

## **12.0 AGENCY CONSULTATIONS INCLUDING MAINE HISTORIC PRESERVATION COMMISSION AND TRIBES**

CMW consulted with several regulatory agencies during the planning and design phases of the Project. Copies of these consultation letters including letters to the applicable tribes are included as Attachment 12-1.

CMW also coordinated with the Maine HPC throughout the project siting and resource assessment process and has prepared individual reports for the Maine HPC that identify potential impacts to both archaeological and above-ground historic resources in the project study area. These reports were filed with the Maine DEP as part of the Project's Site Location of Development Act permit application.



**PATRIOT RENEWABLES**

Canton Mountain Wind, LLC

## **Attachment 12-1 Agency Consultations**



October 31, 2011

Earle G. Shettleworth, Jr., Director  
Maine Historic Preservation Commission  
55 Capitol Street  
65 State House Station  
Augusta, ME 04333

**Re: Phase 0 Archaeological Reconnaissance Survey Report  
Canton Mountain Wind Project  
Towns of Dixfield and Canton, Oxford County, Maine**

Dear Mr. Shettleworth:

Dr. Stuart Eldridge, Principal Investigator for Tetra Tech, Inc. Cultural Resources Services Group, is pleased to submit for your review and recommendations the Phase 0 Archaeological Reconnaissance Survey Report for the Canton Mountain Wind Project, Towns of Dixfield and Canton, Oxford County, Maine.

This package includes one original copy of the Phase 0 report, which also includes the subsequent Phase IB archaeological investigation report as an attachment. If you have any questions please call me at (207) 879-9496, ext. 246.

Sincerely,  
Tetra Tech, Inc.

A handwritten signature in black ink that reads 'Stuart A. Eldridge'.

Dr. Stuart A. Eldridge, Ph.D., RPA  
Principal Investigator

Enclosures

cc: A. Novey, Patriot Renewables, LLC  
File (100-NEA-T25885)



December 6, 2011

Donald Soctomah, THPO  
P.O. Box 159  
Princeton, ME 04668

**RE: Cultural Resources Sensitivity  
Proposed Patriot Renewables, LLC/Canton Mountain Wind, LLC Canton  
Mountain Wind Project  
Towns of Dixfield and Canton, Oxford County, Maine**

Dear Mr. Soctomah:

Patriot Renewables, LLC (Patriot) is performing initial planning and permitting for the proposed Canton Mountain Wind Project (Project). Patriot is proposing to develop the wind energy facility in northern Oxford County, Maine. The proposed Project is located on the ridgeline of Canton Mountain in the towns of Dixfield and Canton, Maine.

The Project is a 22-megawatt wind energy generation project. The Project is being proposed by Canton Mountain Wind, LLC (CMW) and has been developed by CMW's affiliate, Patriot, a wind development company based in Quincy, Massachusetts. The Project includes the upgrading of approximately 3 miles of existing public and private roads and construction of approximately 2 miles of new access road extending to and along the Canton Mountain ridgeline. Eight General Electric (GE) wind turbines (seven model GE 2.75-103 turbines and one model GE 2.75-100 turbine) and associated electrical collection infrastructure will be installed along the ridgeline of Canton Mountain. The seven 2.75-103 turbines will have 103-meter-diameter rotors (approximately 338 feet) mounted on 85-meter (approximately 279-foot) tubular steel towers, resulting in a total height from ground to the tip of a fully extended blade of 136.5 meters (approximately 448 feet). The one 2.75-100 turbine will have a 100-meter-diameter (approximately 328-foot) rotor mounted on the same tower for a total height from ground to tip of 135 meters (approximately 443 feet). The Project also includes approximately 2.25 miles of roadside overhead generator lead line and approximately 1.1 miles of new transmission line within an existing transmission line right-of-way, as well as an approximately 3,500-square-foot operations and maintenance (O&M) building with an approximately 2,050-square-foot parking lot.

Attached please find a Project location map (Figure 1). This Project is subject to review under the federal Clean Water Act (Section 404) through Maine's General Permit and Maine's Natural Resources Protection and Site Location of Development Acts, and by the Maine Historic Preservation Commission.

Tetra Tech, Inc.

451 Presumpscot Street, Portland, Maine 04103

Tel 207.879.9496

Fax 207.879.9481

[www.tetrattech.com](http://www.tetrattech.com)



We would like to consult with you concerning the potential of the Project to contain cultural resources of interest to the Passamaquoddy. If there are any other organizations or societies that you are aware may be interested in consulting on cultural resource issues with regard to this Project, please advise.

If you have any questions, please do not hesitate to contact me at (207) 879-9496 Ext. 246.

Sincerely,  
Tetra Tech, Inc.

A handwritten signature in black ink that reads 'Stuart A. Eldridge'.

Stuart A. Eldridge, Ph.D., R.P.A.  
Archaeology Principal Investigator

Enclosures



December 6, 2011

Bonnie Newsome, THPO  
Cultural and Historic Preservation Program  
12 Wabanaki Way  
Indian Island, ME 04468

**RE: Cultural Resources Sensitivity  
Proposed Patriot Renewables, LLC/Canton Mountain Wind, LLC Canton  
Mountain Wind Project  
Towns of Dixfield and Canton, Oxford County, Maine**

Dear Ms. Newsome:

Patriot Renewables, LLC (Patriot) is performing initial planning and permitting for the proposed Canton Mountain Wind Project (Project). Patriot is proposing to develop the wind energy facility in northern Oxford County, Maine. The proposed Project is located on the ridgeline of Canton Mountain in the towns of Dixfield and Canton, Maine.

The Project is a 22-megawatt wind energy generation project. The Project is being proposed by Canton Mountain Wind, LLC (CMW) and has been developed by CMW's affiliate, Patriot, a wind development company based in Quincy, Massachusetts. The Project includes the upgrading of approximately 3 miles of existing public and private roads and construction of approximately 2 miles of new access road extending to and along the Canton Mountain ridgeline. Eight General Electric (GE) wind turbines (seven model GE 2.75-103 turbines and one model GE 2.75-100 turbine) and associated electrical collection infrastructure will be installed along the ridgeline of Canton Mountain. The seven 2.75-103 turbines will have 103-meter-diameter rotors (approximately 338 feet) mounted on 85-meter (approximately 279-foot) tubular steel towers, resulting in a total height from ground to the tip of a fully extended blade of 136.5 meters (approximately 448 feet). The one 2.75-100 turbine will have a 100-meter-diameter (approximately 328-foot) rotor mounted on the same tower for a total height from ground to tip of 135 meters (approximately 443 feet). The Project also includes approximately 2.25 miles of roadside overhead generator lead line and approximately 1.1 miles of new transmission line within an existing transmission line right-of-way, as well as an approximately 3,500-square-foot operations and maintenance (O&M) building with an approximately 2,050-square-foot parking lot.

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Fax 207.879.9481

www.tetrattech.com



We would like to consult with you concerning the potential of the Project to contain cultural resources of interest to the Penobscot. If there are any other organizations or societies that you are aware may be interested in consulting on cultural resource issues with regard to this Project, please advise.

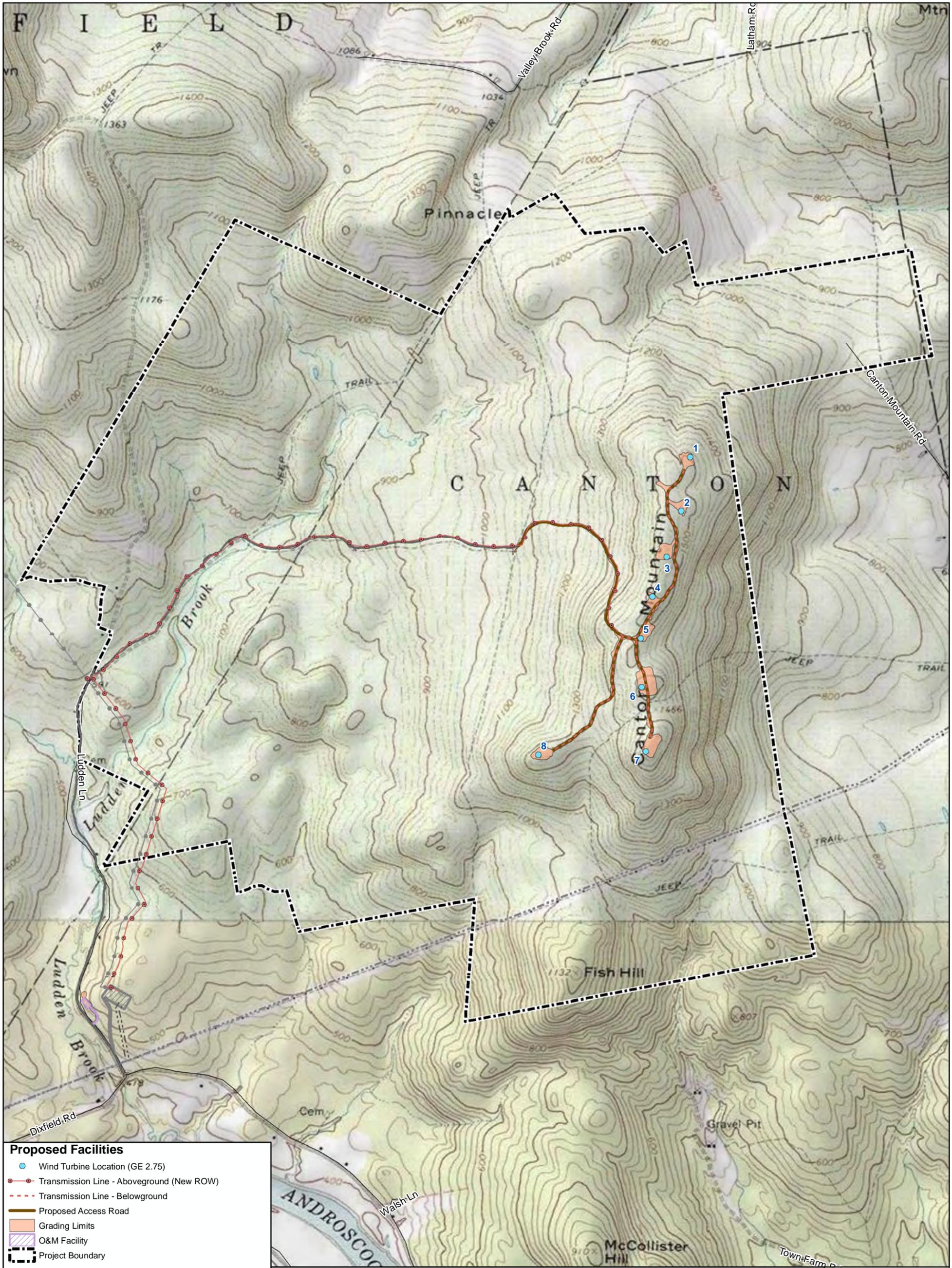
If you have any questions, please do not hesitate to contact me at (207) 879-9496 Ext. 246.

Sincerely,  
Tetra Tech, Inc.

A handwritten signature in black ink that reads 'Stuart A. Eldridge'.

Stuart A. Eldridge, Ph.D., R.P.A.  
Archaeology Principal Investigator

Enclosures



**Proposed Facilities**

- Wind Turbine Location (GE 2.75)
- Transmission Line - Aboveground (New ROW)
- - - Transmission Line - Belowground
- Proposed Access Road
- Grading Limits
- O&M Facility
- Project Boundary

**Existing Facilities**

- Existing Access Road
- Transmission Line - Aboveground (Existing ROW)
- - - 115kV Electric Transmission Line (CMP 229 Line)
- - - CMP 115 kV Substation Transmission Line
- Ludden Lane Substation

SOURCE: Mount Blue, Dixfield, East Dixfield, & Canton USGS Quadrangles  
 0 0.25 0.5 Miles



**Figure 1-1  
 Project Site Location**  
**Canton Mountain Wind Project  
 Canton and Dixfield, Maine**

December 2011





**TETRA TECH**

August 26, 2010

Mark McCollough  
United States Fish and Wildlife Service  
Maine Ecological Services Office  
1168 Main Street  
Old Town, Maine 04468  
*via email – Mark\_McCollough@fws.gov*

**Re: Request for Natural Resources Consultation near Canton, Maine**

Dear Mr. McCollough:

Tetra Tech, Inc. (Tetra Tech) is writing on behalf of a Patriot Renewables to request information regarding any information regarding federal natural resources at a potential wind power development site in Oxford County, Maine. Tetra Tech has also contacted the Maine Department of Inland Wildlife and Fisheries for information regarding protected wildlife species and habitats and the Maine Natural Areas Program for information on protected plant species, conservation areas, and any other ecological and vegetation concerns.

The location of the proposed project site is depicted on the attached map. We greatly appreciate your efforts to treat the project and site location as confidential at this time. The project boundary encompasses an area within the Towns of Canton and Dixfield.

It is our goal to perform a thorough analysis of environmental concerns within the potential project area. We are currently in consultation with the Maine Department of Inland Wildlife and Fisheries to help determine the feasibility of the project and guide project development in a manner that avoids impacts to sensitive resources to the extent possible.

Should you have any questions or require additional information, please do not hesitate to contact me directly by phone at 207-879-9496 or email at [derek.hengstenberg@tetrattech.com](mailto:derek.hengstenberg@tetrattech.com). Thank you in advance for your assistance.

Sincerely,

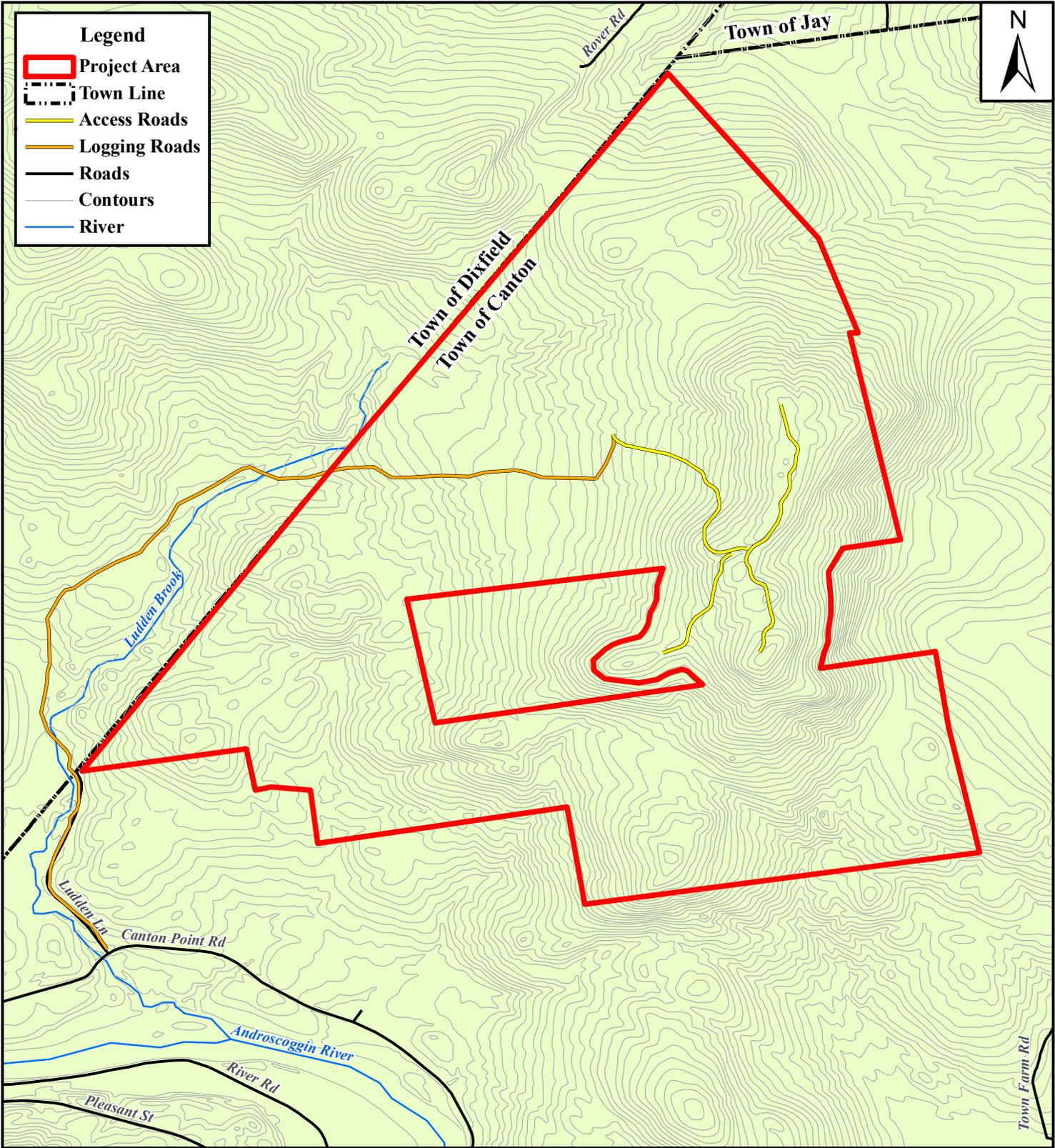
**Tetra Tech , Inc.**

*Derek Hengstenberg*

Derek W. Hengstenbeg  
Certified Wildlife Biologist

Enclosures: Project Area Map

**Tetra Tech, Inc.**  
451 Presumpscot Street, Portland, Maine 04103  
Tel 207.879.9496 Fax 207.879.9481 [www.tetrattech.com](http://www.tetrattech.com)



**Project Location**

Source: Maine Office of Geographic Information Systems (MEGIS), Roads, 2008; Contours, 2000. Additional data provided by client Patriot Renewables, spring 2010.

0 1,250 2,500 5,000 Feet

0 300 600 1,200 Meters

**Figure 1-0 Canton Mountain Wind Project, Canton, Maine.**

Prepared For: PATRIOT RENEWABLES

Prepared By: TETRA TECH

Date: 07/10



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Maine Field Office – Ecological Services  
17 Godfrey Drive, Suite 2  
Orono, ME 04473-3702  
(207) 866-3344 Fax: (207) 866-3351

In Reply Refer To: 53411-2010-SL-0075  
FWS/Region5/ES/MEFO

December 21, 2010

Derek Hengstenberg  
TetraTech  
451 Presumscot St.  
Portland, ME 04103

Dear Mr. Hengstenberg:

Thank you for your letter dated August 26, 2010 requesting information or recommendations from the U.S. Fish and Wildlife Service (Service) concerning a proposed wind project located in Canton, Maine. We recommend that you consult the Service's interim guidance on wind energy development at <http://www.fws.gov/habitatconservation/wind.pdf>. We used the Service's interim guidance as a model for developing *Guidelines for Building and Operating Wind Energy Facilities in Maine Compatible with Federal Fish and Wildlife Regulations*, which are attached to this letter. We stepped down the national interim guidance to make the guidance more relevant for Maine wind energy developers. We provide these guidelines so you can make an informed decision regarding site selection, project design, and meet the requirements of federal fish and wildlife legislation.

We provide the following information concerning species protected under the Endangered Species Act, Bald and Golden Eagle Protection Act, and Migratory Bird Treaty Act for the project area that you are considering:

### **Endangered Species Act**

Under Section 7 of the ESA federal agencies that permit or fund wind energy projects must determine if a project may affect federally listed species. If the federal agency determines that a project has "no effect" on a listed species or their critical habitat, they do not need to seek the concurrence of the Service. If the federal agency determines that a project is "not likely to adversely affect" a listed species, the agency must explain the basis for their determination and seek the written concurrence of the Service. Projects that have an "adverse effect" on a listed species require formal Section 7 consultation with the Service.

Unauthorized take of federally-listed species is prohibited under Section 9 of the ESA. If take of a listed species is anticipated, wind developers are encouraged to contact the Service to discuss



obtaining an incidental take permit under Section 10 of the ESA, which involves developing a Habitat Conservation Plan.

### **Atlantic salmon**

The proposed wind project occurs within the range of the federally endangered Gulf of Maine Distinct Population Segment (GOM DPS) of Atlantic salmon (*Salmo salar*) in Maine (74 FR 29344; June 19, 2009). The Atlantic salmon GOM DPS encompasses all naturally spawned and conservation hatchery populations of anadromous Atlantic salmon whose freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River and wherever these fish occur in the estuarine and marine environment. Included in the GOM DPS are all associated conservation hatchery populations. The proposed project site is not within the area designated as critical habitat for the Atlantic salmon by NMFS (74 FR 29300; June 19, 2009), however, it is within the DPS and salmon could occur in or near your project area. Federal agencies permitting or funding your project should consult with the Service according to Section 7 of the ESA.

Construction associated with wind power projects may cause adverse effects to the federally-endangered Atlantic salmon if there are stream crossings or sedimentation caused from access roads or transmission lines in salmon habitat. We ask that you document any stream crossings and share this information with the Service and federal permitting or funding agencies (Army Corps of Engineers, or others) who are required to consult with the Service according to Section 7 of the ESA. We encourage project designs that will avoid and minimize adverse effects on salmon and their habitat.

### **Bald and golden eagles**

Migratory bald eagle (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) may occur at your project site. Bald eagle nests are known on the Androscoggin River approximately two miles south of the proposed project (see maps), but survey information is incomplete. In addition, there could be bald eagle nests on other waters within the project area (e.g. Sevenmile Stream wetlands and other locations along the Androscoggin River). We do not know if bald eagle nest surveys have been conducted recently in this area. If not, we suggest you conduct surveys within ten miles of your project. Further information on eagle nests and status may be obtained from Charlie Todd, MDIFW, 650 State St., Bangor, ME 04401.

Wind energy projects can affect bald and golden eagles by degrading or fragmenting habitat, taking birds by collision with rotating turbine blades, or by introducing new sources of disturbance (noise, construction activity, permanent changes to the landscape, barriers to movement, and increased human activity). Furthermore, both bald and golden eagles may be attracted to forest openings around wind turbines to feed, particularly if sources of carrion (large birds killed by collisions) are present. Emerging information suggests that in some situations, wind power may cause significant take and disturbance of eagles.

The Service is developing new guidance related to wind projects and bald eagles - national eagle specific guidance for wind and separate guidance for Avian Protection Plans (APP), which will

be finalized in early 2011. Eagles will be addressed in the APP in a separate document (Eagle Conservation Plan). To meet the requirements of this new guidance, we request that you obtain two years of pre-construction surveys documenting eagle movements (resident and migratory birds) at your project location and locate eagle nests, communal roosts, and communal foraging areas within ten miles of your proposed project location.

Although the bald eagle has recovered such that it no longer is protected under the ESA (August 9, 2007), it remains protected from take under the Bald and Golden Eagle Protection Act (BGEPA)(16 U.S.C. 668-668d) and the Migratory Bird Treaty Act (16 U.S.C. 703-712). "Take" under BGEPA means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (72 FR 31332, 2007).

The U.S. Fish and Wildlife Service prepared National Bald Eagle Management Guidelines (<http://www.fws.gov/migratorybirds/CurrentBirdIssues/NationalBaldEagleManagementGuidelines.pdf>) to help landowners, land managers and others meet the intent of BGEPA and avoid disturbing bald eagles. Please note that our National Bald Eagle Guidelines do not provide guidance for large development projects like wind power projects. See our *Guidelines for Building and Operating Wind Energy Facilities in Maine Compatible with Federal Fish and Wildlife Regulations* for additional information.

**Other protected species and rare natural communities:**

We did not review this project for state-listed plants, natural communities and wildlife. We recommend that you contact the Maine Department of Inland Fisheries and Wildlife for additional information on state-threatened and endangered wildlife and wildlife species of special concern. The Maine Endangered Species Act may protect some of the species in your project area.

Steve Timapano  
Maine Department of Inland Fisheries and Wildlife  
284 State Street  
State House Station 41  
Augusta, ME 04333-0041  
Phone: 207 287-5258

We recommend that you contact the Maine Natural Areas Program for additional information on state-threatened and endangered plant species, plant species of special concern, and rare natural communities.

Lisa St. Hilaire  
Maine Natural Areas Program

Department of Conservation  
93 State House Station  
Augusta, ME 04333  
Phone: 207 287-8046

### **Migratory Bird and Bat Concerns**

Wind energy projects can adversely affect birds and bats and their habitats. Foremost, the potential exists for bird and bat collision within the rotor-swept area of each turbine. The potential for collision with resident or migratory species of birds and bats is affected by many factors but location of the wind turbines seems to be one of the most important.

The potential for harm makes careful evaluation of wind facilities essential. Each proposed development site is unique and requires individual evaluation. The Service's guidance on wind energy development should be consulted (<http://www.fws.gov/habitatconservation/wind.pdf>).

Please see our *Guidelines for Building and Operating Wind Energy Facilities in Maine Compatible with Federal Fish and Wildlife Regulations* for additional guidance.

### **Wetlands**

Your project may require bridging, filling, or degrading certain wetlands or other waters of the United States under jurisdiction of section 404 of the Clean Water Act, which may require permits be acquired from the U.S. Army Corps of Engineers. The Service may provide recommendations to the Army Corps to avoid and minimize effects to fish and wildlife in issuing Clean Water Act permits.

In summary, to ensure that appropriate areas are selected for wind power development and that these facilities are developed in the most environmentally sound manner we recommend that you follow *Guidelines for Building and Operating Wind Energy Facilities in Maine Compatible with Federal Fish and Wildlife Regulations* and the Service's *Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* (<http://www.fws.gov/habitatconservation/wind.pdf>)

If you have any questions, please call Mark McCollough (Canada lynx and bald eagles) at (207) 866-3344 x115 or Wende Mahaney (wetlands and Atlantic salmon) at (207) 866-3344 x118.

Sincerely,



Antonio Bentivoglio  
Acting Project Leader

cc: Steve Timpano, MDIFW – Augusta, ME  
Charlie Todd, MDIFW – Bangor, ME  
Jay Clement, ACOE – Manchester, ME



STATE OF MAINE  
DEPARTMENT OF CONSERVATION  
93 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333-0093

JOHN ELIAS BALDACCI  
GOVERNOR

ELIZA TOWNSEND  
COMMISSIONER

September 8, 2010

Kathleen R. Miller  
Tetra Tech EC, Inc.  
160 Federal Street, 3<sup>rd</sup> Floor  
Boston, MA 02110

Re: Rare and exemplary botanical features in proximity to: Proposed Timberwinds Project, Canton, Maine

Dear Ms. Miller:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of September 8, 2010 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in Canton, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$75.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,



Sarah Demers  
Environmental Review Coordinator  
Maine Natural Areas Program  
207-287-8670  
[sarah.demers@maine.gov](mailto:sarah.demers@maine.gov)

Enclosures

# Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the proposed Timberwinds Project, Canton, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
Chimaphila maculata	G5	S2	E	14	1996-08-17	Hardwood to mixed forest (forest, upland)
Allium tricoccum	G5	S3	SC	32	2001-05-20	Hardwood to mixed forest (forest, upland)
Silver maple floodplain forest	GNR	S3		21	2009-06-10	Forested wetland
Carex siccata	G5	S2	SC	1	1943-06-03	Old field/roadside (non-forested, wetland or upland)
Allium tricoccum	G5	S3	SC	29	1996	Hardwood to mixed forest (forest, upland)
Eragrostis capillaris	G5	SH	PE	1	1908-08-11	Old field/roadside (non-forested, wetland or upland)
Eragrostis capillaris	G5	SH	PE	2	1943-08-31	Dry barrens (partly forested, upland)
Phegopteris hexagonoptera	G5	S2	SC	6	1931-09-08	Hardwood to mixed forest (forest, upland)
Asplenium platyneuron	G5	S2	SC	5	1917	Rocky summits and outcrops (non-forested, upland)
Galearis spectabilis	G5	S1	E	8	1916-06-16	Hardwood to mixed forest (forest, upland)
Galearis spectabilis	G5	S1	E	7	1906-05-31	Hardwood to mixed forest (forest, upland)
Malaxis monophyllos	G5	S1	E	11	1893-08-10	Forested wetland
Cypripedium reginae	G4	S3	T	39	1908	Forested wetland
Eleocharis quinqueflora	G5	S2	SC	2	1933-08	Non-tidal rivershore (non-forested, seasonally wet)

## STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SU** Under consideration for assigning rarity status; more information needed on threats or distribution.
- SNR** Not yet ranked.
- SNA** Rank not applicable.
- S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

**Note:** **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

## GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (20-100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.
- GNR** Not yet ranked.

**Note:** **Global Ranks** are determined by NatureServe.

## STATE LEGAL STATUS

**Note:** State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E** ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T** THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

## NON-LEGAL STATUS

- SC** SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE** Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

## ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities; condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A, B, C, or D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

**Note:** **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!  
<http://www.maine.gov/doc/nrimc/mnap>

## Hengstenberg, Derek

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**From:** Cordes, Robert [Robert.Cordes@maine.gov]  
**Sent:** Tuesday, March 23, 2010 1:12 PM  
**To:** Hengstenberg, Derek  
**Subject:** RE: Canton Wind Project- Confidential  
**Attachments:** Canton Wind Search.pdf

Derek,

I searched our database, there are no known Significant or Essential Habitats, nor rare, threatened, endangered species directly associated (<.25 mile) with the project area indicated on your map. There are however, two Bald Eagle nests located within 4 miles of the project area (see attached map). As we discussed yesterday, the USFWS has adopted a 4 mile radius as an initial sphere of concern around Bald Eagle nests, I would suggested contacted the Maine field office to discuss the project.

Any questions just let me know,

Bob

Robert C. Cordes  
Assistant Regional Wildlife Biologist  
Region D  
Maine Dept. of Inland Fisheries and Wildlife  
689 Farmington Road  
Strong, ME 04983  
Tel. 207-778-3324  
Fax 207-778-3323  
e-mail: robert.cordes@maine.gov

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**From:** Hengstenberg, Derek [mailto:Derek.Hengstenberg@tetrattech.com]  
**Sent:** Monday, March 22, 2010 10:44 AM  
**To:** Cordes, Robert  
**Subject:** Canton Wind Project- Confidential

Bob,

Thanks for chatting with me this morning. Attached is a map of the Proposed Canton Wind Project. This project is in the early stages of development, we are looking to start bird and bat surveys this spring. Can you provide me with the closest bald eagle/peregrine falcon nest sites? We are in the process of preparing proposals and want to make sure we cover all the potential natural resources concerns.

Thanks much,

Derek

**Derek Hengstenberg, CWB** | Senior Biologist  
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Think Green - Not every email needs to be printed.

**From:** [Cordes, Robert](#)  
**To:** [Andy Novey](#); [Mitchell, Rob](#); [Todd Presson](#);  
[Hengstenberg, Derek](#);  
**cc:** [Timpano, Steve](#);  
**Subject:** RE: DRAFT Avian & Bat Study Plan - Canton Wind Project  
**Date:** Thursday, April 08, 2010 2:57:39 PM

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Andy,

Definitely not at the level of intensity that you conducted at Spruce mountain and Saddleback Ridge. 15-20 days will be more than adequate and is what we typically recommend. We understand the short turnaround for radar work, and we won't hold it against you if it takes several weeks to get the unit on-site, the spring migration is usually more diffuse than fall.

Bob

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**From:** Andy Novey [mailto:[ANovey@jaycashman.com](mailto:ANovey@jaycashman.com)]  
**Sent:** Thursday, April 08, 2010 2:49 PM  
**To:** Cordes, Robert; Mitchell, Rob; Todd Presson; Hengstenberg, Derek  
**Cc:** Timpano, Steve  
**Subject:** RE: DRAFT Avian & Bat Study Plan - Canton Wind Project

Thanks Bob,

How many days of radar will we be required?

We will have to scramble to get a unit up the mountain at this point as we thought this would not be necessary.

Regards,

**Andy Novey**  
**Patriot Renewables and Jay Cashman Inc.**  
549 South St.  
Quincy, MA 02169  
617-503-5516 office  
617-413-9922 mobile



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**From:** Cordes, Robert [mailto:Robert.Cordes@maine.gov]  
**Sent:** Thursday, April 08, 2010 2:27 PM  
**To:** Mitchell, Rob; Andy Novey; Todd Presson; Hengstenberg, Derek  
**Cc:** Timpano, Steve  
**Subject:** RE: DRAFT Avian & Bat Study Plan - Canton Wind Project

Rob,

I have some changes to recommend to you Draft study plan, resulting from yesterday's in-house MDIFW meeting.

We made a decision that pre-construction radar surveys are still an important component of understanding site characteristics and appropriate siting. I discussed the Canton Mountain project with the group, consensus from the group was that the Canton Mountain site is part of a different landform and far enough away from both the Saddleback Ridge and Spruce Mountain radar sites to recommend a separate set of radar surveys for this project.

Also, I discussed Roaring Brook Mayfly and Spring Salamander surveys with our Herp group and we do recommend conducting surveys for both species, or to start surveying for streams with potential habitat and go from there.

I will be in all day tomorrow, if you have any questions or would like to further discuss.

Thanks,

Bob

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**From:** Mitchell, Rob [mailto:Rob.Mitchell@tetrattech.com]  
**Sent:** Monday, April 05, 2010 2:44 PM  
**To:** Andy Novey; Todd Presson; Hengstenberg, Derek; Cordes, Robert  
**Cc:** Timpano, Steve  
**Subject:** DRAFT Avian & Bat Study Plan - Canton Wind Project

**BOB:** Attached is a Draft avian and bat study plan for Patriot Renewables' proposed Canton Wind Project. As discussed last Friday, I am sending this to you for your review prior to our conference call tomorrow morning at 9:00 am, at which time we can discuss our plan in detail and hear any comments or questions you have regarding this plan. We are preparing to mobilize soon and look forward to your input.

...Rob

**Rob Mitchell, Sr. Energy Consultant**

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