



PATRIOT RENEWABLES
Canton Mountain Wind, LLC

Attachment 7-4 Agency Consultations



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@tetratech.com. Thank you in advance for your assistance.

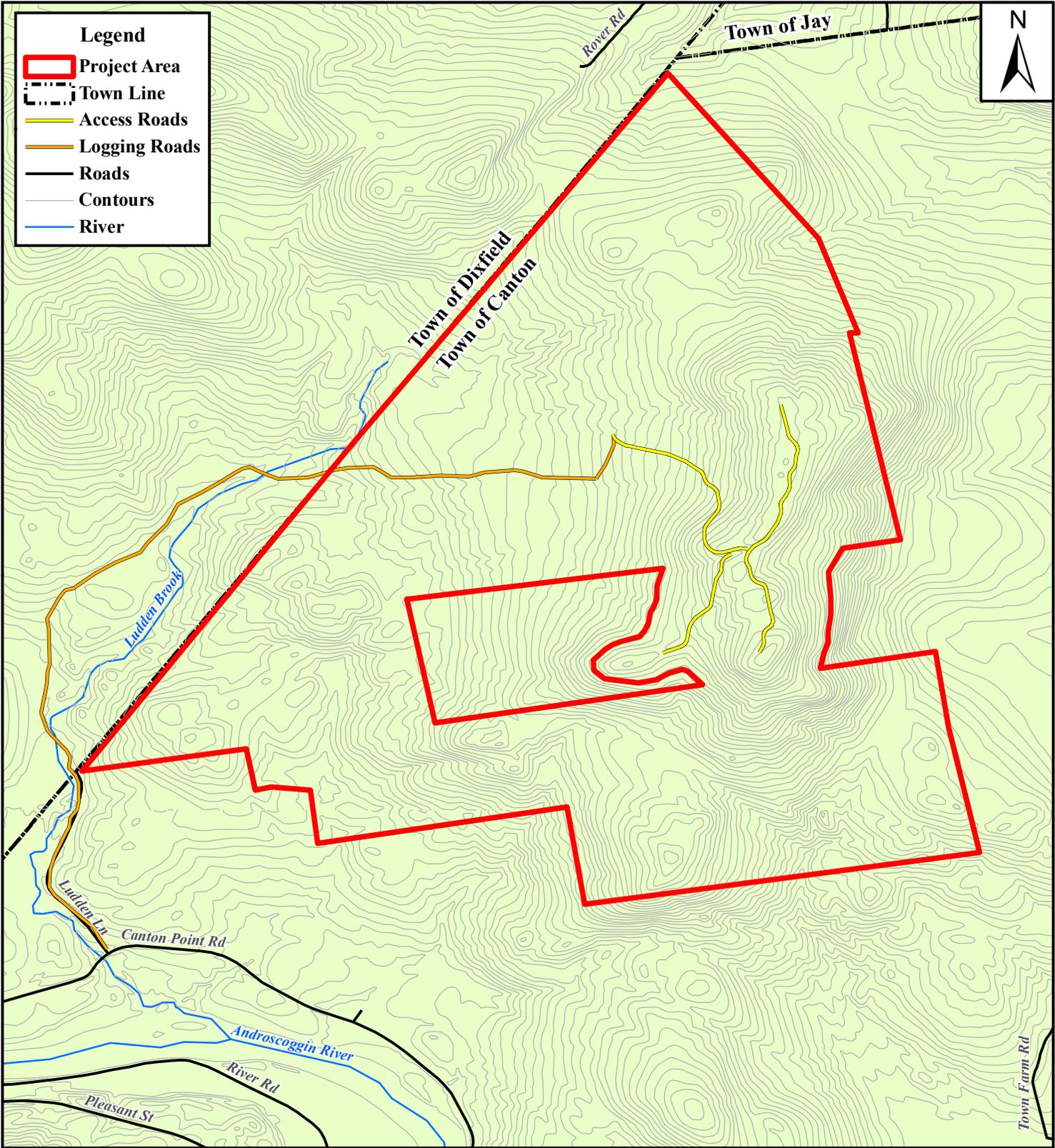
Sincerely,

Tetra Tech , Inc.

Derek Hengstenberg

Derek W. Hengstenbeg
Certified Wildlife Biologist

Enclosures: Project Area Map



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,

A handwritten signature in blue ink that reads "Antonio Bentivoglio". The signature is written in a cursive style with a large initial 'A' and a long, sweeping tail on the 'o'.

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, 3rd 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

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

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

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
Direct: 207.879.9496 x 227 | Fax: 207.879.9481 | Cell: 908.616.0436
derek.hengstenberg@tetrattech.com

Tetra Tech | Ecological Services
451 Presumpscot St. | Portland, ME 04103 | www.tetrattech.com

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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

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

From: Andy Novey [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



PATRIOT RENEWABLES™

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

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

Tetra Tech EC, Inc.

93 Candlewyck Terrace

Portland, ME 04102

Office & Cell: 207-240-0907

rob.mitchell@tetrattech.com