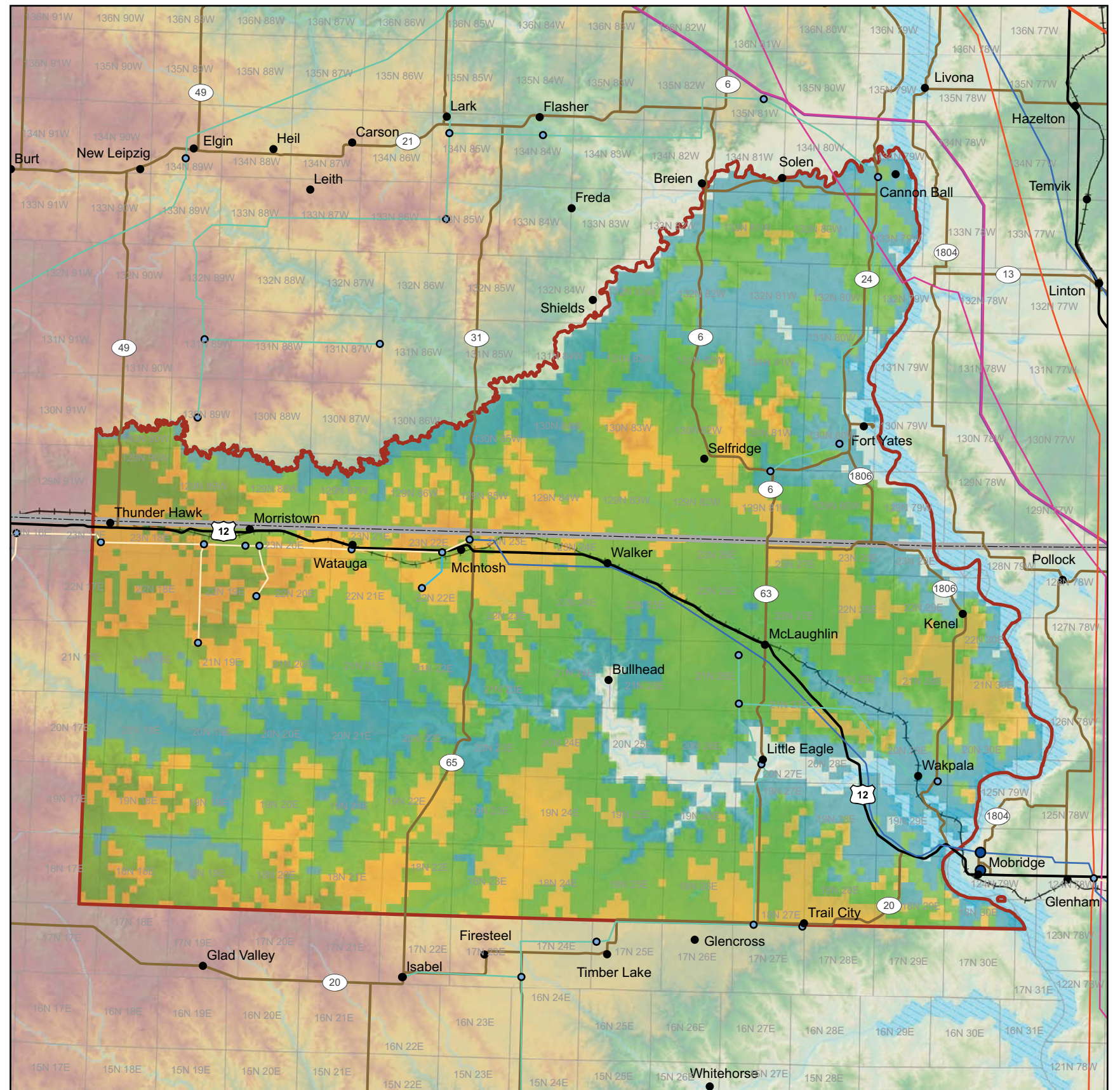
Standing Rock Reservation Wind Potential

Tribal Contact Information

Chairman Charles W. Murphy
 Standing Rock Sioux Tribe of North and
 South Dakota
 P.O. Box D
 Fort Yates, ND 58538
 Phone: 701-854-8500



*Wind speeds are based on a Weibull k value of 2.0



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Santee Reservation

Nebraska

The Santee Sioux Indian Reservation sits along the shores of Lewis and Clark Lake and straddles the border of Nebraska and South Dakota. The reservation's landscape is primarily made up of lakes, wetlands and more than 20,000 acres of forests.



The Santee Sioux Nation is part of the Great Sioux Nation. Descended from Mdewakanton and Isanti bands of the Dakota Sioux, Santee Sioux traditional homelands extended from Minnesota to the Rocky Mountains of Montana, and as far south as northwestern Nebraska.

Tribal headquarters are in Santee in Knox County. Gaming, forestry, and ranching contribute to the tribe's economy, while they seek other business opportunities.

Location and Climate

The 117,529-acre reservation is 110 miles northwest of Sioux City. Summer temperatures average in the 80s while winter temperatures dip to near zero. The area receives a yearly average of 22 inches of precipitation.

Wind Potential

The reservation has a total potential of about 2,393 megawatts (MW) covering roughly 59,815 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 5, according to the

National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 54,100 acres
- Class 4 – 5,690 acres
- Class 5 – 25 acres

Higher wind classes are found throughout the eastern side of the reservation as well as the southwest corner of the reservation. Two 60-meter anemometer towers are installed in the northwest and southwest sections of the reservation. The average wind speeds from the towers range from 7.3 to 7.7 meters per second (16.3 - 17.2 mph).

Roads and Rail

Highway 12 runs east-west through the central part of the reservation. Rail is located off the reservation to the northeast within 8 miles of the reservation in South Dakota.

Transmission

A 115 kV transmission line crosses the southeast corner of the reservation. Other transmission lines with 69 and 230 kV are just off the reservation within 10 miles of the reservation boundary.

Nebraska Renewable Portfolio Standard

Nebraska does not have a renewable portfolio standard.

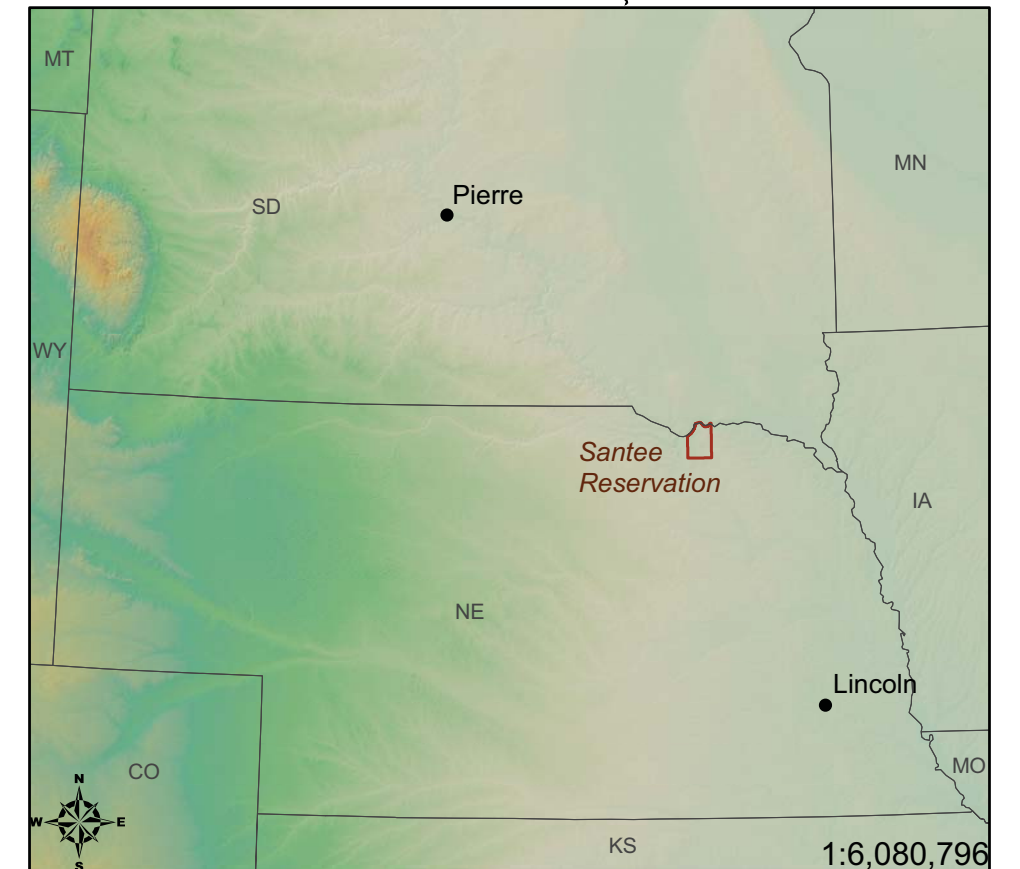
South Dakota Renewable, Recycled and Conserved Energy Objective

South Dakota has established a voluntary objective for all retail providers of electricity (municipal utilities, investor-owned utilities, and rural electric cooperatives) which states that 10 percent of all retail electricity sold in the state will be obtained from renewable energy, recycled and conserved energy by 2015. In order to meet the objective, measurement may be taken of qualifying megawatt-hours delivered at retail or by use of Renewable Energy Credits (RECs.) RECs may be generated by either in-state or out-of-state facilities and must meet the South Dakota Public Utilities Commission rules for tracking, recording and verification. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.



Photo: Amanda John

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.



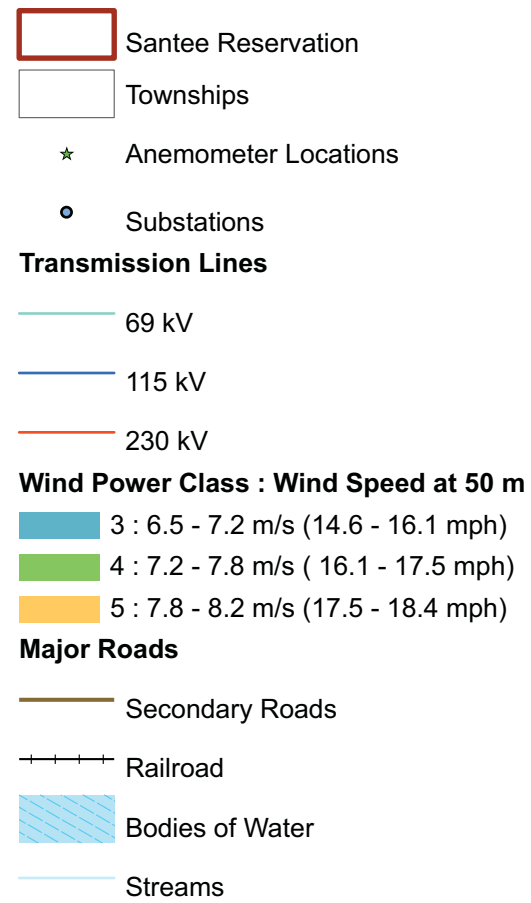
Photo: Amanda John

Tribal Contact Information

Chairman Roger Trudell
 Santee Sioux Nation
 108 Spirit Lake Ave West
 Niobrara, NE 68760
 Phone: 402-857-2772

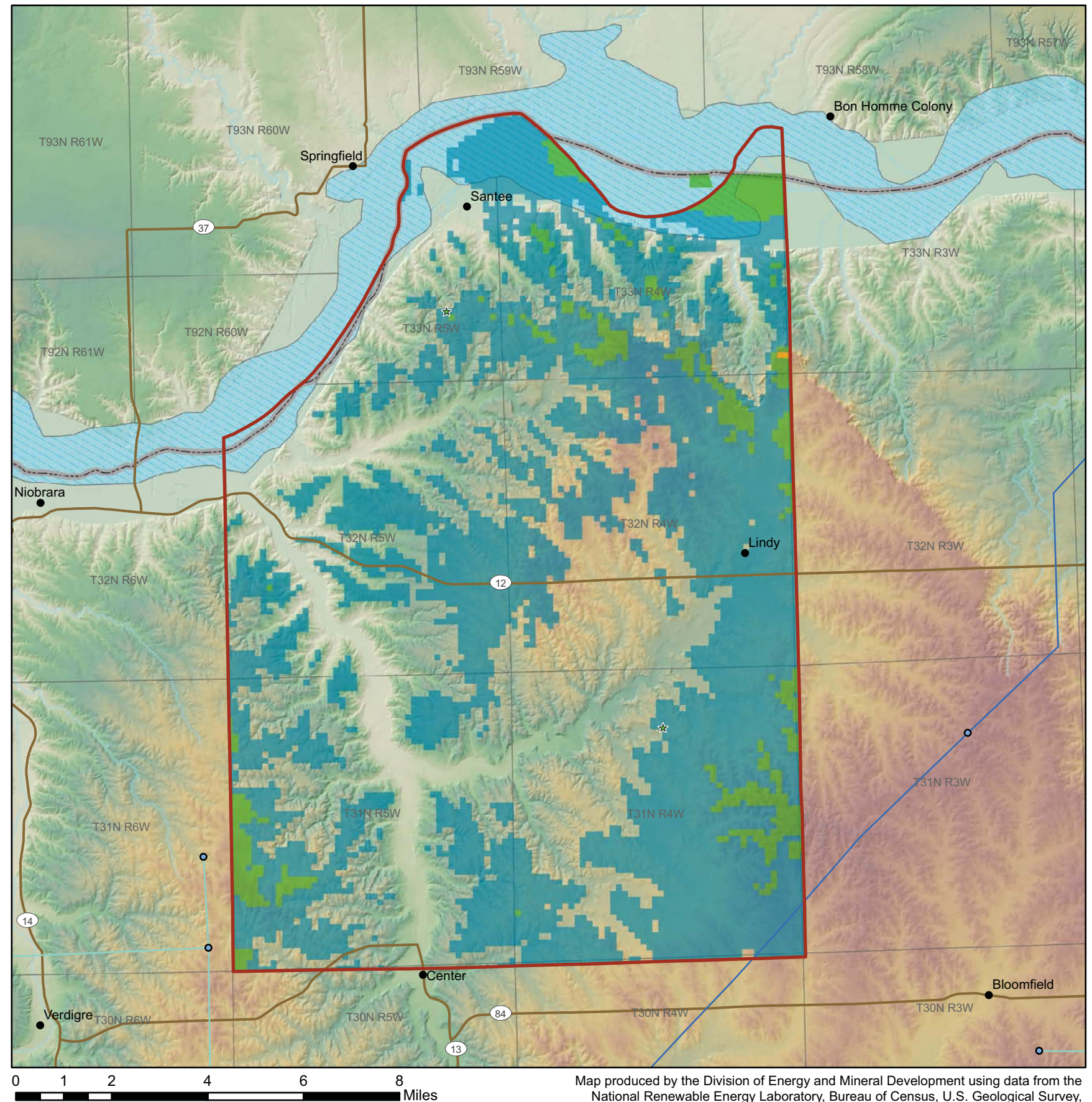
Project Lead Contact Information

Cora L. Jones
 Santee Sioux Nation
 108 Spirit Lake Ave. W.
 Santee, NE 68760
 Primary Phone: 402-857-2772



*Wind speeds are based on a Weibull k of 2.0 at 800 m elevation

Santee Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, Santee Sioux Nation, and the National Geospatial Resource Center.

Acoma Reservation

Also known as “Sky City”, the Pueblo of Acoma is built on top of a 367 foot sandstone mesa in New Mexico about 60 miles west of Albuquerque. The pueblo is one of the oldest, continuously inhabited communities in the United States, dating back to the 12th century. Part of the later Acoma history is linked with the Spanish. In 1540, Coronado’s army visited the site, and in 1598, the tribe unsuccessfully retaliated against the Spaniards who wanted control over the region.

Today, the Tribe is governed by a 12-member council and five tribal administrative officers. The Acoma Tribal Administration and the Acoma Tribal Council are appointed through a traditional, cultural leadership process.

During the past 40 years, the Tribe moved from a primarily agrarian-based economy to one emphasizing tribal business entrepreneurship. With that in mind, the pueblo is actively pursuing wind development interests.

Location and Climate

The Pueblo of Acoma sits on 252,096 acres in northwestern New Mexico. Most of the reservation lies south of Interstate 40 between Grants and Albuquerque. The reservation includes the villages of Acomita, McCartys, Anzac and Old Acoma. The area receives about 9.5 inches of precipitation each year with temperatures averaging in the mid 70s in summer to the 30s in winter.



File Photo

Wind Potential

The pueblo has a total wind potential of about 2,215 megawatts (MW) covering roughly 55,366 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 7, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 41,766 acres
- Class 4 – 9,504 acres
- Class 5 – 2,816 acres
- Class 6 – 1,210 acres
- Class 7 – 70 acres

The resource is located throughout the north and south central regions of the reservation. The northern areas have a wind class potential ranging from Class 3 to Class 7 with some of the higher classes found in Township 7 North, Range 7 West, near the eastern boundary. The southern areas have a wind class potential ranging from Class 3 to Class 6, occurring in three areas with lengths ranging from 12 to 20 miles long, running north and south, with widths of about two miles.

The Tribe has identified three potential sites for the wind development -Horace Mesa, Gottlieb Ranch Purchase, and Sanchez Ranch Purchase on the Potential Project Area map. The Tribe requests a letter of interest to be written to the tribal governor for those companies interested in the reservation’s wind development.

Roads and Rail

Interstate 40 and a railroad pass through the northern portion of the reservation about 2 miles from the northern reservation boundary. An international airport and bus services are located in Albuquerque, NM.

Transmission

One 115 kV transmission line is located less than five miles north of the pueblo.

Renewable Portfolio Standard

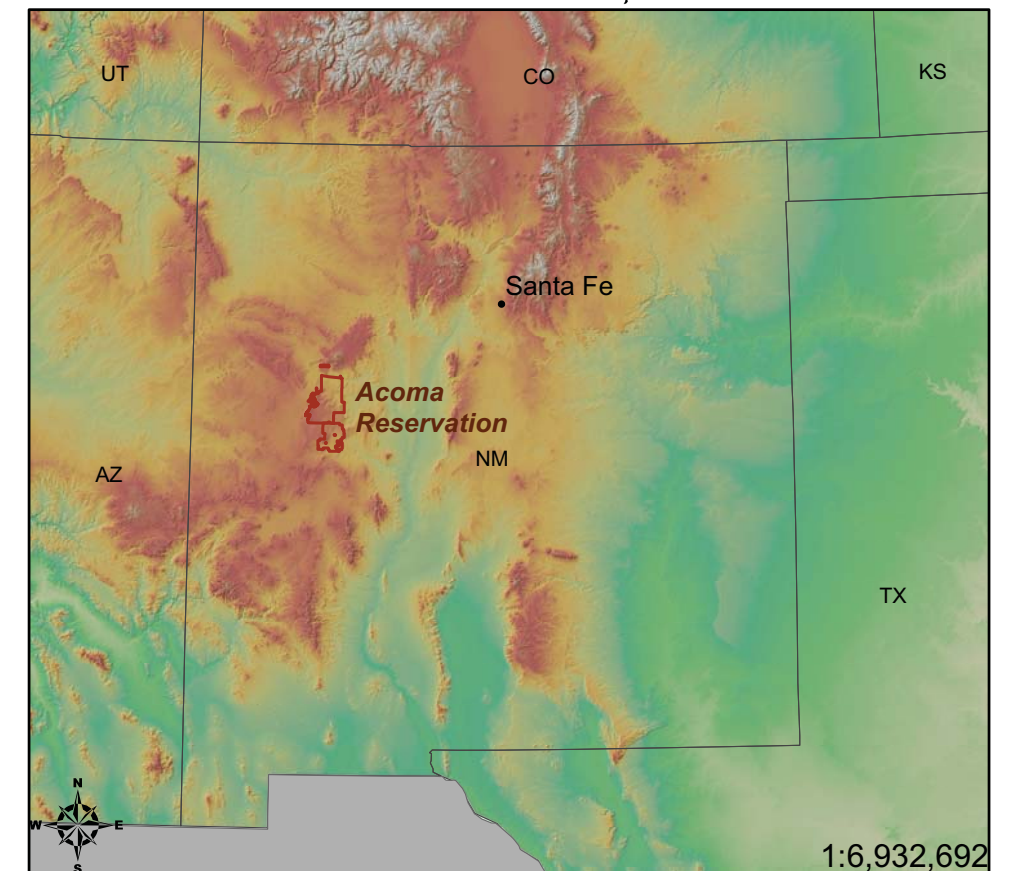
New Mexico has set a Renewable Portfolio Standard for investor-owned utilities and rural electric cooperatives. The investor-owned utilities will have to generate 20 percent of total retail sales to New Mexico customers from renewable energy resources by 2020. Rural electric cooperatives will have to obtain 10 percent by 2020. Renewable Energy Certificates will be used to demonstrate compliance and must be registered with the Western Renewable Energy Generation Information System. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

New Mexico



File Photo

Reservation Location Map



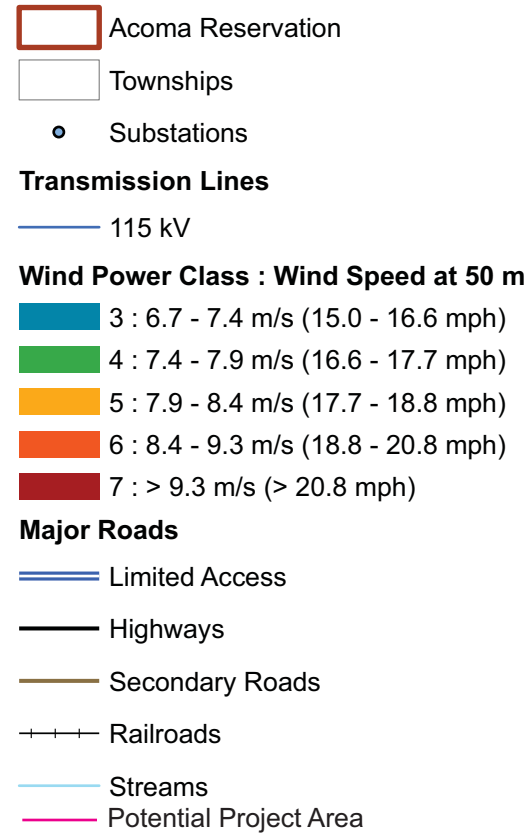
Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Tribal Contact Information

Governor Chandler Sanchez
 Pueblo of Acoma
 P.O. Box 309
 Acoma, NM 87034
 Phone: 505-552-6604

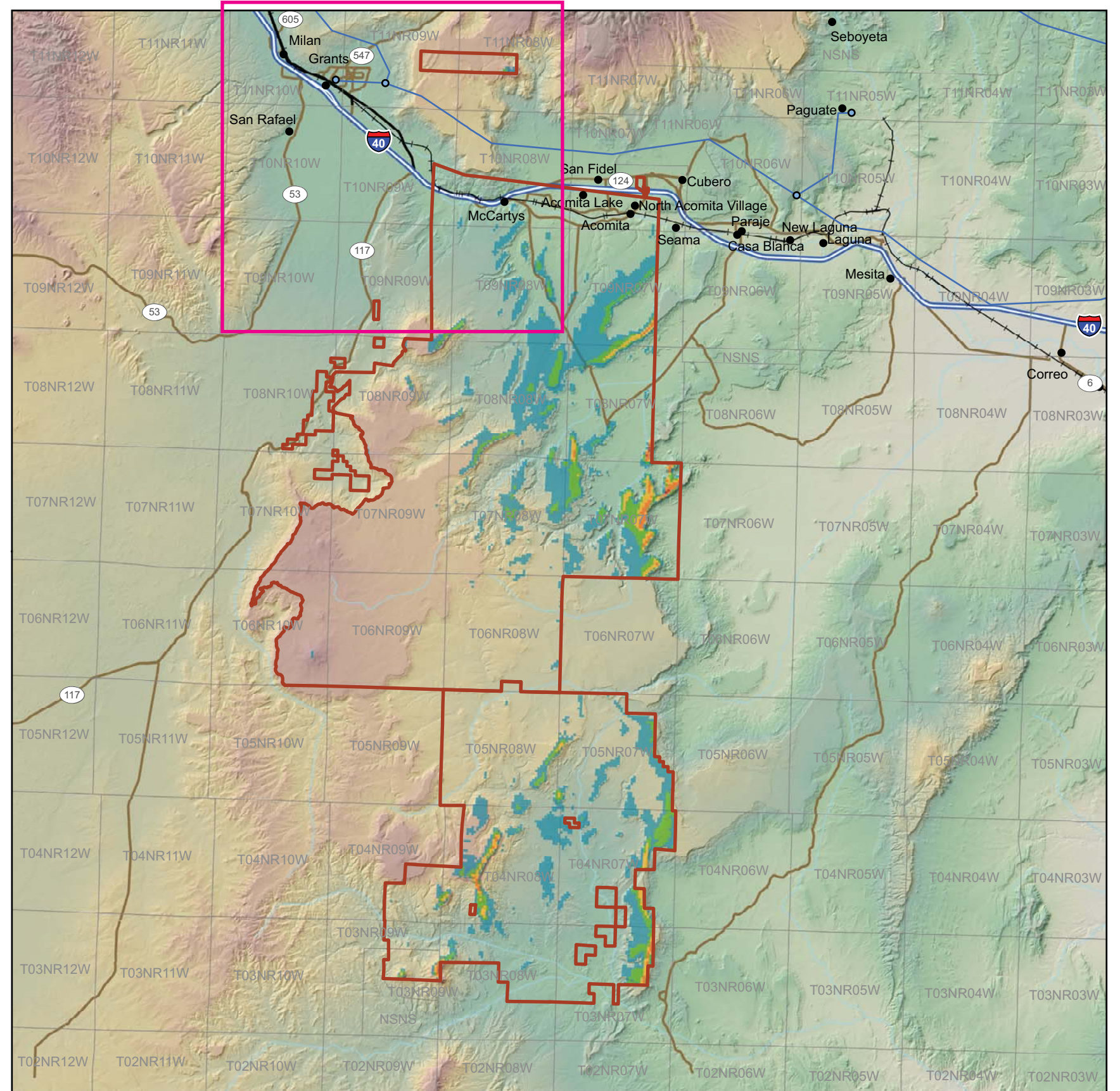
Project Lead Contact Information:

Petuuche Gilbert
 Realty Officer
 P.O. Box 309
 Acoma, NM 87034
 Phone: 505-552-5117



*Wind Speeds are based on a Weibull k of 2.0 at 1500 m elevation

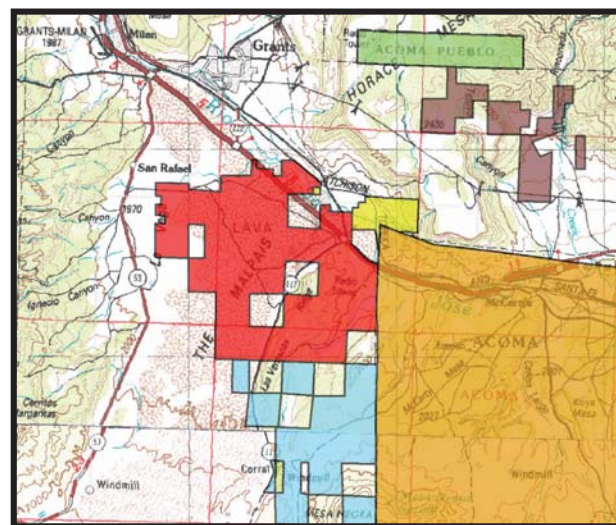
Acoma Reservation Wind Potential



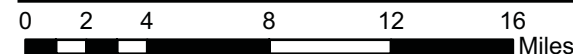
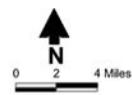
Potential Project Area

Land Status

- Gottlieb Ranch Purchase
- Horace Mesa
- Original Acoma Grant
- Sanchez Ranch Purchase
- La Ventana Ranch Purchase



Map produced by Daniel B. Stephens & Associates, Inc



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Mescalero Apache Reservation

The Mescalero Apache Reservation is home to three Apache bands: the Mescalero, Lipan, and Chiricahua Apache, who collectively organized in 1936 under the Indian Reorganization Act as the Mescalero Apache Tribe. Most tribal members belong to the Mescalero Band.



Primarily desert dwellers, the Chiricahua and Lipans relied on buffalo, antelope and various desert flora for subsistence. The Mescaleros were mountain and plains dwellers who lived much like the Plains Indians.

In recent decades, the Mescalero Apache developed a keen business acumen and are considered one of the more ambitious tribes in the United States. Their diverse tribal economy centers around an expanding wood products enterprise, and thriving tourism and gaming industries. The Tribe operates a ski resort, a luxury resort complex, and several recreational areas.

Tribal headquarters are located in the incorporated town of Mescalero. The tribe is governed by a president, vice-president and eight at-large members.

Location and Climate

The reservation sprawls across some 460,722 acres in southeastern New Mexico and lies entirely within Otero County. The reservation extends from the arid Tularosa Basin on the western boundary to the densely forested peaks and val-



Photo: Walter Bonora

leys of the Sacramento Mountains. Overlooking this vast expanse is Sierra Blanca, a 12,000 foot peak which is sacred to the Mescalero people. Summer temperatures average in the mid to high 80s, while winter temperatures dip to the 30s.

Wind Potential

The reservation has a total potential of about 2,340 megawatts (MW) covering roughly 58,496 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 7, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 49,018 acres
- Class 4 – 6,515 acres
- Class 5 – 1,485 acres
- Class 6 – 928 acres
- Class 7 – 550 acres

The wind potential is concentrated in various locations throughout the reservation. Higher wind classes are apparent in the northeastern corner, center and northwestern corner of the reservation with greater surface area coverage in the northwest.

Roads

U.S. Highway 70 crosses diagonally toward the northwestern part of the reservation. State highway 244 connects to U.S. 70 in the southwestern portion of the reservation.

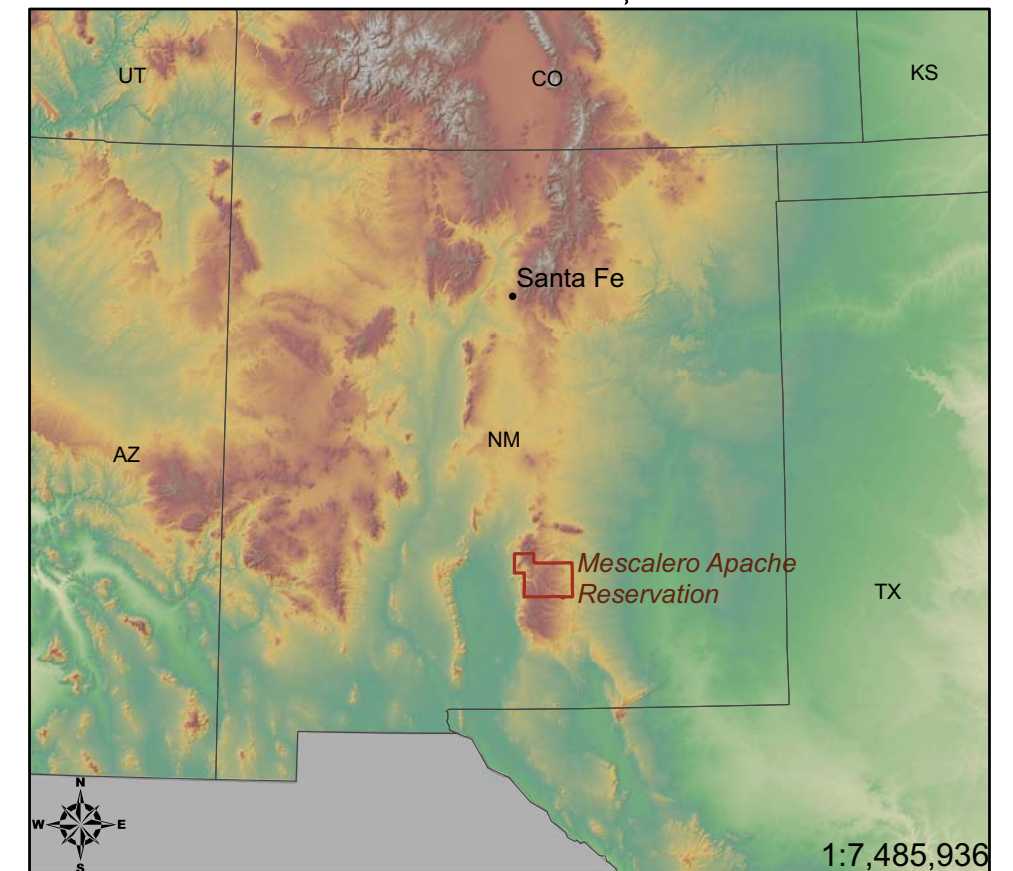
Transmission

One 115 kV transmission line crosses tribal lands in the northwestern part of the reservation.

Renewable Portfolio Standard

The state of New Mexico has set a Renewable Portfolio Standard for investor-owned utilities and rural electric cooperatives. The investor-owned utilities will have to generate 20 percent of total retail sales to New Mexico customers from renewable energy resources by 2020. Rural electric cooperatives will have to obtain 10 percent by 2020. Renewable Energy Certificates will be used to demonstrate compliance and must be registered with the Western Renewable Energy Generation Information System. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Reservation Location Map

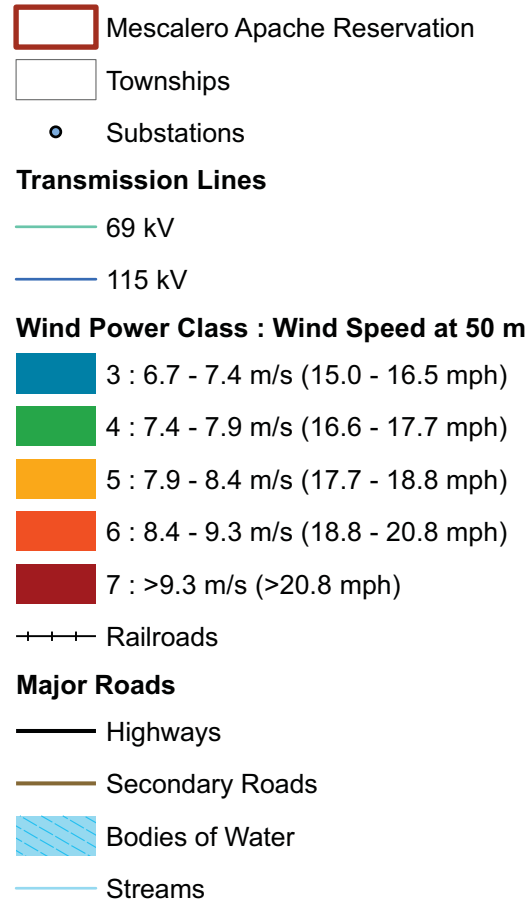


Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

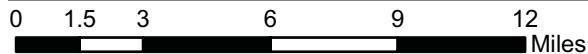
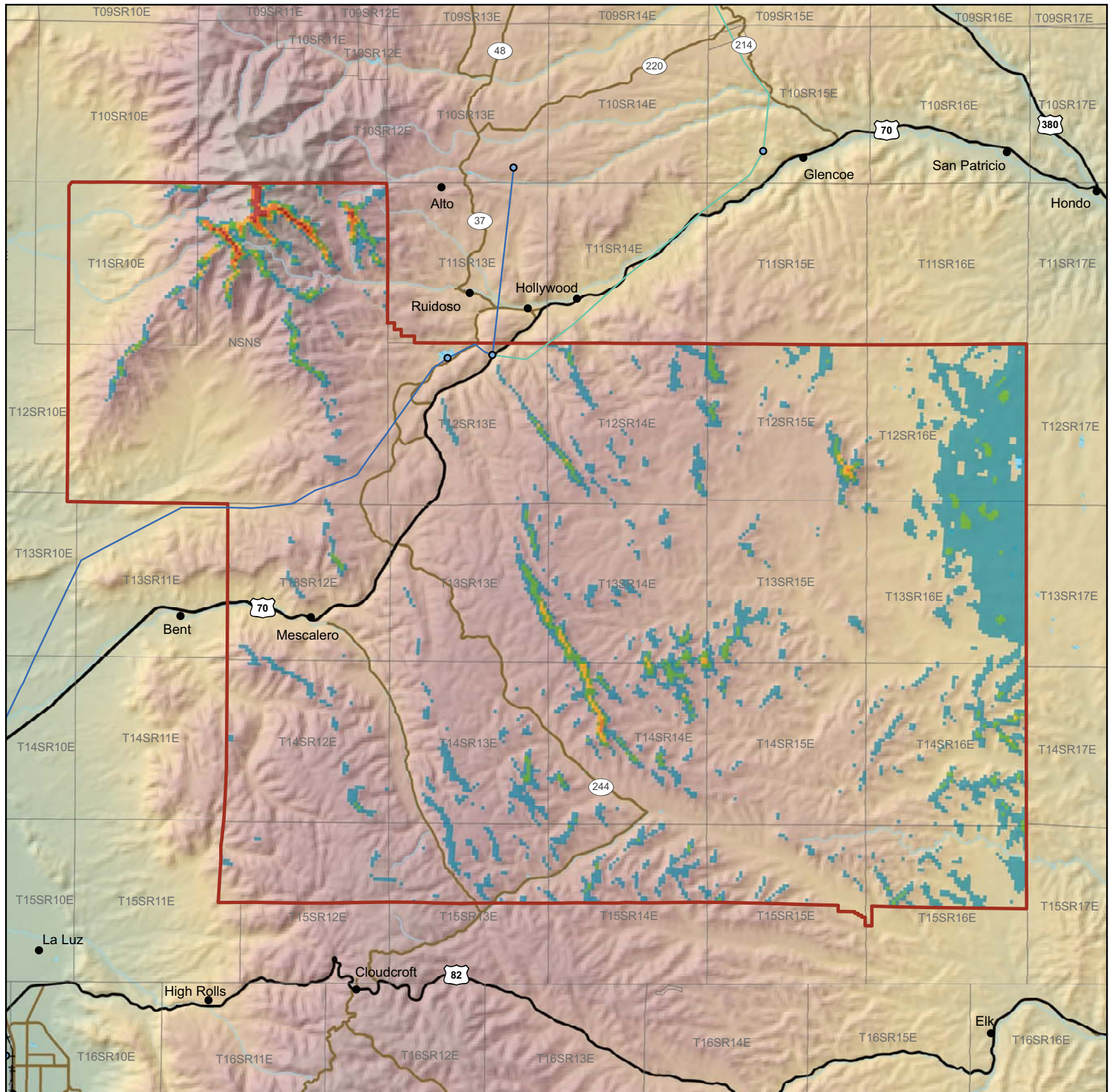
Tribal Contact Information

President Mark Chino
 Mescalero Apache Tribe
 P.O. Box 227
 Mescalero, NM 88340
 Phone: 575-464-4494

Mescalero Apache Reservation Wind Potential



*Wind speeds are based on a Weibull k of 2.0 at 1500 m elevation



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.





The Absentee Shawnee make their home in south-central Oklahoma, and include two bands in two distinct communities; the Big Jim Band in Cleveland County, and the White Turkey Band in Pottawatomie County near the City of Shawnee.

During the 19th century, the U.S. government moved the tribe to what is now Kansas. They became known as the Absentee Shawnee Tribe, because they absented themselves from the reservation in Kansas in 1845 and traveled southwards to Texas. Eventually they were relocated to Indian Territory in Oklahoma.

The Tribe is governed by the Absentee Shawnee Executive Committee which consists of five tribal members - governor, lieutenant governor, secretary, treasurer, and representative - all of whom are elected by the general membership.

Location and Climate

The lands consist of 11,765 non-contiguous acres in Oklahoma, most of which are allotted. A large portion of the lands are located about 20 miles southwest of Shawnee. A smaller cluster of lands are located off Interstate 40 about 8 miles northeast of Shawnee. Average summer temperatures rise to the 90s and winter temperatures dip to the low 20s.



Photo: R. J. Kern

Wind Potential

The Absentee Shawnee Lands have a total potential of about 467 megawatts (MW) covering roughly 11,680 acres within the Absentee Shawnee boundaries (assuming 25ac/MW). All land sectors within the boundaries have a Wind Power Class of 3 according to the National Renewable Energy Laboratory validated maps at 50 meters.

Roads and Rail

Oklahoma State Highway 9 runs through the southwestern cluster of lands. Other access routes include U.S. 270, U.S. 177, Oklahoma 3W, and Oklahoma 3E.

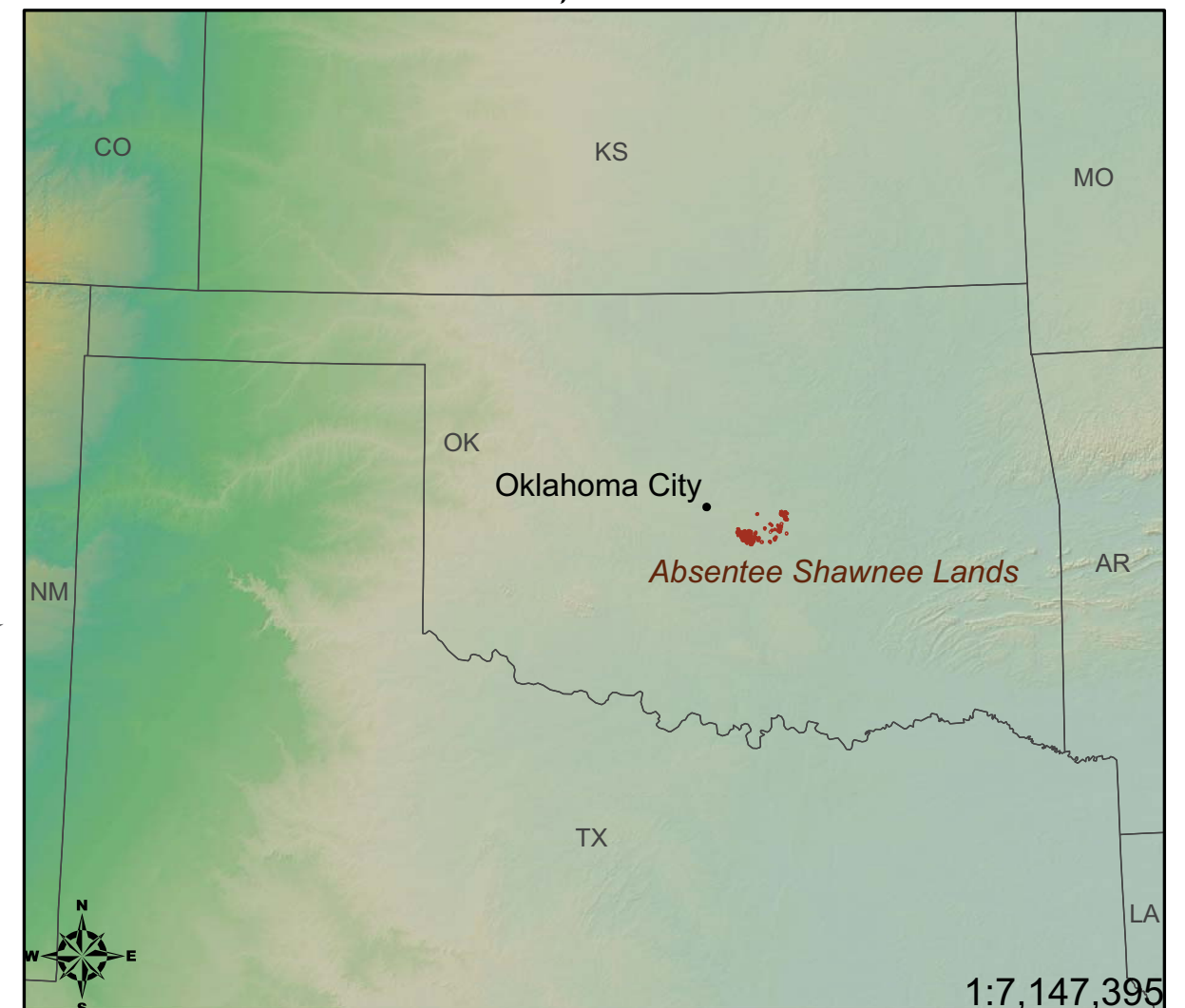
Transmission

Several transmission lines cross or are near Absentee Shawnee lands. The line voltages range between 138 kV and 345 kV. The 345 kV transmission lines are the nearest to the larger land areas.

Renewable Portfolio Standard

The state of Oklahoma does not have a Renewable Portfolio Standard.

Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

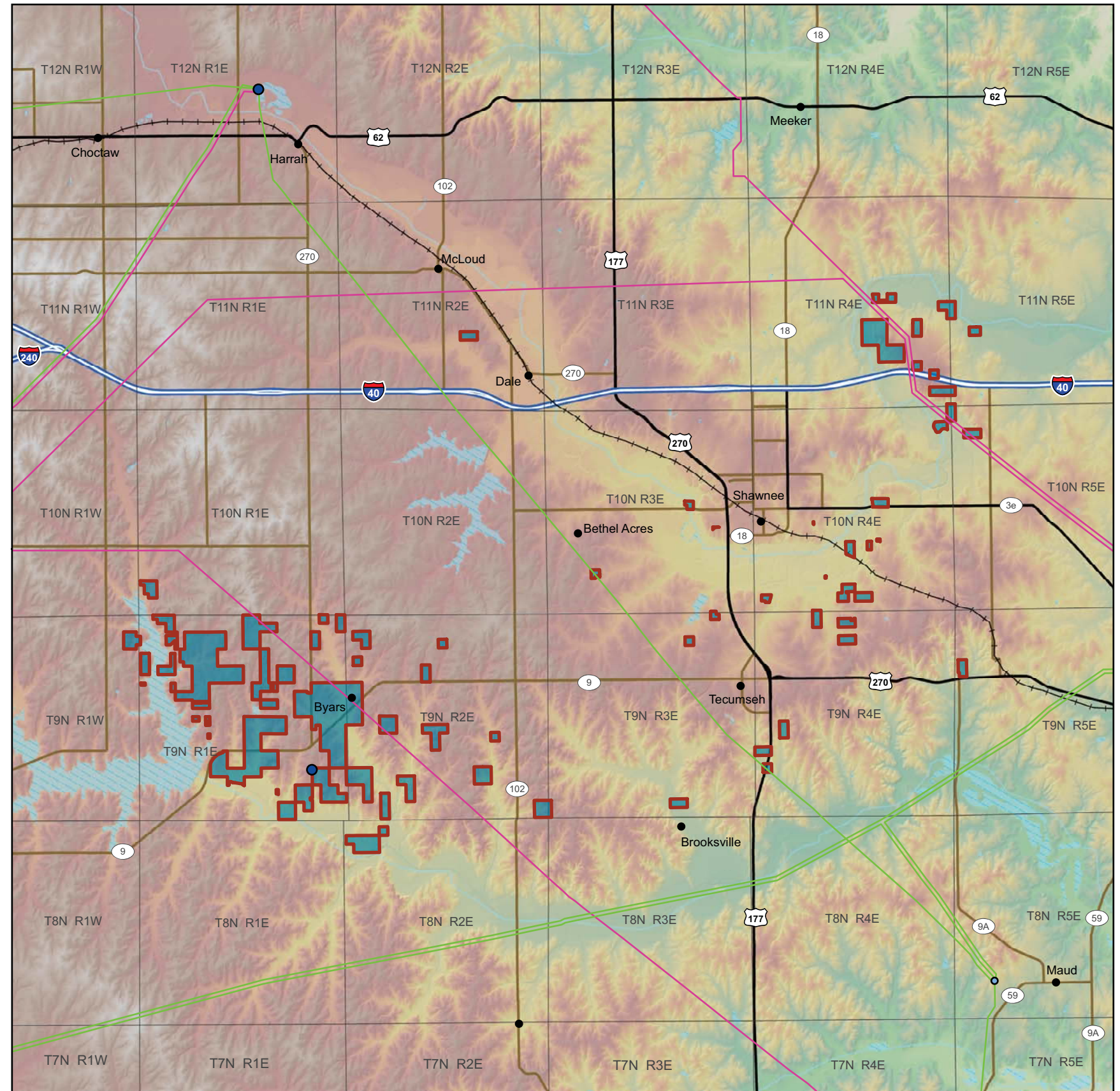
Tribal Contact Information

Governor George Blanchard
 Absentee Shawnee Tribe of Oklahoma
 2025 S. Gordon Cooper Drive
 Shawnee, OK 74801
 Phone: 405-275-4030

- Absentee Shawnee Lands
- Townships
- Power Plants
- Substations
- Transmission Lines**
- 138 kV
- 345 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.8 - 7.5 m/s (15.2 - 16.8 mph)
- Railroads
- Major Roads**
- Limited Access
- Highways
- Secondary Roads
- Bodies of Water
- Streams

**Wind speeds are based on a Weibull k of 2.4 at 500 m elevation*

Absentee Shawnee Wind Potential



0 1.25 2.5 5 7.5 10 Miles

Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Cherokee Nation

The tribal lands of the Cherokee Nation cover 124,000 acres throughout 14 counties in northeastern Oklahoma. While not a reservation, Cherokee lands are held in trust by the federal government and are considered a Jurisdictional Service Area.



The Cherokee Nation is the second largest tribe in the United States and the largest in Oklahoma. Tahlequah is the Cherokee capital and the tribe's hub. The tribal government located in Tahlequah is made up of three branches; legislative, executive, and judicial. The Nation's primary counties for development are Cherokee, Adair, Delaware and Sequoyah.

The Cherokee Nation's economy is driven by agribusiness, small business enterprises, mining, gaming, and manufacturing.

Location and Climate

Much of the Cherokee Nation rests on the Ozark Plateau, stretching from the plains in the north and west to the foothills of the Boston Mountains. Tulsa, OK is less than 65 miles from Tahlequah; Muskogee is 28 miles away. The region receives approximately 42 inches of annual precipitation with annual high temperatures averaging in the 70s and lows dipping to the 40s.

Wind Potential

The Cherokee Nation is pursuing the development of a 76.8 megawatt wind farm on the tribe's Chilocco properties located in north-central Oklahoma in Kay County. The property is split into two sections - a 2,633 acre tract west of Highway 77 and 1,641 acres east of Highway 77, totaling 4,274 acres. According to the National Renewable Energy Laboratory validated data at 50 meters, the property has Class 3 wind.

The Nation has completed a wind resource assessment with the use of two anemometers on the property to confirm Class 3 wind. The wind project is well underway and the tribe is currently seeking a purchaser for the generated power. The Nation will also consider selling the renewable energy credits from the project separately from the power generated and sold.

Roads and Rail

U.S. Highway 77 runs north-south through the eastern portion of the reservation, with rail lines running adjacent to the highway.

Transmission

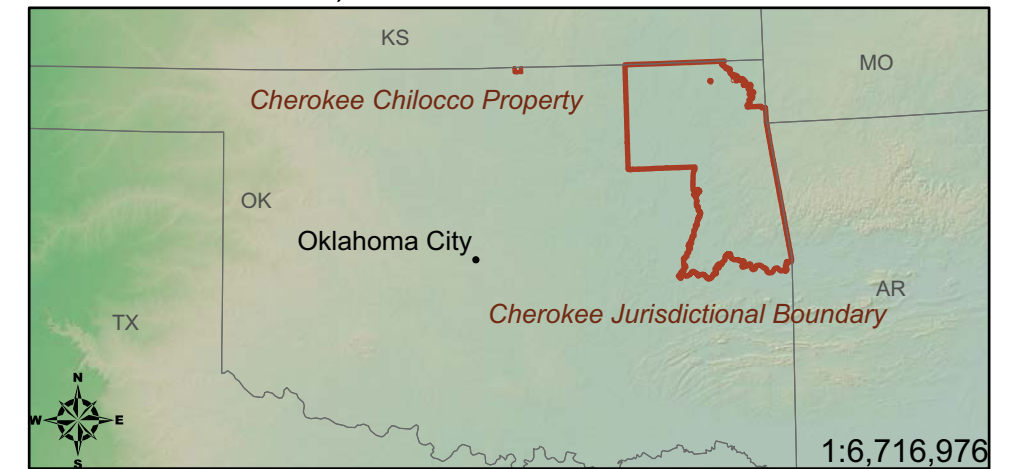
A 138 kV line runs north-south within 2 miles of the property's western boundary.

Renewable Portfolio Standard

Oklahoma does not have a Renewable Portfolio Standard.

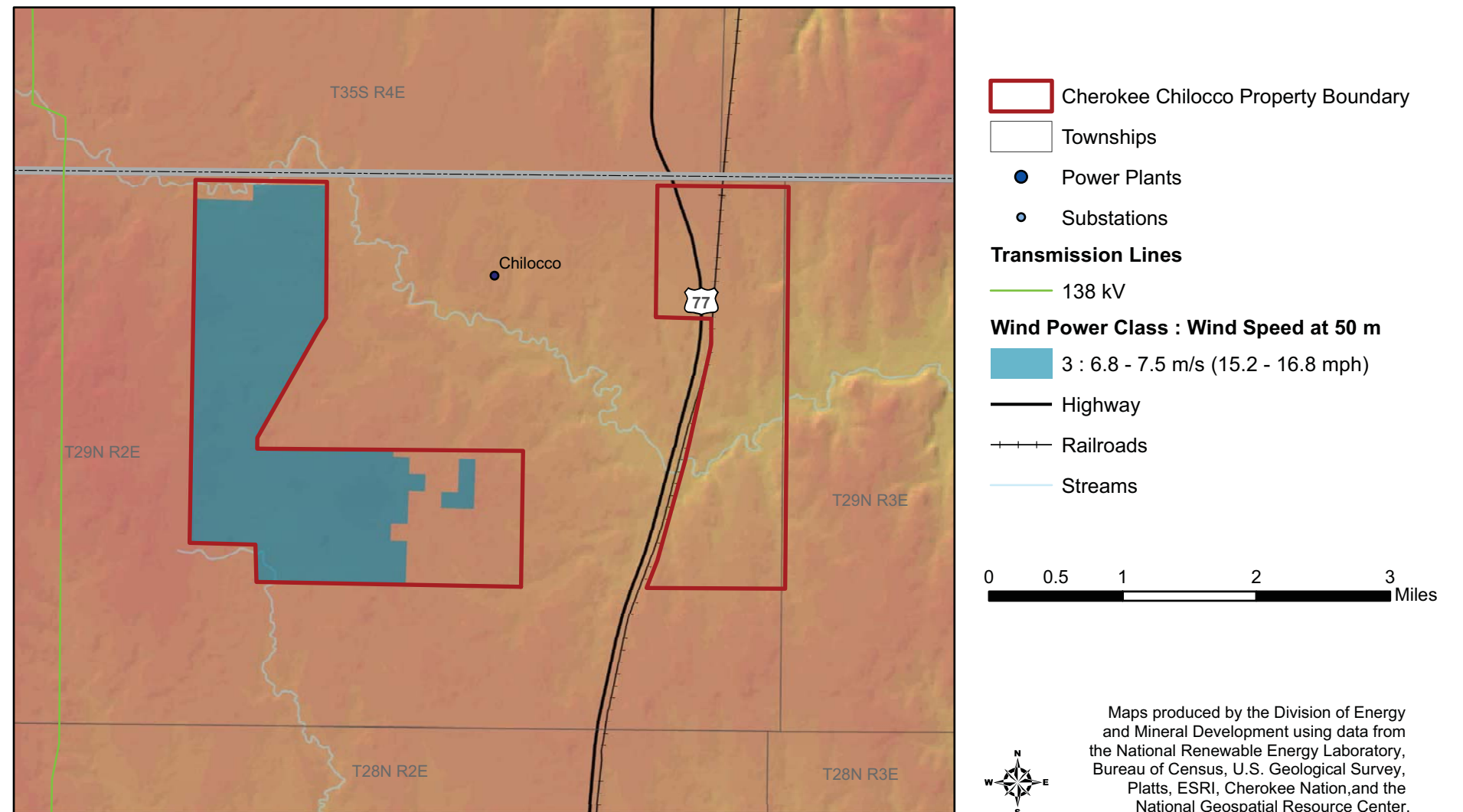
Oklahoma

Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Cherokee Wind Potential



Maps produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, Cherokee Nation, and the National Geospatial Resource Center.

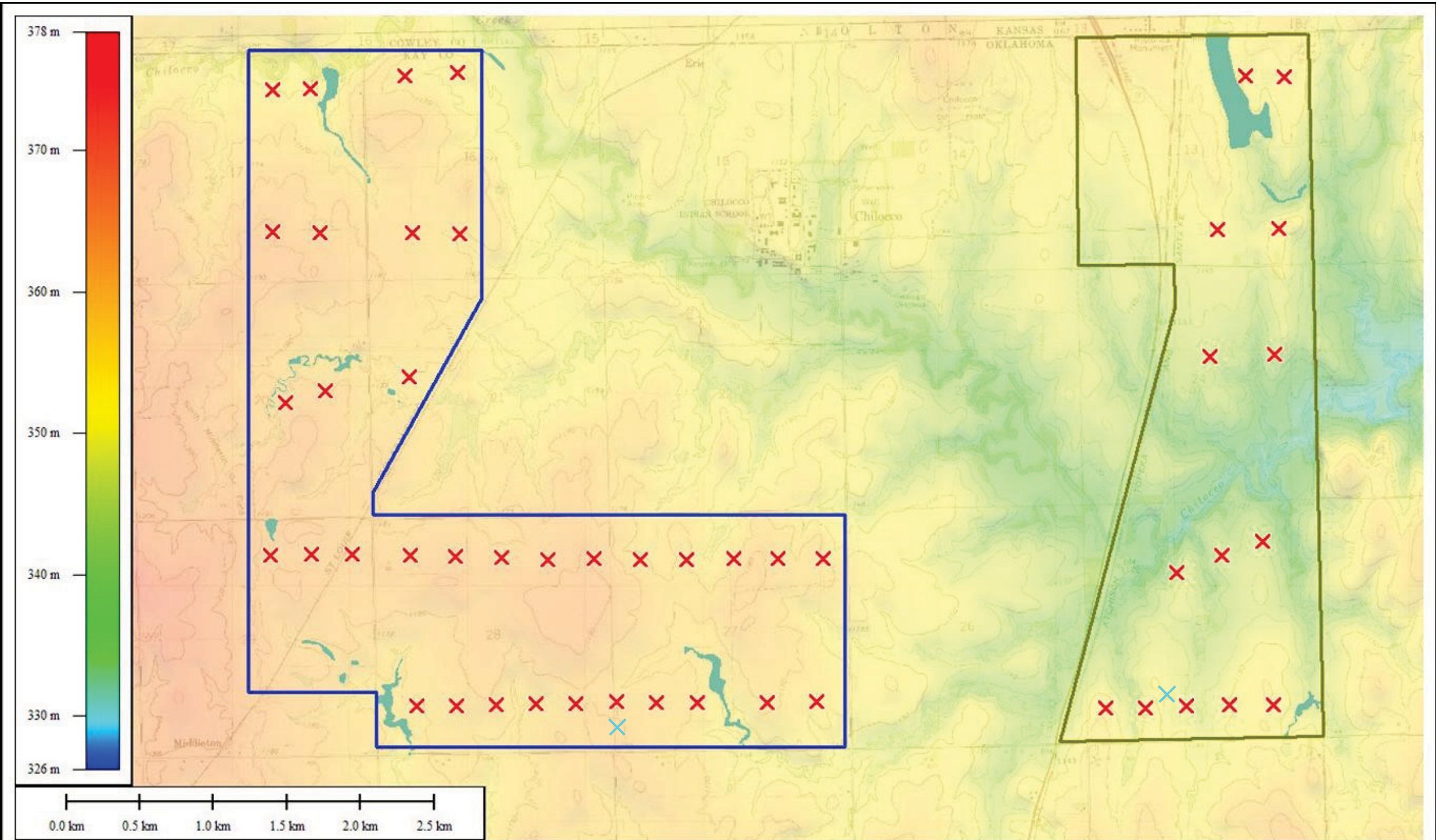
Tribal Contact Information

Principal Chief Chadwick Smith
 Cherokee Nation
 P.O. Box 948
 Tahlequah, OK 74465
 Phone: 918-456-0671

Project Lead Contact Information

Cherokee Nation Businesses, LLC
 Ed Bryce, Principal Investments
 777 West Cherokee St.
 Catoosa, OK 74015
 (918) 384-7713

Carol Wyatt,
 Wind Energy Project Coordinator
 (918) 384-7873
 carol.wyatt@cn-bus.com



Projection: Geographic (Latitude, Longitude), Meters, WGS84, Arc Degrees
 Digital Elevation Model: United States National Elevation Data (NED) database, 30 m resolution

□ Western Cherokee Nation Property □ Eastern Cherokee Nation Property

X Proposed Turbine Location
X Meteorological Tower



File Photo

Cheyenne-Arapaho Lands

The Cheyenne and Arapahoe represent the westernmost groups of the Algonquian people who migrated, in prehistoric times, across the northern and eastern wooded regions of the United States. The two tribes formed an alliance in the 18th century creating a formidable military force. They also became successful traders with other tribes.



Today, the Cheyenne and Arapaho are headquartered in Concho, OK. The tribal government strives to enhance economic support for tribal members with four gaming facilities, three smoke shops, and grazing and oil leases.

Location and Climate

The majority of the lands are spread over an eight-county area of rolling hills in northwest and central Oklahoma encompassing approximately 79,884 non-contiguous acres. Concho is located about 30 miles east of Oklahoma City. Two major rivers - the Canadian River and the Washita River - run through tribal lands. Year-round daily temperatures average in the 40s with highs in the 70s. The region receives approximately 31 inches of precipitation annually.



Photo: R. J. Kern

Oklahoma

Wind Potential

The Cheyenne-Arapaho Lands have a total potential of about 2,974 megawatts (MW) covering roughly 74,355 acres within the boundaries (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 4, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 16,723 acres
- Class 4 – 57,632 acres

Roads and Rail

Major highways in the vicinity of the lands include Oklahoma highways 3, 8, 33, 47, 54, and 152. U.S. highways include 183 and 270. Interstate 40 is closer in proximity to the southern lands. Numerous railroad lines run near their lands. Most of the rail lines are along major highways such as Interstate 40, U.S. 270, U.S. 183 (south of Clinton), U.S. 81, and Oklahoma 33.

Transmission

Several transmission lines are located near the Cheyenne and Arapahoe lands, with voltages ranging from 69 kV to 345 kV.

Renewable Portfolio Standard

Oklahoma does not have a Renewable Portfolio Standard.

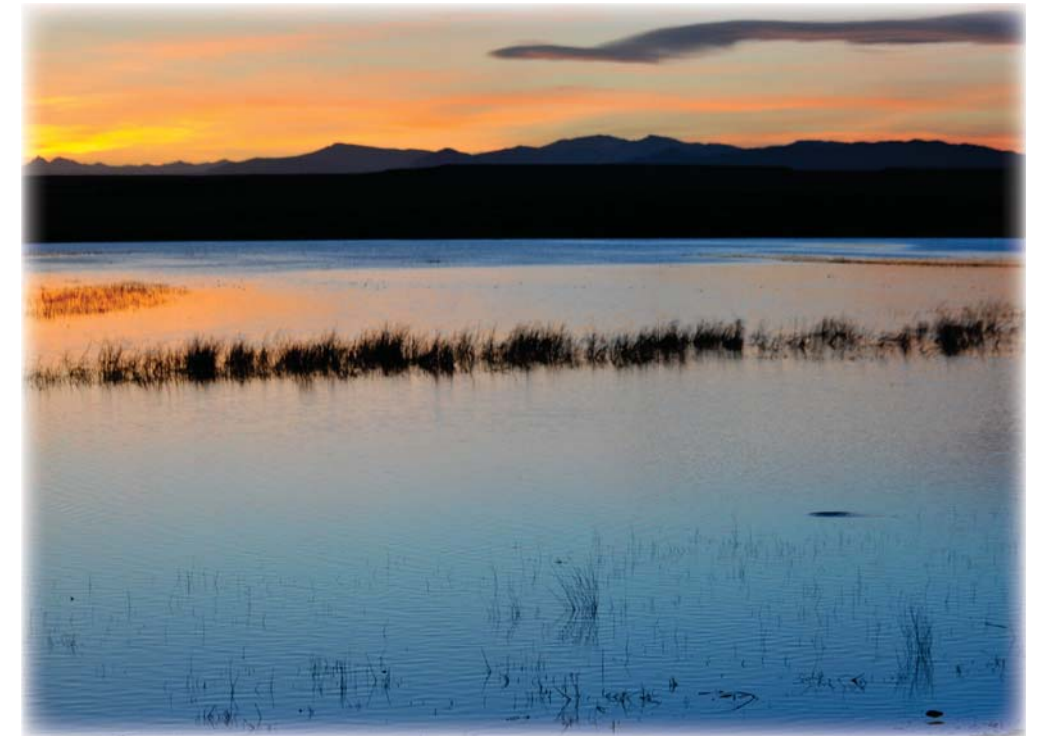
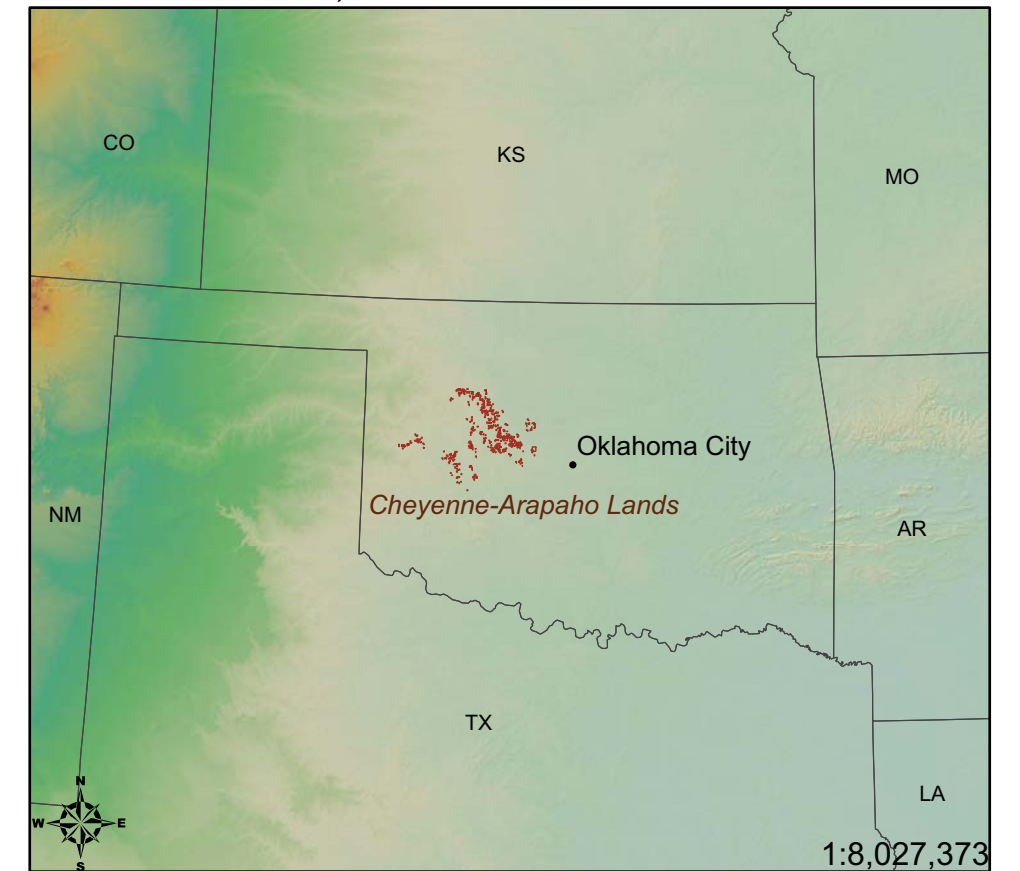


Photo: R. J. Kern

Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

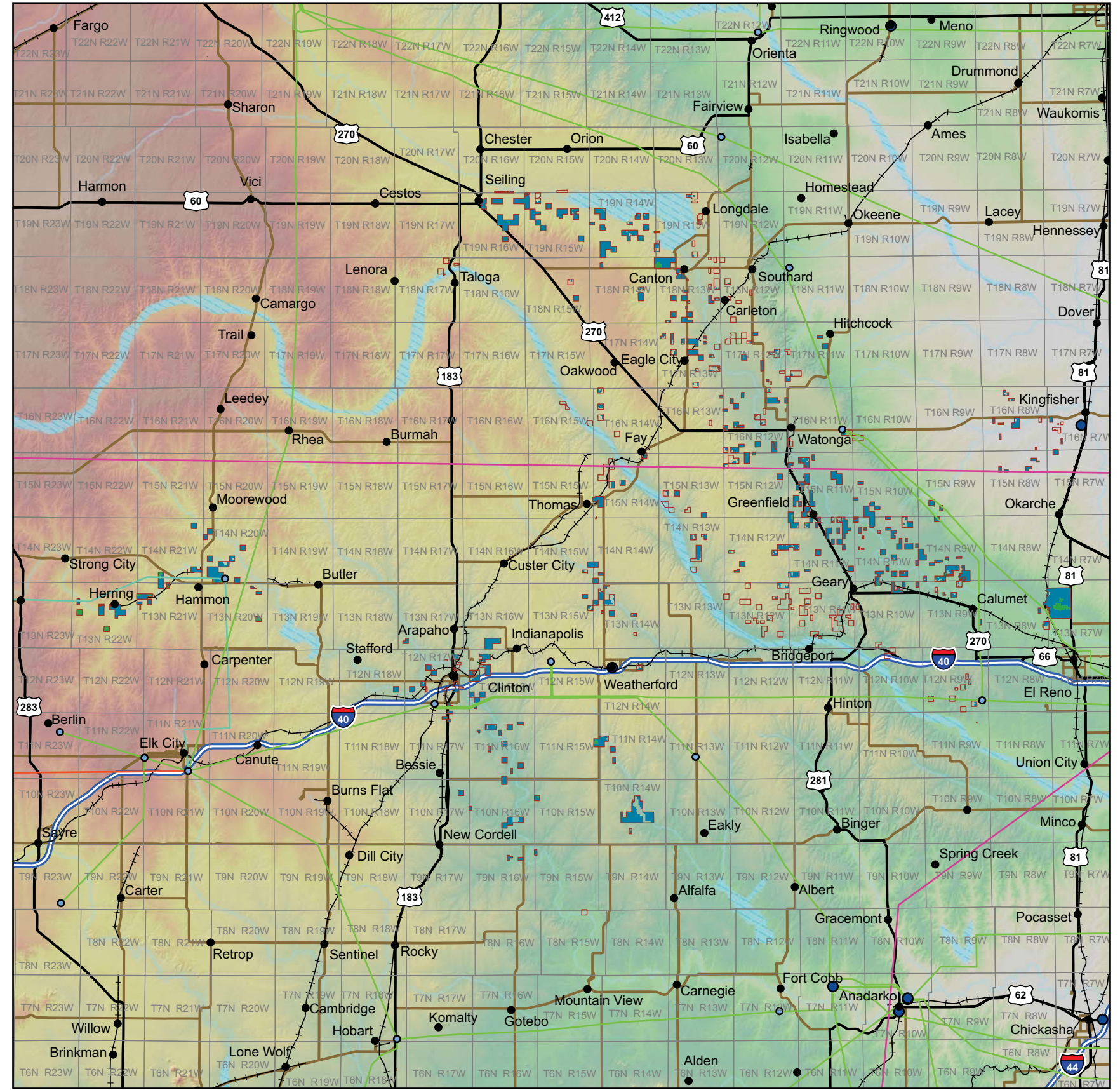
Tribal Contact Information

Governor Darrell Flyingman
 Cheyenne and Arapaho Tribes
 of Oklahoma
 P.O. Box 38
 Concho, OK 73022
 Phone: 405-262-0345

- Cheyenne-Arapaho Lands
- Townships
- Power Plants
- Substations
- Transmission Lines**
- 69 kV
- 138 kV
- 230 kV
- 345 kV
- Wind Power Class : Wind Speed at 50 m**
- 3 : 6.8 - 7.5 m/s (15.2 - 16.8 mph)
- 4 : 7.5 - 8.1 m/s (16.8 - 18.1 mph)
- Major Roads**
- Limited Access
- Highways
- Secondary Roads
- Railroads
- Bodies of Water
- Streams

*Wind speeds are based on a Weibull k of 2.4 at 500 m elevation

Cheyenne-Arapaho Lands Wind Potential



0 3.5 7 14 21 28 Miles

Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Pine Ridge Reservation

Located on 2,780,932 acres of badlands and rolling grasslands, the Pine Ridge Reservation of the Oglala Sioux Tribe in South Dakota is second in size only to the Navajo Reservation.



The Badlands National Park extends into the reservation, featuring a unique landscape of eroded ridges, peaks, multi-colored columns, and abrupt mesas. The Buffalo National Grassland lies along the reservation's western border.

The community of Pine Ridge serves as tribal headquarters. The nearest large metropolitan area is Denver, CO, 420 miles away.

The term "Lakota" represents both the language and the people known as the western Sioux. Originally, there were seven nations of people in what is now the area of north-central Minnesota who all spoke mutually understandable dialects of the Siouan language. By 1775, the Lakotas had discovered the Black Hills at the center of their territory. The mountains became their spiritual center.

The Tribe has a comprehensive economic development plan that led to the establishment of a meat-processing plant, a shopping center expansion, and improvements to their local airport. The Tribe has a parks and recreation department that offers guided hunting for small game and big game, including buffalo and elk.

Location and climate

Located in southwestern South Dakota, the reservation borders Nebraska on the south, and is 50 miles east of the Wyoming border. Pine Ridge lies



Photo: Amanda John

approximately 97 miles southwest of Rapid City. Summer temperatures average in the mid 70s while winter temperatures dip to the 20s. The area normally receives 19 inches of precipitation annually.

Wind Potential

The reservation has a total potential of about 104,832 megawatts (MW) covering roughly 2,620,800 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 5, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 989,800 acres
- Class 4 – 1,208,000 acres
- Class 5 – 423,000 acres

The wind potential is located throughout the reservation. Higher wind classes within the reservation stretch diagonally across the reservation from the southwest to the northeast.

Roads and Rail

U.S. Highway 18 crosses the reservation east-west through the southern portion of the reservation. Interstate 90 is 30 miles north of the reservation. U.S. Highway 20 is south of the reservation with adjacent rail lines.

Transmission

There are several transmission lines running across the reservation, primarily in the southeastern portion of the area. The line voltages crossing the reservation consist of either 35 kV or 115 kV.

South Dakota - Renewable, Recycled and Conserved Energy Objective

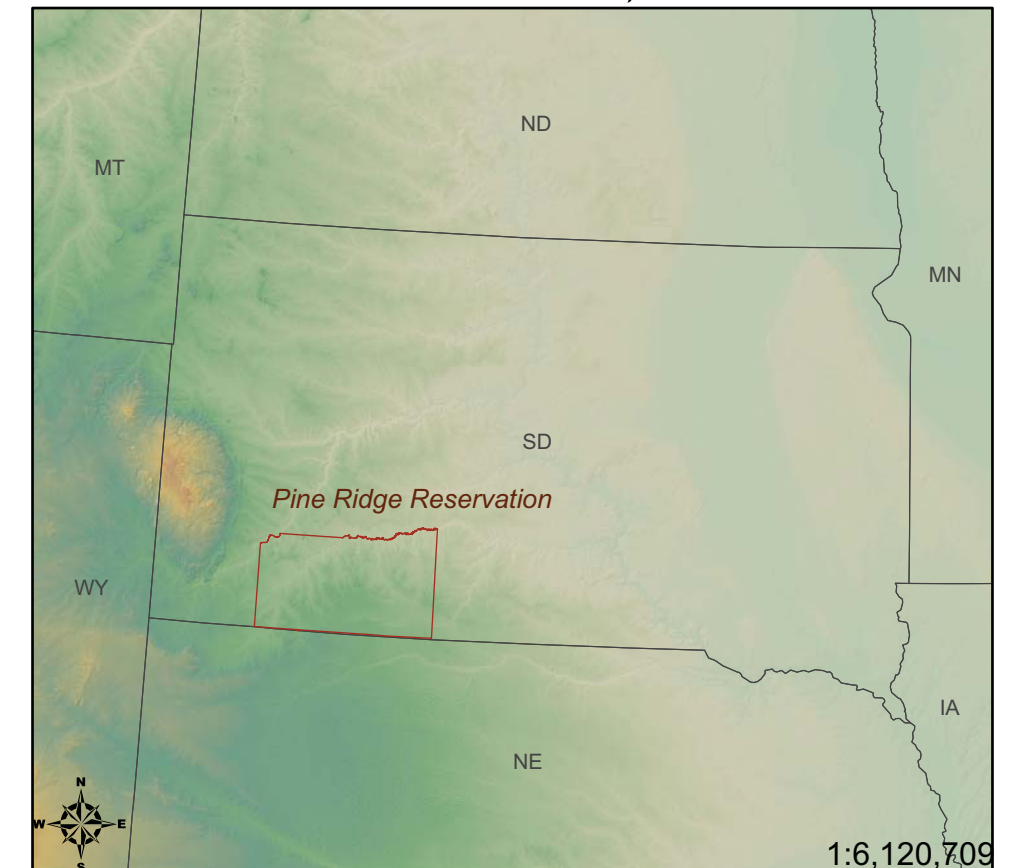
South Dakota has established a voluntary objective for all retail providers of electricity (municipal utilities, investor-owned utilities, and rural electric cooperatives) which states that 10 percent of all retail electricity sold in the state will be obtained from renewable, recycled and conserved energy by 2015. In order to meet the objective, measurement may be taken of qualifying megawatt-hours delivered at retail or by use of Renewable Energy Credits (RECs). The RECs may be generated by either in-state or out-of-state facilities, and must meet the South Dakota Public Utilities Commission rules for tracking, recording and verification. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

South Dakota



Photo: Amanda John

Reservation Location Map



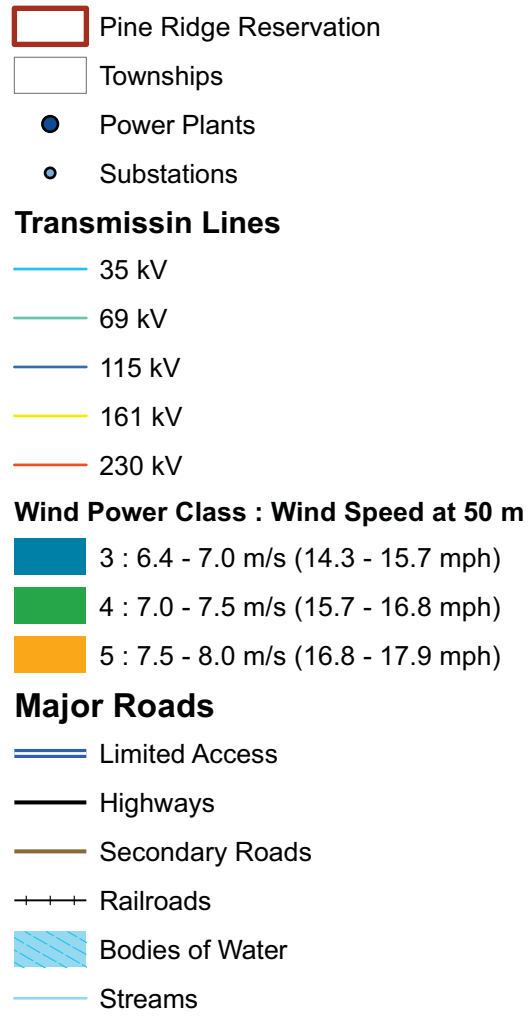
Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Pine Ridge Reservation Wind Potential

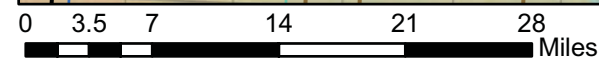
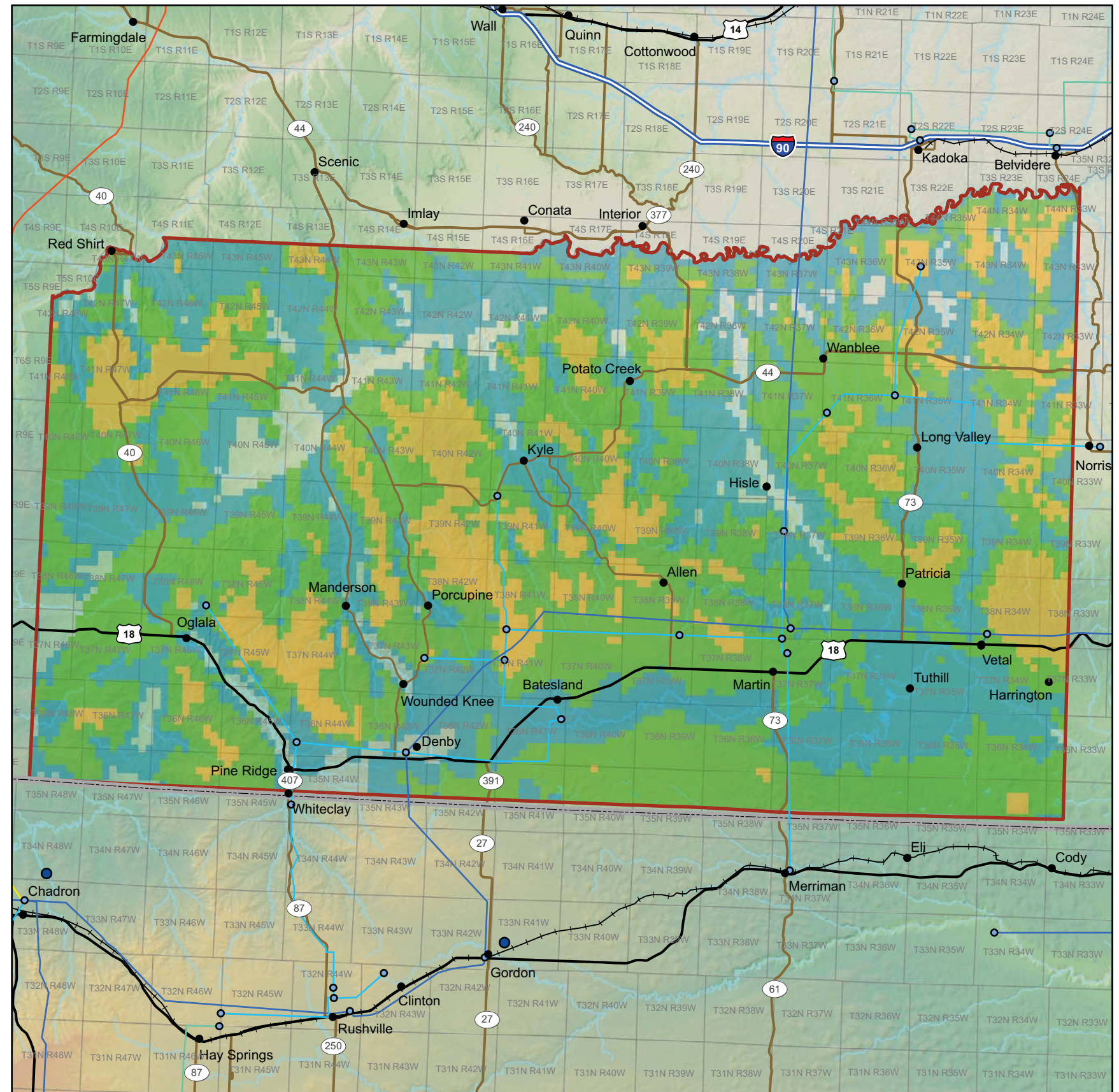
Tribal Contact Information

President Theresa Two Bulls
 Oglala Sioux Tribe
 P.O. Box 2070
 Pine Ridge, SD 57770
 Phone: 605-867-5821

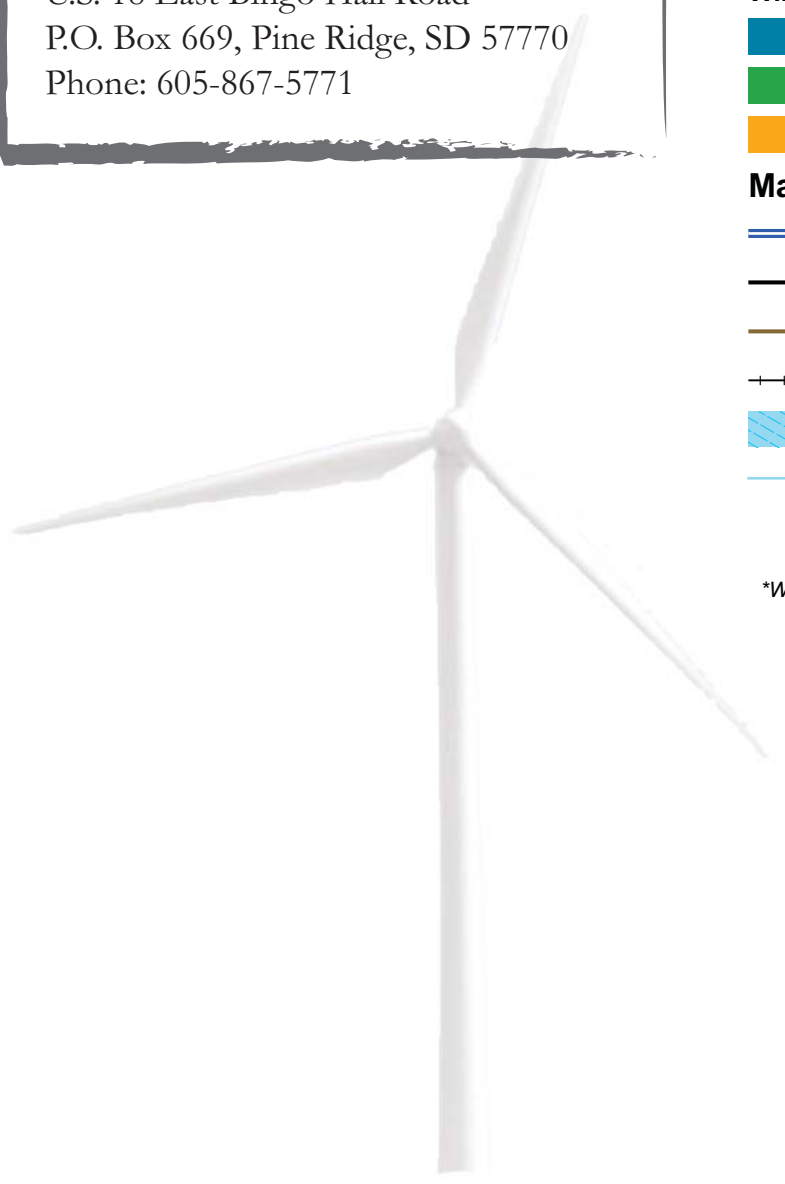
Joe Red Cloud
 Oglala Sioux Tribe
 Renewable Energy Development
 Authority (REDA)
 U.S. 18 East Bingo Hall Road
 P.O. Box 669, Pine Ridge, SD 57770
 Phone: 605-867-5771



*Wind speeds are based on a Weibull k value of 2.0



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



Rosebud Reservation

The Rosebud Sioux Reservation of South Dakota encompasses 888,500 acres of breathtaking canyons, rolling hills, and timberland. The people of the Sioux Nation call themselves Lakota, Nakota, or Dakota, which translates to “friend” or “ally”. Rosebud is the name of the federal agency that was established in 1887, so named because of the abundance of wild rosebuds that grew in the vicinity.



Established by an act of Congress in March, 1889, the reservation includes the towns of Mission, Rosebud, Parmelee, St. Francis, Okreek and Hidden Timber. The Todd County line forms the northern and eastern borders; the Nebraska state line forms the southern boundary. The community of Rosebud serves as tribal headquarters.

The Tribe has a diverse economy supported in part by gaming, ranching, electronics and wind farm development. The Tribe began renewable energy efforts with the development of one 750 kilowatt wind turbine adjacent to their casino. The Tribe also has plans to build a travel center adjacent to the interstate near the casino.

Location and Climate

The reservation is located just above the Nebraska state line, east of and adjacent to the Pine Ridge Reservation. Rosebud is 194 miles east of Rapid City, SD. Year-round temperatures average a high of 59 with lows in the 30s.



Photo: Amanda John

Wind Potential

The reservation has a total potential of about 52,155 megawatts (MW) covering roughly 1,303,878 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 6, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 400,877 acres
- Class 4 – 351,757 acres
- Class 5 – 518,662 acres
- Class 6 – 32,582 acres

The Rosebud Sioux Tribe has three active projects on the reservation:

- The Akicita Cikala Turbine is located next to their Casino near the southern border of the reservation, and has been providing 750 kW of power since 2003;
- The Owl Feather War Bonnet is a 30 MW project located near the town of St. Francis. To date the tribe has completed a wind resource assessment, a system impact study, and all National Energy Policy Act (NEPA) requirements. The site is adjacent to a substation and an 115 kV transmission line;
- The North Antelope project is located in the northern portion of the reservation and is also adjacent to a substation and 115 kV transmission line. The tribe has completed a wind resource assessment, a preliminary system impact study, avian studies, and a site layout with 105 turbines. Remaining NEPA requirements are planned for summer of 2010.

The Rosebud Sioux Tribe is currently working with the development group Citizen Wind. They are eager to meet with potential investors for financing and final construction of their Owl Feather War Bonnet and North Antelope wind energy projects.

Roads and Rail

U.S. highways 83 and 18 cross the main portion of the reservation. Interstate 90 is 40 miles north of the reservation and a rail line runs adjacent to it.

Transmission

Two 115 kV transmission lines cross onto the reservation, one of which is adjacent to U.S. 83. The other line runs in a north-south direction from Mission to Saint Francis and then south to Valentine, NE.

South Dakota

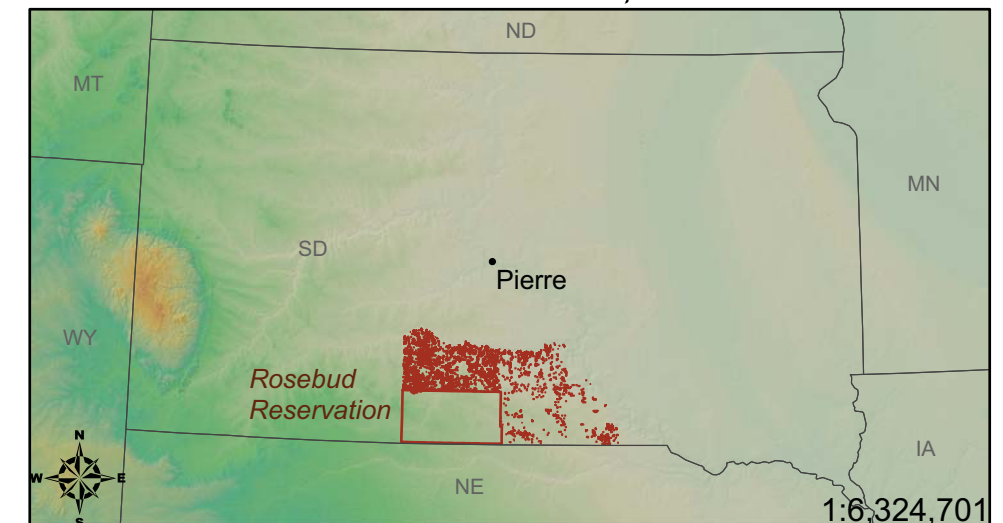
South Dakota - Renewable, Recycled and Conserved Energy Objective

The state of South Dakota has established a voluntary objective for all retail providers of electricity (municipal utilities, investor-owned utilities, and rural electric cooperatives) which states that 10 percent of all retail electricity sold in the state will be obtained from renewable, recycled and conserved energy by 2015. In order to meet the objective, measurement may be taken of qualifying megawatt-hours delivered at retail or by use of Renewable Energy Credits (RECs.) RECs may be generated by either in-state or out-of-state facilities and must meet the South Dakota Public Utilities Commission rules for tracking, recording and verification. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Tribal Contact Information

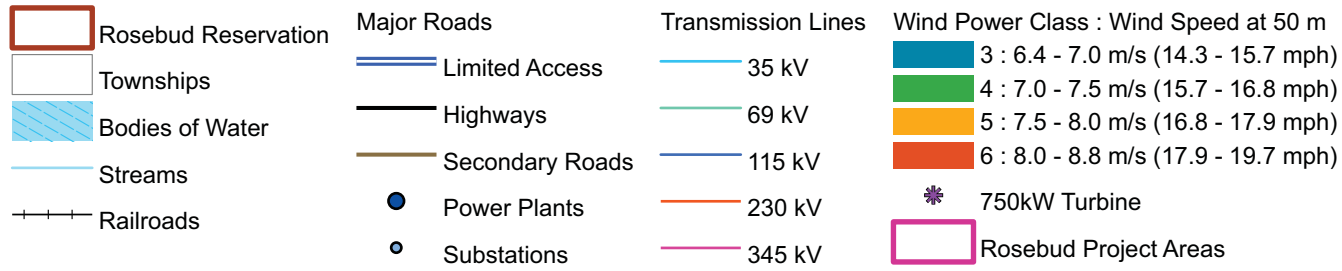
President Rodney Bordeaux
Rosebud Sioux Tribe
P.O. Box 430
Rosebud, SD 57570
Phone: 605-747-2381

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

Rosebud Reservation Wind Potential



*Wind speeds are based on a Weibull k value of 2.0

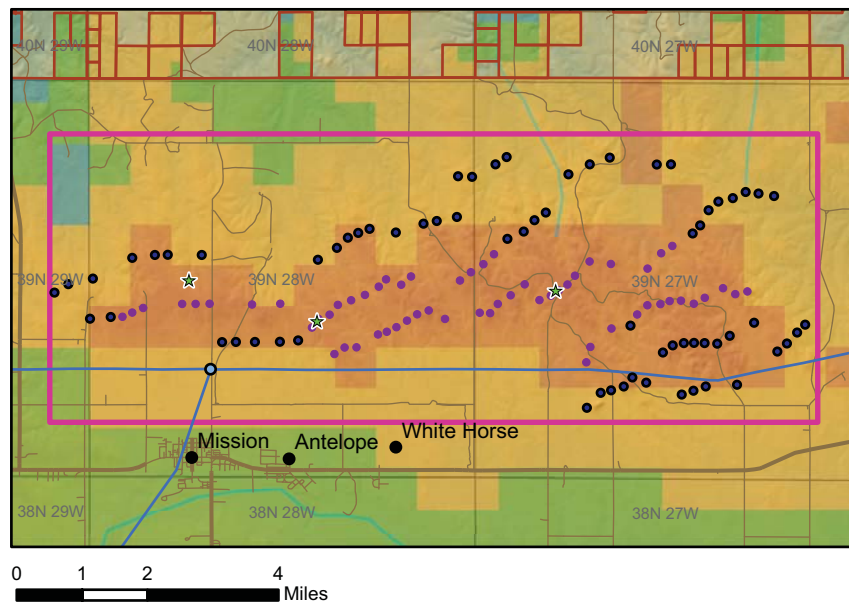
Proposed Wind Energy Projects

North Antelope 190 MW Project

- ★ Anemometer Locations
- Proposed Phase 2: 100MW
- Proposed Phase 1: 90MW
- Local Roads



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, Rosebud Sioux Tribe, DeLORME, Citizens Wind and the National Geospatial Resource Center.

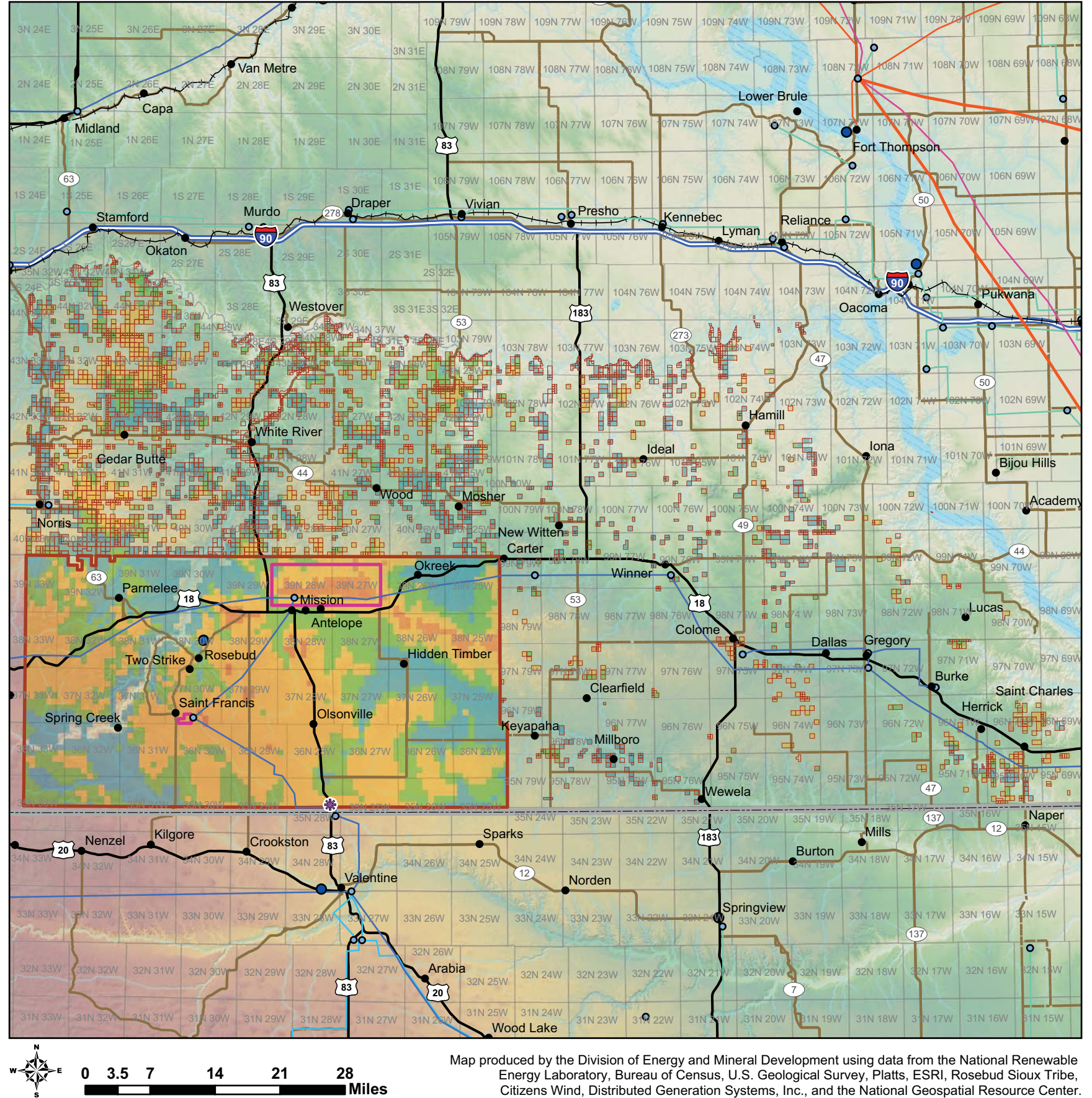
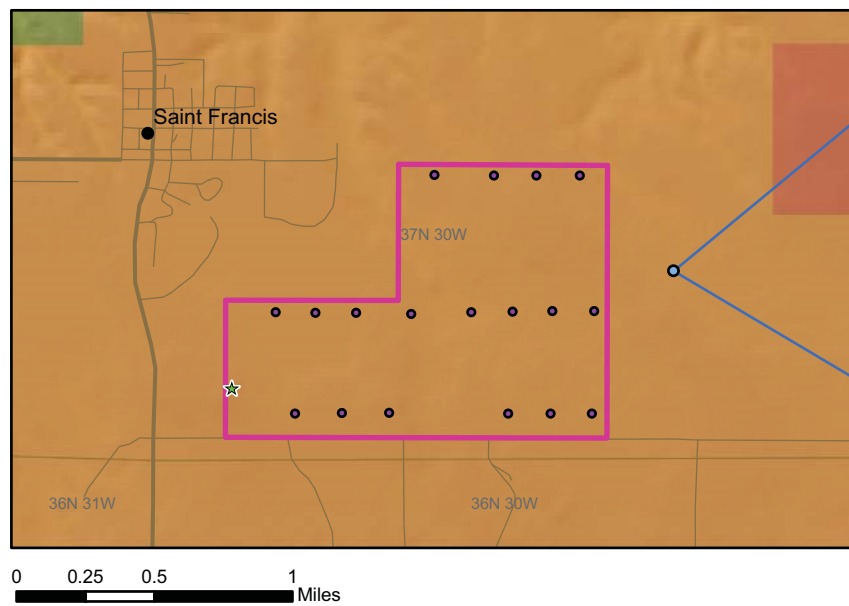


Owl Feather War Bonnet 30 MW Project

- ★ Anemometer Locations
- Proposed Layout
- Local Roads



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, Rosebud Sioux Tribe, Distributed Generation Systems, Inc., and the National Geospatial Resource Center.



Colville Reservation

The Colville Confederated Tribes in Washington is made up of 12 tribal groups - the Colville, Wenatche, Entiate, Chelan, Methow, Okanogan, Nespelem, San Poil, Lakes, Moses Columbia, Palus and Nez Perce bands. Historically, communities were located near waterways, including the Columbia, Snake, and Wallowa rivers. A once nomadic people, their history is steeped in rich hunting, gathering, trading and fishing traditions.

The Colville Indian Reservation was originally established in 1872 through an Executive Order by President Grant. Today the Tribes are governed by the Colville Business Council which was established in 1938. Tribal members elect 14 council members to staggered, two-year terms. The council includes a chairman, vice-chairman, and secretary, who are elected to one-year terms from within the council body.

With an eye to the future, the Tribes are wisely balancing social and economic development while encouraging its members to seek higher education in natural resource management, law, business and health policy.

Location and Climate

The reservation is located in north central Washington. Tribal lands encompass over 1.3 million acres, 80 percent of which is owned by the Tribes. The reservation boasts a diverse topography of mountainous regions, timberlands,



File Photo



rangelands, lakes and streams in Okanogan and Ferry counties, approximately 100 miles northwest of Spokane.

Average summer temperatures in the reservation's higher elevations hover around 90, with average winter temperatures dipping to the low 20s. Valleys and low lands receive 10-14 inches of annual precipitation.

Wind Potential

The reservation has a total potential of about 700 megawatts (MW) covering roughly 17,600 acres within the reservation boundary (assuming 25ac/MW). The eastern and northern portions of the reservation have the most wind potential. Wind power class potential ranges from Class 3 to Class 6, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 13,790 acres
- Class 4 – 2,620 acres
- Class 5 – 1,000 acres
- Class 6 – 190 acres

Roads and Rail

The reservation is located about 70 miles north of Interstate 90. State Highway 21 runs north and south in the center of the reservation. State highways 20 and 17 also cross the reservation. Other nearby highways include 25 and 97 on the eastern and western side of the reservation.

There are a number of rail lines within 20 miles of the reservation. The closest is a rail line running north-south along the reservation's western border.

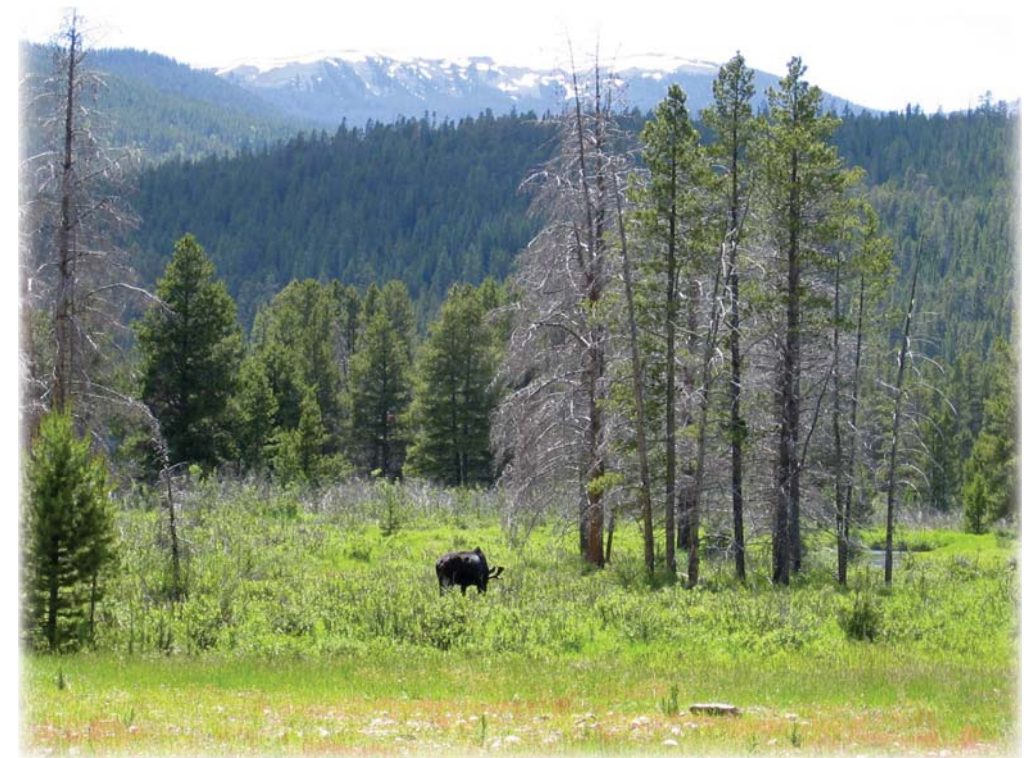
Transmission

The transmission lines entering the reservation come through the western and southern areas of the reservation. There are two 230 kV lines and four, 115 kV lines on the reservation. More transmission lines are located south of the reservation within five – ten miles of the boundary. The lines include voltages of 69, 115, 230, 287, 345, and 500 kV.

Renewable Portfolio Standard

The State of Washington's passage of Initiative 937 calls for electric utilities that serve more than 25,000 customers to obtain 15 percent of their electricity from new renewable resources by 2020. Renewable Energy Credits may be used for compliance with the Renewable Portfolio Standard. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Washington



File Photo

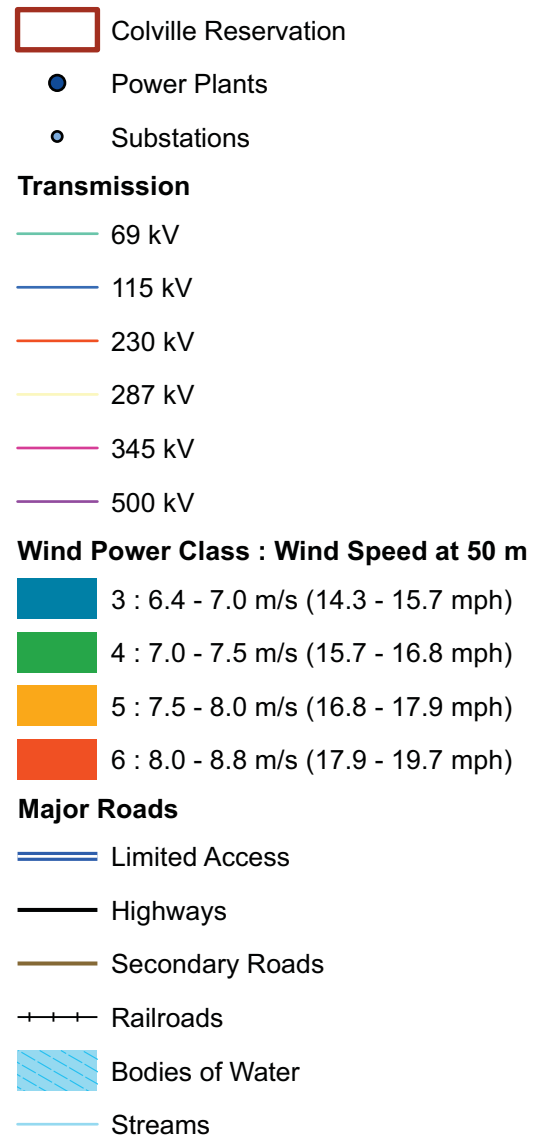
Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

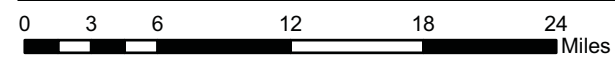
Tribal Contact Information

Chairman Michael O'Finley
 Confederated Tribes of the
 Colville Reservation
 P.O. Box 150
 Nespelem, WA 99155
 Phone: 509-634-2207

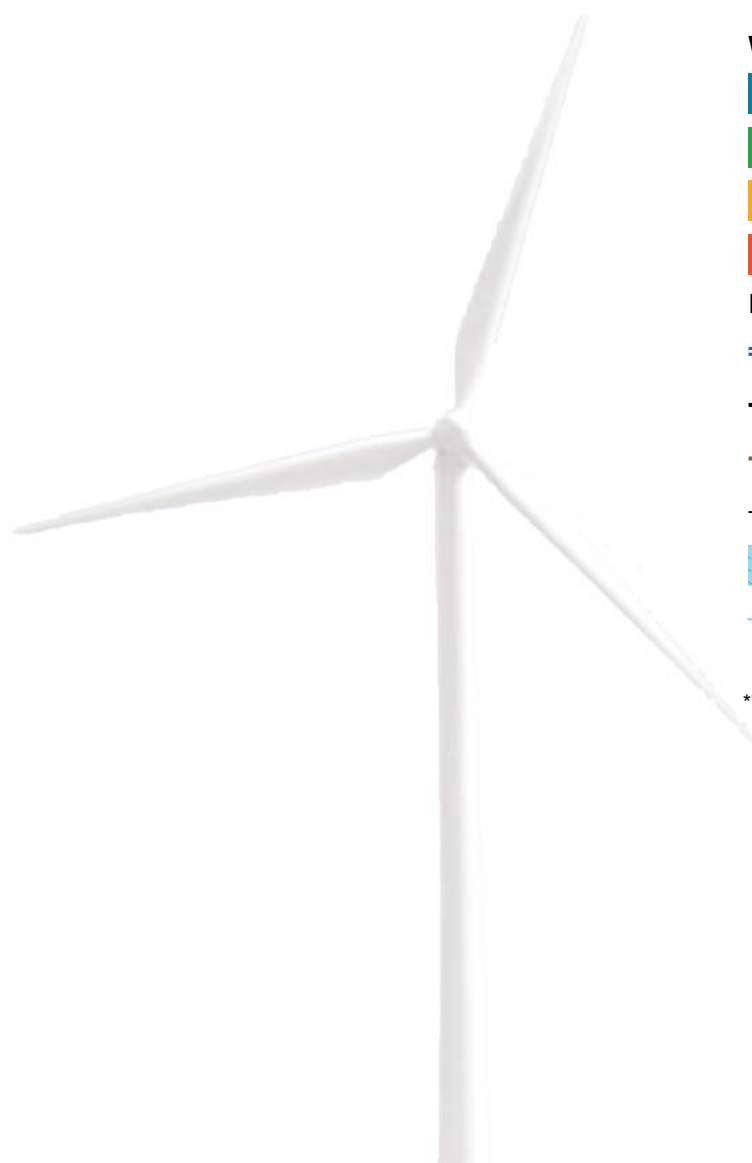


*Wind speeds are based on a Weibull k value of 2.0

Colville Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.



The Lummi Reservation sits on a peninsula in northwest Washington, 50 miles south of Vancouver, B.C. A small reservation of about 13,005 acres, the Lummi people have had a long salmon fishing tradition that continues today. The western red cedar also played a significant role in tribal customs. The wood was used as building material for sacred longhouses, utensils, and tools.



In 1855, the Point Elliot Treaty established the reservation. Today, the Tribe is proactive in seeking business opportunities to stimulate their economy. The Tribe's Lummi Commercial Company, a holding company for their economic activities, is led by a general manager, governed by its own charter and bylaws, and supervised by a company-appointed board.

The governing body is the Lummi Indian Business Council, which consist of 11 members elected to three-year, staggered terms by the general council.

Location and Climate

The reservation is seven miles northwest of Bellingham, WA and 100 miles north of Seattle, WA. Summer temperatures average in the 70s while winter temperatures dip to the 40s.



Photo: R. J. Kern

Wind Potential

The reservation has a total potential of about 77 megawatts (MW) covering roughly 1,920 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential is in the Class 3 range, according to the National Renewable Energy Laboratory validated maps. The Lummi Nation recently initiated a wind feasibility project in late 2009. The Tribe plans to purchase and install two 60-meter anemometer towers and rent a sonic detection and ranging unit to begin their wind energy assessment. They anticipate the wind assessment, environmental evaluation, and the feasibility study to be completed in two years.

Roads and Rail

Interstate 5 runs within 2 miles of the eastern border of the reservation. Minor roads lead onto the reservation. A rail line lies between the eastern reservation boundary and I-5.

Transmission

There are two 115 kV transmission lines and one 500 kV line to the east of the reservation within 5 miles. Additionally, there is a 230 kV line to the north within 3 miles.

Renewable Portfolio Standard

The state of Washington's passage of Initiative 937 calls for electric utilities that serve more than 25,000 customers to obtain 15 percent of their electricity from new renewable resources by 2020. Renewable Energy Credits may be used for compliance with the Renewable Portfolio Standard. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.



Photo: courtesy NOAA

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

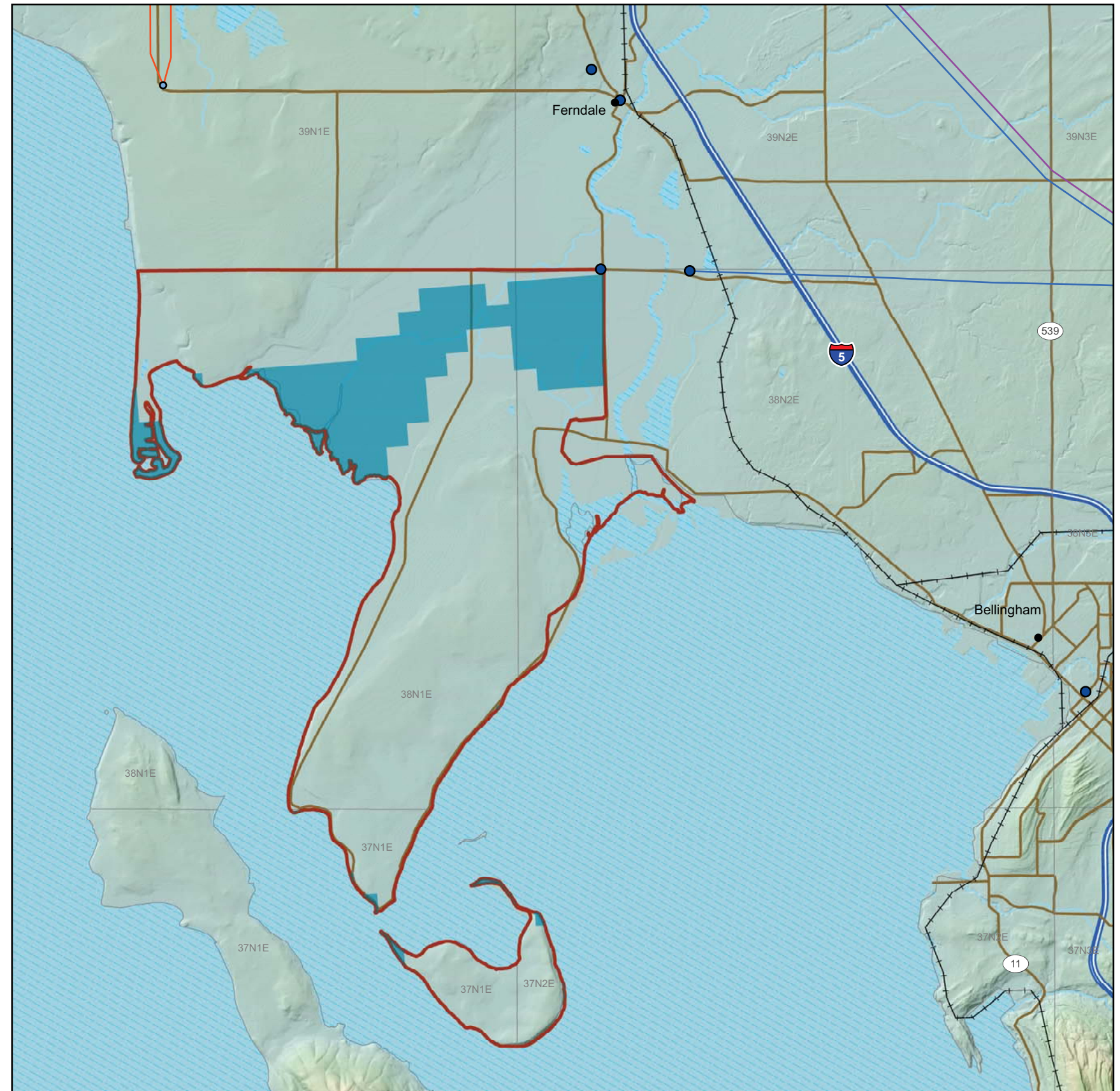
Tribal Contact Information

Chairman Henry Cagey
 Lummi Indian Nation
 2616 Kwina Road
 Bellingham, WA 98226
 Phone: 360-384-1489

- Lummi Reservation
- Townships
- Power Plants
- Substations
- Transmission Lines**
- 115 kV
- 230 kV
- 500 kV
- Wind Power Class : Wind Speeds at 50 m**
- 3 : 6.4 - 7.0 m/s (14.3 - 15.7 mph)
- Major Roads**
- Limited Access
- Secondary Roads
- + + + Railroads
- Bodies of Water
- Streams

**Wind speeds are based on a Weibull k value of 2.0*

Lummi Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Makah Reservation

Against a backdrop of stunning scenery and rugged coastline on Washington's Olympic Peninsula, the Makah Indians make their home. The 28,168-acre, heavily forested reservation is the westernmost Indian reservation in the lower 48 states.



The Tribe has a rich fishing and fur trading tradition, along with a whaling subsistence tradition dating back 1,500 years. Archaeological research suggests that the Makah people have inhabited the area, now known as Neah Bay, for more than 3,800 years.

Today, the Makah economy is still largely dependent on fishing and forestry, with an increasing interest in retail services, and an eye towards wind development.

A five-person tribal council governs the Tribe, with members elected to staggered three-year terms by eligible tribal voters. The Land Use Committee helps determine priorities for land use, drafts ordinances, and assesses environmental requirements for all economic development possibilities.

Location and Climate

Much of the reservation is on Olympic Peninsula's Cape Flattery and Koliath Point, 70 miles west of Port Angeles. Two smaller areas are Tatoosh Island (47 acres) and Waadah Island (22 acres). The majority of the population lives in the



Photo: courtesy Olympic Coast National Marine Sanctuary

fishing village of Neah Bay. Elevations range between 110 feet above sea level at Neah Bay to 2,000 feet at Sooes Peak.

The lands are heavily forested, with rangeland suitable primarily for livestock grazing and rugged mountain ranges; the shoreline areas are characterized by rocky headlands and sandy beaches.

The region gets about 100 inches of rainfall annually with annual temperatures ranging from highs in the mid-60s to lows in the 40s.

Wind Potential

The reservation has a potential of about 187 megawatts (MW) covering roughly 4,672 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 6, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 2,497 acres
- Class 4 – 1,305 acres
- Class 5 – 736 acres
- Class 6 – 134 acres

Roads

State Highway 112 runs through the northern part of the reservation along the coast. Minor roads provide access to most of the reservation.

Transmission

The nearest transmission line to the reservation is 115 kV and is 20 miles east of the reservation.

Renewable Portfolio Standard

The state of Washington's passage of Initiative 937 calls for electric utilities that serve more than 25,000 customers to obtain 15 percent of their electricity from new renewable resources by 2020. Renewable Energy Credits may be used for compliance with the Renewable Portfolio Standard. More detailed information may be found at the Database of State Incentives for Renewables and Efficiency website: www.dsireusa.org.

Washington



Photo: Walter Bonora



Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

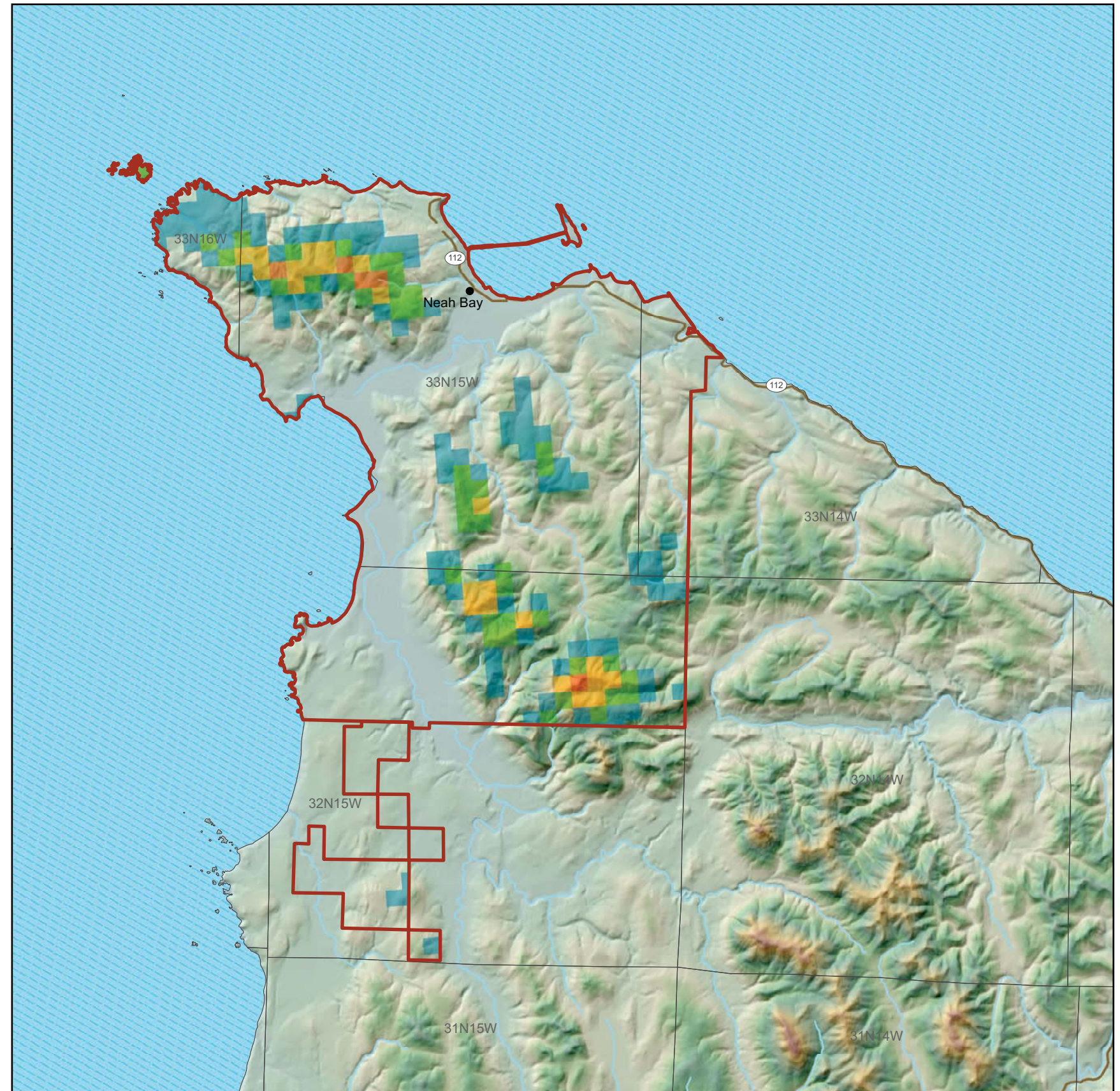
Tribal Contact Information

Chairman Michael Lawrence
 Makah Tribe
 P.O. Box 115
 Neah Bay, WA 98357
 Phone: 360-645-2201

-  Makah Reservation
-  Townships
- Wind Power Class : Wind Speed at 50 m**
-  3 : 6.4 - 7.0 m/s (14.3 - 15.7 mph)
-  4 : 7.0 - 7.5 m/s (15.7 - 16.8 mph)
-  5 : 7.5 - 8.0 m/s (16.8 - 17.9 mph)
-  6 : 8.0 - 8.8 m/s (17.9 - 19.7 mph)
- Major Roads**
-  Secondary Roads
-  Bodies of Water
-  Streams

*Wind speeds are based on a Weibull k value of 2.0

Makah Reservation Wind Potential



0 0.5 1 2 3 4 Miles

Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Wind River Reservation

Set against a scenic backdrop, the Wind River Reservation - the third largest in the U.S. - spans 2,252,872 acres of rugged mountains, lush forests and grazing lands in western Wyoming.



In 1863, the Fort Bridger Treaty established the reservation, which originally covered 44 million acres for the Eastern Shoshone. Later in 1878, the Northern Arapahoe joined the Eastern Shoshone.

Both Tribes have general councils, and are governed by business councils composed of 6 members elected to two-year terms. Each business council in turn elects a chairman.

The Northern Arapaho Economic Development Commission oversees the development of economic ventures for the tribe.

Affected by a sharp down-turn in Wyoming's economy in the 1970s, the tribes have shown a keen resourcefulness in developing a modest cadre of small businesses on the reservation.

Location and Climate

The Eastern Shoshone is centered primarily in the communities of Fort Washakie, Wind River, and Crowheart in the northern and western portions of the reservation. The Northern Arapaho occupy the southeastern portion of the reservation and the communities of Ethete, Arapahoe, and St. Stephens. The entire reservation is located in Fremont County.

Wind Potential

The reservation has a total potential of about 22,891 megawatts (MW) covering roughly 572,282 acres within the reservation boundary (assuming 25ac/MW). Wind power class potential ranges from Class 3 to Class 7, according to the National Renewable Energy Laboratory validated maps at 50 meters. The total acreage of each wind class is shown in detail below.

- Class 3 – 222,758 acres
- Class 4 – 129,632 acres
- Class 5 – 84,352 acres
- Class 6 – 79,930 acres
- Class 7 – 55,610 acres

The wind potential is located mainly on the northern and western sides of the reservation.

Roads and Rail

There are several U.S. and State highways crossing the Wind River Reservation. U.S. highways 26 and 287 cross the reservation diagonally from the northwest. Additional access may be through U.S. highways 20 and 26 from the east and northeast. State highways 136, 135 and 789 provide access from the south, and 789 from the northeast.

Transmission

Many transmission lines cross the reservation including lines rated for 34.5, 69, 115, and 230 kV. A single 69 kV line enters the reservation from the west and continues toward the city of Morton where it further splits off into multiple 69 kV lines. All other lines are primarily in the southeastern portion of the Wind River Reservation.

Renewable Portfolio Standard

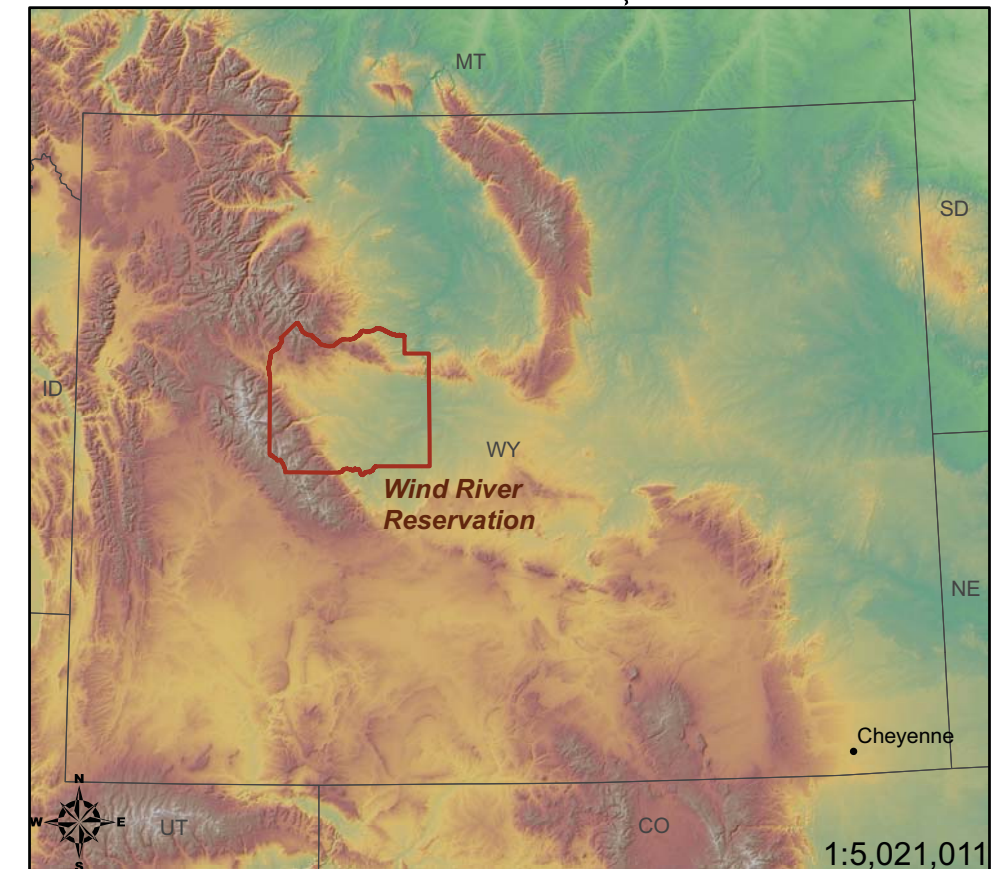
Wyoming does not have a Renewable Portfolio Standard.

Wyoming



Photo: R. J. Kern

Reservation Location Map



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Platts, ESRI, and the National Geospatial Resource Center.

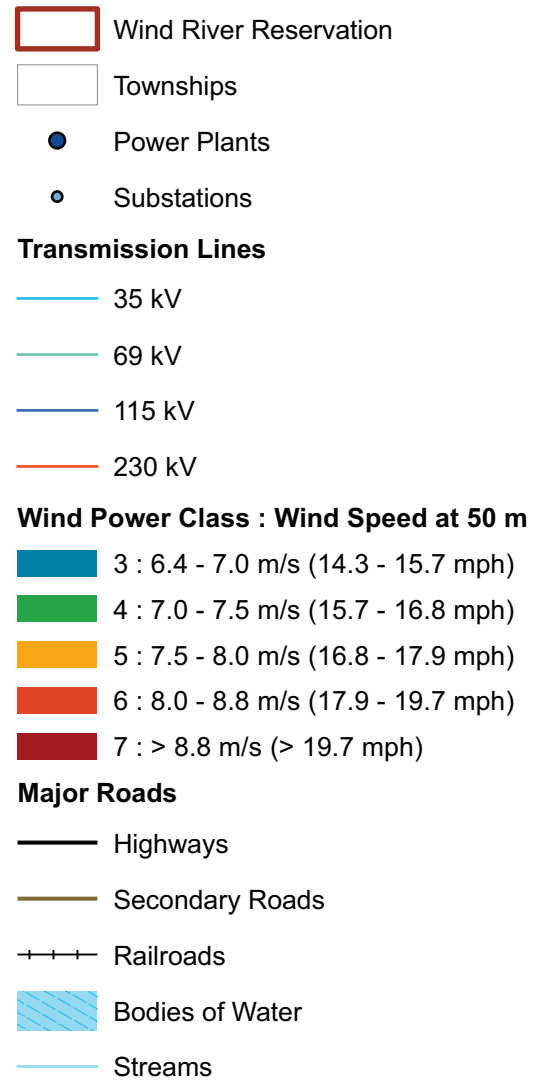


Photo: R. J. Kern

Tribal Contact Information

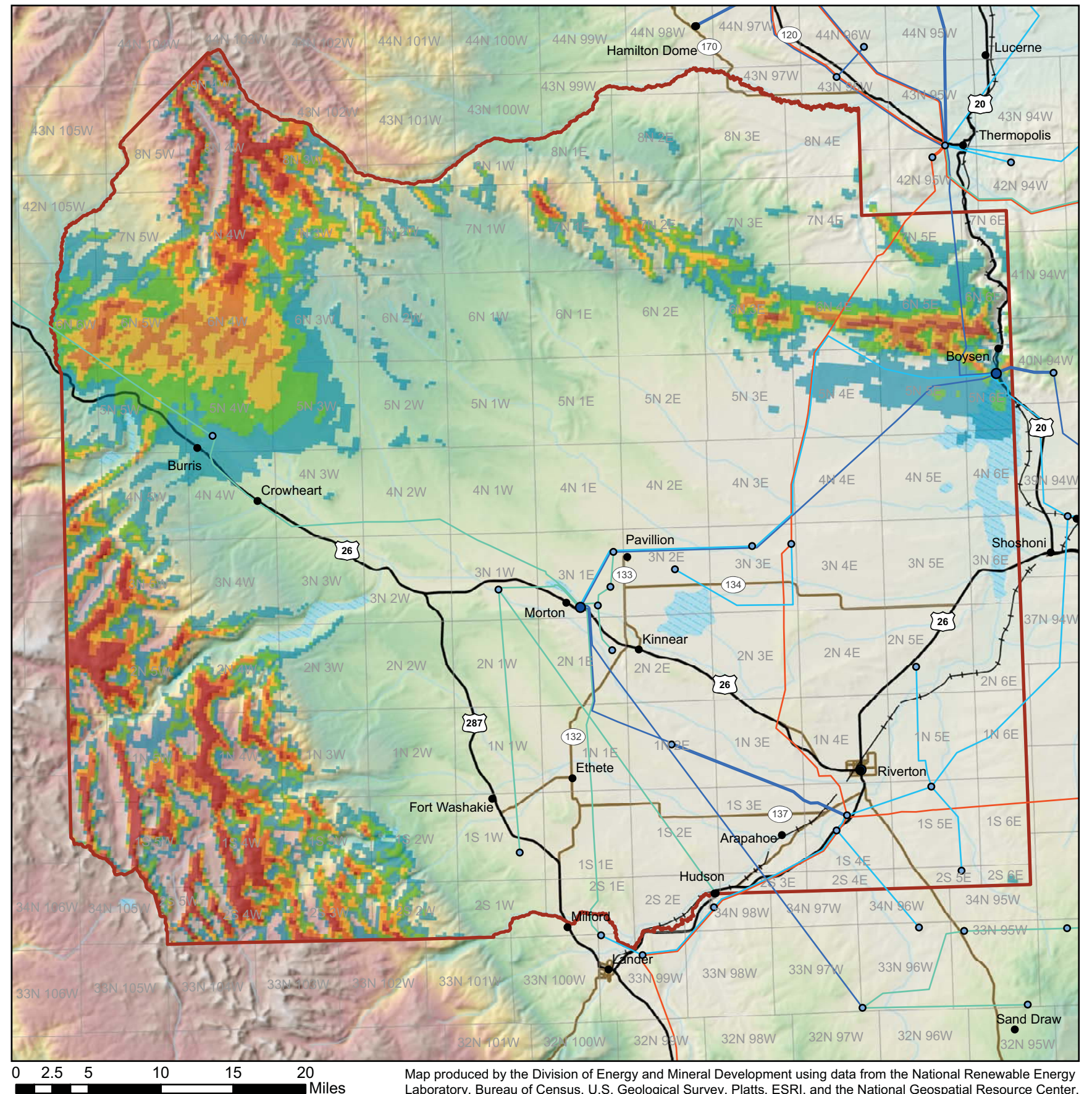
Chairman Harvey Spoon Hunter
Northern Arapaho Tribe
P.O. Box 396
Fort Washakie, WY 82514
Phone: 307-332-6120

Chairman Ivan Posey
Eastern Shoshone Tribe
P.O. Box 217
Fort Washakie, WY 82514
Phone: 307-332-3532



*Wind speeds are based on a Weibull k value of 2.0

Wind River Reservation Wind Potential



Map produced by the Division of Energy and Mineral Development using data from the National Renewable Energy Laboratory, Bureau of Census, U.S. Geological Survey, Platts, ESRI, and the National Geospatial Resource Center.

Preserving Tradition....

While on the path to Prosperity

Acknowledgements

Maps were produced by the Division of Energy and Mineral Development using publically available data from the National Renewable Energy Laboratory (NREL), Minnesota Department of Commerce (WindLogics), Platts, ESRI, Bureau of Census, U.S. Geological Survey, and the National Geospatial Resource Center. The Division also consulted with tribal nations concerning additional wind project information.

Information about state renewable portfolio standards or goals have been summarized or gathered in part or whole from the Database of State Incentives for Renewables and Efficiency (www.dsireusa.org).

Tribal reservation acres and boundary data was gathered from the United States Department of the Interior, Bureau of Indian Affairs, National Geospatial Resource Center published December 2005.

Historical Source: Tiller's Guide to Indian Country by Veronica E. Velarde Tiller; © 2005