

# **ATTACHMENT B**



14 Gabriel Drive  
Augusta, ME 04330

207.620.3800 phone

207.621.8226 fax

www.trcsolutions.com

January 4, 2019

Craig Rennie  
Inland Wetland Supervisor  
NH Department of Environmental Services  
Water Division  
29 Hazen Drive  
P.O Box 29  
Concord, NH 03302-0095

**RE: Antrim Wind Energy, SEC Docket 2015-02**

Dear Mr. Rennie,

Antrim Wind Energy is submitting a new Wetland Permit for temporary impacts associated with certain construction activities on the Antrim Wind project. Antrim Wind Energy, in coordination with Eversource, has identified two wetland areas (Wetland AN-31 and AN-32) that will need to be impacted by construction mats in order to provide for workspace and construction access to an existing electric transmission line for installation of a tap structure.

Based on an updated interconnection design, an additional 10,000 square feet of temporary wetland impacts has been identified. Temporary impacts proposed to Wetland AN-31 are approximately 9,896 square feet and to Wetland AN-32 are approximately 104 square feet. The temporary wetland impacts will result from placing construction mats to provide for work space and access for construction vehicles to install a tap which will connect with the existing 115kV Eversource Energy L-163 line.

Attached to this letter, you will find a new wetland permit application, including an application fee check to the State of New Hampshire for \$2,000 for the 10,000 square feet of proposed temporary wetland impacts.

Antrim Wind Energy is filing this permit application simultaneously with and as a part of a request to modify its Certificate with the SEC, as well as information being provided to the Army Corps as part of the federal permitting process.

Craig Rennie  
January 4, 2019  
Page 2 of 2

Thank you for your guidance and attention. We hope this package satisfies the DES requirements for completeness. If you have any further questions, please let us know.

Sincerely,



Dana Vallean

cc: Jack Kenworthy  
Pam Monroe, SEC  
Mike Hicks, ACOE

Enclosure



**NEW HAMPSHIRE  
WETLANDS PERMIT  
APPLICATION  
FOR THE  
ANTRIM WIND PARK  
PROJECT IN ANTRIM, NEW  
HAMPSHIRE**

*Submitted to:*

**NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES  
AND  
NEW HAMPSHIRE SITE EVALUATION COMMITTEE**

*Submitted by:*

**Antrim Wind Energy  
155 Fleet St.  
Portsmouth, NH 03801-0065**

*Prepared by:*

**TRC  
14 Gabriel Drive  
Augusta, ME 04330**

January 2019





# WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau  
Land Resources Management



Check the status of your application: [www.des.nh.gov/onestop](http://www.des.nh.gov/onestop)

RSA/Rule: [RSA 482-A/ Env-Wt 100-900](#)

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No:
			Check No:
			Series:
			Issue:

**1. REVIEW TIME:** Indicate your Review Time below. To determine review time, refer to [Guidance Document A](#) for instructions.

- Standard Review (Minimum, Minor or Major Impact)  Expedited Review (Minimum Impact only)

**2. MITIGATION REQUIREMENT:**  
If mitigation is required a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if Mitigation is Required, please refer to the [Determine if Mitigation is Required Frequently Asked Question](#).

Mitigation Pre-Application Meeting Date: Month: \_\_\_ Day: \_\_\_ Year: \_\_\_\_  
 N/A - Mitigation is not required

**3. PROJECT LOCATION:**  
Separate wetland permit applications must be submitted for each municipality that wetland impacts occur within.

ADDRESS: <b>354 Keene Road</b>		TOWN/CITY: <b>Antrim</b>	
TAX MAP: <b>212</b>	BLOCK:	LOT: <b>27, 27.1</b>	UNIT:
USGS TOPO MAP WATERBODY NAME:		<input checked="" type="checkbox"/> NA	STREAM WATERSHED SIZE: <input checked="" type="checkbox"/> NA
LOCATION COORDINATES (If known): <b>N: 230,000 ft E: 890,000 ft</b>		<input type="checkbox"/> Latitude/Longitude <input checked="" type="checkbox"/> UTM <input type="checkbox"/> State Plane	

**4. PROJECT DESCRIPTION:**  
Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

**The Antrim Wind Energy Project has a current Wetland Permit for up to 9,121 square feet of permanent palustrine wetland fill. The utility (Eversource) will be installing the Project interconnection with an existing electric transmission line has identified the need for the temporary installation of construction mats in two wetland areas for access and construction workspace. Both of these wetlands were identified in the original application and permit as having permanent fill impacts. Temporary impacts will total 10,000 square feet.**

**5. SHORELINE FRONTAGE:**  
 NA This does not have shoreline frontage. SHORELINE FRONTAGE:  
Shoreline frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line.

**6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:**  
Please indicate if any of the following permit applications are required and, if required, the status of the application. To determine if other Land Resources Management Permits are required, refer to the [Land Resources Management Web Page](#).

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<b>151020-172</b>	<input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Individual Sewerage Disposal per RSA 485-A:2	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<b>201504487</b>	<input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Subdivision Approval Per RSA 485-A	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Shoreland Permit Per RSA 483-B	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED

**7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:**  
See the Instructions & Required Attachments document for instructions to complete a & b below.

- a. Natural Heritage Bureau File ID: NHB 15 - 1904.
- b.  [Designated River](#) the project is in ¼ miles of: \_\_\_\_\_; and  
date a copy of the application was sent to the [Local River Management Advisory Committee](#): Month: \_\_\_ Day: \_\_\_ Year: \_\_\_  
 N/A

**8. APPLICANT INFORMATION (Desired permit holder)**

LAST NAME, FIRST NAME, M.I.: \_\_\_\_\_

TRUST / COMPANY NAME: **Antrim Wind Energy, LLC** MAILING ADDRESS: **155 Fleet Street**

TOWN/CITY: **Portsmouth** STATE: **NH** ZIP CODE: **03801-4050**

EMAIL or FAX: **jack.kenworthy@waldengreenenergy.com** PHONE: **603-570-4842**

ELECTRONIC COMMUNICATION: By initialing here: **JK**, I hereby authorize NHDES to communicate all matters relative to this application electronically.

**9. PROPERTY OWNER INFORMATION (If different than applicant)**

LAST NAME, FIRST NAME, M.I.: **See attached Exhibit 7.**

TRUST / COMPANY NAME: \_\_\_\_\_ MAILING ADDRESS: \_\_\_\_\_

TOWN/CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

EMAIL or FAX: \_\_\_\_\_ PHONE: \_\_\_\_\_

ELECTRONIC COMMUNICATION: By initialing here \_\_\_\_\_, I hereby authorize NHDES to communicate all matters relative to this application electronically.

**10. AUTHORIZED AGENT INFORMATION**

LAST NAME, FIRST NAME, M.I.: **Valleau, Dana, B.** COMPANY NAME: **TRC**

MAILING ADDRESS: **14 Gabriel Drive**

TOWN/CITY: **Augusta** STATE: **ME** ZIP CODE: **04330**

EMAIL or FAX: **dvalleau@trcsolutions.com** PHONE: **207-215-4582**

ELECTRONIC COMMUNICATION: By initialing here **DV**, I hereby authorize NHDES to communicate all matters relative to this application electronically.

**11. PROPERTY OWNER SIGNATURE:**

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form ([www.nh.gov/nhdhr/review](http://www.nh.gov/nhdhr/review)) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for NHPA 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned mail.


 Property Owner Signature	Jack Kenworthy Print name legibly	01/04/2019 Date
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### MUNICIPAL SIGNATURES

#### 12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

	Print name legibly	Date
---	--------------------	------

#### DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review **ONLY** requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will be reviewed in the standard review time frame.

#### 13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

			
Town/City Clerk Signature	Print name legibly	Town/City	Date

#### DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

#### DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

**14. IMPACT AREA:**

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

*Permanent: impacts that will remain after the project is complete.*

*Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.*

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Scrub-shrub wetland	<input type="checkbox"/> ATF	10,000 <input type="checkbox"/> ATF
Emergent wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Wet meadow	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Intermittent stream	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Perennial Stream / River	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Perennial stream / River	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Tidal water	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Lake / Pond	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - River	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Tidal Water	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Vernal Pool	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
<b>TOTAL</b>		<b>10,000</b>

**15. APPLICATION FEE:** See the Instructions & Required Attachments document for further instruction

Minimum Impact Fee: Flat fee of \$ 200

Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) 10,000 sq. ft. X \$0.20 = \$ 2,000

Temporary (seasonal) docking structure: \_\_\_\_\_ sq. ft. X \$1.00 = \$

Permanent docking structure: \_\_\_\_\_ sq. ft. X \$2.00 = \$

**Projects proposing shoreline structures (including docks) add \$200 = \$**

Total = \$ 2,000.00

The Application Fee is the above calculated Total or \$200, whichever is greater = \$ 2,000





**VETLANDS PERMIT APPLICATION – ATTACHMENT A**  
**MINOR AND MAJOR - 20 QUESTIONS**  
 Land Resources Management  
 Wetlands Bureau



Check the Status of your application: [www.des.nh.gov/onestop](http://www.des.nh.gov/onestop)

RSA/ Rule: RSA 482-A, Env-Wt 100-900

**Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project’s design in assessing the impact of the proposed project to areas and environments under the department’s jurisdiction. Respond with statements demonstrating:**

1. The need for the proposed impact.

Antrim Wind Energy LLC has previously permitted permanent dredge and fill impacts in these wetlands associated with the construction of a new wind farm and associated infrastructure, including electrical interconnection.

AWE, working in coordination with Eversource which has the final design and engineering responsibility for the interconnection, have identified the need for temporary wetland impacts to two wetland areas from construction mats to provide for construction workspace and access to install a tap to an existing electric transmission line to connect the Project to the grid. There is no available alternative location to place the necessary tap structures that have already been permitted, nor is there a viable construction alternative to using the construction mats.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

AWE has worked closely with Eversource to minimize the impacts from construction to wetlands and surface waters on site. All wetland impacts sought to be permitted in this application are temporary and there will be no long term impact to these wetlands as a result of the temporary impacts. Due to the location of the new Eversource substation, which is now under construction, and Eversource requirements for design and engineering to loop the 115 kV electric line in to the new substation, construction activity will be required to take place in the wetlands identified in this application in order to maintain a safe work environment and project schedule.

3. The type and classification of the wetlands involved.

Detailed narrative descriptions of all identified wetland features relevant to the Project are provided in the full Wetland Delineation Report, which is provided in Exhibit 5.

The 10,000 sq. ft. of proposed temporary impacts will result from the placement of construction mats in two scrub shrub wetlands in an existing cleared and maintained electric transmission right-of-way (Wetland AN-31 temporary impact proposed is 9,986 square feet and Wetland AN-32 temporary impact proposed is 104 square feet). Permanent impacts from fill have previously been permitted for both of these wetlands.

For detailed descriptions of these wetlands, please see the Wetland Delineation Report, Exhibit 5 of this Application, Table 4-1, pages 7-9.

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

The locations of wetlands to be impacted by the temporary placement of construction mats relative to nearby wetlands and surface waters are illustrated in the map provided in Exhibit 3 and in Exhibit 5.

[lrn@des.nh.gov](mailto:lrn@des.nh.gov) or (603) 271-2147  
 NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095  
[www.des.nh.gov](http://www.des.nh.gov)

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.
None of the wetlands or surface waters impacted by the Project are considered rare.
6. The surface area of the wetlands that will be impacted.
The temporary wetland impacts proposed as part of this application totals 10,000 square feet. .
7. The impact on plants, fish and wildlife including, but not limited to: <ul style="list-style-type: none"> <li>a. Rare, special concern species;</li> <li>b. State and federally listed threatened and endangered species;</li> <li>c. Species at the extremities of their ranges;</li> <li>d. Migratory fish and wildlife;</li> <li>e. Exemplary natural communities identified by the DRED-NHB; and</li> <li>f. Vernal pools.</li> </ul>
The two wetlands that will be subject of the temporary impact are also both permitted for permanent fill impacts. There are no rare, special concern species, state or federal-listed threatened and endangered species, species at the extremities of their ranges, migratory fish and wildlife, exemplary natural communities, or vernal pools associated with these wetlands.
8. The impact of the proposed project on public commerce, navigation and recreation.
There will be negligible impact from the temporary wetlands impacts on public commerce, navigation and recreation, if any. The construction mats will be entirely removed at the end of the construction period.
9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.
The temporary wetlands impacts caused by the use of construction mats will not interfere with the aesthetic interests of the general public. The construction mats will be entirely removed at the end of the construction period.
10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.
The Project is located entirely on private land and any land access is granted at the will of the landowners. There will be no interference with public rights of passage or access from the temporary use of construction mats.
11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.
No wetland impacts will occur within 20 feet of adjacent property boundaries. All abutting property owners will be notified of the proposed project in accordance with NHDES rules. Documentation of this notification is found in Exhibit 4.
12. The benefit of a project to the health, safety, and well being of the general public.
There will no impact to public health, safety and well-being from the use of the temporary construction mats. The temporary impacts being permitted are ancillary to the construction of a new wind farm, which is already permitted and which will bring significant public benefits by bringing pollution free electricity to New Hampshire for several decades.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

Due to the lack of groundwater resources on the site, this project is not expected to have any direct or indirect impacts on groundwater drinking resources. The site does not have any aquifers and there are no source water protection and/or well head protection areas on or adjacent to the site. The closest public water supply well is 1.06 miles from the project development. The placement of temporary construction mats in these two wetlands will not require any groundwater withdrawals and thus will have no effect on groundwater supply.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

The temporary impacts associated with construction mats has a minimal potential to cause or increase flooding, erosion or sedimentation. The project is not located in a mapped floodplain. The project has been designed in conformance with standard best management practices for utility line construction work and stormwater management.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

Since there are no large open bodies of water being impacted by the project, wave energy will not be affected. These temporary impacts are to wetland depressions that are not associated with surface waters with current or wave energy and will not cause damage or hazards.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

AWE has leased approximately 1,870 acres of private land on six parcels for the development of the Project. All wetlands that will be impacted by the Project are located entirely within these parcels.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The primary function of wetlands on the project site is wildlife habitat. The very small area of impact inherently limits the amount of impact to this function. Due to these impacts being temporary, any impact will be of a limited duration. Additionally the narrow, linear nature of the temporary impacts further limits impact to this function.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

There will be no impact to any sites included in the National Register from the temporary use of construction mats in these wetlands.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

No such areas have been identified within the Project area.

20. The degree to which a project redirects water from one watershed to another.

The Project has been designed to minimize the impacts to hydrology on the site and minimize the interruption of the natural flow. These temporary impacts are to wetland depressions that are not associated with surface water flow between watersheds and will not redirect flow to another watershed.

Additional comments

**EXHIBIT 1**  
**COPY OF APPLICATION CHECK**

HEAT SENSITIVE RED IMAGE DISAPPEARS WITH HEAT. DETECTION CIRCLE REVEALS A LOCK WHEN TESTED.

1716

**ANTRIM WIND ENERGY LLC**

155 FLEET ST  
PORTSMOUTH, NH 03801-4050

**EASTERN BANK**  
BOSTON, MA 02110  
53-179-113

1/4/2019

PAY TO THE ORDER OF Treasurer State of New Hampshire

\$\*\*USD 2,000.00

Two Thousand and 00/100\*\*\*\*\* DOLLARS

State of New Hampshire Treasury  
25 Capitol Street, Room 121  
Concord, NH 03301



*[Handwritten Signature]*  
AUTHORIZED SIGNATURE

MEMO Wetland Permit Application Fee

⑈001716⑈ ⑆011301798⑆ 1010125354⑈

**ANTRIM WIND ENERGY LLC**

Treasurer State of New Hampshire

Wetlands Permit Application Fee

1/4/2019

USD 2,000.00

1716

Eastern Checking Wetland Permit Application Fee

USD 2,000.00

580971/07-10

Security features. Details on back.

**EXHIBIT 2**

**NEW HAMPSHIRE NATURAL HERITAGE BUREAU LETTERS**



## NEW HAMPSHIRE NATURAL HERITAGE BUREAU

DRED - DIVISION OF FORESTS & LANDS  
172 PEMBROKE ROAD, CONCORD, NH 03301  
(603) 271-2214

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**To:** Dana Valleau, Environmental Specialist, TRC

**From:** Amy Lamb, Ecological Information Specialist, NHB

**Date:** June 26, 2015

**Subject:** Re: NHB15-1904, NHB10-0644: Antrim Wind Energy, LLC

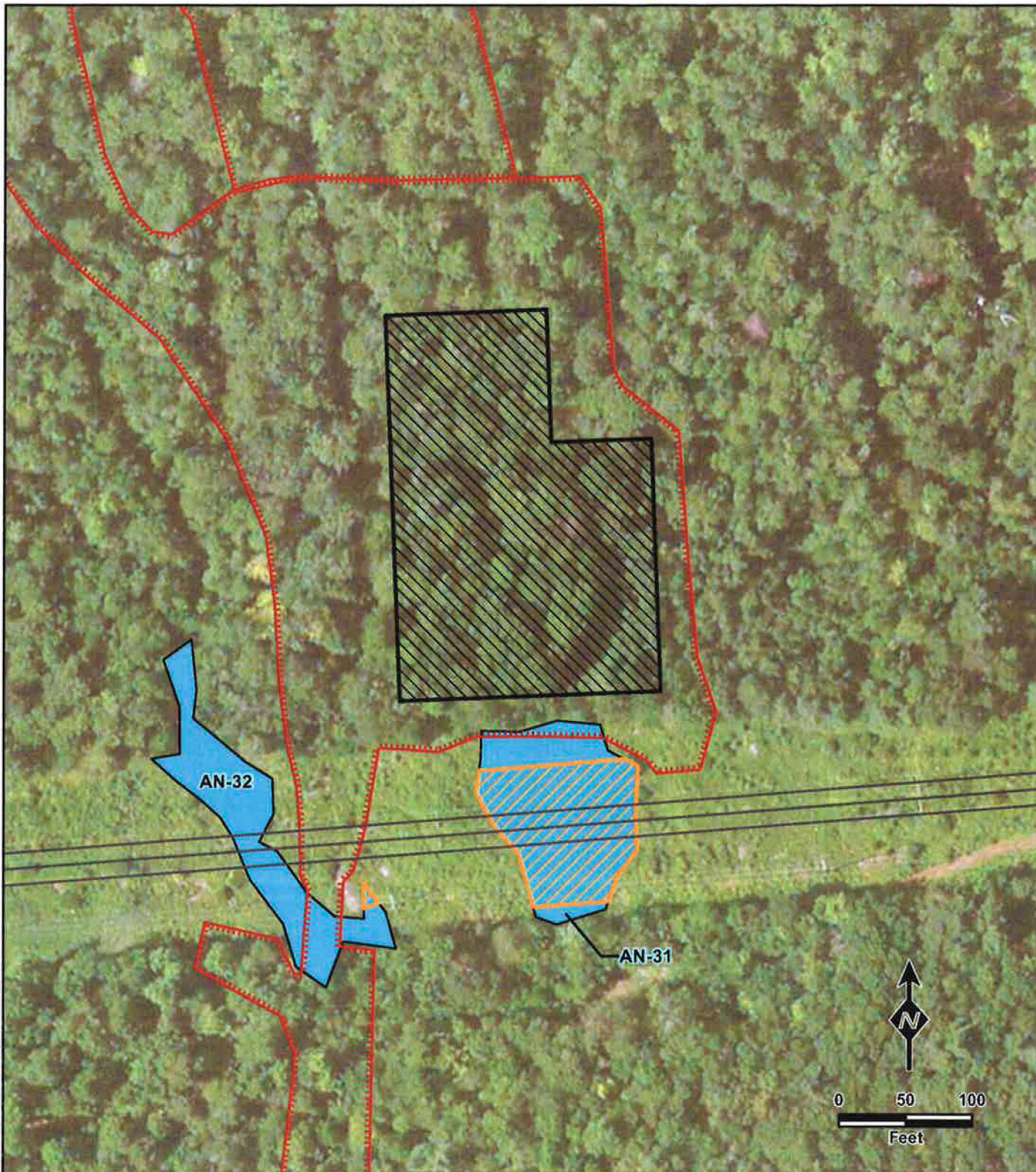
This is a follow-up to NHB15-1904, which indicated the presence of an exemplary natural community, an Inland Atlantic white cedar swamp, and a state endangered plant, Canada shore quillwort (*Isoetes riparia* var. *canadensis*), close to the proposed project area. The report also indicated the presence of three wildlife species; please note that the Natural Heritage Bureau does not provide comments regarding wildlife, and that there must be consultation with the NH Fish and Game Department for all wildlife concerns.

In the NHB15-1904 review, we requested that the project area be surveyed for the occurrence of the rare species and natural community within the project area. After this initial recommendation, it came to my attention that community mapping had occurred throughout the project area, through consultation with Melissa Coppola under project number NHB10-0644. Based on the results of those surveys, NHB does not find it likely that the natural community and rare plant identified in NHB15-1904 would be found on the property. As such, NHB no longer recommends a survey for Canada shore quillwort or Inland Atlantic white cedar swamp in the project area.

We look forward to continued communication throughout the SEC process. Please send us any additional application materials as they become available, and include us in any future communications regarding the subject project.








**EXHIBIT 3**  
**AREA MAP**



PUBLIC: UNCORRECTED/UNREVIEWED/UNAPPROVED. S.S. Inc. from 2019. August 14, 2019.



**Legend**

-  Transmission Lines
-  Substation Area
-  Temporary Wetland Impact (10,000 square feet)
-  Existing Limit of Disturbance
-  Wetland

**Antrim Wind Energy**

ANTRIM WIND  
 ENERGY PROJECT  
 ANTRIM, NH

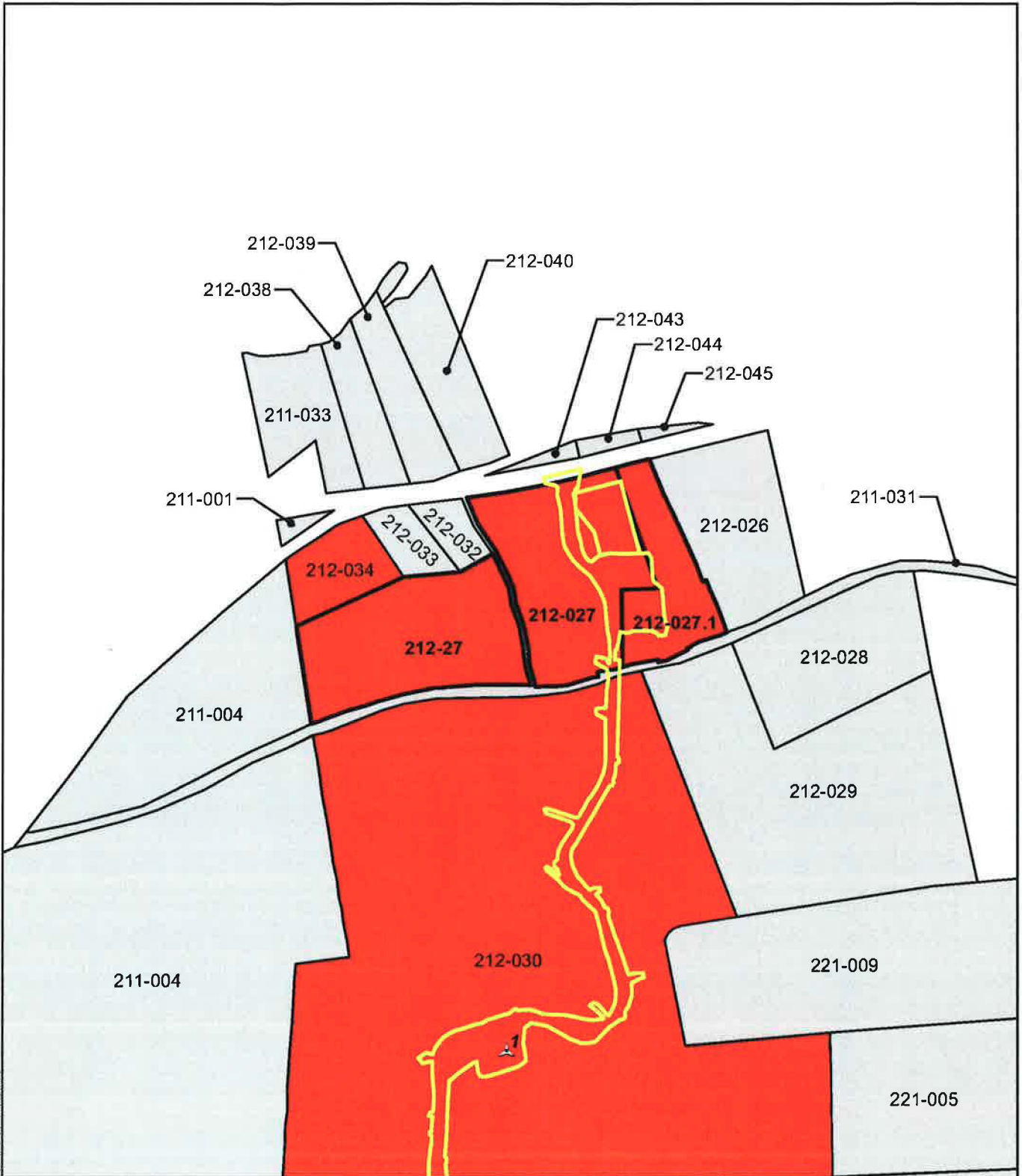
Eversource Temporary  
 Wetland Impacts



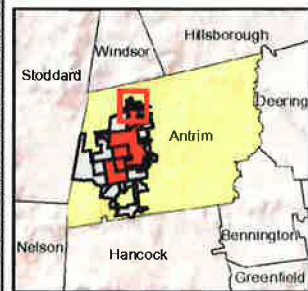
14 Gabriel Drive  
 Augusta, ME 04330

**EXHIBIT 4**





**TAX MAP, ABUTTERS, and ABUTTER NOTIFICATION LETTER**

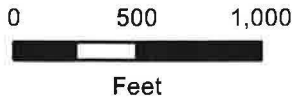


S:\PROJECTS\Eolium\ANTRIM\ANTRIM Parcels 212-27 and 212-1.Mxd



**Legend**

-  WTG Location
-  Limit of Disturbance
-  Project Parcels
-  Surrounding Parcels



**ANTRIM WIND ENERGY PROJECT**

354 KEENE ROAD, ANTRIM, NH  
 Parcels 212-027 and 212-027.1

Produced by: 

1/4/2019

Parcel Number	Property Address	Owner Name	Co-Owner Name	Owner Address	Owner Address 2	Owner City	Owner State	Owner Zip
211-004-000	KEENE ROAD	DRUAN ELLEN		25 NORTH HOLT HILL RD		ANTRIM	NH	03440
212-026-000	344 KEENE ROAD	COUTURIER MARCEL J	KUSNAROWIS PAULA J	344 KEENE RD		ANTRIM	NH	03440
212-031-000	HIGH RANGE ROAD	OWNER UNKNOWN						
212-032-000	362 KEENE ROAD	DUBE, STEVEN I & MANDIE L		362 KEENE RD		ANTRIM	NH	03440
212-033-000	KEENE ROAD	GAUTHIER RAYMOND C & SCOTT H		YORK RIVER TRUST	6 MANHATTAN DR	AMHERST	NH	03031
212-034-000	RUSSELL ROAD	OTT MICHAEL JAMES		PO BOX 160		ANTRIM	NH	03440

ABUTTER NOTIFICATION  
OF  
WETLANDS PERMIT APPLICATION

*VIA CERTIFIED MAIL*

January 4, 2019

RE: Wetlands Permit Application Amendment  
Antrim Wind Energy LLC  
155 Fleet Street  
Portsmouth, NH 03801-4050  
Tax Map-Lot #: 212-027, 212-027.1

Dear Sir or Madam:

This letter is to inform you that a permit application will be filed with the NH Department of Environmental Services for a wetlands permit associated with the above referenced project. Under state law RSA 482-A:3 I(d)(1), I am required to notify you about the application, which proposes work abutting your property.

Once it is filed, the permit application, including plans that show the proposed project will be available for viewing at the City or Town Clerk's Office in the town where the proposed project is located.

Sincerely,



John B. Kenworthy  
*Executive Officer*  
Antrim Wind Energy LLC  
155 Fleet Street  
Portsmouth, NH 03801-4050  
Phone: 603-570-4842

**EXHIBIT 5**  
**WETLAND REPORT**

# **WETLAND DELINEATION REPORT**

**For  
Antrim Wind Energy Project  
Town of Antrim  
Hillsborough County, New Hampshire**

Prepared for:

**Antrim Wind Energy, LLC  
155 Fleet Street  
Portsmouth, NH 03801**



Prepared by:

**TRC ENVIRONMENTAL CORPORATION  
*10 Maxwell Drive, Suite 200  
Clifton Park, New York 12065***

**January 2012  
Revised 2015**



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## 1.0 INTRODUCTION

Antrim Wind Energy LLC (AWE) is proposing to construct the Antrim Wind Energy Project (Project) on Tuttle Hill and Willard Mountain in the Town of Antrim, Hillsborough County, New Hampshire. The proposed Project is sited entirely on privately owned land that is leased by AWE. The proposed Antrim Wind Energy Project involves the construction of wind turbines, an electrical collection system and interconnection substation, new access road, and an operations and maintenance building. There will be no new electrical transmission lines, other than collector system lines, constructed as part of this Project. The total direct impact for the access roads, the turbine pads, and electrical collector system will be approximately 57.1 acres.

The proposed project is sited on the ridges of Tuttle Hill and Willard Mountain which are oriented east-northeast to west-southwest. The ridges are approximately parallel to NH Route 9, which is about  $\frac{3}{4}$  of a mile to the north. Between the ridgeline and Route 9 is an existing transmission corridor containing both an 115kV transmission line and a 34.5kV distribution circuit; the proposed Project will interconnect with the existing 115kV line. See Attachment A, Figure 1, for a map of the Project area and Project elements.

TRC Environmental Corporation (TRC) was retained by AWE to identify and delineate jurisdictional wetlands and waterways within the project area to support the design, or layout, of the proposed facilities. TRC has prepared this wetland delineation report on behalf of AWE to support the submittal of a Joint Application for a Permit (a U.S. Army Corps of Engineers (ACOE) and New Hampshire State wetlands permit).

## **2.0 CURRENT AND HISTORIC LAND USES**

### ***2.1 Current Land Use***

Most of the Town of Antrim is undeveloped, and a large proportion of the town's landscape is heavily wooded. Much of Antrim's forested areas are located in the Rural and Rural Conservation Zoning Districts of town; these two districts constitute over 70% of Antrim's total area. These woodlands are viewed by the town as a renewable resource and are logged on a regular basis. In addition to abundant woodland, there are also numerous conservation areas, hiking trails and water features (Town of Antrim 2011).

### ***2.2 Historic Land Use***

Historically, the area of the proposed Project was cleared for sheep farming; numerous stone walls still remain as a result of this historic activity. After the decline of sheep farming, the site was allowed to regenerate into a forested condition. Subsequently, timber harvesting has occurred in many areas on Tuttle Hill and Willard Mountain. Currently, the land in and around the area of proposed development consists of undeveloped forest land in various stages of maturity, ranging from recent clear cuts and early successional stands as a result of timber harvesting, to mature forested areas.

### 3.0 WETLAND DELINEATION METHODOLOGY

#### 3.1 *Siting Alternatives*

The layout of wind turbines is a function of several siting factors that balance the location of each wind turbine and environmental compatibility. These factors include:

- maximizing wind speed;
- minimizing tree clearing, wetland impacts, and the acquisition of land (the Project proposes to lease the land needed for the Project facilities);
- maintaining the current use of the land;
- connecting the turbines with an efficient and practical network of unpaved access roads for construction and maintenance of the turbines;
- co-locating electric cables with the access road corridor that connect the turbines to electric substation; and
- co-locating the electric transmission line that would connect the Project to the electric grid within existing infrastructure right-of-way.

These siting factors inherently create the need for a Project survey area that was sufficiently large enough to provide for an adequate area to identify cultural and natural resources and allow for the opportunity to evaluate siting alternatives that avoid and minimize impacts to any identified resources. After reviewing available topographic, soils mapping, and potential turbine locations for the Project area, TRC developed a survey area, which is depicted on Figure 1, found in Attachment A. With a survey corridor of 500 feet in width with a 250 foot radius around potential turbine locations, the survey area was approximately 462 acres.

To determine the potential for wetland impacts from construction of the Antrim Wind Energy Project, TRC assessed the survey area for the presence of federal and jurisdictional wetlands. A New Hampshire Certified Wetland Scientist from TRC conducted wetland delineations in August, September, November 2011, and October 2014 (refer to Attachment B for professional resume and qualifications). TRC also investigated hydrologic connectivity (drainage ditches, natural swales, intermittent and perennial streams outside the study corridor when necessary to verify “normal conditions” or “nexus” hydrologic determinations. The delineations were performed in accordance with the U.S. Army Corps of Engineers (USACE) wetland delineation criteria and methodology which is described in Section 3.2. The USACE data sheets have been compiled for this Wetland Delineation Report and presented in Attachment C.

This report presents the delineation methodology, wetland identification, and the results of the field wetland delineation, including descriptions of on-site hydrology, soils and vegetation (see Section 4.0). Mapping is provided in Attachment A, with Figure 2 presenting the wetland mapping.

### **3.2 *Wetland Delineation Method***

TRC wetland delineation crews surveyed proposed corridors using the Federal Routine Determination Method presented in the USACE Wetlands Delineation Manual (USACOE 1987), including clarifications and interpretations provided in the March 6, 1992 guidance memorandum (Williams 1992), USACOE and Environmental Protection Agency guidance on jurisdictional forms (USACOE 2007), and the Regional Supplements to Corps Delineation Manual (USACOE 2009).

The 1987 USACE manual and guidance memorandums emphasize a three-parameter approach to wetland boundary determination in the field. This approach involves the identification of: (i) evidence of wetland hydrology; (ii) presence of hydric soils; and (iii) predominance of hydrophytic vegetation as defined by the National Plant List Panel (Reed 1988). Positive indicators of all three parameters are normally present in wetlands and serve to distinguish between both upland and transitional plant communities. Identified wetlands were classified according to Cowardin et al. (1979).

After a wetland area was initially identified, an appropriate transect and plot location was established, generally perpendicular to the wetland/upland boundary, in order to document conditions within each plant community and firmly establish the wetland boundary using wetland indicators. USACE Wetland Determination data forms were completed for each representative wetland transect. These data forms are provided in Attachment C to this report. The wetland boundary was marked with sequentially numbered (alpha-numeric) pink flagging labeled with "Wetland Delineation". Once wetland flags were in place, the location of each flag was pinpointed using a hand-held Global Positioning Satellite (GPS) unit. These data were downloaded into a GIS system and then plotted on the project base map (a USGS geo-referenced map), which is provided in Attachment A, Figure 2. The results of the delineations are summarized in Section 4.0.

## 4.0 WETLAND DELINEATION RESULTS

A total of thirty eight (38) wetland areas were identified in the Project survey area. This report describes and maps those wetlands within and in relative proximity to the proposed roads, turbines, collector system, the proposed transmission right-of-way corridor, and other facility sites associated with the Project (see Figure 2 in Attachment A). The 38 wetlands are represented in Table 4.1 due to their occurrence in the proposed corridor and in close proximity to the proposed project corridors or facility sites. Of the 38 wetlands, twenty-four (24) are deciduous broad-leaf forested wetlands, three (3) are conifer dominated forested wetland, two (2) are mixed forested and scrub-shrub wetland, and five (5) are scrub-shrub wetlands. Three (3) of the delineated wetlands within the Project corridor consist of two or more wetland types, including three (3) streams with associated palustrine wetlands (2 intermittent and 1 perennial stream). The wetland associated with the perennial water-way consists of a mixed palustrine system. Table 4-1 provides a summary of the wetlands identified along the Project corridor, including their classification in accordance with Cowardin et al (1979).

Narrative descriptions of wetland hydrology, soils and vegetation observed within the Project study area are presented in the following sections. Tables 4-1, 4-2 and 4-3 summarize the wetlands delineated in this report, streams identified, and the soil series information we assembled for the Project area respectively.

### 4.1 Vegetation

Within the Project area, vegetative communities consist of forested upland and wetland communities. Forest stands include mostly mixed coniferous and deciduous forest, with a small portion of the Project area sustained as a managed transmission line ROW and another portion recently timber harvested on Willard Mountain.

The wetland communities crossed by the Project include and scrub-shrub wetlands typically found in the transmission line ROW and isolated forested wetlands. The scrub-shrub wetlands typically contain sapling red maple (*Acer rubrum*), maleberry (*Lyonia lingustrina*), red osier dogwood (*Cornus stolonifera*), arrowwood (*Viburnum dentatum*), meadowsweet (*Spiraea latifolia*), and steppleshrub (*Spiraea tomentosa*). The forested wetlands typically contain red maple, yellow birch (*Betula alleghaniensis*), and green ash (*Fraxinus pennsylvanica*).

Upland tree species found throughout the Project area include red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), white pine (*Pinus strobus*), red spruce (*Picea rubens*), balsam fir (*Abies balsama*), quaking aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), eastern hemlock (*Tsuga canadensis*) and others. Upland herbaceous species include wild sarsaparilla (*Aralia nudicaulis*), New York fern (*Thelypteris noveboracensis*), Solomon's-seal (*Polygonatum pubescens*), star flower (*Trientalis borealis*), hayscented fern (*Dennstaedtia punctilobula*) and Canada mayflower (*Maianthemum canadense*).

### 4.2 Hydrology

Streams within the Project area include an unnamed perennial and intermittent streams draining both to the north (Route 9) toward the North Branch River and to the southeast draining into Gregg Lake. Because the Project area is along a ridgeline and moderately well drained, we

observed very few perennial streams. Observations in the field generally suggest that rainfall and snow melt in the spring quickly run off the ridge to lower elevations, without collecting volumes that fill natural depressions or create natural ponds. Small forest wetland areas occur along skidder trails, confined pockets in the regional bedrock, saddle areas along the ridgeline, and in other areas of poorly drained soils that support wetland vegetation.

### **4.3 Soils**

TRC reviewed the published soil survey of the Project area and conducted soil profile characterizations in the study corridor to confirm the presence of hydric soil indicators. Within the Project survey area, a total of 7 different soil types have been mapped by the Natural Resource Conservation Service (formerly the Soil Conservation Service) (USDA & NRCS 2009). Table 4-3 summarizes the soil series in the project area and indicates that most of the Project area soils are mapped with a slope of 3-35 percent. The soil type mapping has also been overlain on the Project location map (see Figure 3 in Attachment A). The mapped soil types range from excessively drained to well drained soils. Field surveys have resulted in delineating additional soil types that are poorly drained to very poorly drained soils and are hydric or wetland soils. Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil.

The wetlands flagged in the Project corridors generally exhibited the soil characteristics of a dark surface horizon (A horizon) overlying grayish (10YR 5/1) to grayish brown (10YR 4/1), sandy loam subsoils with common redoximorphic features. As described below, this is typical of the loamy till parent material sediments in which many of the soils in the region are formed. The upland soils within the forested uplands lacked a low chroma matrix and had typical matrix chromas ranging between 3 and 6. In wetlands, the hydric soil showed evidence of a seasonal high water table in the form of low chroma matrix and redoximorphic features, indicating that the soils experience anaerobic conditions from prolonged saturation thereby meeting the definition of a hydric soil in some instances. The upland and more transitional area soils have developed redoximorphic features common to somewhat poorly to moderately well drained soils but did not exhibit the required low chroma matrix and as a result were not classified as hydric soils. In addition, as a result of glacial till environment, the subsoil (B) and substratum (C) horizons of both hydric and non-hydric soils commonly contain layers of loose stony material on steeper slopes with loamy materials, which are not necessarily indicative of an aquatic moisture regime or reducing conditions.

**Table 4-1  
Summary of Wetlands within Project Area**

<b>Figure 2 8.5" x 11" Sheet Number</b>	<b>Wetland ID</b>	<b>Wetland Types and Associations</b>	<b>Associated Wetland Impact</b>	<b>Cowardin Classification</b>
4	AN1	Isolated forested wetland. Contains VP1	No direct impact	PFO1
4	AN2	Isolated forested wetland. Bat radar within wetland	0.005 acre/228 sq. ft. Access road.	PFO4
4	AN3	Isolated forested wetland	No direct impact	PFO1
4	AN4	Isolated forested wetland. Contains VP2	No direct impact	PFO1
4	AN5	Isolated forested wetland. Contains VP3	No direct impact	PFO1
4	AN6	Isolated forested wetland	No direct impact	PFO1
3	AN7	Isolated forested wetland straddling property line	No direct impact	PFO1
3, 4	AN8	Forested wetland draining southeast associated with intermittent stream AN9	0.001 acre/34 sq. ft. Access road.	PFO4
3	AN10	Isolated forested wetland within skidder trail	No direct impact	PFO1
1, 3	AN11	Isolated forested wetland with ephemeral inlet and outlet	No direct impact	PFO1
1	AN12	Isolated forested wetland within skidder trail	No direct impact	PFO1
1, 3	AN13	Isolated forested wetland along ATV trail	No direct impact	PFO1



**Table 4-1  
Summary of Wetlands within Project Area**

<b>Figure 2 8.5" x 11" Sheet Number</b>	<b>Wetland ID</b>	<b>Wetland Types and Associations</b>	<b>Associated Wetland Impact</b>	<b>Cowardin Classification</b>
1, 3	AN14	Isolated forested wetland within skidder trail	No direct impact	PFO1
1	AN15	Isolated forested wetland within skidder trail	No direct impact	PFO1
1	AN16	Very small isolated wetland along old skidder trail	No direct impact	PFO1
1	AN18	6 forested wetland areas draining north associated with perennial stream AN17	No direct impact	PFO1/4 & PSS1
1	AN20	Isolated scrub-shrub wetland within transmission ROW	No direct impact	PSS1
1	AN21	Isolated scrub-shrub wetland within transmission ROW	No direct impact	PSS1
1	AN22	Isolated forested wetland within skidder trail	0.004 acre/170 sq. ft. Access road.	PFO1
1	AN23	Isolated forested wetland within skidder trail	No direct impact	PFO1
4	AN24	Isolated forested wetland. Associated with VP 5. ATV trail within wetland.	No direct impact	PFO1
4	AN25	Isolated forested wetland. Associated with VP 4.	No direct impact	PFO4
5	AN26	Forested wetland draining to the northwest along property line	No direct impact	PFO1
5	AN27	Forested wetland draining to the southeast. Associated with intermittent stream AN28.	0.028 acre/ 1,218 sq. ft. Access Road	PFO1

**Table 4-1  
Summary of Wetlands within Project Area**

<b>Figure 2 8.5" x 11" Sheet Number</b>	<b>Wetland ID</b>	<b>Wetland Types and Associations</b>	<b>Associated Wetland Impact</b>	<b>Cowardin Classification</b>
1	AN30	Isolated forested wetland with ephemeral inlet and outlet	0.02 acre/869 sq. ft. Substation	PFO1
1	AN31	Isolated scrub-shrub wetland within transmission ROW	0.016 acre/708 sq. ft. Transmission tap structure and guys	PSS1
1	AN32	Isolated scrub-shrub wetland within transmission ROW	0.032 acre/1,392 sq. ft. Access Road	PSS1
1	AN33	Isolated forested wetland within skidder trail	No direct impact	PFO1
1	AN35	Isolated forested an scrub-shrub wetland located in ROW and to the North of the ROW	No direct impact	PFO1/PSS1
4	AN36	Isolated forested wetland with peat soils	No direct impact	PFO1
4	AN37	Isolated forested wetland adjacent to ATV trail	No direct impact	PFO1
4	AN38	Isolated forested wetland with potential vernal pool	No direct impact	PFO1
5	AN41	Isolated forested wetland.	0.06 acre/2,584 sq. ft. Turbine 9.	PFO1
4	AN1000	Isolated forested wetland	0.022 acre/963 sq. ft. Turbine 4.	PFO1
2	AN-LD 1	Isolated forested wetland.	No direct impact	PFO1
2	AN-LD 2	Isolated forested and scrub-shrub wetland.	No direct impact	PFO/PSS1
2	AN-LD 3	Isolated forested wetland	No direct impact	PFO1
2	AN-LD 4	Isolated scrub-shrub wetland. Formerly borrow pit area.	0.02 acre/955 sq. ft. Temporary staging area.	PSS1
<b>TOTAL IMPACT</b>			<b>0.21 acre/9,121 sq. ft.</b>	

#### 4.4 Wetland Descriptions

The following narratives briefly characterize the delineated wetlands summarized in Table 4-1. Refer to Figure 2 for the location of these wetlands within the project study area and landscape in

Attachment A.

**Wetland AN1** is a deciduous mixed forest wetland dominated by red maple (*Acer rubrum*), and black spruce (*Picea mariana*). It is located within a pocket of ledge along the ridgeline of Tuttle Hill. This wetland also contains Vernal Pool 1.

**Wetland AN2** is a deciduous mixed forest wetland dominated by yellow birch (*Betula alleghaniensis*) and black spruce. It is located within a pocket of ledge along the ridgeline of Tuttle Hill.

**Wetlands AN3, AN4 and AN5** are deciduous forested wetlands dominated by red maple. They are located within pockets of ledge along the ridgeline of Tuttle Hill. Wetland AN4 contains Vernal Pool 2, and wetland AN5 contains Vernal Pool 3.

**Wetland AN6** is a deciduous forest wetland dominated by red maple. It is located within a pocket of ledge along the ridgeline between Tuttle Hill and Willard Mountain.

**Wetland AN7** is a very small deciduous forest wetland dominated by red maple. It is located along a stone wall within a pocket of ledge along the ridgeline between Tuttle Hill and Willard Mountain.

**Wetland AN8** is a deciduous forest wetland dominated by red maple and yellow birch. It is located within a swale draining from Wetland AN7 towards the southeast. An intermittent stream segment (Stream AN9) is located within this wetland. The stream flows between very large boulders; eventually the hydrology disappears as the slope increases along the southeast boundary of the wetland.

**Wetlands AN10, AN11 and AN12** are deciduous forest wetlands dominated by yellow birch and green ash (*Fraxinus pennsylvanica*). They are located in hillside seeps created by skidder activity.

**Wetland AN13** is a deciduous forest wetland dominated by red maple. It is located within a hillside seep created by skidder activity. An ATV access trail traverses the northwestern portion of this wetland.

**Wetlands AN14 and AN15** are deciduous forest wetlands dominated by yellow birch and green ash. They are located in hillside seeps created by skidder activity.

**Wetland AN16** is a very small deciduous forest wetland dominated by red maple. It is located within an old skidder trail to the north of the transmission ROW.

**Wetland AN18** is a wetland complex associated with perennial stream AN17. Six components of this wetland complex were individually identified as wetlands AN18a, b, c, d, e and f. Component AN18a is an area of scrub shrub within the existing transmission corridor; it is dominated by red osier dogwood (*Cornus stolonifera*), green ash, and black willow (*Salix nigra*). Wetlands AN18 b, c, d, e and f are deciduous mixed forested wetlands dominated by green ash, yellow birch, and red maple. Each of these wetlands has been impacted by logging activity.

Wetlands AN20 and AN21 are deciduous scrub shrub wetlands dominated by red maple, meadowsweet (*Spiraea latifolia*), and steplebush (*Spiraea tomentosa*). They are located within the existing transmission corridor.

Wetlands AN22 and AN23 are deciduous forest wetlands dominated by red maple, yellow birch and green ash. They are located in hillside seeps created by skidder activity.

Wetland AN24 is a deciduous forest wetland dominated by red maple and yellow birch. It is located within a depression on the ridgeline between Tuttle Hill and Willard Mountain. An ATV trail traverses the through the middle of this wetland, from north to south. This wetland also contains Vernal Pool 5.

Wetland AN25 is an evergreen mixed forest wetland dominated by eastern hemlock (*Tsuga canadensis*) and yellow birch. It is located within a depression on the ridgeline between Tuttle Hill and Willard Mountain. This wetland contains Vernal Pool 4.

Wetland AN26 is a deciduous forest wetland dominated by red maple and yellow birch. It is located within a depression on the ridgeline between Tuttle Hill and Willard Mountain. This wetland drains to the northwest.

Wetland AN27 is a deciduous mixed forest wetland dominated by red maple, yellow birch, and black spruce. It is located within the saddle area at the northern base of Willard Mountain. The wetland drains to the southeast and feeds Intermittent Stream AN28 which drains to the southeast.

Wetland AN30 is a very small deciduous forest wetland dominated by red maple. It receives ephemeral flow from wetland AN31 which is located upslope (and within the existing transmission corridor). This wetland has an ephemeral drainage that flows towards intermittent stream AN29 to the north.

Wetlands AN31 and AN32 are deciduous scrub shrub wetlands dominated by red maple, meadowsweet and maleberry (*Lyonia lingustrina*). They are located within the existing transmission corridor. Wetland AN31 ephemerally drains to the north into Wetland AN30.

Wetland AN33 is a very small deciduous forest wetland dominated by red maple. It is located within a hillside seep created by skidder activity.

Wetland AN35 is primarily a forested wetland dominated by red maple, but includes an area of scrub shrub. The scrub shrub component is located within the existing transmission corridor, on the southern portion of the wetland, and is dominated by winterberry (*Ilex verticillata*).

Wetland AN36 is an isolated forested wetland dominated by red maple. This wetland contains organic soils. It is located in a saddle area and is near an ATV trail.

Wetland AN37 is a small isolated deciduous forest wetland dominated by red maple. It has an ephemeral drainage that flows west across an ATV trail that is adjacent to the wetland.

**Wetland AN38** is an isolated deciduous forest wetland dominated by red maple, with a thick understory of winterberry shrubs. It has an ephemeral drainage that flows northwest through a steep boulder area. This wetland contains an area which has been identified as a potential vernal pool.

**Wetland AN41** is an isolated deciduous forest wetland dominated by red maple with a sparse understory of red maple and yellow birch saplings and a dense herbaceous layer dominated by cinnamon fern. This wetland is located at the base of a long bouldery slope.

**Wetland AN1000** is an isolated deciduous forest wetland dominated by red maple with an understory of winterberry shrubs and a patchy herbaceous layer of cinnamon fern and three-seeded sedge. This wetland is located in a concave area that drains to the east, and the soils are saturated to within 10-inches of the surface.

**Wetland AN-LD 1** is a deciduous forest wetland dominated by red maple (*Acer rubrum*). It is located within a depression on a terrace located above the North Branch River valley. Soils are saturated and are sandy with a cemented restrictive layer.

**Wetland AN-LD 2** is a deciduous forest wetland dominated by red maple with a lesser component of highbush blueberry and meadowsweet. It is located in a flat area on a terrace above the North Branch River valley. An old borrow pit is directly adjacent to the wetland boundary. Soils are saturated and are sandy.

**Wetland AN-LD 3** is deciduous forested wetland dominated by red maple. It is located within a depression on a terrace located above the North Branch River valley. Soils are saturated and are sandy. An intermittent stream channel (AN-LD-INT 1) carries surface water and disperses in this wetland area.

**Wetland AN-LD 4** is a deciduous scrub-shrub wetland dominated by speckled alder. It is located within an old borrow pit excavation on a terrace above the North Branch River valley. Soils are sandy, saturated and surface water was present at the time of survey.

#### 4.5 Waterbody Descriptions

The following narratives briefly characterize the identified perennial and intermittent watercourses summarized in Table 4-2. Refer to Figure 2 in Attachment A for the location of these watercourses within the project study area.

Table 4-2 Summary of Streams within Project Area				
Figure 2 8.5" x 11" Sheet Number	Stream ID	Flow Regime	Associated Impact	Associated Wetland(s)
2	AN9	Intermittent	No direct impact	AN8
1	AN17	Perennial	74 linear feet, 4 foot wide channel	AN18a,b,c,d,e,f
1	AN19	Intermittent	No direct impact	Tributary to AN17
4	AN28	Intermittent	No direct impact	AN27

4	AN28a	Intermittent	No direct impact	
1	AN29	Intermittent	156 linear feet, 1 foot wide channel	
1	AN34	Intermittent	No direct impact	Flows into AN17
2	AN40	Intermittent	No direct impact	
2	AN-LD-INT 1	Intermittent	No direct impact	AN_LD 3
<b>TOTAL IMPACT</b>			<b>230 linear ft./ 452 sq. ft.</b>	

**Stream AN9** is an intermittent stream with a sandy substrate. The average width of the stream is 2 feet and the bank height is less than one foot. There was approximately 1 inch of flowing water in the stream at the time of the wetland delineation survey (in late summer, 2011). The stream channel commences within wetland AN8 and disperses within the same wetland due to slopes and a bouldery landscape, which allows for subsurface flow.

**Stream AN17** is perennial stream with a gravel/cobble substrate. The average width of the stream is 4 feet and the bank height averages approximately one foot. There was approximately 5 inches of flowing water at the time of the delineation. The stream flows into the survey area from the south and then out to the north, flowing towards Route 9. Intermittent Streams AN19 and AN34 flow into this stream.

**Stream AN19** is an intermittent stream with a sandy substrate. The average width of the stream is approximately 1 foot and the bank height is less than one foot. There was approximately 1 inch of flowing water at the time of the delineation. The stream channel commences in a forested setting, within a seep on a slope, and flows into Stream AN17.

**Stream AN28** is an intermittent stream with a gravel/sand substrate. The average width of the stream is approximately 3 feet and the bank height is less than one a foot. There were approximately 4 inches of flowing water at the time of the delineation. The stream channel commences within wetland AN27 and flows to the southeast.

**Stream AN28a** is an intermittent stream with a gravel/cobble substrate. The average width of the stream is approximately 2 feet and the bank height averages approximately one foot. There were approximately 2 inches of flowing water at the time of the delineation. The stream channel commences within an upland area with steep slopes and disperses within the upland as it flows down slope. This dispersal is due to slopes and a bouldery landscape, which allows for subsurface flow.

**Stream AN29** is an intermittent stream with a gravel/cobble substrate. The average width of the stream is approximately one foot, and the bank height is less than one foot. There was no flowing water in the streambed at the time of the delineation. The stream channel commences within an upland area with steep slopes and disperses within the upland as it flows down slope. This dispersal is due to slopes and a bouldery landscape, which allows for subsurface flow.

**Stream AN34** is an intermittent stream with a gravel/cobble substrate. The average width of the stream is approximately 3 feet and the bank height is less than one foot. There were approximately 4 inches of flowing water at the time of the delineation. The stream channel commences in a forested setting within a seep on a slope and flows into Stream AN17.

*Stream AN40* is an intermittent stream with a gravel/cobble substrate. The average width of the stream is 2 feet and the bank height averaged around a foot. There were approximately 2 inches of flowing water at the time of the delineation. The stream channel commences within an upland area with steep slopes and disperses within the upland downslope due to slopes and a bouldery landscape, which allows for subsurface flow.

*Stream AN-LD-INT 1* is an intermittent stream with a sandy substrate that originates in a logging trail upslope and south of the site. The average width of the stream is 1-2 feet and the bank height is less than one foot. The channel was dry at the time of the wetland delineation survey (in July 2012). The stream channel disperses within wetland AN-LD 3.

Table 4-3 Soil Description Summary					
Soil Names	Symbol	% Slopes	Hydric (y/n)	Parent Material	Drainage Class
Lyman-Tunbridge-Rock outcrop complex	161C	3-15	N	Lyman: Loamy Till Underlain by Schist Bedrock; Tunbridge: Loamy Till Underlain by Granite	Lyman: Somewhat Excessively Drained; Tunbridge: Well Drained
Lyman-Tunbridge-Rock outcrop complex	161D	15-35	N	Lyman: Loamy Till Underlain by Schist Bedrock; Tunbridge: Loamy Till Underlain by Granite	Lyman: Somewhat Excessively Drained; Tunbridge: Well Drained
Tunbridge-Lyman-Monadnock complex, stony	160B	3-8	N	Tunbridge: Loamy Till Underlain by Granite; Lyman: Loamy Till Underlain by Schist Bedrock; Monadnock: Loam Underlain by Sandy Till	Tunbridge: Well Drained; Lyman: Somewhat Excessively Drained; Monadnock: Well Drained
Tunbridge-Lyman-Monadnock complex, stony	160C	8-15	N	Tunbridge: Loamy Till Underlain by Granite; Lyman: Loamy Till Underlain by Schist Bedrock; Monadnock: Loam Underlain by Sandy Till	Tunbridge: Well Drained; Lyman: Somewhat Excessively Drained; Monadnock: Well Drained
Marlow stony loam	77C	8-15	N	Loamy Till	Well Drained
Marlow stony loam	77D	15-35	N	Loamy Till	Well Drained
Rock outcrop	399			Granite	Excessively Drained
Colton Loamy Sand	22C	8-15	N	Sandy and Gavelly Outwash	Excessively Drained

#### 4.6 Natural Resource Conservation Service Soil Series Descriptions

The following are the abbreviated descriptions of each of the relevant soil types taken from the USDA (Natural Resource Conservation Service) Official Soil Series Descriptions Online Soils Database and the Soil Survey Geographic Database (SSURGO) for Hillsborough County, New Hampshire, Western Part (USDA & NRCS 2009). Additional information regarding relevant soil characteristics are also summarized in Table 4-3. Soils mapping of the Project area is in Attachment A, Figure 3.

##### *Tunbridge-Lyman-Monadnock complex, stony*

*Tunbridge Series:* These very moderately deep, well drained soils formed in loamy till of Wisconsin age derived mainly from micaceous schist, gneiss, and phyllite. They are on mountain side slopes, mountain tops, mountain ridges, hill tops, and hill slopes. Slope ranges from 0 to 75 percent. The A horizon is typically very friable dark brown sandy loam, with weak fine granular structure. The B horizon is typically reddish brown to yellowish brown silt loams.



It is friable with subangular blocky structure. Bedrock is usually encountered at 28 inches.

*Lyman Series:* These shallow, somewhat excessively drained soils formed thin mantle of till and frost fractured rock fragments derived principally from gray, greenish gray, or nearly black mica schist rocks with lesser amounts of phyllite, granite, and gneiss. They are found on rocky hills, mountains and high plateaus. Slopes range from 3 to 35 percent. Ap horizons are typically black and 6 inches or more thick. Texture is sandy loam, fine sandy loam, very fine sandy loam, loam or silt loam in the fine-earth fraction. The E horizon generally is a reddish gray fine sandy loam, with very weak fine granular structure. The B horizon generally is a dark red to brown loam, with very weak fine granular structure. Bedrock is usually encountered at a depth of 18 inches.

*Monadnock Series:* These very deep, well drained soils formed in a loamy mantle underlain by acid, sandy till of Wisconsin age derived mainly from schist, granite, gneiss, and quartzite. They are on upland hills, plains, and mountain sideslopes. Slope ranges from 0-60 percent. The A horizon is typically very friable brown fine sandy loam. The E horizon generally is a light brownish gray sandy loam with a weak fine granular structure. The B horizon generally is reddish to yellowish brown, 5 to 23 inches deep, very friable with a weak fine granular structure. The C horizon consists of gravelly loamy sand extending to a depth of 65 inches.

#### ***Lyman-Tunbridge-Rock outcrop complex***

*Lyman Series:* These shallow, somewhat excessively drained soils formed thin mantle of till and frost fractured rock fragments derived principally from gray, greenish gray, or nearly black mica schist rocks with lesser amounts of phyllite, granite, and gneiss. They are found on rocky hills, mountains and high plateaus. Slopes range from 3 to 35 percent. Ap horizons are typically black and 6 inches or more thick. Texture is sandy loam, fine sandy loam, very fine sandy loam, loam or silt loam in the fine-earth fraction. The E horizon generally is a reddish gray fine sandy loam, with very weak fine granular structure. The B horizon generally is a dark red to brown loam, with very weak fine granular structure. Bedrock is usually encountered at a depth of 18 inches.

*Tunbridge Series:* These very moderately deep, well drained soils formed in loamy till of Wisconsin age derived mainly from micaceous schist, gneiss, and phyllite. They are on mountain side slopes, mountain tops, mountain ridges, hill tops, and hill slopes. Slope ranges from 0 to 75 percent. The A horizon is typically very friable dark brown sandy loam, with weak fine granular structure. The B horizon is typically reddish brown to yellowish brown silt loams. It is friable with subangular blocky structure. Bedrock is usually encountered at 28 inches.

### ***Marlow Series***

These well drained soils formed in dense, loamy till derived mainly from mica schist, granite, and phyllite. They are found on drumlins and glaciated uplands. They are moderately deep to a densic contact and very deep to bedrock. Slope ranges from 0 to 60 percent. Typically, the A horizon is a friable very dark gray fine sandy loam with a moderate fine granular structure. Generally, the E horizon is gray fine sandy loam, with very friable consistence. The B horizon consists of a yellowish red to olive fine sandy loam with a weak fine granular structure. The C horizon is an olive gray fine sandy loam with moderate medium platy structure and is very firm.

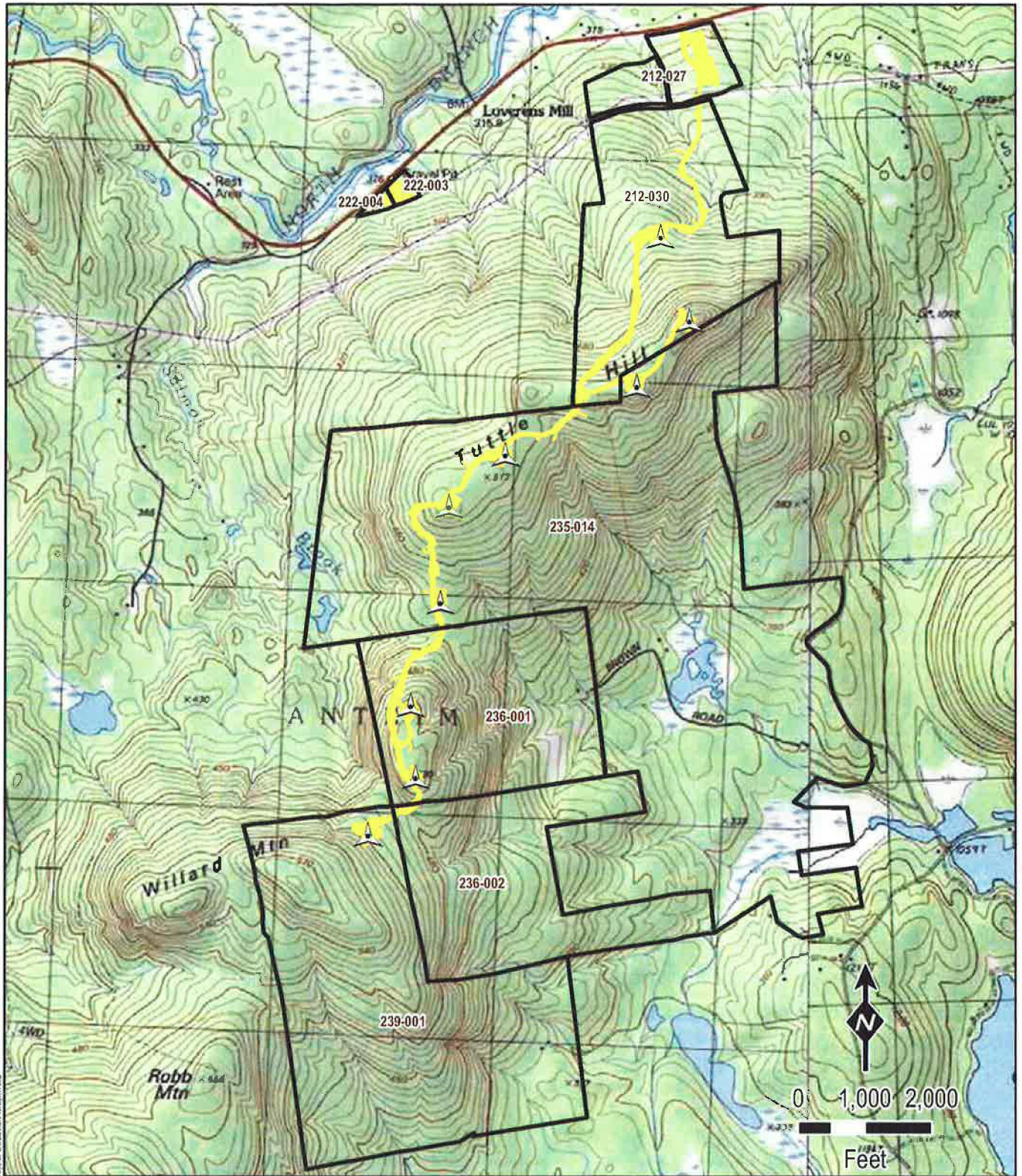
### ***Colton Series***

These excessively drained soils formed in sandy and gravelly glacial outwash derived mainly from granite till. They are found on outwash terraces, kames, and eskers. Slope ranges from 0 to 50 percent. The solum ranges from 18 to 36 inches in thickness. The content of rock fragments ranges from 10 to 55 percent in the solum and 35 to 70 percent in the C horizon. Some pedons have an A horizon that is dark reddish brown. The E horizon has gray to dark gray. The A and E horizons range from loamy coarse sand to fine sandy loam. The B horizon is dark reddish brown to reddish yellow. It ranges from coarse sand to loamy sand. The C horizon is dark reddish gray to reddish yellow.

## 5.0 REFERENCES

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**ATTACHMENT A  
PROJECT MAPPING**



K:\PROJECTS\08UGUST\08\ANTRIM\Figure C1 Project Location Map.mxd



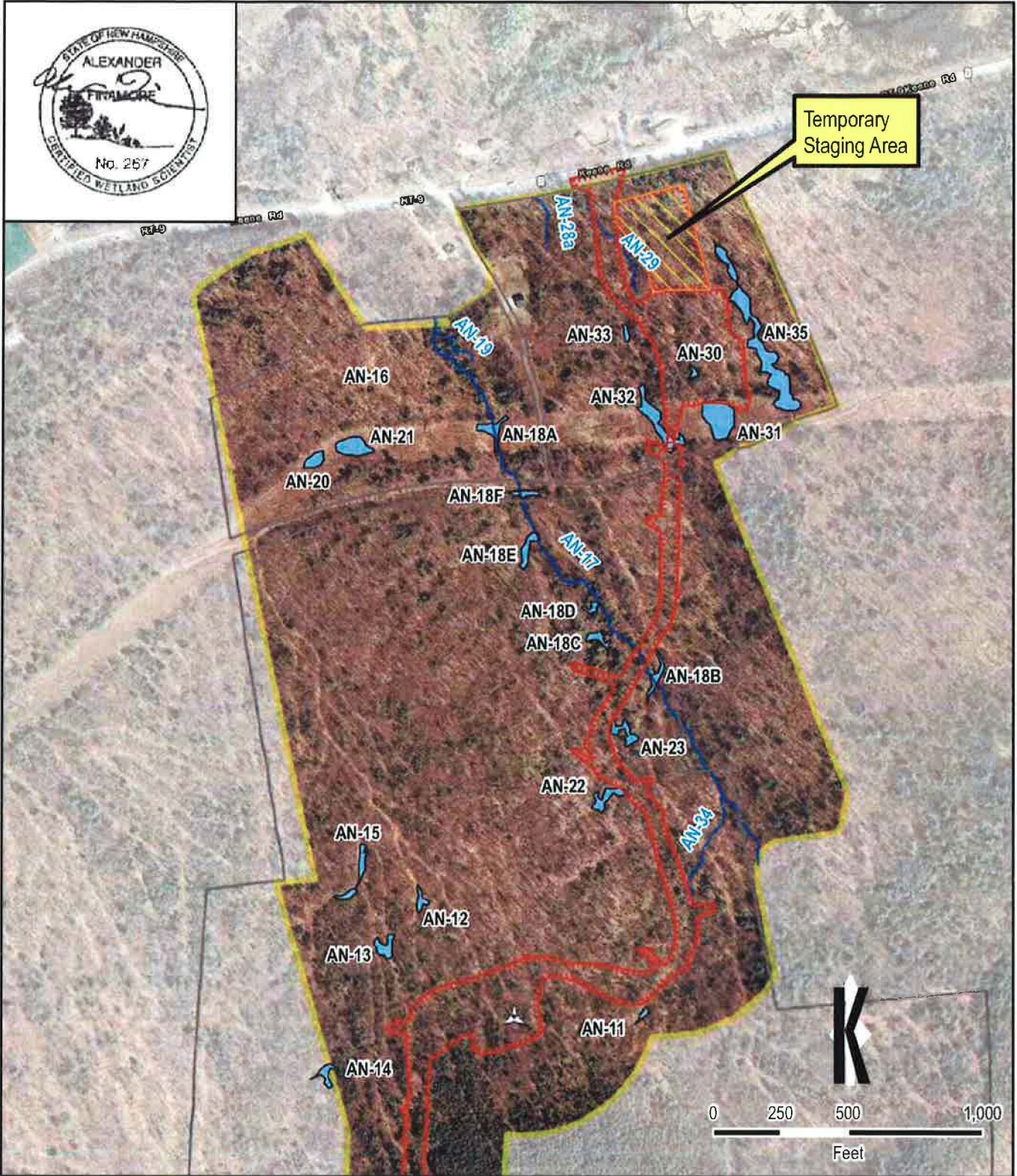
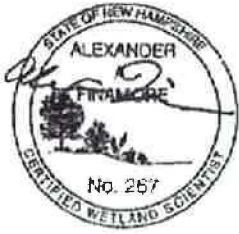
**Legend**

-  Proposed WTG
-  Project Footprint
-  Project Parcels

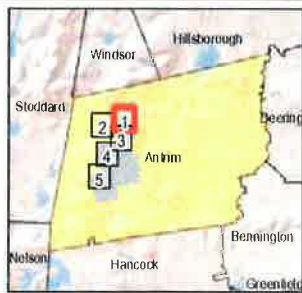
**Antrim Wind Energy**

**ANTRIM WIND ENERGY PROJECT**  
 354 KEENE ROAD, ANTRIM, NH














**Figure 1**  
 Project Location Map



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 Figure 2 - Natural Resource Survey Map




**Legend**

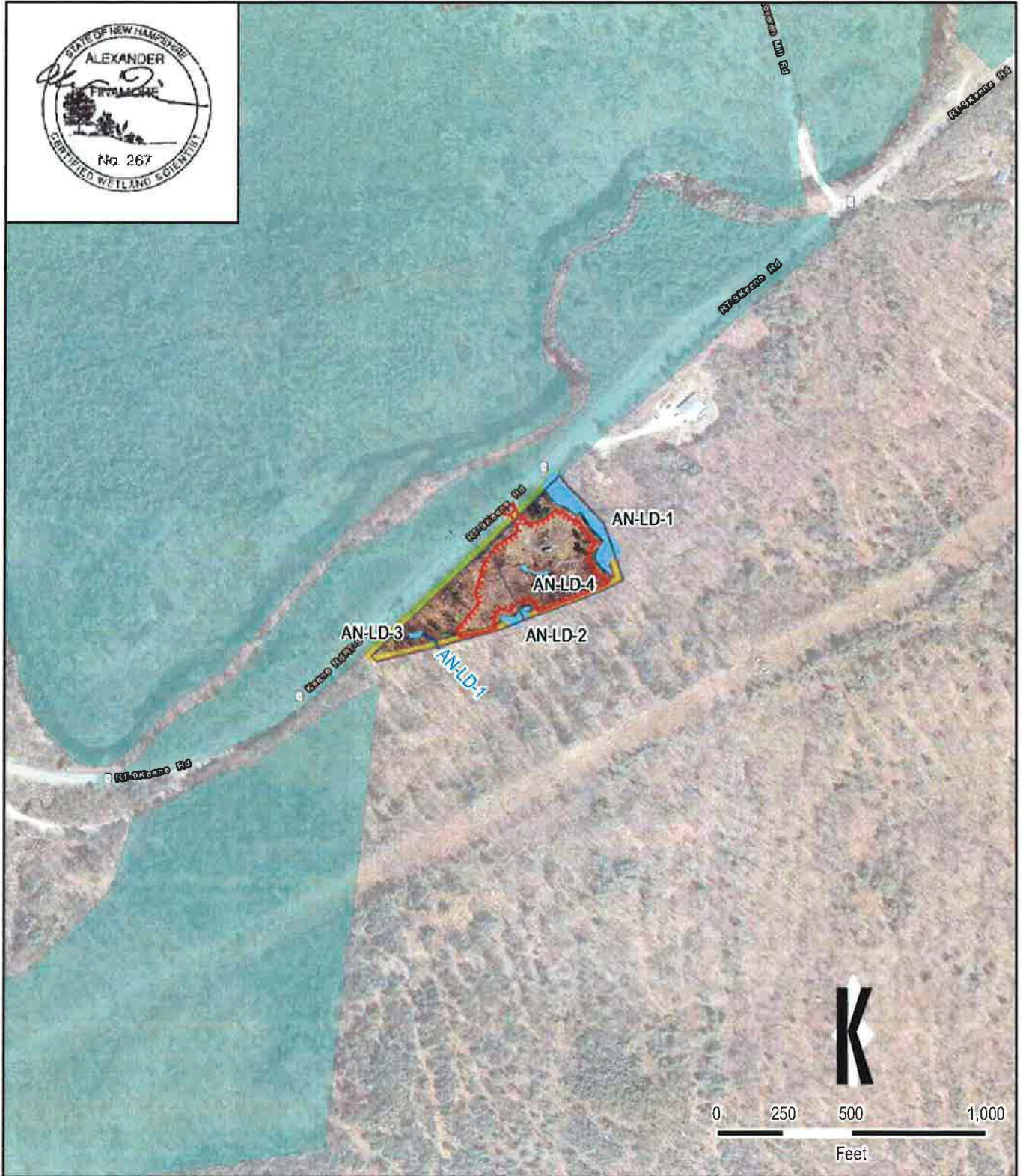
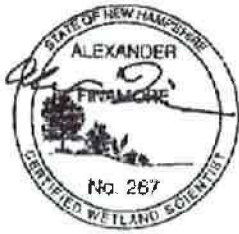
-  Proposed WTG Location
-  Proposed Disturbance Area
-  Vernal Pool
-  Project Parcels
-  Existing Conserved Lands
-  Resource Survey Area
-  Wetlands
-  Wetland Boundary
-  Perennial Stream
-  Intermittent Stream
-  Drainage
-  Stream Label
-  Wetland Label

**Antrim Wind Energy**

**ANTRIM WIND ENERGY PROJECT**  
 ANTRIM, NH  
 Figure 2

Natural Resource Survey Map  
 Map 1 of 5

Produced by:  7/6/2015



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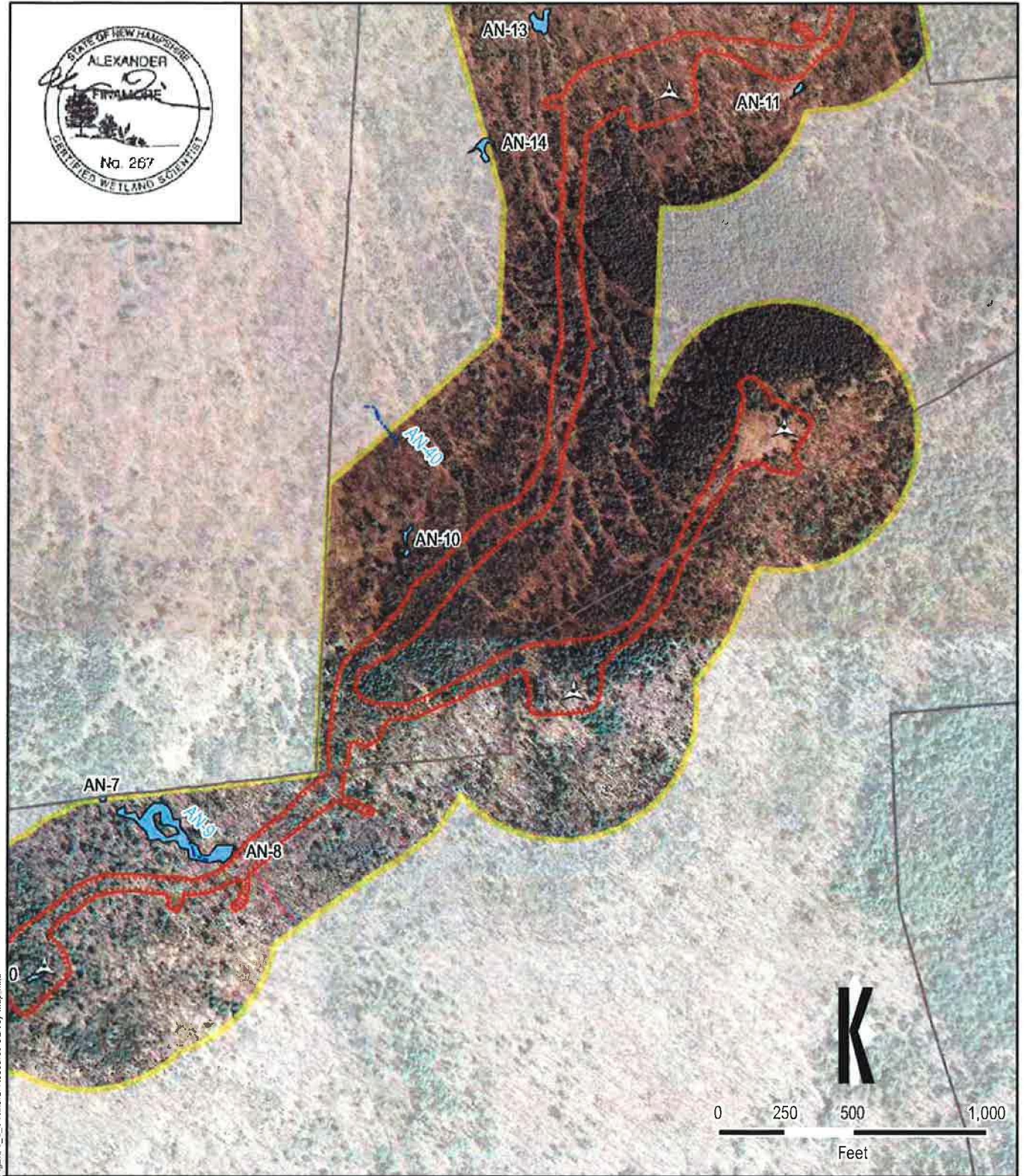
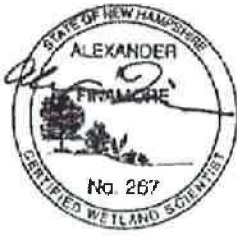


Legend	
	Proposed WTG Location
	Proposed Disturbance Area
	Vernal Pool
	Project Parcels
	Existing Conserved Lands
	Resource Survey Area
	Wetlands
	Wetland Boundary
	Perennial Stream
	Intermittent Stream
	Drainage
	Stream Label
	Wetland Label

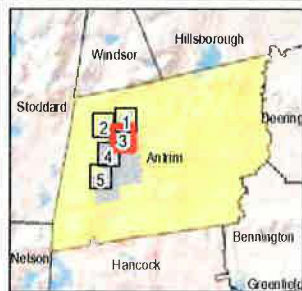
**Antrim Wind Energy**

**ANTRIM WIND ENERGY PROJECT**  
ANTRIM, NH  
Figure 2  
Natural Resource Survey Map  
Map 2 of 5

Produced by: TRC 7/6/2015



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**Legend**

- Proposed WTG Location
- Proposed Disturbance Area
- Vernal Pool
- Project Parcels
- Existing Conserved Lands
- Resource Survey Area
- Wetlands
- Wetland Boundary
- Perennial Stream
- Intermittent Stream
- Drainage
- Stream Label
- Wetland Label

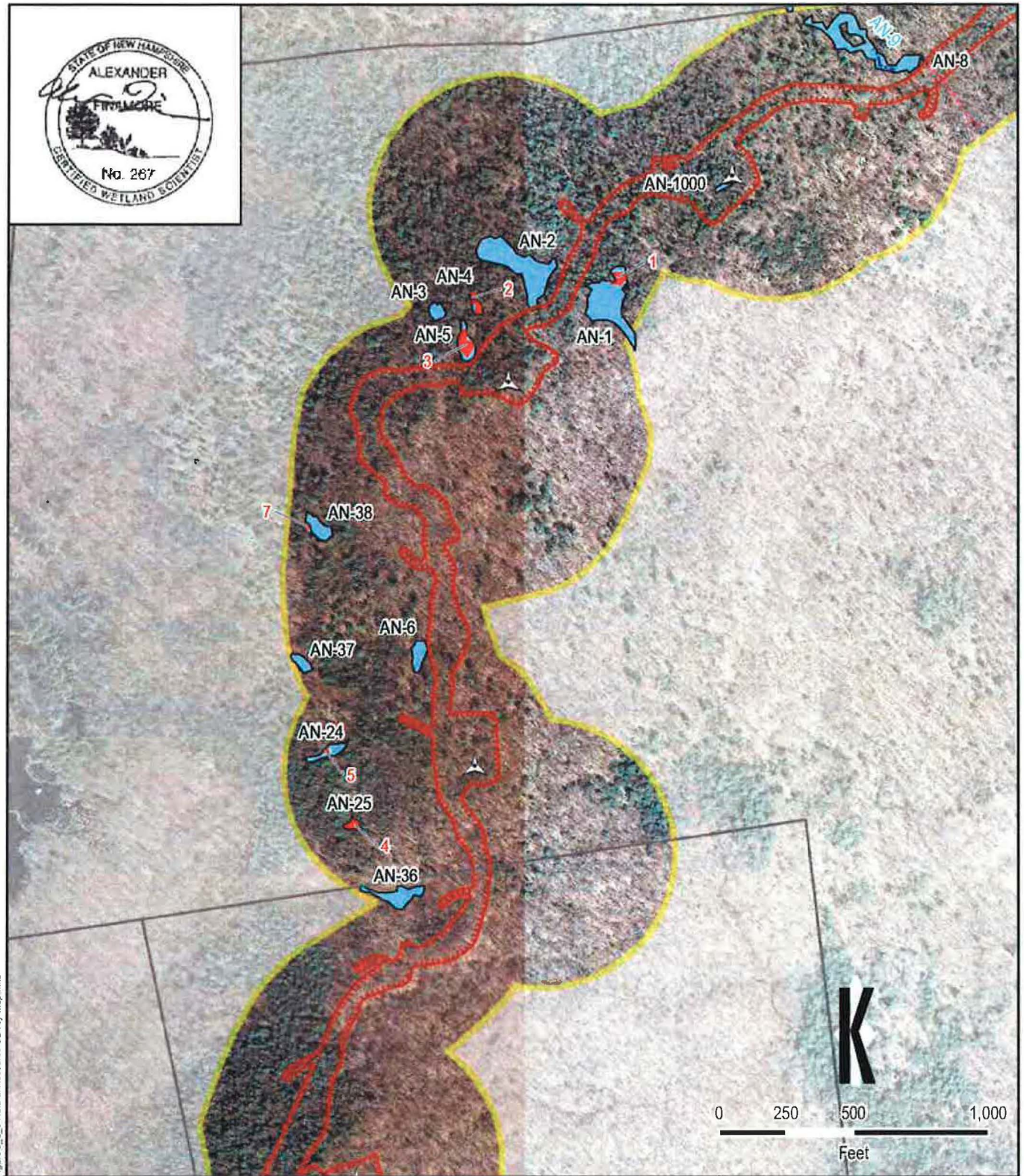
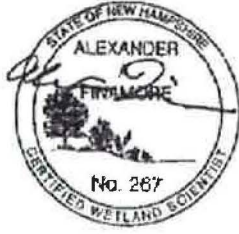
**Antrim Wind Energy**

**ANTRIM WIND ENERGY PROJECT**  
 ANTRIM, NH  
 Figure 2

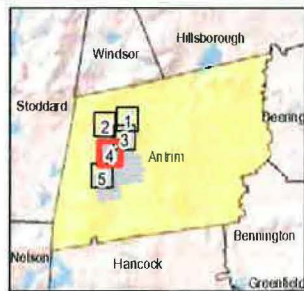
Natural Resource Survey Map  
 Map 3 of 5

Produced by: TRC 7/6/2015





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**Legend**

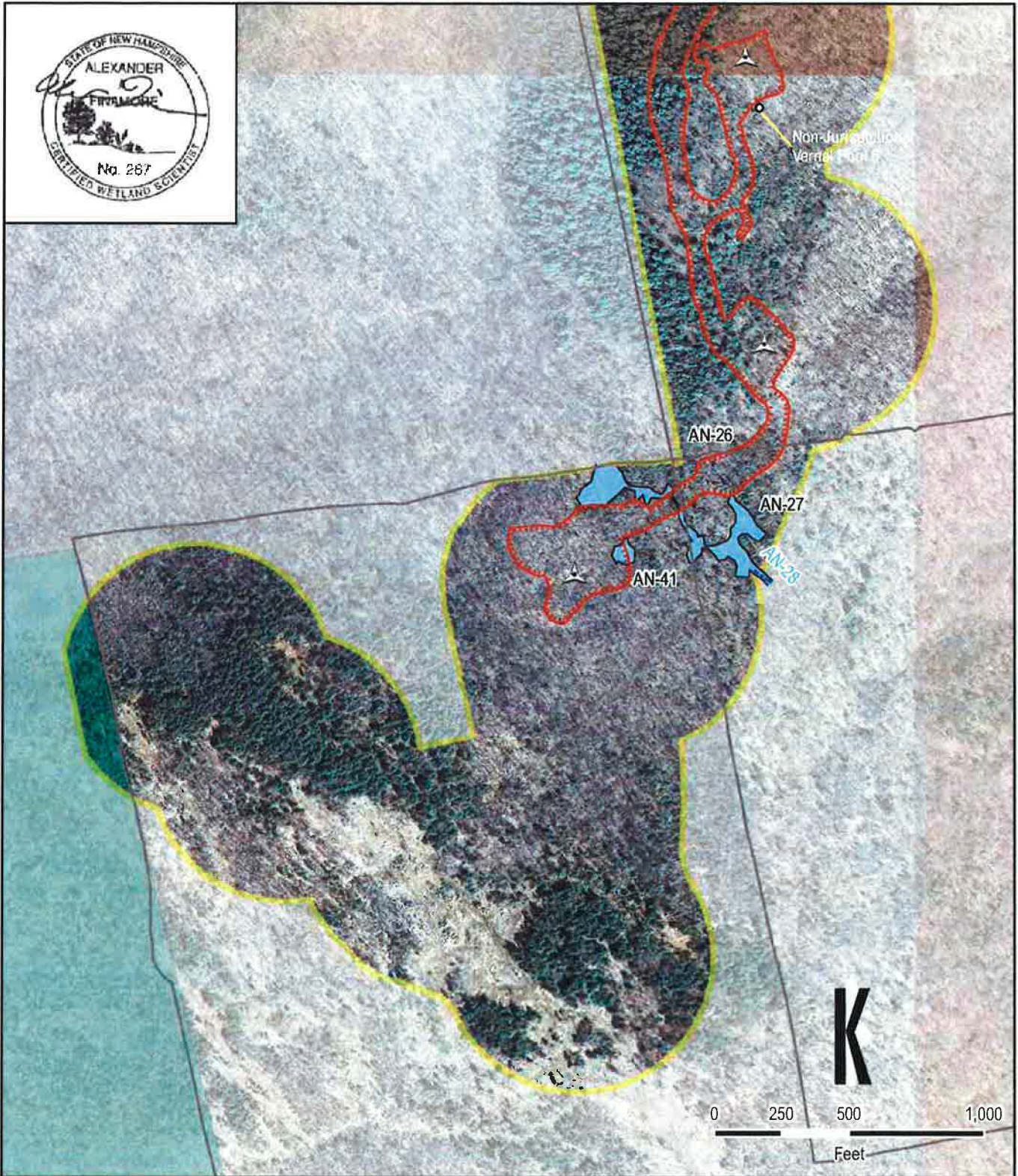
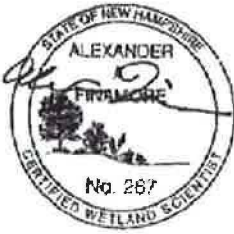
- Proposed WTG Location
- Proposed Disturbance Area
- Vernal Pool
- Project Parcels
- Existing Conserved Lands
- Resource Survey Area
- Wetlands
- Wetland Boundary
- Perennial Stream
- Intermittent Stream
- Drainage
- Stream Label
- Wetland Label

**Antrim Wind Energy**

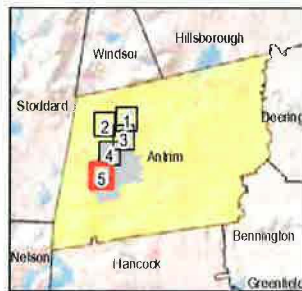
**ANTRIM WIND ENERGY PROJECT**  
 ANTRIM, NH  
 Figure 2

Natural Resource Survey Map  
 Map 4 of 5












Produced by: 7/6/2015



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**Legend**

-  Proposed WTG Location
-  Proposed Disturbance Area
-  Vernal Pool
-  Project Parcels
-  Existing Conserved Lands
-  Resource Survey Area
-  Wetlands
-  Wetland Boundary
-  Perennial Stream
-  Intermittent Stream
-  Drainage
- Stream Label
- Wetland Label

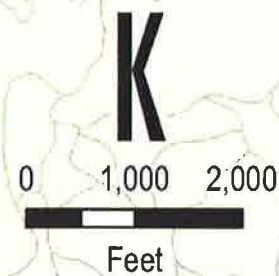
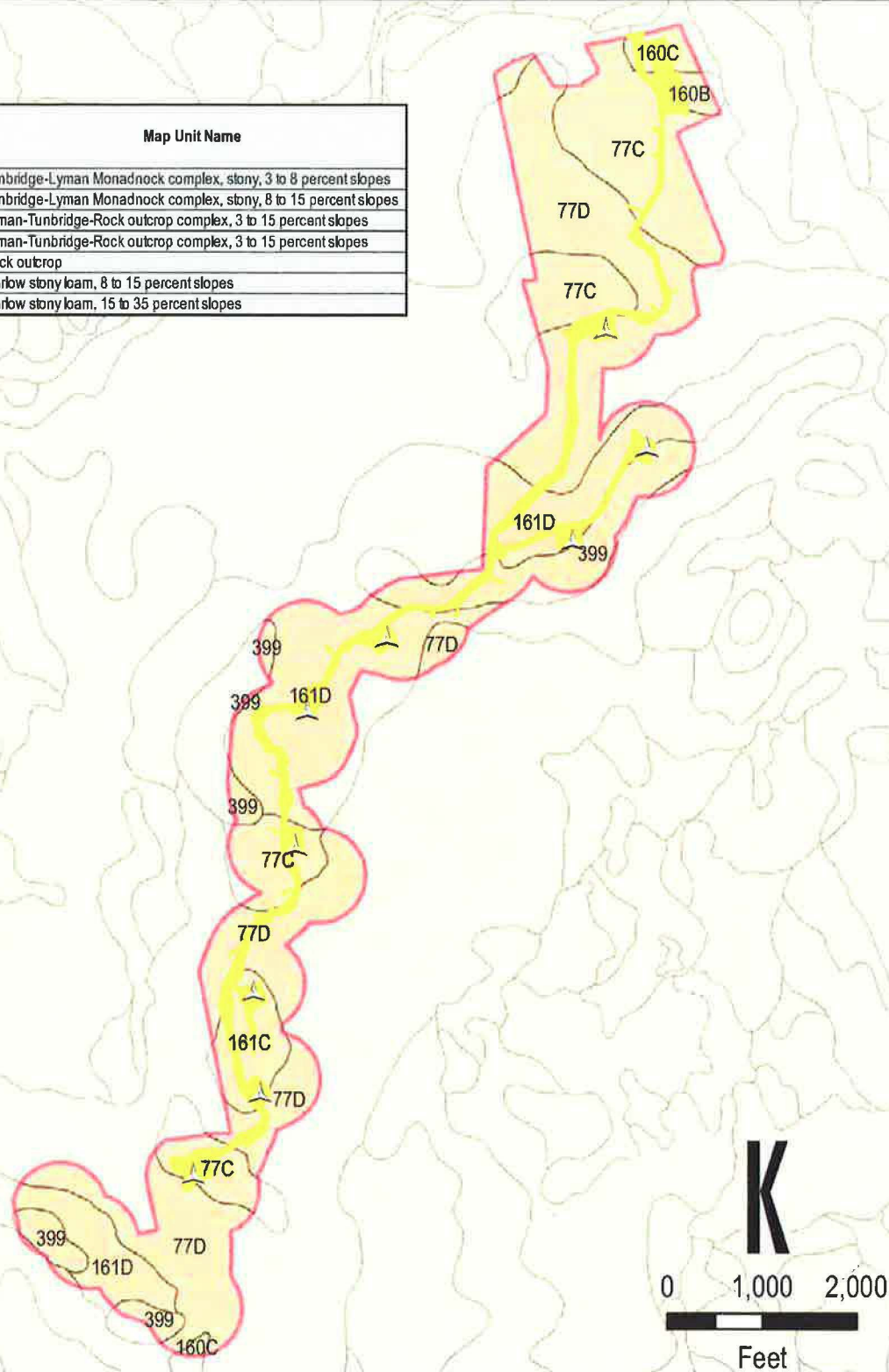
**Antrim Wind Energy**

**ANTRIM WIND ENERGY PROJECT**  
ANTRIM, NH

Figure 2  
Natural Resource Survey Map  
Map 5 of 5

Produced by:  7/6/2015

Map Unit Symbol (MUSYM)	Map Unit Name
160B	Tunbridge-Lyman Monadnock complex, stony, 3 to 8 percent slopes
160C	Tunbridge-Lyman Monadnock complex, stony, 8 to 15 percent slopes
161C	Lyman-Tunbridge-Rock outcrop complex, 3 to 15 percent slopes
161D	Lyman-Tunbridge-Rock outcrop complex, 3 to 15 percent slopes
399	Rock outcrop
77C	Marlow stony loam, 8 to 15 percent slopes
77D	Marlow stony loam, 15 to 35 percent slopes



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- Legend**
- Proposed WTG
  - Proposed Project Area - 57 Acres
  - Resource Survey Area
  - NRCS SSURGO Soils



**ANTRIM WIND ENERGY PROJECT**  
 354 KEENE ROAD, ANTRIM, NH  
**Figure 3**  
**NRCS Soil Survey Map**

Produced by: 7/8/2015

**ATTACHMENT B**  
**PROFESSIONAL RESUME**

## **ALEXANDER A. FINAMORE**

### **EDUCATION**

B.S., Environmental Science and Management, University of Rhode Island, 2004

### **AREAS OF EXPERTISE**

Mr. Finamore has over 7 years experience encompassing

- Federal, State, and Local Environmental Permitting
- Wetland Delineations and Reports
- Subsurface Wastewater Disposal Design
- Vernal Pool Identification and Assessment
- Land Survey
- Preliminary Environmental Site Assessments (PESS)

### **REPRESENTATIVE EXPERIENCE**

Mr. Finamore has completed or managed numerous wetland delineations and vernal pool surveys throughout the northeastern U.S., ranging from single house lots to large linear projects. Mr. Finamore has also completed or managed the permitting process and/or the preparation of technical documents in accordance to State and Federal site location, wetlands, and subsurface wastewater disposal system regulations.

#### **Reunion Energy, Grandpa's Knob Wind Farm, Natural Resource Mapping – VT**

**Wetland Scientist, 2011** Mr. Finamore organized and directed field crews, performed wetland delineations along corridor of proposed 20 wind turbines and collector line, performed vernal pool surveys, attended site walk with client and pertinent state and federal regulators.

#### **Eolian Wind, Antrim Wind Farm, Natural Resource Mapping – NH Wetland**

**Scientist, 2011** Mr. Finamore performed wetland delineations along corridor of proposed 10 wind turbines and collector line, performed vernal pool surveys, attended site walk with client and pertinent state and federal regulators

#### **VELCO, Lines 350 & 370, Natural Resource Mapping – VT Wetland Scientist, 2011**

Mr. Finamore organized and directed field crews, performed wetland delineations, wetland function and values assessments, stream classifications, and natural community surveys along existing transmission line right-of-ways

#### **National Grid, 015S, Turtle Sweeps – MA Ecologist, 2011**

Mr. Finamore performed Turtle Sweeps for Wood Turtle and Eastern Box Turtle for line restoration work due to tornado damage

#### **National Grid, S9, Natural Resource Mapping – MA Wetland Scientist, 2011**

Mr. Finamore performed wetland delineations for reconductoring along the S9 line.

#### **National Grid, Y151, Natural Resource Mapping – MA Wetland Scientist, 2011**

Mr. Finamore performed wetland delineations for reconductoring along the A126 line.

**Spectra Energy, Wetland Permitting – CT, MA, RI Wetland Scientist, 2011** Mr. Finamore performed local and state wetland permitting for installation of launcher and receiver barrels for pipeline segments throughout Algonquin's distribution system

**MBCR, Natural Resource Mapping – Walpole, MA Wetland Scientist, 2010** Mr. Finamore delineated watersheds for culvert sizing using GIS and ground truthing.

**Central Maine Power, Co., Natural Resource Mapping and State and Federal Permit Application – ME Wetland Scientist, 2009-Present** Mr. Finamore performed wetland delineations along proposed transmission line corridors, performed vernal pool surveys, performed routine stormwater inspections, performed invasive species inventories, field located resources and setbacks for pre-construction, prepared GIS maps and data tables for associated NRPA, Site Location of Development, and Army Corps of Engineers permitting, provided survey assistance on structure location and conductor height over major river crossings.

**First Wind & 3Phase, Land Survey – Lincoln, ME Survey Technician, 2010** Mr. Finamore performed structure layout for the collector and transmission line servicing 40 wind turbines.

**NSTAR, Natural Resource Mapping – RI Wetland Scientist, 2010** Mr. Finamore performed wetland delineations along an existing transmission line.

**Town of Morrisville, FERC Pre-application Document – Morrisville, VT Ecologist, 2010** Mr. Finamore collected existing condition information regarding geologic, soil, wetland, wildlife, botanical, and rare, threatened and endangered species pertinent to FERC relicensing from federal, state, and local agencies for four hydroelectric dams.

**Bangor Hydro, Natural Resource Mapping and State and Federal Permit Application, Ellsworth – ME Wetland Scientist, 2009-2010** Mr. Finamore performed wetland delineations along proposed transmission line corridors, assessed potential access roads for viability, prepared GIS maps and data tables for associated NRPA, Site Location of Development, and Army Corps of Engineers permitting.

**National Grid, A127, Natural Resource Mapping – MA Wetland Scientist, 2009** Mr. Finamore performed wetland delineations for reconductoring along the A126 line.

**VELCO, PV-20, Natural Resource Mapping – VT Wetland Scientist, 2009** Mr. Finamore performed wetland delineations, wetland function and values assessments, stream classifications, and natural community surveys along existing transmission line right-of-ways.

**L.L. Bean, Inc., Natural Resource Mapping and Permitting – Freeport, ME Wetland Scientist & Survey Technician, 2005-2008** Mr. Finamore performed wetland delineations, vernal pool surveys, topographic mapping, and prepared Natural

Resource Protection Act applications and assisted with Site Location of Development Act applications.

**First Wind, Natural Resource Mapping – ME Wetland Scientist, 2006-2007** Mr. Finamore performed wetland delineations and vernal pool surveys for the First Wind Stetson Wind Farm and associated transmission line corridors.

**Bangor Hydro Electric Company, Natural Resource Mapping – Bangor, ME Wetland Scientist, 2008** Mr. Finamore performed wetland delineations and vernal pool surveys for the rebuild of Line 64.

**Maine Coast Heritage Trust, Natural Resource Inventory – Stonington, ME Wetland Scientist, 2009** Mr. Finamore performed a Natural Resource inventory of 11 properties managed by MCHT. Inventories included gathering of available GIS data, historical aerial photography, and historical accounts of land use, vegetative inventories, soil evaluations, and wildlife observations.

**Zyacorp Cinemagic, Natural Resource Mapping, Environmental Permit Applications, Environmental Site Assessment and Topographic Mapping – Westbrook and Saco, ME Environmental Scientist & Survey Technician, 2005-2009** Mr. Finamore performed wetland delineations, vernal pool surveys, topographic mapping on commercial properties. Mr. Finamore prepared environmental permit applications under Maine's Natural Resource Protection Act and a Preliminary Environmental Assessment on the Saco property.

**New England College, Environmental Permit Application – Henniker, NH Wetland Scientist, 2009** Mr. Finamore prepared environmental permit applications under New Hampshire's Fill and Dredge in Wetlands statute for the installation of an athletic field.

**Bangor Retirement Community, Wetland Mitigation Design and Monitoring – Bangor, ME Wetland Scientist, 2007-2009** Mr. Finamore assisted with the design of a wetland creation area mitigating over an acre of wetland disturbance. Mr. Finamore performed annual monitoring of the mitigation area and submitted reports to the Maine Department of Environmental Protection.

**Town of Wells, Salt Marsh Erosion Monitoring – Wells, ME Wetland Scientist, 2004** Mr. Finamore mapped erosional features within a coastal marsh and inventoried vegetation and wildlife

#### **CERTIFICATIONS AND TRAINING**

Certified Wetland Scientist, #267, NH  
Licensed Site Evaluator, #391, ME

#### **AFFILIATIONS**

Maine Association of Wetland Scientists – Member (Member since 2005)  
Maine Association of Site Evaluators – Member (Member since 2005)

**ATTACHMENT C**  
**U.S. ARMY CORPS OF ENGINEERS**  
**WETLAND DETERMINATION DATA FORMS**



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 10-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN1 Wet  
**Investigator(s):** AF JG **Section, Township, Range: S. T. R.**  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** hummocky **Slope:** 0.0 % / 0.0 °  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:** PFO

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes  No  (If no, explain in Remarks.)  
**Are Vegetation , Soil , or Hydrology  significantly disturbed?** **Are "Normal Circumstances" present?** Yes  No   
**Are Vegetation , Soil , or Hydrology  naturally problematic?** (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> VP-1, Isolated, No overland drainage	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<b>Field Observations:</b>	Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>4</u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>3</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN1 Wet

Tree Stratum (Plot size: 30' )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <span style="float:right">8 (A)</span>  Total Number of Dominant Species Across All Strata: <span style="float:right">8 (B)</span>  Percent of dominant Species That Are OBL, FACW, or FAC: <span style="float:right">100.0% (A/B)</span>
1. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/>	50.0%	FAC	
2. <i>Picea mariana</i>	20	<input checked="" type="checkbox"/>	50.0%	FACW-	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15' )</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 83      x 2 =     166 <b>FAC species</b> 30      x 3 =      90 <b>FACU species</b> 0      x 4 =      0 <b>UPL species</b> 0      x 5 =      0 <b>Column Totals:</b> 113      (A)      256      (B)  Prevalence Index = B/A =      2.265
1. <i>Betula alleghaniensis</i>	10	<input checked="" type="checkbox"/>	25.0%	FAC	
2. <i>Picea mariana</i>	15	<input checked="" type="checkbox"/>	37.5%	FACW-	
3. <i>Vaccinium corymbosum</i>	15	<input checked="" type="checkbox"/>	37.5%	FACW-	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5' )</b>					<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Carex intumescens</i>	15	<input checked="" type="checkbox"/>	45.5%	FACW+	
2. <i>Osmunda cinnamomea</i>	10	<input checked="" type="checkbox"/>	30.3%	FACW	
3. <i>Coptis trifolia</i>	8	<input checked="" type="checkbox"/>	24.2%	FACW	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 10-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN1 Upland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): none Slope: 5.0% / 2.9°  
 Subregion (LRR or MLRA): Lat.: Long.: Datum:  
 Soil Map Unit Name: NWI classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN1 Upland

<b>Tree Stratum</b> (Plot size: 30' )					<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>28.6%</u> (A/B)
1. <i>Fagus grandifolia</i>	25	<input checked="" type="checkbox"/>	30.1%	FACU	
2. <i>Picea rubens</i>	33	<input checked="" type="checkbox"/>	39.8%	FACU	
3. <i>Acer rubrum</i>	25	<input checked="" type="checkbox"/>	30.1%	FAC	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>83 = Total Cover</b>					
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Picea rubens</i>	10	<input checked="" type="checkbox"/>	55.6%	FACU	
2. <i>Fagus grandifolia</i>	3	<input type="checkbox"/>	16.7%	FACU	
3. <i>Vaccinium angustifolium</i>	5	<input checked="" type="checkbox"/>	27.8%	FACU-	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>18 = Total Cover</b>					
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Aralia nudicaulis</i>	5	<input type="checkbox"/>	16.1%	FACU	
2. <i>Lycopodium obscurum</i>	10	<input checked="" type="checkbox"/>	32.3%	FACU	
3. <i>Maianthemum canadense</i>	3	<input type="checkbox"/>	9.7%	FAC-	
4. <i>trillium spp.</i>	3	<input type="checkbox"/>	9.7%		
5. <i>Trientalis borealis</i>	10	<input checked="" type="checkbox"/>	32.3%	FAC	
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>31 = Total Cover</b>					
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)					
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
<b>Definitions of Vegetation Strata:</b> Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height.					
Hydrophytic Vegetation Present?    Yes <input type="radio"/> No <input checked="" type="radio"/>					
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>					

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN1 Wetland



AN1 Wetland



AN1 Upland



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 10-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN2 Wet  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Ridgetop      **Local relief (concave, convex, none):** concave      **Slope:** 0.0 % / 0.0 °  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:** PFO/PSS

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Isolated Bat Radar location	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>9</u> Saturation Present?      Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN2 Wet

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Picea mariana</i>	25	<input checked="" type="checkbox"/>	55.6%	FACW-	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. <i>Betula alleghaniensis</i>	20	<input checked="" type="checkbox"/>	44.4%	FAC	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 100    x 1 =    100 <b>FACW species</b> 55     x 2 =    110 <b>FAC species</b> 30     x 3 =    90 <b>FACU species</b> 0      x 4 =    0 <b>UPL species</b> 0      x 5 =    0 <b>Column Totals:</b> 185    (A)      300    (B)  Prevalence Index = B/A =      1.622
45 = Total Cover					
1. <i>Picea mariana</i>	10	<input checked="" type="checkbox"/>	33.3%	FACW-	
2. <i>Spiraea latifolia</i>	10	<input checked="" type="checkbox"/>	33.3%	FAC+	
3. <i>Vaccinium corymbosum</i>	10	<input checked="" type="checkbox"/>	33.3%	FACW-	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>					
30 = Total Cover					
1. <i>Eriophorum virginicum</i>	100	<input checked="" type="checkbox"/>	90.9%	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Osmunda cinnamomea</i>	5	<input type="checkbox"/>	4.5%	FACW	
3. <i>Rubus hispidoides</i>	5	<input type="checkbox"/>	4.5%	FACW	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					
110 = Total Cover					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
<b>Definitions of Vegetation Strata:</b> Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height.					
Hydrophytic Vegetation Present?    Yes <input checked="" type="radio"/> No <input type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 10-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN2 upland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Ridgetop      **Local relief (concave, convex, none):** none      **Slope:** 3.0 % / 1.7 °  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b>    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)	
<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   			
<b>Remarks:</b>    			

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN2 upland

Tree Stratum (Plot size: 30' )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Quercus rubra</i>	35	<input checked="" type="checkbox"/>	58.3%	FACU-	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>28.6%</u> (A/B)
2. <i>Pinus strobus</i>	25	<input checked="" type="checkbox"/>	41.7%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>60 = Total Cover</b>					
Sapling/Shrub Stratum (Plot size: 15' )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Acer rubrum</i>	10	<input checked="" type="checkbox"/>	18.2%	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 0      x 2 =      0 <b>FAC species</b> 20     x 3 =      60 <b>FACU species</b> 105    x 4 =     420 <b>UPL species</b> 0      x 5 =      0 <b>Column Totals:</b> 125    (A)      480      (B)  Prevalence Index = B/A =      3.840
2. <i>Betula papyrifera</i>	5	<input type="checkbox"/>	9.1%	FACU	
3. <i>Fagus grandifolia</i>	10	<input checked="" type="checkbox"/>	18.2%	FACU	
4. <i>Picea rubens</i>	25	<input checked="" type="checkbox"/>	45.5%	FACU	
5. <i>Betula alleghaniensis</i>	5	<input type="checkbox"/>	9.1%	FAC	
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>55 = Total Cover</b>					
Herb Stratum (Plot size: 5' )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Vaccinium angustifolium</i>	5	<input checked="" type="checkbox"/>	50.0%	FACU-	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Trientalis borealis</i>	5	<input checked="" type="checkbox"/>	50.0%	FAC	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>10 = Total Cover</b>					
Woody Vine Stratum (Plot size: )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1.	0	<input type="checkbox"/>	0.0%		<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN2 Wetland



AN2 Wetland



AN2 Wetland



AN2 Upland



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 10-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN3 Wet  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): hummocky Slope: 0.0 % / 0.0 °  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) No outlet, No VP	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN3 Wet

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/> 100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)
2.	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3.	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				<b>Prevalence Index worksheet:</b>
20 = Total Cover				Total % Cover of: Multiply by:
1. <i>Picea mariana</i>	15	<input checked="" type="checkbox"/> 37.5%	FACW-	OBL species <u>20</u> x 1 = <u>20</u>
2. <i>Acer rubrum</i>	5	<input type="checkbox"/> 12.5%	FAC	FACW species <u>50</u> x 2 = <u>100</u>
3. <i>Vaccinium corymbosum</i>	20	<input checked="" type="checkbox"/> 50.0%	FACW-	FAC species <u>25</u> x 3 = <u>75</u>
4.	0	<input type="checkbox"/> 0.0%		FACU species <u>0</u> x 4 = <u>0</u>
5.	0	<input type="checkbox"/> 0.0%		UPL species <u>0</u> x 5 = <u>0</u>
6.	0	<input type="checkbox"/> 0.0%		<b>Column Totals:</b> <u>95</u> (A) <u>195</u> (B)
7.	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>2.053</u>
40 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
1. <i>Osmunda cinnamomea</i>	15	<input checked="" type="checkbox"/> 42.9%	FACW	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
2. <i>Carex stricta</i>	20	<input checked="" type="checkbox"/> 57.1%	OBL	<input checked="" type="checkbox"/> Dominance Test is > 50%
3.	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup>
4.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6.	0	<input type="checkbox"/> 0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.	0	<input type="checkbox"/> 0.0%		<b>Definitions of Vegetation Strata:</b>
8.	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
9.	0	<input type="checkbox"/> 0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.
10.	0	<input type="checkbox"/> 0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.	0	<input type="checkbox"/> 0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
12.	0	<input type="checkbox"/> 0.0%		
35 = Total Cover				
<b>Woody Vine Stratum (Plot size: )</b>				
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic Vegetation Present? Yes  No

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

**Sampling Point: AN3 Wet**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-5	10YR	3/2	100%				Sandy Loam	
5-10	2.5Y	4/2					Loamy Sand	
10+								ledge

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup> Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)

**Indicators for Problematic Hydric Soils : <sup>3</sup>**

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: ledge

Depth (Inches): 10

**Hydric Soil Present?**    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 10-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN3 Upland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Ridgetop      **Local relief (concave, convex, none):** none      **Slope:** 3.0 % / 1.7 °  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> bouldery	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (includes capillary fringe)	
<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN3 Upland

Tree Stratum (Plot size: 30')	Absolute % Cover	<input type="checkbox"/>	Rel.Strat. Cover	Indicator Status	
1. <i>Picea rubens</i>	66	<input checked="" type="checkbox"/>	66.7%	FACU	
2. <i>Pinus strobus</i>	33	<input checked="" type="checkbox"/>	33.3%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					<b>99 = Total Cover</b>
1. <i>Picea rubens</i>	10	<input checked="" type="checkbox"/>	100.0%	FACU	
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>					<b>10 = Total Cover</b>
1. <i>Quercus rubra</i>	3	<input checked="" type="checkbox"/>	50.0%	FACU-	
2. <i>Vaccinium angustifolium</i>	3	<input checked="" type="checkbox"/>	50.0%	FACU-	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					<b>6 = Total Cover</b>
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
					<b>0 = Total Cover</b>

Dominance Test worksheet:			
Number of Dominant Species That are OBL, FACW, or FAC:	0		(A)
Total Number of Dominant Species Across All Strata:	5		(B)
Percent of dominant Species That Are OBL, FACW, or FAC:	0.0%		(A/B)

Prevalence Index worksheet:			
Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	115	x 4 =	460
UPL species	0	x 5 =	0
<b>Column Totals:</b>	<b>115 (A)</b>		<b>460 (B)</b>
Prevalence Index = B/A =			4.000

Hydrophytic Vegetation Indicators:	
<input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation
<input type="checkbox"/>	Dominance Test is > 50%
<input type="checkbox"/>	Prevalence Index is ≤3.0 <sup>1</sup>
<input type="checkbox"/>	Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
<input type="checkbox"/>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:	
Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..	
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vine - All woody vines greater than 3.28 ft in height.	

Hydrophytic Vegetation Present?    Yes     No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

**Sampling Point: AN3 Upland**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR	3/2	100%				Loam	
3-5	2.5Y	5/1	100%				Sand	
5-12	10YR	4/4	100%				Loamy Sand	
12+								bedrock

<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : <sup>3</sup>**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: bedrock  
 Depth (inches): 12

Hydric Soil Present?    Yes     No

**Remarks:**



AN3 Wetland



AN3 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 10-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN4 Wet  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): hummocky Slope: 0.0% / 0.0°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) VP-2	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: sphagnum carpet																																



**VEGETATION - Use scientific names of plants**

Sampling Point: AN4 Wet

<b>Tree Stratum</b> (Plot size: 30' )	<b>Absolute % Cover</b>	<b>Dominant Species? Rel.Strat. Cover</b>	<b>Indicator Status</b>	<b>Dominance Test worksheet:</b>	
1. <i>Acer rubrum</i>	50	<input checked="" type="checkbox"/> 100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)	
2.	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3.	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
4.	0	<input type="checkbox"/> 0.0%		<b>Prevalence Index worksheet:</b>	
5.	0	<input type="checkbox"/> 0.0%		Total % Cover of: Multiply by:	
6.	0	<input type="checkbox"/> 0.0%		<b>OBL species</b> <u>0</u> x 1 = <u>0</u>	
7.	0	<input type="checkbox"/> 0.0%		<b>FACW species</b> <u>35</u> x 2 = <u>70</u>	
	<b>50 = Total Cover</b>			<b>FAC species</b> <u>65</u> x 3 = <u>195</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )				<b>FACU species</b> <u>0</u> x 4 = <u>0</u>	
1. <i>Acer rubrum</i>	15	<input checked="" type="checkbox"/> 33.3%	FAC	<b>UPL species</b> <u>0</u> x 5 = <u>0</u>	
2. <i>Vaccinium corymbosum</i>	30	<input checked="" type="checkbox"/> 66.7%	FACW-	<b>Column Totals:</b> <u>100</u> (A) <u>265</u> (B)	
3.	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>2.650</u>	
4.	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Indicators:</b>	
5.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
6.	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> Dominance Test is > 50%	
7.	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup>	
8.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
9.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
10.	0	<input type="checkbox"/> 0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
11.	0	<input type="checkbox"/> 0.0%		<b>Definitions of Vegetation Strata:</b>	
12.	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	<b>45 = Total Cover</b>			Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.	
<b>Herb Stratum</b> (Plot size: 5' )				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1. <i>Osmunda cinnamomea</i>	5	<input checked="" type="checkbox"/> 100.0%	FACW	Woody vine - All woody vines greater than 3.28 ft in height.	
2.	0	<input type="checkbox"/> 0.0%			
3.	0	<input type="checkbox"/> 0.0%			
4.	0	<input type="checkbox"/> 0.0%			
5.	0	<input type="checkbox"/> 0.0%			
6.	0	<input type="checkbox"/> 0.0%			
7.	0	<input type="checkbox"/> 0.0%			
8.	0	<input type="checkbox"/> 0.0%			
9.	0	<input type="checkbox"/> 0.0%			
10.	0	<input type="checkbox"/> 0.0%			
11.	0	<input type="checkbox"/> 0.0%			
12.	0	<input type="checkbox"/> 0.0%			
	<b>5 = Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/> 0.0%			
2.	0	<input type="checkbox"/> 0.0%			
3.	0	<input type="checkbox"/> 0.0%			
4.	0	<input type="checkbox"/> 0.0%			
	<b>0 = Total Cover</b>				
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim State: NH Sampling Date: 10-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC Sampling Point: AN4 Upland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): convex Slope: 0.0% / 0.0°  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification:         

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																																
Remarks:    																																

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN4 Upland

Tree Stratum (Plot size: 30')	Absolute % Cover	<input type="checkbox"/>	Rel.Strat. Cover	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>14.3%</u> (A/B)
1. <i>Quercus rubra</i>	30	<input checked="" type="checkbox"/>	37.5%	FACU-	
2. <i>Pinus strobus</i>	25	<input checked="" type="checkbox"/>	31.3%	FACU	
3. <i>Picea rubens</i>	25	<input checked="" type="checkbox"/>	31.3%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x <b>1</b> = <u>0</u> <b>FACW species</b> <u>0</u> x <b>2</b> = <u>0</u> <b>FAC species</b> <u>5</u> x <b>3</b> = <u>15</u> <b>FACU species</b> <u>135</u> x <b>4</b> = <u>540</u> <b>UPL species</b> <u>0</u> x <b>5</b> = <u>0</u> <b>Column Totals:</b> <u>140</u> (A) <u>555</u> (B)  Prevalence Index = B/A = <u>3.964</u>
1. <i>Betula papyrifera</i>	5	<input type="checkbox"/>	10.0%	FACU	
2. <i>Picea rubens</i>	15	<input checked="" type="checkbox"/>	30.0%	FACU	
3. <i>Vaccinium angustifolium</i>	25	<input checked="" type="checkbox"/>	50.0%	FACU-	
4. <i>Fagus grandifolia</i>	5	<input type="checkbox"/>	10.0%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>					<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Lycopodium obscurum</i>	5	<input checked="" type="checkbox"/>	50.0%	FACU	
2. <i>Abies balsamea</i>	5	<input checked="" type="checkbox"/>	50.0%	FAC	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>Total Cover</b>					<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>0 = Total Cover</b>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN4 Wetland



AN4 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 10-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN5 Wet  
**Investigator(s):** AFJG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Ridgetop **Local relief (concave, convex, none):** hummocky **Slope:** 0.0 % / 0.0 °  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:** PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  , Soil  , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  , Soil  , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Isolated, VP-3	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
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Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Sphagnum carpet	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN5 Wet

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <i>Acer rubrum</i>	15	<input checked="" type="checkbox"/> 100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 96      x 2 =      192 <b>FAC species</b> 25      x 3 =      75 <b>FACU species</b> 0      x 4 =      0 <b>UPL species</b> 0      x 5 =      0 <b>Column Totals:</b> 121      (A)      267      (B)  Prevalence Index = B/A =      2.207
15 = Total Cover				
1. <i>Vaccinium corymbosum</i>	25	<input checked="" type="checkbox"/> 62.5%	FACW-	
2. <i>Picea mariana</i>	5	<input type="checkbox"/> 12.5%	FACW-	
3. <i>Spiraea latifolia</i>	10	<input checked="" type="checkbox"/> 25.0%	FAC+	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5')</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
40 = Total Cover				
1. <i>Scirpus cyperinus</i>	66	<input checked="" type="checkbox"/> 100.0%	FACW+	
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
11.	0	<input type="checkbox"/> 0.0%		
12.	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: )</b>				<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
66 = Total Cover				
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				Hydrophytic Vegetation Present?      Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Include photo numbers here or on a separate sheet.)				

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim State: NH Sampling Date: 10-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC Sampling Point: ANS Upland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): hummocky Slope: 5.0 % / 2.9 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification:         

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Shallow Aquitard (D3)																																
<input checked="" type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																																
Remarks:   																																

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN5 Upland

Tree Stratum (Plot size: 30')	Absolute % Cover	<input type="checkbox"/>	Rel.Strat. Cover	Indicator Status	
1. <i>Picea rubens</i>	33	<input checked="" type="checkbox"/>	39.8%	FACU	
2. <i>Pinus strobus</i>	50	<input checked="" type="checkbox"/>	60.2%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>		<b>83 = Total Cover</b>			
1. <i>Vaccinium corymbosum</i>	5	<input checked="" type="checkbox"/>	100.0%	FACW-	
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>		<b>5 = Total Cover</b>			
1. <i>Gaultheria procumbens</i>	3	<input checked="" type="checkbox"/>	27.3%	FACU	
2. <i>Vaccinium angustifolium</i>	5	<input checked="" type="checkbox"/>	45.5%	FACU-	
3. <i>Quercus rubra</i>	3	<input checked="" type="checkbox"/>	27.3%	FACU-	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>		<b>11 = Total Cover</b>			
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
		<b>0 = Total Cover</b>			

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
<b>OBL species</b> 0	x 1 = 0
<b>FACW species</b> 5	x 2 = 10
<b>FAC species</b> 0	x 3 = 0
<b>FACU species</b> 94	x 4 = 376
<b>UPL species</b> 0	x 5 = 0
<b>Column Totals:</b> 99 (A)	386 (B)

Prevalence Index = B/A = 3.899

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN5 Upland



AN5 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 10-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN6 Wet  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): flat Slope: 0.0% / 0.0°  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: sphagnum carpet																																

**VEGETATION - Use scientific names of plants**

**Dominant Species?**

**Sampling Point: AN6 Wet**

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Acer rubrum</i>	25	<input checked="" type="checkbox"/> 50.0%	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. <i>Betula alleghaniensis</i>	25	<input checked="" type="checkbox"/> 50.0%	FAC	
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 15      x 1 =      15 <b>FACW species</b> 111     x 2 =     222 <b>FAC species</b> 80      x 3 =     240 <b>FACU species</b> 0        x 4 =     0 <b>UPL species</b> 0        x 5 =     0 <b>Column Totals:</b> 206    (A)      477      (B)  Prevalence Index = B/A =      2.316
50 = Total Cover				
1. <i>Vaccinium corymbosum</i>	20	<input checked="" type="checkbox"/> 36.4% FACW-		
2. <i>Acer rubrum</i>	10	<input type="checkbox"/> 18.2% FAC		
3. <i>Picea mariana</i>	25	<input checked="" type="checkbox"/> 45.5% FACW-		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5')</b>				
55 = Total Cover				
1. <i>Iris versicolor</i>	15	<input type="checkbox"/> 14.9% OBL		
2. <i>Coptis trifolia</i>	33	<input checked="" type="checkbox"/> 32.7% FACW		
3. <i>Cornus canadensis</i>	20	<input type="checkbox"/> 19.8% FAC-		
4. <i>Osmunda cinnamomea</i>	33	<input checked="" type="checkbox"/> 32.7% FACW		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
11.	0	<input type="checkbox"/> 0.0%		
12.	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: )</b>				
101 = Total Cover				
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 10-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN6 Upland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Hillside      **Local relief (concave, convex, none):** none      **Slope:** 8.0 % / 4.6 °  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b>    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (includes capillary fringe)	
<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   	
<b>Remarks:</b>    	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN6 Upland

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Quercus rubra</i>	45	<input checked="" type="checkbox"/>	56.3%	FACU-	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>28.6%</u> (A/B)
2. <i>Acer rubrum</i>	25	<input checked="" type="checkbox"/>	31.3%	FAC	
3. <i>Tsuga canadensis</i>	10	<input type="checkbox"/>	12.5%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 0      x 2 =      0 <b>FAC species</b> 30      x 3 =      90 <b>FACU species</b> 73      x 4 =      292 <b>UPL species</b> 5      x 5 =      25 <b>Column Totals:</b> 108      (A)      407      (B)  Prevalence Index = B/A =      3.769
80 = Total Cover					
1. <i>Fagus grandifolia</i>	8	<input checked="" type="checkbox"/>	61.5%	FACU	
2. <i>Picea rubens</i>	5	<input checked="" type="checkbox"/>	38.5%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>					
13 = Total Cover					
1. <i>Trientalis borealis</i>	5	<input checked="" type="checkbox"/>	33.3%	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Medeola virginiana</i>	5	<input checked="" type="checkbox"/>	33.3%	UPL	
3. <i>Vaccinium angustifolium</i>	3	<input checked="" type="checkbox"/>	20.0%	FACU-	
4. <i>Aralia nudicaulis</i>	2	<input type="checkbox"/>	13.3%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					
15 = Total Cover					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
<b>Definitions of Vegetation Strata:</b> Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.					
Hydrophytic Vegetation Present?      Yes <input type="radio"/> No <input checked="" type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

**Sampling Point: AN6 Upland**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-4	10YR	3/2	100%				Loam	
4-6	2.5Y	5/1	100%				Sandy Loam	
6-15	10YR	4/6	100%				Sandy Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup> Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<b>Indicators for Problematic Hydric Soils : <sup>3</sup></b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) LRR K, L)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
		<input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:



AN6 Wetland



AN6 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 11-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN7 Wet  
 Investigator(s): AF JG Section, Township, Range: S.      T.      R.       
 Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): hummocky Slope: 0.0 % / 0.0 °  
 Subregion (LRR or MLRA):      Lat.:      Long.:      Datum:       
 Soil Map Unit Name:      NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated, extends past rock wall, ledge pocket	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN7 Wet

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Acer rubrum</i>	25	<input checked="" type="checkbox"/>	100.0%	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					
25 = Total Cover					
1. <i>Vaccinium corymbosum</i>	50	<input checked="" type="checkbox"/>	33.1%	FACW-	
2. <i>Acer rubrum</i>	25	<input type="checkbox"/>	16.6%	FAC	
3. <i>Spiraea latifolia</i>	10	<input type="checkbox"/>	6.6%	FAC+	
4.	66	<input checked="" type="checkbox"/>	43.7%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
151 = Total Cover					
<b>Herb Stratum (Plot size: 5')</b>					<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Osmunda cinnamomea</i>	66	<input checked="" type="checkbox"/>	100.0%	FACW	
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
66 = Total Cover					
<b>Woody Vine Stratum (Plot size: )</b>					<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>					
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>     					

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

**Sampling Point: AN7 Wet**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR	3/2	100%				Loam	
6-7	2.5Y	5/1	100%				Fine Loamy Sand	
7-9	2.5Y	4/2	100%				Very Fine Sandy Loam	
9+								bedrock

<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup> Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : <sup>3</sup>**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: bedrock  
 Depth (Inches): 9

**Hydric Soil Present?**    Yes     No

**Remarks:**

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 11-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN7 Upland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): concave Slope: 12.5 % / 7.1 °  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)     	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:    	



**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN7 Upland

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Betula papyrifera</i>	15	<input checked="" type="checkbox"/>	20.5%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>16.7%</u> (A/B)
2. <i>Quercus rubra</i>	33	<input checked="" type="checkbox"/>	45.2%	FACU-	
3. <i>Acer rubrum</i>	25	<input checked="" type="checkbox"/>	34.2%	FAC	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>73 = Total Cover</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 0      x 2 =      0 <b>FAC species</b> 25     x 3 =      75 <b>FACU species</b> 121    x 4 =     484 <b>UPL species</b> 5      x 5 =      25 <b>Column Totals:</b> 151    (A)      584      (B)  Prevalence Index = B/A =      3.868
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					
1. <i>Fagus grandifolia</i>	33	<input checked="" type="checkbox"/>	76.7%	FACU	
2. <i>Picea rubens</i>	10	<input checked="" type="checkbox"/>	23.3%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
<b>43 = Total Cover</b>					
<b>Herb Stratum (Plot size: 5')</b>					
1. <i>Vaccinium angustifolium</i>	25	<input checked="" type="checkbox"/>	71.4%	FACU-	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Lycopodium obscurum</i>	5	<input type="checkbox"/>	14.3%	FACU	
3. <i>Polygonatum pubescens</i>	5	<input type="checkbox"/>	14.3%	UPL	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>35 = Total Cover</b>					
<b>Woody Vine Stratum (Plot size: )</b>					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Definitions of Vegetation Strata:</b> Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN7 Wetland



AN7 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 11-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN8 Wet  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Terrace      **Local relief (concave, convex, none):** flat      **Slope:** 5.0 % / 2.9 °  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:** PFO

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Narrow PFO drainage through boulder field into overland ephemeral drainages to south with upland species	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Sampling Point: AN8 Wet

<b>Tree Stratum</b> (Plot size: 30' )					
1. <i>Betula alleghaniensis</i>	25	<input checked="" type="checkbox"/>	50.0%	FAC	
2. <i>Acer rubrum</i>	25	<input checked="" type="checkbox"/>	50.0%	FAC	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	50	<b>= Total Cover</b>			
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Vaccinium corymbosum</i>	5	<input checked="" type="checkbox"/>	23.8%	FACW-	
2. <i>Spiraea latifolia</i>	10	<input checked="" type="checkbox"/>	47.6%	FAC+	
3. <i>Picea rubens</i>	3	<input type="checkbox"/>	14.3%	FACU	
4. <i>Betula alleghaniensis</i>	3	<input type="checkbox"/>	14.3%	FAC	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	21	<b>= Total Cover</b>			
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Impatiens capensis</i>	75	<input checked="" type="checkbox"/>	82.4%	FACW	
2. <i>Osmunda cinnamomea</i>	5	<input type="checkbox"/>	5.5%	FACW	
3. <i>Onoclea sensibilis</i>	3	<input type="checkbox"/>	3.3%	FACW	
4. <i>Carex intumescens</i>	3	<input type="checkbox"/>	3.3%	FACW+	
5. violet spp.	5	<input type="checkbox"/>	5.5%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
	91	<b>= Total Cover</b>			
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
	0	<b>= Total Cover</b>			

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:	
<b>OBL species</b>	<u>0</u>	x 1 =	<u>0</u>
<b>FACW species</b>	<u>91</u>	x 2 =	<u>182</u>
<b>FAC species</b>	<u>63</u>	x 3 =	<u>189</u>
<b>FACU species</b>	<u>3</u>	x 4 =	<u>12</u>
<b>UPL species</b>	<u>0</u>	x 5 =	<u>0</u>
<b>Column Totals:</b>	<u>157</u> (A)		<u>383</u> (B)

Prevalence Index = B/A = 2.439

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 11-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN8 Upland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope: 7.0 % / 4.0 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification:         

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)     	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-neutral Test (D5)																																

<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
 \_\_\_\_\_  
 \_\_\_\_\_

Remarks:  
 \_\_\_\_\_  
 \_\_\_\_\_

**VEGETATION - Use scientific names of plants**

Sampling Point: AN8 Upland

<b>Tree Stratum</b> (Plot size: 30' )					<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>16.7%</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x <b>1</b> = <u>0</u> <b>FACW species</b> <u>0</u> x <b>2</b> = <u>0</u> <b>FAC species</b> <u>20</u> x <b>3</b> = <u>60</u> <b>FACU species</b> <u>119</u> x <b>4</b> = <u>476</u> <b>UPL species</b> <u>26</u> x <b>5</b> = <u>130</u> <b>Column Totals:</b> <u>165</u> (A) <u>666</u> (B)  Prevalence Index = B/A = <u>4.036</u>
1. <i>Quercus rubra</i>	25	<input checked="" type="checkbox"/>	28.4%	FACU-	
2. <i>Pinus strobus</i>	33	<input checked="" type="checkbox"/>	37.5%	FACU	
3. <i>Betula papyrifera</i>	10	<input type="checkbox"/>	11.4%	FACU	
4. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/>	22.7%	FAC	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Fagus grandifolia</i>	40	<input checked="" type="checkbox"/>	80.0%	FACU	
2. <i>Picea rubens</i>	10	<input checked="" type="checkbox"/>	20.0%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Aralia nudicaulis</i>	1	<input type="checkbox"/>	3.7%	FACU	
2. <i>Medeola virginiana</i>	1	<input type="checkbox"/>	3.7%	UPL	
3. <i>Polygonatum pubescens</i>	25	<input checked="" type="checkbox"/>	92.6%	UPL	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN8 Upland



AN8 Wetland



AN8 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim State: NH Sampling Date: 11-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC Sampling Point: AN10 Wet  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): none Slope: 10.0 % / 5.7 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Small isolated PFO seep into skidder trail	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr> <td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>        </u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>        </u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: drainage patterns saturated to surface, 1" flowing water near seep																																

**VEGETATION - Use scientific names of plants**

Sampling Point: AN10 Wet

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)
1. <i>Betula alleghaniensis</i>	15	<input checked="" type="checkbox"/>	50.0%	FAC	
2. <i>Fraxinus pennsylvanica</i>	15	<input checked="" type="checkbox"/>	50.0%	FACW	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>		<b>30 = Total Cover</b>			<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 5      x 1 =      5 <b>FACW species</b> 88     x 2 =     176 <b>FAC species</b> 30     x 3 =     90 <b>FACU species</b> 50     x 4 =    200 <b>UPL species</b> 0      x 5 =      0 <b>Column Totals:</b> 173    (A)      471    (B)  Prevalence Index = B/A =      2.723
1. <i>Acer pensylvanicum</i>	50	<input checked="" type="checkbox"/>	76.9%	FACU	
2. <i>Betula alleghaniensis</i>	15	<input checked="" type="checkbox"/>	23.1%	FAC	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>		<b>65 = Total Cover</b>			<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input checked="" type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input checked="" type="checkbox"/> <b>Prevalence Index is ≤ 3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Osmunda cinnamomea</i>	33	<input checked="" type="checkbox"/>	42.3%	FACW	
2. <i>Impatiens capensis</i>	40	<input checked="" type="checkbox"/>	51.3%	FACW	
3. <i>Carex lurida</i>	5	<input type="checkbox"/>	6.4%	OBL	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>		<b>78 = Total Cover</b>			<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
		<b>0 = Total Cover</b>			<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 11-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN10 Upland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): none Slope: 15.0% / 8.5°  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification:         

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (Includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN10 Upland

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Tsuga canadensis</i>	40	<input checked="" type="checkbox"/>	42.1%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
2. <i>Betula papyrifera</i>	25	<input checked="" type="checkbox"/>	26.3%	FACU	
3. <i>Fraxinus pennsylvanica</i>	15	<input type="checkbox"/>	15.8%	FACW	
4. <i>Picea rubens</i>	15	<input type="checkbox"/>	15.8%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 15     x 2 =      30 <b>FAC species</b> 70     x 3 =     210 <b>FACU species</b> 155    x 4 =     620 <b>UPL species</b> 0      x 5 =      0 <b>Column Totals:</b> 240    (A)      860      (B)  Prevalence Index = B/A =      3.583
95 = Total Cover					
1. <i>Acer rubrum</i>	50	<input checked="" type="checkbox"/>	76.9%	FAC	
2. <i>Picea rubens</i>	15	<input checked="" type="checkbox"/>	23.1%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>					
65 = Total Cover					
1. <i>Trientalis borealis</i>	20	<input checked="" type="checkbox"/>	25.0%	FAC	
2. <i>Aralia nudicaulis</i>	50	<input checked="" type="checkbox"/>	62.5%	FACU	
3. <i>Dryopteris intermedia</i>	10	<input type="checkbox"/>	12.5%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					
80 = Total Cover					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN10 Upland



AN10 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 12-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN11 Wet  
**Investigator(s):** AF JG **Section, Township, Range: S. T. R.**  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** none **Slope:** 7.0 % / 4.0 °  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:** PSS

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes  No  (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?** **Are "Normal Circumstances" present?** Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?** (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> skiddered PSS below moose wallow	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	
<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN11 Wet

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____		<input type="checkbox"/> 0.0%		Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 25      x 1 =      25 <b>FACW species</b> 63      x 2 =      126 <b>FAC species</b> 5      x 3 =      15 <b>FACU species</b> 0      x 4 =      0 <b>UPL species</b> 0      x 5 =      0 <b>Column Totals:</b> 93      (A)      166      (B)  Prevalence Index = B/A =      1.785
1. <i>Spiraea tomentosa</i>	15	<input checked="" type="checkbox"/> 75.0%	FACW	
2. <i>Betula alleghaniensis</i>	5	<input checked="" type="checkbox"/> 25.0%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5')</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Onoclea sensibilis</i>	20	<input checked="" type="checkbox"/> 27.4%	FACW	
2. <i>Scirpus cyperinus</i>	20	<input checked="" type="checkbox"/> 27.4%	FACW+	
3. <i>Carex crinita</i>	25	<input checked="" type="checkbox"/> 34.2%	OBL	
4. <i>Osmunda cinnamomea</i>	5	<input type="checkbox"/> 6.8%	FACW	
5. <i>Calamagrostis canadensis</i>	3	<input type="checkbox"/> 4.1%	FACW+	
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: _____)</b>				<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				Hydrophytic Vegetation Present?      Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: AN11 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>					
0-6	10YR	3/2	100%						Loam	
6-7	2.5Y	4/1	100%						Fine Sandy Loam	
7-9	2.5Y	4/2	90%	10YR	4/6	10%	C		Fine Sandy Loam	
9+										rocky

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Linng. M=Matrix

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : <sup>3</sup>**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: rocks  
 Depth (inches): 9

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 12-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN11 Up  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): flat Slope: 20.0% / 11.3°  
 Subregion (LRR or MLRA): Lat.: Long.: Datum:  
 Soil Map Unit Name: NWI classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (Includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN11 Up

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Fagus grandifolia</i>	20	<input checked="" type="checkbox"/> 22.2%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>14.3%</u> (A/B)
2. <i>Acer saccharum</i>	60	<input checked="" type="checkbox"/> 66.7%	FACU-	
3. <i>Quercus rubra</i>	10	<input type="checkbox"/> 11.1%	FACU-	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 0      x 2 =      0 <b>FAC species</b> 18      x 3 =      54 <b>FACU species</b> 160      x 4 =      640 <b>UPL species</b> 10      x 5 =      50 <b>Column Totals:</b> 188 (A)      744 (B)  Prevalence Index = B/A =      3.957
1. <i>Quercus rubra</i>	20	<input checked="" type="checkbox"/> 23.5%	FACU-	
2. <i>Picea rubens</i>	20	<input checked="" type="checkbox"/> 23.5%	FACU	
3. <i>Betula alleghaniensis</i>	15	<input type="checkbox"/> 17.6%	FAC	
4. <i>Acer saccharum</i>	10	<input type="checkbox"/> 11.8%	FACU-	
5. <i>Ostrya virginiana</i>	20	<input checked="" type="checkbox"/> 23.5%	FACU-	
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5')</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Dennstaedtia punctilobula</i>	10	<input checked="" type="checkbox"/> 76.9%	UPL	
2. <i>Trientalis borealis</i>	3	<input checked="" type="checkbox"/> 23.1%	FAC	
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
11.	0	<input type="checkbox"/> 0.0%		
12.	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: )</b>				<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>     				

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN11 Upland



AN11 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 12-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an12 wetland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): flat Slope: 5.0 % / 2.9 °  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PSS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Skiddered PSS	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>3</u>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:  	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an12 wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				
Sapling/Shrub Stratum (Plot size: 15' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Spiraea alba</i>	25	<input checked="" type="checkbox"/>	33.3%	FACW+
2. <i>Spiraea tomentosa</i>	50	<input checked="" type="checkbox"/>	66.7%	FACW
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>75 = Total Cover</b>				
Herb Stratum (Plot size: 5' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Carex crinita</i>	15	<input checked="" type="checkbox"/>	23.1%	OBL
2. <i>Onoclea sensibilis</i>	25	<input checked="" type="checkbox"/>	38.5%	FACW
3. <i>Scirpus cyperinus</i>	5	<input type="checkbox"/>	7.7%	FACW+
4. <i>Rubus hispidus</i>	20	<input checked="" type="checkbox"/>	30.8%	FACW
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
11. _____	0	<input type="checkbox"/>	0.0%	
12. _____	0	<input type="checkbox"/>	0.0%	
<b>65 = Total Cover</b>				
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

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**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:	
<b>OBL species</b> <u>15</u>	x 1 =	<u>15</u>
<b>FACW species</b> <u>125</u>	x 2 =	<u>250</u>
<b>FAC species</b> <u>0</u>	x 3 =	<u>0</u>
<b>FACU species</b> <u>0</u>	x 4 =	<u>0</u>
<b>UPL species</b> <u>0</u>	x 5 =	<u>0</u>
<b>Column Totals:</b> <u>140</u> (A)		<u>265</u> (B)

Prevalence Index = B/A = 1.893

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**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 12-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** an12 upland  
**Investigator(s):** AF JG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** flat **Slope:** 5.0% / 2.9°  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> recently cut	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an12 upland

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Quercus rubra</i>	15	<input checked="" type="checkbox"/> 60.0%	FACU-
2. <i>Tsuga canadensis</i>	10	<input checked="" type="checkbox"/> 40.0%	FACU
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
<b>Sapling/Shrub Stratum (Plot size: 15')</b>			
1. <i>Acer pensylvanicum</i>	20	<input checked="" type="checkbox"/> 44.4%	FACU
2. <i>Betula alleghaniensis</i>	10	<input checked="" type="checkbox"/> 22.2%	FAC
3. <i>Acer saccharum</i>	15	<input checked="" type="checkbox"/> 33.3%	FACU-
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
<b>Herb Stratum (Plot size: 5')</b>			
1. <i>Dennstaedtia punctilobula</i>	90	<input checked="" type="checkbox"/> 76.3%	UPL
2. <i>Solidago canadensis</i>	10	<input type="checkbox"/> 8.5%	FACU
3. <i>Rubus alumnus</i>	10	<input type="checkbox"/> 8.5%	FACU-
4. <i>Dryopteris intermedia</i>	5	<input type="checkbox"/> 4.2%	FACU
5. <i>Aralia nudicaulis</i>	3	<input type="checkbox"/> 2.5%	FACU
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
<b>Woody Vine Stratum (Plot size: )</b>			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
<b>0 = Total Cover</b>			

Dominance Test worksheet:			
Number of Dominant Species That are OBL, FACW, or FAC:	1	(A)	
Total Number of Dominant Species Across All Strata:	6	(B)	
Percent of dominant Species That Are OBL, FACW, or FAC:	16.7%	(A/B)	

Prevalence Index worksheet:			
Total % Cover of:	Multiply by:		
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	88	x 4 =	352
UPL species	90	x 5 =	450
<b>Column Totals:</b>	<b>188 (A)</b>		<b>832 (B)</b>
Prevalence Index = B/A =		4.426	

Hydrophytic Vegetation Indicators:	
<input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation
<input type="checkbox"/>	Dominance Test is > 50%
<input type="checkbox"/>	Prevalence Index is ≤ 3.0 <sup>1</sup>
<input type="checkbox"/>	Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
<input type="checkbox"/>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:	
Tree -	Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub -	Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Herb -	All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vine -	All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN12 Upland



AN12 Wetland



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 12-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** an13 wetland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Foothlope      **Local relief (concave, convex, none):** flat      **Slope:** 3.0% / 1.7°  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:** PSS

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Isolated lay down yard wetland adjacent to ATV trail	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)      Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>3</u>	
<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an13 wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				
Sapling/Shrub Stratum (Plot size: 15' )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Spiraea tomentosa</i>	66	<input checked="" type="checkbox"/>	72.5%	FACW
2. <i>Acer rubrum</i>	10	<input type="checkbox"/>	11.0%	FAC
3. <i>Spiraea alba</i>	15	<input type="checkbox"/>	16.5%	FACW+
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>91 = Total Cover</b>				
Herb Stratum (Plot size: 5' )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Carex lurida</i>	8	<input type="checkbox"/>	10.1%	OBL
2. <i>Onoclea sensibilis</i>	5	<input type="checkbox"/>	6.3%	FACW
3. <i>Eupatorium perfoliatum</i>	3	<input type="checkbox"/>	3.8%	FACW+
4. <i>Rubus hispidus</i>	15	<input type="checkbox"/>	19.0%	FACW
5. <i>Carex crinita</i>	25	<input checked="" type="checkbox"/>	31.6%	OBL
6. <i>Scirpus cyperinus</i>	3	<input type="checkbox"/>	3.8%	FACW+
7. <i>Carex trisperma</i>	20	<input checked="" type="checkbox"/>	25.3%	OBL
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
11. _____	0	<input type="checkbox"/>	0.0%	
12. _____	0	<input type="checkbox"/>	0.0%	
<b>79 = Total Cover</b>				
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:	
<b>OBL species</b>	53	<b>x 1 =</b>	53
<b>FACW species</b>	107	<b>x 2 =</b>	214
<b>FAC species</b>	10	<b>x 3 =</b>	30
<b>FACU species</b>	0	<b>x 4 =</b>	0
<b>UPL species</b>	0	<b>x 5 =</b>	0
<b>Column Totals:</b>	<u>170</u> (A)		<u>297</u> (B)
Prevalence Index = B/A =			1.747

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 12-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an13 upland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): flat Slope: 4.0 % / 2.3 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification:         

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	







AN13 Upland



AN13 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 16-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an14 wetland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): flat Slope: 10.0 % / 5.7 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PSS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  , Soil  , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  , Soil  , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PSS within skidder trail	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: sphagnum 25% cover																																



**VEGETATION - Use scientific names of plants**

Sampling Point: an14 wetland

<b>Tree Stratum</b> (Plot size: _____ )	<b>Absolute % Cover</b>	<b>Dominant Species?</b>	<b>Rel.Strat. Cover</b>	<b>Indicator Status</b>	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
	0	<b>= Total Cover</b>			
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Spiraea tomentosa</i>	20	<input checked="" type="checkbox"/>	57.1%	FACW	
2. <i>Acer rubrum</i>	10	<input checked="" type="checkbox"/>	28.6%	FAC	
3. <i>Fraxinus pennsylvanica</i>	5	<input type="checkbox"/>	14.3%	FACW	
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
	35	<b>= Total Cover</b>			
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Onoclea sensibilis</i>	40	<input checked="" type="checkbox"/>	46.5%	FACW	
2. <i>Osmunda cinnamomea</i>	10	<input type="checkbox"/>	11.6%	FACW	
3. <i>Eupatoriadelphus maculatus</i>	8	<input type="checkbox"/>	9.3%	FACW	
4. <i>Scirpus cyperinus</i>	5	<input type="checkbox"/>	5.8%	FACW+	
5. <i>Carex lurida</i>	15	<input checked="" type="checkbox"/>	17.4%	OBL	
6. <i>Rubus idaeus</i>	8	<input type="checkbox"/>	9.3%	FAC-	
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
	86	<b>= Total Cover</b>			
<b>Woody Vine Stratum</b> (Plot size: _____ )					
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
	0	<b>= Total Cover</b>			

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

	<b>Total % Cover of:</b>	<b>Multiply by:</b>	
<b>OBL species</b>	<u>15</u>	<b>x 1 =</b>	<u>15</u>
<b>FACW species</b>	<u>88</u>	<b>x 2 =</b>	<u>176</u>
<b>FAC species</b>	<u>18</u>	<b>x 3 =</b>	<u>54</u>
<b>FACU species</b>	<u>0</u>	<b>x 4 =</b>	<u>0</u>
<b>UPL species</b>	<u>0</u>	<b>x 5 =</b>	<u>0</u>
<b>Column Totals:</b>	<u>121</u> (A)		<u>245</u> (B)

Prevalence Index = B/A = 2.025

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 16-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN14 Upland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Hillside      **Local relief (concave, convex, none):** flat      **Slope:** 10.0 % / 5.7 °  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> logged upland	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (includes capillary fringe)	
<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN14 Upland

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Picea rubens</i>	20	<input checked="" type="checkbox"/> 50.0%	FACU
2. <i>Populus tremula</i>	20	<input checked="" type="checkbox"/> 50.0%	FACU
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
<b>40 = Total Cover</b>			
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Acer pensylvanicum</i>	40	<input checked="" type="checkbox"/> 83.3%	FACU
2. <i>Acer saccharum</i>	8	<input type="checkbox"/> 16.7%	FACU-
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
<b>48 = Total Cover</b>			
Herb Stratum (Plot size: 5')	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Thelypteris noveboracensis</i>	25	<input checked="" type="checkbox"/> 71.4%	FAC
2. <i>Aralia nudicaulis</i>	5	<input type="checkbox"/> 14.3%	FACU
3. <i>Trientalis borealis</i>	5	<input type="checkbox"/> 14.3%	FAC
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
<b>35 = Total Cover</b>			
Woody Vine Stratum (Plot size: )	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
<b>0 = Total Cover</b>			

<b>Dominance Test worksheet:</b>			
Number of Dominant Species That are OBL, FACW, or FAC:	1	(A)	
Total Number of Dominant Species Across All Strata:	4	(B)	
Percent of dominant Species That Are OBL, FACW, or FAC:	25.0%	(A/B)	
<b>Prevalence Index worksheet:</b>			
Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	93	x 4 =	372
UPL species	0	x 5 =	0
<b>Column Totals:</b>	<b>123</b>	<b>(A)</b>	<b>462</b> <b>(B)</b>
Prevalence Index = B/A =		3.756	
<b>Hydrophytic Vegetation Indicators:</b>			
<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation			
<input type="checkbox"/> Dominance Test is > 50%			
<input type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup>			
<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
<b>Definitions of Vegetation Strata:</b>			
Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.			
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
Woody vine - All woody vines greater than 3.28 ft in height.			
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>			

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN14 Wetland



AN14 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 16-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** an15 wetland  
**Investigator(s):** AFJG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** concave **Slope:** 8.0% / 4.6°  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:** PSS

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes  No  (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?** **Are "Normal Circumstances" present?** Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?** (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Isolated PSS within skidder trail	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>5</u> Saturation Present? (Includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	
<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Sampling Point: an15 wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				
<b>Sapling/Shrub Stratum (Plot size: 15' _____ )</b>				
1. <i>Spiraea tomentosa</i>	66	<input checked="" type="checkbox"/> 81.5%	FACW	
2. <i>Acer rubrum</i>	10	<input type="checkbox"/> 12.3%	FAC	
3. <i>Fraxinus pennsylvanica</i>	5	<input type="checkbox"/> 6.2%	FACW	
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>81 = Total Cover</b>				
<b>Herb Stratum (Plot size: 5' _____ )</b>				
1. <i>Carex lurida</i>	20	<input checked="" type="checkbox"/> 32.8%	OBL	
2. <i>Eupatoriadelphus dubius</i>	5	<input type="checkbox"/> 8.2%	FACW	
3. <i>Scirpus cyperinus</i>	3	<input type="checkbox"/> 4.9%	FACW+	
4. <i>Onoclea sensibilis</i>	25	<input checked="" type="checkbox"/> 41.0%	FACW	
5. <i>Carex crinita</i>	8	<input type="checkbox"/> 13.1%	OBL	
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
<b>61 = Total Cover</b>				
<b>Woody Vine Stratum (Plot size: _____ )</b>				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:		
<b>OBL species</b>	<u>28</u>	<b>x 1 =</b>	<u>28</u>	
<b>FACW species</b>	<u>104</u>	<b>x 2 =</b>	<u>208</u>	
<b>FAC species</b>	<u>10</u>	<b>x 3 =</b>	<u>30</u>	
<b>FACU species</b>	<u>0</u>	<b>x 4 =</b>	<u>0</u>	
<b>UPL species</b>	<u>0</u>	<b>x 5 =</b>	<u>0</u>	
<b>Column Totals:</b>	<u>142</u> (A)		<u>266</u> (B)	

Prevalence Index = B/A = 1.873

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

**Remarks: (Include photo numbers here or on a separate sheet.)**

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 16-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** an15 upland  
**Investigator(s):** AF JG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** flat **Slope:** 8.0 % / 4.6 °  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  , Soil  , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  , Soil  , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an15 upland

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Fagus grandifolia</i>	25	<input checked="" type="checkbox"/> 41.7%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)
2. <i>Fraxinus americana</i>	25	<input checked="" type="checkbox"/> 41.7%	FACU	
3. <i>Betula alleghaniensis</i>	10	<input type="checkbox"/> 16.7%	FAC	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>60 = Total Cover</b>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x 1 = <u>0</u> <b>FACW species</b> <u>0</u> x 2 = <u>0</u> <b>FAC species</b> <u>15</u> x 3 = <u>45</u> <b>FACU species</b> <u>112</u> x 4 = <u>448</u> <b>UPL species</b> <u>1</u> x 5 = <u>5</u> <b>Column Totals:</b> <u>128</u> (A) <u>498</u> (B)  Prevalence Index = B/A = <u>3.891</u>
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				
1. <i>Acer pensylvanicum</i>	50	<input checked="" type="checkbox"/> 83.3%	FACU	
2. <i>Fagus grandifolia</i>	5	<input type="checkbox"/> 8.3%	FACU	
3. <i>Picea rubens</i>	5	<input type="checkbox"/> 8.3%	FACU	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>60 = Total Cover</b>				
<b>Herb Stratum (Plot size: 5')</b>				
1. <i>Fraxinus americana</i>	1	<input type="checkbox"/> 12.5%	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Acer saccharum</i>	1	<input type="checkbox"/> 12.5%	FACU-	
3. <i>Maianthemum canadense</i>	5	<input checked="" type="checkbox"/> 62.5%	FAC-	
4. <i>Polygonatum pubescens</i>	1	<input type="checkbox"/> 12.5%	UPL	
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
11.	0	<input type="checkbox"/> 0.0%		
12.	0	<input type="checkbox"/> 0.0%		
<b>8 = Total Cover</b>				
<b>Woody Vine Stratum (Plot size: )</b>				
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				
<b>Definitions of Vegetation Strata:</b>				
Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>				

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN15 Wetland



AN15 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 16-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** an16 wetland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      **T.**      **R.**  
**Landform (hillslope, terrace, etc.):** Terrace      **Local relief (concave, convex, none):** flat      **Slope:** 0.0% / 0.0°  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:** PEM

**Are climatic/hydrologic conditions on the site typical for this time of year?**    Yes  No     (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**    **Are "Normal Circumstances" present?**    Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**    (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Very small PEM wetland within wetland disturbance. Upslope of a small spring feature.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)	
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0 Saturation Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0 (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an16 wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/> 0.0%		<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15' )</b>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>55</u> x 1 = <u>55</u> <b>FACW species</b> <u>58</u> x 2 = <u>116</u> <b>FAC species</b> <u>0</u> x 3 = <u>0</u> <b>FACU species</b> <u>0</u> x 4 = <u>0</u> <b>UPL species</b> <u>0</u> x 5 = <u>0</u> <b>Column Totals:</b> <u>113</u> (A) <u>171</u> (B)  Prevalence Index = B/A = <u>1.513</u>
= Total Cover				
1. <i>Spiraea alba</i>	15	<input checked="" type="checkbox"/> 50.0%	FACW+	
2. <i>Spiraea tomentosa</i>	15	<input checked="" type="checkbox"/> 50.0%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5' )</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
= Total Cover				
1. <i>Carex crinita</i>	50	<input checked="" type="checkbox"/> 60.2%	OBL	
2. <i>Scirpus cyperinus</i>	5	<input type="checkbox"/> 6.0%	FACW+	
3. <i>Scirpus atrovirens</i>	5	<input type="checkbox"/> 6.0%	OBL	
4. <i>Onoclea sensibilis</i>	20	<input checked="" type="checkbox"/> 24.1%	FACW	
5. <i>Impatiens capensis</i>	3	<input type="checkbox"/> 3.6%	FACW	
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: _____ )</b>				<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
= Total Cover				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
= Total Cover				Hydrophytic Vegetation Present?      Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 16-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** **Sampling Point:** an16 upland  
**Investigator(s):** AF JG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** flat **Slope:** 10.0% / 5.7°  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  , Soil  , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  , Soil  , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an16 upland

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <i>Fagus grandifolia</i>	20	<input checked="" type="checkbox"/> 66.7%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. <i>Betula papyrifera</i>	10	<input checked="" type="checkbox"/> 33.3%	FACU	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3.	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				<b>Prevalence Index worksheet:</b>
				Total % Cover of:      Multiply by:
1. <i>Pinus strobus</i>	10	<input type="checkbox"/> 19.6%	FACU	<b>OBL species</b> <u>0</u> x 1 = <u>0</u>
2. <i>Fagus grandifolia</i>	33	<input checked="" type="checkbox"/> 64.7%	FACU	<b>FACW species</b> <u>0</u> x 2 = <u>0</u>
3. <i>Viburnum lentago</i>	5	<input type="checkbox"/> 9.8%	FAC	<b>FAC species</b> <u>5</u> x 3 = <u>15</u>
4. <i>Picea rubens</i>	3	<input type="checkbox"/> 5.9%	FACU	<b>FACU species</b> <u>106</u> x 4 = <u>424</u>
5.	0	<input type="checkbox"/> 0.0%		<b>UPL species</b> <u>80</u> x 5 = <u>400</u>
6.	0	<input type="checkbox"/> 0.0%		<b>Column Totals:</b> <u>191</u> (A) <u>839</u> (B)
7.	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>4.393</u>
<b>Herb Stratum (Plot size: 5')</b>				<b>Hydrophytic Vegetation Indicators:</b>
1. <i>Rubus alumnus</i>	10	<input type="checkbox"/> 9.1%	FACU-	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
2. <i>Dennstaedtia punctilobula</i>	80	<input checked="" type="checkbox"/> 72.7%	UPL	<input type="checkbox"/> Dominance Test is > 50%
3. <i>Acer saccharum</i>	5	<input type="checkbox"/> 4.5%	FACU-	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
4. <i>Solidago canadensis</i>	15	<input type="checkbox"/> 13.6%	FACU	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
11.	0	<input type="checkbox"/> 0.0%		
12.	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: )</b>				<b>Definitions of Vegetation Strata:</b>
1.	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2.	0	<input type="checkbox"/> 0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.
3.	0	<input type="checkbox"/> 0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
4.	0	<input type="checkbox"/> 0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
0 = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

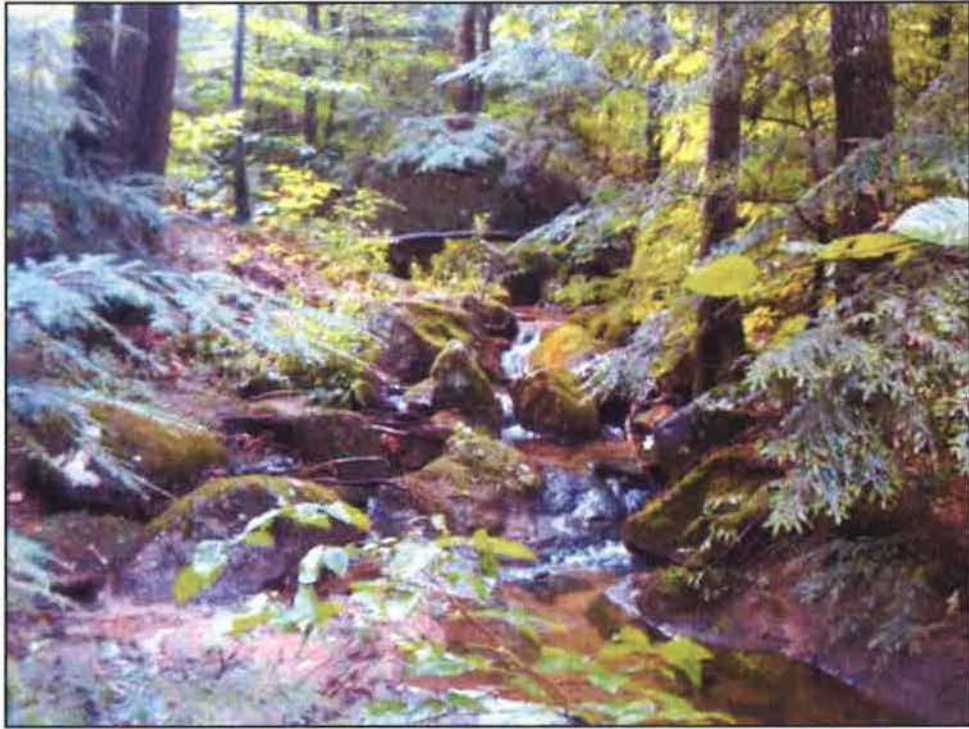




AN16 Wetland



AN16 Wetland



AN17 Stream (associated with AN18 Wetland)

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 16-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an18a wetland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Gulch or Gully Local relief (concave, convex, none): concave Slope: 12.0 % / 6.8 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PSS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PSS wetland entirely within ROW associated with stream AN17. Stream flowing with 4-6 inches of water.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>        </u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>7</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																																
Remarks:  																																

**VEGETATION - Use scientific names of plants**

Sampling Point: an18a wetland

<b>Tree Stratum</b> (Plot size: _____ )	<b>Absolute % Cover</b>	<b>Dominant Species?</b>	<b>Rel.Strat. Cover</b>	<b>Indicator Status</b>	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
	<b>0 = Total Cover</b>				
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Salix nigra</i>	10	<input checked="" type="checkbox"/>	76.9%	FACW+	
2. <i>Fraxinus pennsylvanica</i>	0	<input type="checkbox"/>	0.0%	FACW	
3. <i>Cornus stolonifera</i>	3	<input checked="" type="checkbox"/>	23.1%	FACW+	
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
	<b>13 = Total Cover</b>				
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Eupatoriadelphus dubius</i>	0	<input type="checkbox"/>	0.0%	FACW	
2. <i>Onoclea sensibilis</i>	33	<input checked="" type="checkbox"/>	38.4%	FACW	
3. <i>Scirpus cyperinus</i>	8	<input type="checkbox"/>	9.3%	FACW+	
4. <i>Carex crinita</i>	10	<input type="checkbox"/>	11.6%	OBL	
5. <i>Osmunda cinnamomea</i>	25	<input checked="" type="checkbox"/>	29.1%	FACW	
6. <i>Carex lurida</i>	10	<input type="checkbox"/>	11.6%	OBL	
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
	<b>86 = Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: _____ )					
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
	<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:		Multiply by:	
<b>OBL species</b>	20	<b>x 1 =</b>	20	
<b>FACW species</b>	79	<b>x 2 =</b>	158	
<b>FAC species</b>	0	<b>x 3 =</b>	0	
<b>FACU species</b>	0	<b>x 4 =</b>	0	
<b>UPL species</b>	0	<b>x 5 =</b>	0	
<b>Column Totals:</b>	<b>99</b> (A)		<b>178</b> (B)	

Prevalence Index = B/A = 1.798

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

**Remarks: (Include photo numbers here or on a separate sheet.)**

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 16-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an18a upland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 20.0% / 11.3°  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification:         

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Maintained ROW	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Sampling Point: an18a upland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. _____	0	<input type="checkbox"/> 0.0%		Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)
2. _____	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata:	2 (B)
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:	50.0% (A/B)
4. _____	0	<input type="checkbox"/> 0.0%		<b>Prevalence Index worksheet:</b>	
5. _____	0	<input type="checkbox"/> 0.0%		Total % Cover of:	Multiply by:
6. _____	0	<input type="checkbox"/> 0.0%		<b>OBL species</b> 0	x 1 = 0
7. _____	0	<input type="checkbox"/> 0.0%		<b>FACW species</b> 50	x 2 = 100
<b>Sapling/Shrub Stratum (Plot size: _____ )</b>				<b>FAC species</b> 0	x 3 = 0
1. _____	0	<input type="checkbox"/> 0.0%		<b>FACU species</b> 8	x 4 = 32
2. _____	0	<input type="checkbox"/> 0.0%		<b>UPL species</b> 50	x 5 = 250
3. _____	0	<input type="checkbox"/> 0.0%		<b>Column Totals:</b> 108 (A)	382 (B)
4. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = 3.537	
5. _____	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Indicators:</b>	
6. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
7. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Dominance Test is > 50%	
8. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup>	
9. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
10. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
11. _____	0	<input type="checkbox"/> 0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
12. _____	0	<input type="checkbox"/> 0.0%		<b>Definitions of Vegetation Strata:</b>	
<b>Herb Stratum (Plot size: 5' _____ )</b>				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1. Phalaris arundinacea	50	<input checked="" type="checkbox"/> 46.3%	FACW+	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..	
2. Dennstaedtia punctilobula	50	<input checked="" type="checkbox"/> 46.3%	UPL	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3. Solidago canadensis	8	<input type="checkbox"/> 7.4%	FACU	Woody vine - All woody vines greater than 3.28 ft in height.	
4. _____	0	<input type="checkbox"/> 0.0%			
5. _____	0	<input type="checkbox"/> 0.0%			
6. _____	0	<input type="checkbox"/> 0.0%			
7. _____	0	<input type="checkbox"/> 0.0%			
8. _____	0	<input type="checkbox"/> 0.0%			
9. _____	0	<input type="checkbox"/> 0.0%			
10. _____	0	<input type="checkbox"/> 0.0%			
11. _____	0	<input type="checkbox"/> 0.0%			
12. _____	0	<input type="checkbox"/> 0.0%			
<b>Woody Vine Stratum (Plot size: _____ )</b>					
1. _____	0	<input type="checkbox"/> 0.0%			
2. _____	0	<input type="checkbox"/> 0.0%			
3. _____	0	<input type="checkbox"/> 0.0%			
4. _____	0	<input type="checkbox"/> 0.0%			
				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>					

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN18a Wetland



AN18a Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an18b wetland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): undulating Slope: 0.0% / 0.0°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PSS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PSS wetland within skidder trail crossing stream AN17. Courdory matting over stream	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr> <td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Sampling Point: an18b wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				
Sapling/Shrub Stratum (Plot size: 15' _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. <i>Spiraea tomentosa</i>	33	<input checked="" type="checkbox"/> 68.8%	FACW	
2. <i>Fraxinus pennsylvanica</i>	15	<input checked="" type="checkbox"/> 31.3%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>48 = Total Cover</b>				
Herb Stratum (Plot size: 5' _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. <i>Onoclea sensibilis</i>	20	<input type="checkbox"/> 14.8%	FACW	
2. <i>Osmunda cinnamomea</i>	5	<input type="checkbox"/> 3.7%	FACW	
3. <i>Carex trisperma</i>	15	<input type="checkbox"/> 11.1%	OBL	
4. <i>Carex lurida</i>	20	<input type="checkbox"/> 14.8%	OBL	
5. <i>Rubus hispidus</i>	50	<input checked="" type="checkbox"/> 37.0%	FACW	
6. <i>Aster umbellatus</i>	25	<input checked="" type="checkbox"/> 18.5%	FACW	
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
<b>135 = Total Cover</b>				
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:		
<b>OBL species</b>	<u>35</u>	<b>x 1 =</b>	<u>35</u>	
<b>FACW species</b>	<u>148</u>	<b>x 2 =</b>	<u>296</u>	
<b>FAC species</b>	<u>0</u>	<b>x 3 =</b>	<u>0</u>	
<b>FACU species</b>	<u>0</u>	<b>x 4 =</b>	<u>0</u>	
<b>UPL species</b>	<u>0</u>	<b>x 5 =</b>	<u>0</u>	
<b>Column Totals:</b>	<u>183</u> (A)		<u>331</u> (B)	
Prevalence Index = B/A =		<u>1.809</u>		

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

**Remarks: (Include photo numbers here or on a separate sheet.)**

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 17-Aug-11  
 Applicant/Owner: Eollan Renewable Energy, LLC State: NH Sampling Point: an18b upland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): undulating Slope: 3.0 % / 1.7 °  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ <span style="float: right;">Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/></span>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																																
Remarks:   																																



**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an18b upland

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Fagus grandifolia</i>	25	<input checked="" type="checkbox"/>	41.7%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
2. <i>Tsuga canadensis</i>	25	<input checked="" type="checkbox"/>	41.7%	FACU	
3. <i>Abies balsamea</i>	10	<input type="checkbox"/>	16.7%	FAC	
4. <i>Quercus rubra</i>	0	<input type="checkbox"/>	0.0%	FACU-	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>60 = Total Cover</b>					
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Betula alleghaniensis</i>	25	<input checked="" type="checkbox"/>	45.5%	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x 1 = <u>0</u> <b>FACW species</b> <u>0</u> x 2 = <u>0</u> <b>FAC species</b> <u>95</u> x 3 = <u>285</u> <b>FACU species</b> <u>113</u> x 4 = <u>452</u> <b>UPL species</b> <u>5</u> x 5 = <u>25</u> <b>Column Totals:</b> <u>213</u> (A) <u>762</u> (B)  Prevalence Index = B/A = <u>3.577</u>
2. <i>Acer saccharum</i>	25	<input checked="" type="checkbox"/>	45.5%	FACU-	
3. <i>Pinus strobus</i>	5	<input type="checkbox"/>	9.1%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>55 = Total Cover</b>					
Herb Stratum (Plot size: 5')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Aralia nudicaulis</i>	33	<input checked="" type="checkbox"/>	33.7%	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Thelypteris noveboracensis</i>	60	<input checked="" type="checkbox"/>	61.2%	FAC	
3. <i>Polygonatum pubescens</i>	5	<input type="checkbox"/>	5.1%	UPL	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>98 = Total Cover</b>					
Woody Vine Stratum (Plot size: )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1.	0	<input type="checkbox"/>	0.0%		<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic Vegetation Present?      Yes       No

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN18b Upland



AN18b Wetland



AN18 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim State: NH Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC Sampling Point: AN18c wetland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): undulating Slope: 10.0% / 5.7°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PSS/PEM

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated skidder disturbed wetland adjacent to Stream AN17. Boulders throughout wetland.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN18c wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				
Sapling/Shrub Stratum (Plot size: 15' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Acer rubrum</i>	5	<input checked="" type="checkbox"/> 50.0%	FAC	
2. <i>Fraxinus pennsylvanica</i>	5	<input checked="" type="checkbox"/> 50.0%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>10 = Total Cover</b>				
Herb Stratum (Plot size: 5' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Carex crinita</i>	25	<input checked="" type="checkbox"/> 28.1%	OBL	
2. <i>Phalaris arundinacea</i>	33	<input checked="" type="checkbox"/> 37.1%	FACW+	
3. <i>Onoclea sensibilis</i>	15	<input type="checkbox"/> 16.9%	FACW	
4. <i>Carex lurida</i>	8	<input type="checkbox"/> 9.0%	OBL	
5. <i>Scirpus cyperinus</i>	5	<input type="checkbox"/> 5.6%	FACW+	
6. <i>Carex trisperma</i>	3	<input type="checkbox"/> 3.4%	OBL	
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
<b>89 = Total Cover</b>				
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
<b>OBL species</b> <u>36</u>	<b>x 1 =</b> <u>36</u>
<b>FACW species</b> <u>58</u>	<b>x 2 =</b> <u>116</u>
<b>FAC species</b> <u>5</u>	<b>x 3 =</b> <u>15</u>
<b>FACU species</b> <u>0</u>	<b>x 4 =</b> <u>0</u>
<b>UPL species</b> <u>0</u>	<b>x 5 =</b> <u>0</u>
<b>Column Totals:</b> <u>99</u> (A)	<u>167</u> (B)

Prevalence Index = B/A = 1.687

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 17-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN18c upland  
**Investigator(s):** AF JG **Section, Township, Range: S. T. R.**  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** convex **Slope:** 5.0% / 2.9°  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> logged upland	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (Includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**

Sampling Point: AN18c upland

<b>Tree Stratum</b> (Plot size: 30' )					
1. <i>Acer rubrum</i>	15	<input checked="" type="checkbox"/>	33.3%	FAC	
2. <i>Betula alleghaniensis</i>	10	<input checked="" type="checkbox"/>	22.2%	FAC	
3. <i>Picea rubens</i>	10	<input checked="" type="checkbox"/>	22.2%	FACU	
4. <i>Tsuga canadensis</i>	10	<input checked="" type="checkbox"/>	22.2%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
		<b>45 = Total Cover</b>			
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Acer pensylvanicum</i>	20	<input checked="" type="checkbox"/>	44.4%	FACU	
2. <i>Quercus rubra</i>	10	<input checked="" type="checkbox"/>	22.2%	FACU-	
3. <i>Fagus grandifolia</i>	5	<input type="checkbox"/>	11.1%	FACU	
4. <i>Betula papyrifera</i>	10	<input checked="" type="checkbox"/>	22.2%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
		<b>45 = Total Cover</b>			
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Dennstaedtia punctilobula</i>	50	<input checked="" type="checkbox"/>	79.4%	UPL	
2. <i>Solidago canadensis</i>	8	<input type="checkbox"/>	12.7%	FACU	
3. <i>Rubus alumnus</i>	5	<input type="checkbox"/>	7.9%	FACU-	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
		<b>63 = Total Cover</b>			
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
		<b>0 = Total Cover</b>			

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
<b>OBL species</b> <u>0</u>	<b>x 1 =</b> <u>0</u>
<b>FACW species</b> <u>0</u>	<b>x 2 =</b> <u>0</u>
<b>FAC species</b> <u>25</u>	<b>x 3 =</b> <u>75</u>
<b>FACU species</b> <u>78</u>	<b>x 4 =</b> <u>312</u>
<b>UPL species</b> <u>50</u>	<b>x 5 =</b> <u>250</u>
<b>Column Totals:</b> <u>153</u> (A)	<u>637</u> (B)

Prevalence Index = B/A = 4.163

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN18c Wetland



AN18c Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN18d wetland  
 Investigator(s): AF JG Section, Township, Range: S.      T.      R.       
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): concave Slope: 5.0% / 2.9°  
 Subregion (LRR or MLRA):      Lat.:      Long.:      Datum:       
 Soil Map Unit Name:      NWI classification:     

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PSS associated with Stream AN17	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:  	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN18d wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				
Sapling/Shrub Stratum (Plot size: 15' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Fraxinus pennsylvanica</i>	15	<input checked="" type="checkbox"/>	60.0%	FACW
2. <i>Betula alleghaniensis</i>	10	<input checked="" type="checkbox"/>	40.0%	FAC
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>25 = Total Cover</b>				
Herb Stratum (Plot size: 5' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Onoclea sensibilis</i>	80	<input checked="" type="checkbox"/>	81.6%	FACW
2. <i>Eupatoriadelphus dubius</i>	5	<input type="checkbox"/>	5.1%	FACW
3. <i>Fraxinus pennsylvanica</i>	3	<input type="checkbox"/>	3.1%	FACW
4. <i>Osmunda cinnamomea</i>	10	<input type="checkbox"/>	10.2%	FACW
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
11. _____	0	<input type="checkbox"/>	0.0%	
12. _____	0	<input type="checkbox"/>	0.0%	
<b>98 = Total Cover</b>				
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:
<b>OBL species</b>	<u>0</u>	x 1 = <u>0</u>
<b>FACW species</b>	<u>113</u>	x 2 = <u>226</u>
<b>FAC species</b>	<u>10</u>	x 3 = <u>30</u>
<b>FACU species</b>	<u>0</u>	x 4 = <u>0</u>
<b>UPL species</b>	<u>0</u>	x 5 = <u>0</u>
<b>Column Totals:</b>	<u>123</u> (A)	<u>256</u> (B)

Prevalence Index = B/A = 2.081

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 17-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** an18d upland  
**Investigator(s):** AFJG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Hillside      **Local relief (concave, convex, none):** convex      **Slope:** 8.0% / 4.6°  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> logged upland	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (Includes capillary fringe)	
<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION - Use scientific names of plants**

Sampling Point: an18d upland

<b>Tree Stratum</b> (Plot size: 30' )					<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. <i>Tsuga canadensis</i>	33	<input checked="" type="checkbox"/>	43.4%	FACU	
2. <i>Populus tremula</i>	10	<input type="checkbox"/>	13.2%	FACU	
3. <i>Fraxinus pennsylvanica</i>	33	<input checked="" type="checkbox"/>	43.4%	FACW	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>76 = Total Cover</b>					
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Acer rubrum</i>	25	<input checked="" type="checkbox"/>	33.3%	FAC	
2. <i>Fagus grandifolia</i>	15	<input checked="" type="checkbox"/>	20.0%	FACU	
3. <i>Pinus strobus</i>	25	<input checked="" type="checkbox"/>	33.3%	FACU	
4. <i>Betula papyrifera</i>	10	<input type="checkbox"/>	13.3%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>75 = Total Cover</b>					
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Solidago canadensis</i>	8	<input type="checkbox"/>	18.6%	FACU	
2. <i>Rubus alumnus</i>	5	<input type="checkbox"/>	11.6%	FACU-	
3. <i>Dennstaedtia punctilobula</i>	25	<input checked="" type="checkbox"/>	58.1%	UPL	
4. <i>Trientalis borealis</i>	5	<input type="checkbox"/>	11.6%	FAC	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>43 = Total Cover</b>					
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)					
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN18d Upland



AN18d Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim State: NH Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC Sampling Point: **AN18e Wetland**  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): concave Slope: 10.0% / 5.7°  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PFO adjacent to Stream AN17.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
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<input type="checkbox"/> Moss Trim Lines (B16)																																
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<input type="checkbox"/> Crayfish Burrows (C8)																																
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<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>        </u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>        </u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN18e Wetland

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Fraxinus pennsylvanica</i>	15	<input checked="" type="checkbox"/>	30.0%	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/>	40.0%	FAC	
3. <i>Betula alleghaniensis</i>	15	<input checked="" type="checkbox"/>	30.0%	FAC	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 136    x 2 =    272 <b>FAC species</b> 85      x 3 =    255 <b>FACU species</b> 0        x 4 =    0 <b>UPL species</b> 0        x 5 =    0 <b>Column Totals:</b> 221    (A)      527    (B)  Prevalence Index = B/A =      2.385
1. <i>Betula alleghaniensis</i>	50	<input checked="" type="checkbox"/>	100.0%	FAC	
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>					<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Osmunda cinnamomea</i>	33	<input checked="" type="checkbox"/>	27.3%	FACW	
2. <i>Onoclea sensibilis</i>	33	<input checked="" type="checkbox"/>	27.3%	FACW	
3. <i>Eupatoriadelphus dubius</i>	20	<input type="checkbox"/>	16.5%	FACW	
4. <i>Impatiens capensis</i>	20	<input type="checkbox"/>	16.5%	FACW	
5. <i>Coptis trifolia</i>	15	<input type="checkbox"/>	12.4%	FACW	
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					Hydrophytic Vegetation Present?    Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN18e upland  
 Investigator(s): AF JG Section, Township, Range: S.      T.      R.       
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 15.0% / 8.5°  
 Subregion (LRR or MLRA):      Lat.:      Long.:      Datum:       
 Soil Map Unit Name:      NWI classification:     

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Very Boulderly.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN18e upland

<b>Tree Stratum</b> (Plot size: 30' )					<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>28.6%</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x <b>1</b> = <u>0</u> <b>FACW species</b> <u>0</u> x <b>2</b> = <u>0</u> <b>FAC species</b> <u>30</u> x <b>3</b> = <u>90</u> <b>FACU species</b> <u>141</u> x <b>4</b> = <u>564</u> <b>UPL species</b> <u>0</u> x <b>5</b> = <u>0</u> <b>Column Totals:</b> <u>171</u> (A) <u>654</u> (B)  Prevalence Index = B/A = <u>3.825</u>
1. <i>Fagus grandifolia</i>	33	<input checked="" type="checkbox"/>	43.4%	FACU	
2. <i>Tsuga canadensis</i>	33	<input checked="" type="checkbox"/>	43.4%	FACU	
3. <i>Betula papyrifera</i>	10	<input type="checkbox"/>	13.2%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
<b>76 = Total Cover</b>					
1. <i>Fagus grandifolia</i>	40	<input checked="" type="checkbox"/>	53.3%	FACU	
2. <i>Acer pensylvanicum</i>	20	<input checked="" type="checkbox"/>	26.7%	FACU	
3. <i>Betula alleghaniensis</i>	15	<input checked="" type="checkbox"/>	20.0%	FAC	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum</b> (Plot size: 5' )					
<b>75 = Total Cover</b>					
1. <i>Thelypteris noveboracensis</i>	15	<input checked="" type="checkbox"/>	75.0%	FAC	
2. <i>Quercus rubra</i>	5	<input checked="" type="checkbox"/>	25.0%	FACU-	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum</b> (Plot size: )					
<b>20 = Total Cover</b>					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN18e Wetland



AN18e Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN18f wetland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): convex Slope: 5.0 % / 2.9 °  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PFO adjacent to Stream AN17. Drains through rock culvert and old ditching associated with old road bed.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>4</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN18f wetland

Tree Stratum (Plot size: 30' )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <i>Betula alleghaniensis</i>	33	<input checked="" type="checkbox"/> 100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)
2.	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3.	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4.	0	<input type="checkbox"/> 0.0%		<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 43     x 2 =      86 <b>FAC species</b> 68     x 3 =     204 <b>FACU species</b> 0      x 4 =      0 <b>UPL species</b> 0      x 5 =      0 <b>Column Totals:</b> 111    (A)      290      (B)  Prevalence Index = B/A =      2.613
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15' )</b>				
1. <i>Betula alleghaniensis</i>	25	<input checked="" type="checkbox"/> 55.6%	FAC	
2. <i>Acer rubrum</i>	10	<input checked="" type="checkbox"/> 22.2%	FAC	
3. <i>Fraxinus pennsylvanica</i>	10	<input checked="" type="checkbox"/> 22.2%	FACW	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5' )</b>				
1. <i>Onoclea sensibilis</i>	33	<input checked="" type="checkbox"/> 100.0%	FACW	
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
11.	0	<input type="checkbox"/> 0.0%		
12.	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: )</b>				
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim State: NH Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC Sampling Point: AN18f Upland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex Slope: 10.0% / 5.7°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN18f Upland

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. <i>Acer rubrum</i>	40	<input checked="" type="checkbox"/> 50.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC:	3 (A)
2. <i>Fraxinus pennsylvanica</i>	40	<input checked="" type="checkbox"/> 50.0%	FACW	Total Number of Dominant Species Across All Strata:	6 (B)
3.	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:	50.0% (A/B)
4.	0	<input type="checkbox"/> 0.0%		<b>Prevalence Index worksheet:</b>	
5.	0	<input type="checkbox"/> 0.0%		Total % Cover of:	Multiply by:
6.	0	<input type="checkbox"/> 0.0%		<b>OBL species</b> 0	x 1 = 0
7.	0	<input type="checkbox"/> 0.0%		<b>FACW species</b> 40	x 2 = 80
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				<b>FAC species</b> 70	x 3 = 210
1. <i>Ostrya virginiana</i>	25	<input checked="" type="checkbox"/> 31.3%	FACU-	<b>FACU species</b> 70	x 4 = 280
2. <i>Pinus strobus</i>	10	<input type="checkbox"/> 12.5%	FACU	<b>UPL species</b> 5	x 5 = 25
3. <i>Betula alleghaniensis</i>	10	<input type="checkbox"/> 12.5%	FAC	<b>Column Totals:</b> 185 (A)	595 (B)
4. <i>Fagus grandifolia</i>	15	<input type="checkbox"/> 18.8%	FACU	Prevalence Index = B/A = 3.216	
5. <i>Acer pensylvanicum</i>	20	<input checked="" type="checkbox"/> 25.0%	FACU	<b>Hydrophytic Vegetation Indicators:</b>	
6.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
7.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Dominance Test is > 50%	
<b>Herb Stratum (Plot size: 5')</b>				<input type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup>	
1. <i>Maianthemum canadense</i>	20	<input checked="" type="checkbox"/> 80.0%	FAC-	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
2. <i>Polygonatum pubescens</i>	5	<input checked="" type="checkbox"/> 20.0%	UPL	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
3.	0	<input type="checkbox"/> 0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
4.	0	<input type="checkbox"/> 0.0%		<b>Definitions of Vegetation Strata:</b>	
5.	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
6.	0	<input type="checkbox"/> 0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.	
7.	0	<input type="checkbox"/> 0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
8.	0	<input type="checkbox"/> 0.0%		Woody vine - All woody vines greater than 3.28 ft in height.	
9.	0	<input type="checkbox"/> 0.0%			
10.	0	<input type="checkbox"/> 0.0%			
11.	0	<input type="checkbox"/> 0.0%			
12.	0	<input type="checkbox"/> 0.0%			
<b>Woody Vine Stratum (Plot size: )</b>					
1.	0	<input type="checkbox"/> 0.0%			
2.	0	<input type="checkbox"/> 0.0%			
3.	0	<input type="checkbox"/> 0.0%			
4.	0	<input type="checkbox"/> 0.0%			
				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN18f Wetland



AN18f Upland





AN18f Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 16-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an20 wetland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave Slope: 3.0 % / 1.7 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PEM

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PEM entirely within ROW	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>        </u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																																
Remarks:  																																

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an20 wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>= Total Cover</b>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>10</u> x 1 = <u>10</u> <b>FACW species</b> <u>103</u> x 2 = <u>206</u> <b>FAC species</b> <u>0</u> x 3 = <u>0</u> <b>FACU species</b> <u>0</u> x 4 = <u>0</u> <b>UPL species</b> <u>0</u> x 5 = <u>0</u> <b>Column Totals:</b> <u>113</u> (A) <u>216</u> (B)  Prevalence Index = B/A = <u>1.912</u>
<b>Sapling/Shrub Stratum (Plot size: _____ )</b>				
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>= Total Cover</b>				
<b>Herb Stratum (Plot size: 5' _____ )</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Onoclea sensibilis</i>	45	<input checked="" type="checkbox"/>	39.8% FACW	
2. <i>Impatiens capensis</i>	10	<input type="checkbox"/>	8.8% FACW	
3. <i>Osmunda cinnamomea</i>	33	<input checked="" type="checkbox"/>	29.2% FACW	
4. <i>Carex crinita</i>	10	<input type="checkbox"/>	8.8% OBL	
5. <i>Phalaris arundinacea</i>	15	<input type="checkbox"/>	13.3% FACW+	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
11. _____	0	<input type="checkbox"/>	0.0%	
12. _____	0	<input type="checkbox"/>	0.0%	
<b>= Total Cover</b>				
<b>Woody Vine Stratum (Plot size: _____ )</b>				<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
<b>= Total Cover</b>				
<b>Hydrophytic Vegetation Present?</b>				Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>  _____ _____ _____				

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 16-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an20 upland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 15.0% / 8.5°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Maintained ROW	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Sampling Point: an20 upland

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: _____ )				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: 15' _____ )				
1. <i>Rhus copallinum</i>	25	<input checked="" type="checkbox"/> 100.0%	NI	
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
25 = Total Cover				
<b>Herb Stratum</b> (Plot size: 5' _____ )				
1. <i>Dennstaedtia punctilobula</i>	95	<input checked="" type="checkbox"/> 90.5%	UPL	
2. <i>Rubus alumnus</i>	10	<input type="checkbox"/> 9.5%	FACU-	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
105 = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____ )				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:
<b>OBL species</b>	0	x 1 = 0
<b>FACW species</b>	0	x 2 = 0
<b>FAC species</b>	0	x 3 = 0
<b>FACU species</b>	10	x 4 = 40
<b>UPL species</b>	95	x 5 = 475
<b>Column Totals:</b>	105 (A)	515 (B)

Prevalence Index = B/A = 4.905

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: an20 upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR	3/2	100%				Fine Sandy Loam	
5-10	10YR	4/4	100%				Fine Sandy Loam	
10-18	10YR	5/8	100%				Fine Sandy Loam	

<sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : <sup>3</sup>**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (Inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

**Remarks:**



AN20 Wetland



AN20 Upland



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 16-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an21 wetland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave Slope: 3.0 % / 1.7 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PEM

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PEM entirely within ROW	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>                </u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>    3    </u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>    0    </u>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an21 wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				
Sapling/Shrub Stratum (Plot size: 15' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Spiraea tomentosa</i>	5	<input checked="" type="checkbox"/>	33.3%	FACW
2. <i>Acer rubrum</i>	5	<input checked="" type="checkbox"/>	33.3%	FAC
3. <i>Spiraea alba</i>	5	<input checked="" type="checkbox"/>	33.3%	FACW+
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>15 = Total Cover</b>				
Herb Stratum (Plot size: 5' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Osmunda cinnamomea</i>	5	<input type="checkbox"/>	4.6%	FACW
2. <i>Scirpus cyperinus</i>	8	<input type="checkbox"/>	7.3%	FACW+
3. <i>Carex scoparia</i>	1	<input type="checkbox"/>	0.9%	FACW
4. <i>Carex crinita</i>	50	<input checked="" type="checkbox"/>	45.9%	OBL
5. <i>Onoclea sensibilis</i>	20	<input type="checkbox"/>	18.3%	FACW
6. <i>Equisetum fluviatile</i>	25	<input checked="" type="checkbox"/>	22.9%	OBL
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
11. _____	0	<input type="checkbox"/>	0.0%	
12. _____	0	<input type="checkbox"/>	0.0%	
<b>109 = Total Cover</b>				
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
<b>OBL species</b> <u>75</u>	<b>x 1 =</b> <u>75</u>
<b>FACW species</b> <u>44</u>	<b>x 2 =</b> <u>88</u>
<b>FAC species</b> <u>5</u>	<b>x 3 =</b> <u>15</u>
<b>FACU species</b> <u>0</u>	<b>x 4 =</b> <u>0</u>
<b>UPL species</b> <u>0</u>	<b>x 5 =</b> <u>0</u>
<b>Column Totals:</b> <u>124</u> (A)	<u>178</u> (B)

Prevalence Index = B/A = 1.435

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 16-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an21 upland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 18.0% / 10.2°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Maintained ROW	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Sampling Point: an21 upland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15' _____ )</b>				<b>0 = Total Cover</b>	
1. <i>Acer rubrum</i>	5	<input checked="" type="checkbox"/>	20.0% FAC		
2. <i>Gaylussacia baccata</i>	5	<input checked="" type="checkbox"/>	20.0% FACU		
3. <i>Acer saccharum</i>	5	<input checked="" type="checkbox"/>	20.0% FACU-		
4. <i>Fagus grandifolia</i>	5	<input checked="" type="checkbox"/>	20.0% FACU		
5. <i>Quercus rubra</i>	5	<input checked="" type="checkbox"/>	20.0% FACU-		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5' _____ )</b>				<b>25 = Total Cover</b>	
1. <i>Dennstaedtia punctilobula</i>	95	<input checked="" type="checkbox"/>	89.6% UPL		
2. <i>Trientalis borealis</i>	3	<input type="checkbox"/>	2.8% FAC		
3. <i>Solidago canadensis</i>	8	<input type="checkbox"/>	7.5% FACU		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: _____ )</b>				<b>106 = Total Cover</b>	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
				<b>0 = Total Cover</b>	

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:			
<b>OBL species</b>	<u>0</u>	<b>x 1 =</b>	<u>0</u>		
<b>FACW species</b>	<u>0</u>	<b>x 2 =</b>	<u>0</u>		
<b>FAC species</b>	<u>8</u>	<b>x 3 =</b>	<u>24</u>		
<b>FACU species</b>	<u>28</u>	<b>x 4 =</b>	<u>112</u>		
<b>UPL species</b>	<u>95</u>	<b>x 5 =</b>	<u>475</u>		
<b>Column Totals:</b>	<u>131</u>	<b>(A)</b>	<u>611</u>	<b>(B)</b>	

Prevalence Index = B/A = 4.664

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN21 Wetland



AN21 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an22 wetland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): flat Slope: 5.0 % / 2.9 °  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PSS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PSS with moose wallow on southern end of wetland.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**

Sampling Point: an22 wetland

<b>Tree Stratum</b> (Plot size: _____ )	<b>Absolute % Cover</b>	<b>Dominant Species? Rel.Strat. Cover</b>	<b>Indicator Status</b>	<b>Dominance Test worksheet:</b>	
1. _____	0	<input type="checkbox"/> 0.0%		Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)	
2. _____	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
4. _____	0	<input type="checkbox"/> 0.0%		<b>Prevalence Index worksheet:</b>	
5. _____	0	<input type="checkbox"/> 0.0%		Total % Cover of: Multiply by:	
6. _____	0	<input type="checkbox"/> 0.0%		<b>OBL species</b> <u>8</u> x <b>1</b> = <u>8</u>	
7. _____	0	<input type="checkbox"/> 0.0%		<b>FACW species</b> <u>55</u> x <b>2</b> = <u>110</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )	<b>= Total Cover</b>			<b>FAC species</b> <u>36</u> x <b>3</b> = <u>108</u>	
1. <i>Fraxinus pennsylvanica</i>	10	<input checked="" type="checkbox"/> 20.8% FACW		<b>FACU species</b> <u>0</u> x <b>4</b> = <u>0</u>	
2. <i>Acer rubrum</i>	25	<input checked="" type="checkbox"/> 52.1% FAC		<b>UPL species</b> <u>0</u> x <b>5</b> = <u>0</u>	
3. <i>Spiraea tomentosa</i>	5	<input type="checkbox"/> 10.4% FACW		<b>Column Totals:</b> <u>99</u> (A) <u>226</u> (B)	
4. <i>Viburnum lentago</i>	8	<input type="checkbox"/> 16.7% FAC		Prevalence Index = B/A = <u>2.283</u>	
5. _____	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Indicators:</b>	
6. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b>	
7. _____	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> <b>Dominance Test is &gt; 50%</b>	
8. _____	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> <b>Prevalence Index is ≤ 3.0</b> <sup>1</sup>	
9. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
10. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)	
11. _____	0	<input type="checkbox"/> 0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
12. _____	0	<input type="checkbox"/> 0.0%		<b>Definitions of Vegetation Strata:</b>	
<b>Herb Stratum</b> (Plot size: 5' )	<b>= Total Cover</b>			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1. <i>Onoclea sensibilis</i>	25	<input checked="" type="checkbox"/> 49.0% FACW		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.	
2. <i>Osmunda cinnamomea</i>	15	<input checked="" type="checkbox"/> 29.4% FACW		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3. <i>Carex crinita</i>	8	<input type="checkbox"/> 15.7% OBL		Woody vine - All woody vines greater than 3.28 ft in height.	
4. <i>Equisetum arvense</i>	3	<input type="checkbox"/> 5.9% FAC			
5. _____	0	<input type="checkbox"/> 0.0%			
6. _____	0	<input type="checkbox"/> 0.0%			
7. _____	0	<input type="checkbox"/> 0.0%			
8. _____	0	<input type="checkbox"/> 0.0%			
9. _____	0	<input type="checkbox"/> 0.0%			
10. _____	0	<input type="checkbox"/> 0.0%			
11. _____	0	<input type="checkbox"/> 0.0%			
12. _____	0	<input type="checkbox"/> 0.0%			
<b>Woody Vine Stratum</b> (Plot size: _____ )	<b>= Total Cover</b>			<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0	<input type="checkbox"/> 0.0%			
2. _____	0	<input type="checkbox"/> 0.0%			
3. _____	0	<input type="checkbox"/> 0.0%			
4. _____	0	<input type="checkbox"/> 0.0%			
	<b>= Total Cover</b>				

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 17-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN22 Upland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Hillside      **Local relief (concave, convex, none):** flat      **Slope:** 12.0% / 6.8°  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?**    Yes  No     (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**    Are "Normal Circumstances" present?    Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**    (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b>    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?     Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?       Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
<b>Remarks:</b>   	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN22 Upland

<b>Tree Stratum</b> (Plot size: 30' )					<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>16.7%</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x 1 = <u>0</u> <b>FACW species</b> <u>0</u> x 2 = <u>0</u> <b>FAC species</b> <u>45</u> x 3 = <u>135</u> <b>FACU species</b> <u>90</u> x 4 = <u>360</u> <b>UPL species</b> <u>66</u> x 5 = <u>330</u> <b>Column Totals:</b> <u>201</u> (A) <u>825</u> (B)  Prevalence Index = B/A = <u>4.104</u>  <b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
1. <i>Tsuga canadensis</i>	20	<input checked="" type="checkbox"/>	33.3%	FACU	
2. <i>Betula papyrifera</i>	10	<input type="checkbox"/>	16.7%	FACU	
3. <i>Fagus grandifolia</i>	20	<input checked="" type="checkbox"/>	33.3%	FACU	
4. <i>Acer rubrum</i>	10	<input type="checkbox"/>	16.7%	FAC	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>60 = Total Cover</b>					
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Betula alleghaniensis</i>	25	<input checked="" type="checkbox"/>	50.0%	FAC	
2. <i>Acer pensylvanicum</i>	15	<input checked="" type="checkbox"/>	30.0%	FACU	
3. <i>Fagus grandifolia</i>	10	<input checked="" type="checkbox"/>	20.0%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>50 = Total Cover</b>					
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Trientalis borealis</i>	10	<input type="checkbox"/>	11.0%	FAC	
2. <i>Dennstaedtia punctilobula</i>	66	<input checked="" type="checkbox"/>	72.5%	UPL	
3. <i>Aralla nudicaulis</i>	15	<input type="checkbox"/>	16.5%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>91 = Total Cover</b>					
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN22 Wetland



AN22 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN23 Wetland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): concave Slope: 12.0 % / 6.8 °  
 Subregion (LRR or MLRA): Lat.: Long.: Datum:  
 Soil Map Unit Name: NWI classification: PFO/PSS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PFO/PSS hillside seep disturbed by Skidder activity.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN23 Wetland

<b>Tree Stratum</b> (Plot size: 30' )					<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. <i>Fraxinus pennsylvanica</i>	33	<input checked="" type="checkbox"/>	40.7%	FACW	
2. <i>Acer rubrum</i>	33	<input checked="" type="checkbox"/>	40.7%	FAC	
3. <i>Betula alleghaniensis</i>	15	<input type="checkbox"/>	18.5%	FAC	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
<b>81 = Total Cover</b>					
1. <i>Fraxinus pennsylvanica</i>	8	<input checked="" type="checkbox"/>	28.6%	FACW	
2. <i>Spiraea tomentosa</i>	15	<input checked="" type="checkbox"/>	53.6%	FACW	
3. <i>Pinus strobus</i>	5	<input type="checkbox"/>	17.9%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum</b> (Plot size: 5' )					
<b>28 = Total Cover</b>					
1. <i>Onoclea sensibilis</i>	75	<input checked="" type="checkbox"/>	78.1%	FACW	
2. <i>Osmunda cinnamomea</i>	8	<input type="checkbox"/>	8.3%	FACW	
3. <i>Equisetum arvense</i>	8	<input type="checkbox"/>	8.3%	FAC	
4. <i>Carex lurida</i>	5	<input type="checkbox"/>	5.2%	OBL	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum</b> (Plot size: )					
<b>96 = Total Cover</b>					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 5      x 1 =      5 <b>FACW species</b> 139    x 2 =     278 <b>FAC species</b> 56      x 3 =     168 <b>FACU species</b> 5        x 4 =     20 <b>UPL species</b> 0        x 5 =     0 <b>Column Totals:</b> 205    (A)      471      (B)  Prevalence Index = B/A =      2.298					
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input checked="" type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input checked="" type="checkbox"/> <b>Prevalence Index is ≤ 3.0<sup>1</sup></b> <input type="checkbox"/> <b>Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</b> <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</b>					
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>					
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>     					

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**Soil**

**Sampling Point: AN23 Wetland**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR	3/2	100%				Loam	
7-15	2.5Y	4/1	100%				Sandy Loam	

<sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : <sup>3</sup>**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: stony  
 Depth (inches): 15

**Hydric Soil Present?**    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 17-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an23 upland  
 Investigator(s): AF JG Section, Township, Range: S.      T.      R.       
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): flat Slope: 15.0 % / 8.5 °  
 Subregion (LRR or MLRA):      Lat.:      Long.:      Datum:       
 Soil Map Unit Name:      NWI classification:     

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an23 upland

Tree Stratum (Plot size: 30' )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Quercus rubra</i>	25	<input checked="" type="checkbox"/> 29.4%	FACU-	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
2. <i>Fagus grandifolia</i>	25	<input checked="" type="checkbox"/> 29.4%	FACU	
3. <i>Betula alleghaniensis</i>	25	<input checked="" type="checkbox"/> 29.4%	FAC	
4. <i>Tsuga canadensis</i>	10	<input type="checkbox"/> 11.8%	FACU	
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15' )</b>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 0      x 2 =      0 <b>FAC species</b> 50      x 3 =      150 <b>FACU species</b> 113      x 4 =      452 <b>UPL species</b> 3      x 5 =      15 <b>Column Totals:</b> 166 (A)      617 (B)  Prevalence Index = B/A =      3.717
85 = Total Cover				
1. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/> 50.0%	FAC	
2. <i>Pinus strobus</i>	10	<input checked="" type="checkbox"/> 25.0%	FACU	
3. <i>Fraxinus americana</i>	5	<input type="checkbox"/> 12.5%	FACU	
4. <i>Quercus rubra</i>	5	<input type="checkbox"/> 12.5%	FACU-	
5.	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5' )</b>				
40 = Total Cover				
1. <i>Aralia nudicaulis</i>	33	<input checked="" type="checkbox"/> 80.5%	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Trientalis borealis</i>	5	<input type="checkbox"/> 12.2%	FAC	
3. <i>Polygonatum pubescens</i>	3	<input type="checkbox"/> 7.3%	UPL	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
11.	0	<input type="checkbox"/> 0.0%		
12.	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: )</b>				
41 = Total Cover				
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
<b>Definitions of Vegetation Strata:</b> Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>				

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN23 Upland



AN23 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 18-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN24 wetland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope: 0.0 % / 0.0 °  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PFO with ATV trail through west side of wetland. Contains VP-5.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>        </u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																																
Remarks: Sphagnum 50% cover.																																

**VEGETATION - Use scientific names of plants**

Sampling Point: AN24 wetland

<b>Tree Stratum</b> (Plot size: 30' )			<b>Dominant Species?</b>		
	<b>Absolute % Cover</b>	<input type="checkbox"/>	<b>Rel.Strat. Cover</b>	<b>Indicator Status</b>	
1. <i>Acer rubrum</i>	33	<input checked="" type="checkbox"/>	76.7%	FAC	
2. <i>Betula alleghaniensis</i>	10	<input checked="" type="checkbox"/>	23.3%	FAC	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	<b>43 = Total Cover</b>				
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Hamamelis virginiana</i>	10	<input checked="" type="checkbox"/>	66.7%	FAC-	
2. <i>Betula alleghaniensis</i>	5	<input checked="" type="checkbox"/>	33.3%	FAC	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	<b>15 = Total Cover</b>				
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Osmunda cinnamomea</i>	25	<input checked="" type="checkbox"/>	71.4%	FACW	
2. <i>Rubus hispidus</i>	10	<input checked="" type="checkbox"/>	28.6%	FACW	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
	<b>35 = Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
	<b>0 = Total Cover</b>				

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

	<b>Total % Cover of:</b>	<b>Multiply by:</b>
<b>OBL species</b>	<u>0</u>	<b>x 1 =</b> <u>0</u>
<b>FACW species</b>	<u>35</u>	<b>x 2 =</b> <u>70</u>
<b>FAC species</b>	<u>58</u>	<b>x 3 =</b> <u>174</u>
<b>FACU species</b>	<u>0</u>	<b>x 4 =</b> <u>0</u>
<b>UPL species</b>	<u>0</u>	<b>x 5 =</b> <u>0</u>
<b>Column Totals:</b>	<u>93</u> (A)	<u>244</u> (B)

Prevalence Index = B/A = 2.624

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim State: NH Sampling Date: 18-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC Sampling Point: AN24 Upland  
 Investigator(s): AFJG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): undulating Slope: 5.0% / 2.9°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:    	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN24 Upland

<b>Tree Stratum</b> (Plot size: 30' )	<b>Absolute % Cover</b>	<b>Dominant Species? Rel.Strat. Cover</b>	<b>Indicator Status</b>	<b>Dominance Test worksheet:</b>	
1. <i>Picea rubens</i>	10	<input type="checkbox"/> 16.7%	FACU	Number of Dominant Species That are OBL, FACW, or FAC:	2 (A)
2. <i>Tsuga canadensis</i>	25	<input checked="" type="checkbox"/> 41.7%	FACU	Total Number of Dominant Species Across All Strata:	8 (B)
3. <i>Betula papyrifera</i>	10	<input type="checkbox"/> 16.7%	FACU	Percent of dominant Species That Are OBL, FACW, or FAC:	25.0% (A/B)
4. <i>Quercus rubra</i>	15	<input checked="" type="checkbox"/> 25.0%	FACU-		
5.	0	<input type="checkbox"/> 0.0%			
6.	0	<input type="checkbox"/> 0.0%			
7.	0	<input type="checkbox"/> 0.0%			
	60	<b>= Total Cover</b>		<b>Prevalence Index worksheet:</b>	
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )				Total % Cover of:	Multiply by:
1. <i>Fagus grandifolia</i>	5	<input checked="" type="checkbox"/> 20.0%	FACU	<b>OBL species</b>	0 x 1 = 0
2. <i>Picea rubens</i>	5	<input checked="" type="checkbox"/> 20.0%	FACU	<b>FACW species</b>	0 x 2 = 0
3. <i>Hamamelis virginiana</i>	5	<input checked="" type="checkbox"/> 20.0%	FAC-	<b>FAC species</b>	18 x 3 = 54
4. <i>Viburnum lentago</i>	10	<input checked="" type="checkbox"/> 40.0%	FAC	<b>FACU species</b>	84 x 4 = 336
5.	0	<input type="checkbox"/> 0.0%		<b>UPL species</b>	5 x 5 = 25
6.	0	<input type="checkbox"/> 0.0%		<b>Column Totals:</b>	107 (A) 415 (B)
7.	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = 3.879	
	25	<b>= Total Cover</b>		<b>Hydrophytic Vegetation Indicators:</b>	
<b>Herb Stratum</b> (Plot size: 5' )				<input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)	
1. <i>Aralia nudicaulis</i>	8	<input checked="" type="checkbox"/> 36.4%	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <i>Lycopodium obscurum</i>	3	<input type="checkbox"/> 13.6%	FACU	<b>Definitions of Vegetation Strata:</b>	
3. <i>Pteridium aquilinum</i>	3	<input type="checkbox"/> 13.6%	FACU	Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
4. <i>Polygonatum pubescens</i>	5	<input checked="" type="checkbox"/> 22.7%	UPL	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..	
5. <i>Trientalis borealis</i>	3	<input type="checkbox"/> 13.6%	FAC	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
6.	0	<input type="checkbox"/> 0.0%		Woody vine - All woody vines greater than 3.28 ft in height.	
7.	0	<input type="checkbox"/> 0.0%			
8.	0	<input type="checkbox"/> 0.0%			
9.	0	<input type="checkbox"/> 0.0%			
10.	0	<input type="checkbox"/> 0.0%			
11.	0	<input type="checkbox"/> 0.0%			
12.	0	<input type="checkbox"/> 0.0%			
	22	<b>= Total Cover</b>			
<b>Woody Vine Stratum</b> (Plot size: )				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
1.	0	<input type="checkbox"/> 0.0%			
2.	0	<input type="checkbox"/> 0.0%			
3.	0	<input type="checkbox"/> 0.0%			
4.	0	<input type="checkbox"/> 0.0%			
	0	<b>= Total Cover</b>			

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN24 Wetland



AN24 Upland



AN24 Wetland



**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN25 Wetland

Tree Stratum (Plot size: 30' )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Acer rubrum</i>	50	<input checked="" type="checkbox"/>	100.0%	FAC
2.	0	<input type="checkbox"/>	0.0%	
3.	0	<input type="checkbox"/>	0.0%	
4.	0	<input type="checkbox"/>	0.0%	
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
<b>50 = Total Cover</b>				
Sapling/Shrub Stratum (Plot size: 15' )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Ilex verticillata</i>	3	<input checked="" type="checkbox"/>	100.0%	FACW+
2.	0	<input type="checkbox"/>	0.0%	
3.	0	<input type="checkbox"/>	0.0%	
4.	0	<input type="checkbox"/>	0.0%	
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
<b>3 = Total Cover</b>				
Herb Stratum (Plot size: 5' )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Osmunda regalis</i>	5	<input checked="" type="checkbox"/>	21.7%	OBL
2. <i>Scirpus cyperinus</i>	10	<input checked="" type="checkbox"/>	43.5%	FACW+
3. <i>Osmunda cinnamomea</i>	5	<input checked="" type="checkbox"/>	21.7%	FACW
4. <i>Carex intumescens</i>	3	<input type="checkbox"/>	13.0%	FACW+
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
8.	0	<input type="checkbox"/>	0.0%	
9.	0	<input type="checkbox"/>	0.0%	
10.	0	<input type="checkbox"/>	0.0%	
11.	0	<input type="checkbox"/>	0.0%	
12.	0	<input type="checkbox"/>	0.0%	
<b>23 = Total Cover</b>				
Woody Vine Stratum (Plot size: )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1.	0	<input type="checkbox"/>	0.0%	
2.	0	<input type="checkbox"/>	0.0%	
3.	0	<input type="checkbox"/>	0.0%	
4.	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				

Dominance Test worksheet:			
Number of Dominant Species That are OBL, FACW, or FAC:	5		(A)
Total Number of Dominant Species Across All Strata:	5		(B)
Percent of dominant Species That Are OBL, FACW, or FAC:	100.0%		(A/B)

Prevalence Index worksheet:			
Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	21	x 2 =	42
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
<b>Column Totals:</b>	<b>76</b>	<b>(A)</b>	<b>197</b> <b>(B)</b>
Prevalence Index = B/A =			2.592

Hydrophytic Vegetation Indicators:	
<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
<input checked="" type="checkbox"/> Dominance Test is > 50%	
<input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup>	
<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:	
Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.	
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vine - All woody vines greater than 3.28 ft in height.	

Hydrophytic Vegetation Present?    Yes     No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 18-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN25 upland  
**Investigator(s):** AF JG **Section, Township, Range: S. T. R.**  
**Landform (hillslope, terrace, etc.):** Undulating **Local relief (concave, convex, none):** convex **Slope:** 20.0% / 11.3°  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> ATV trail nearby	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN25 upland

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Picea rubens</i>	15	<input type="checkbox"/>	14.2%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. <i>Tsuga canadensis</i>	25	<input checked="" type="checkbox"/>	23.6%	FACU	
3. <i>Quercus rubra</i>	66	<input checked="" type="checkbox"/>	62.3%	FACU-	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x 1 = <u>0</u> <b>FACW species</b> <u>0</u> x 2 = <u>0</u> <b>FAC species</b> <u>15</u> x 3 = <u>45</u> <b>FACU species</b> <u>216</u> x 4 = <u>864</u> <b>UPL species</b> <u>10</u> x 5 = <u>50</u> <b>Column Totals:</b> <u>241</u> (A) <u>959</u> (B)  Prevalence Index = B/A = <u>3.979</u>
106 = Total Cover					
1. <i>Picea rubens</i>	10	<input checked="" type="checkbox"/>	33.3%	FACU	
2. <i>Fagus grandifolia</i>	15	<input checked="" type="checkbox"/>	50.0%	FACU	
3. <i>Tsuga canadensis</i>	5	<input type="checkbox"/>	16.7%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5')</b>					
30 = Total Cover					
1. <i>Maianthemum canadense</i>	10	<input type="checkbox"/>	9.5%	FAC-	
2. <i>Pteridium aquilinum</i>	50	<input checked="" type="checkbox"/>	47.6%	FACU	
3. <i>Medeola virginiana</i>	5	<input type="checkbox"/>	4.8%	UPL	
4. <i>Gaultheria procumbens</i>	15	<input checked="" type="checkbox"/>	14.3%	FACU	
5. <i>Polygonatum pubescens</i>	5	<input type="checkbox"/>	4.8%	UPL	
6. <i>Cornus canadensis</i>	5	<input type="checkbox"/>	4.8%	FAC-	
7. <i>Aralia nudicaulis</i>	15	<input checked="" type="checkbox"/>	14.3%	FACU	
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					
105 = Total Cover					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN25 Wetland



AN25 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 18-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN26 Wetland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): concave Slope: 0.0% / 0.0°  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland within saddle continues off site.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>        </u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	





**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 18-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN26 upland  
**Investigator(s):** AFJG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Toeslope **Local relief (concave, convex, none):** flat **Slope:** 15.0% / 8.5°  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**

**Dominant Species?**

**Sampling Point: AN26 upland**

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <i>Fagus grandifolia</i>	15	<input type="checkbox"/>	16.7%	FACU	
2. <i>Picea rubens</i>	50	<input checked="" type="checkbox"/>	55.6%	FACU	
3. <i>Betula papyrifera</i>	15	<input type="checkbox"/>	16.7%	FACU	
4. <i>Betula alleghaniensis</i>	10	<input type="checkbox"/>	11.1%	FAC	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>90 = Total Cover</b>					
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x <b>1</b> = <u>0</u> <b>FACW species</b> <u>0</u> x <b>2</b> = <u>0</u> <b>FAC species</b> <u>14</u> x <b>3</b> = <u>42</u> <b>FACU species</b> <u>143</u> x <b>4</b> = <u>572</u> <b>UPL species</b> <u>5</u> x <b>5</b> = <u>25</u> <b>Column Totals:</b> <u>162</u> <b>(A)</b> <u>639</u> <b>(B)</b>  Prevalence Index = B/A = <u>3.944</u>
1. <i>Fagus grandifolia</i>	10	<input checked="" type="checkbox"/>	23.3%	FACU	
2. <i>Acer pensylvanicum</i>	33	<input checked="" type="checkbox"/>	76.7%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>43 = Total Cover</b>					
Herb Stratum (Plot size: 5')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> <b>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</b>
1. <i>Aralia nudicaulis</i>	20	<input checked="" type="checkbox"/>	69.0%	FACU	
2. <i>Maianthemum canadense</i>	3	<input type="checkbox"/>	10.3%	FAC-	
3. <i>Trientalis borealis</i>	1	<input type="checkbox"/>	3.4%	FAC	
4. <i>Polygonatum pubescens</i>	5	<input type="checkbox"/>	17.2%	UPL	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>29 = Total Cover</b>					
Woody Vine Stratum (Plot size: )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN26 Wetland



AN26 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 18-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN27 wetland  
 Investigator(s): AFJG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Saddle Local relief (concave, convex, none): undulating Slope: 8.0% / 4.6°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:    	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN27 wetland

<b>Tree Stratum</b> (Plot size: 30' )					
1. <i>Picea mariana</i>	50	<input checked="" type="checkbox"/>	45.5%	FACW-	
2. <i>Acer rubrum</i>	50	<input checked="" type="checkbox"/>	45.5%	FAC	
3. <i>Betula alleghaniensis</i>	10	<input type="checkbox"/>	9.1%	FAC	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	110	<b>= Total Cover</b>			
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Betula alleghaniensis</i>	5	<input checked="" type="checkbox"/>	50.0%	FAC	
2. <i>Picea mariana</i>	5	<input checked="" type="checkbox"/>	50.0%	FACW-	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	10	<b>= Total Cover</b>			
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Osmunda cinnamomea</i>	50	<input checked="" type="checkbox"/>	100.0%	FACW	
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
	50	<b>= Total Cover</b>			
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
	0	<b>= Total Cover</b>			

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:	
<b>OBL species</b>	<u>0</u>	x 1 =	<u>0</u>
<b>FACW species</b>	<u>105</u>	x 2 =	<u>210</u>
<b>FAC species</b>	<u>65</u>	x 3 =	<u>195</u>
<b>FACU species</b>	<u>0</u>	x 4 =	<u>0</u>
<b>UPL species</b>	<u>0</u>	x 5 =	<u>0</u>
<b>Column Totals:</b>	<u>170</u> (A)		<u>405</u> (B)

Prevalence Index = B/A = 2.382

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 18-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN27 upland  
**Investigator(s):** AFJG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Hillside      **Local relief (concave, convex, none):** convex      **Slope:** 20.0% / 11.3°  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year?    Yes  No     (If no, explain in Remarks.)  
 Are Vegetation  , Soil  , or Hydrology  significantly disturbed?    Are "Normal Circumstances" present?    Yes  No   
 Are Vegetation  , Soil  , or Hydrology  naturally problematic?    (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present?    Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?    Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b>    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
<b>Remarks:</b>    	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN27 upland

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>14.3%</u> (A/B)
1. <i>Fagus grandifolia</i>	20	<input checked="" type="checkbox"/>	28.6%	FACU	
2. <i>Quercus rubra</i>	15	<input checked="" type="checkbox"/>	21.4%	FACU-	
3. <i>Betula papyrifera</i>	20	<input checked="" type="checkbox"/>	28.6%	FACU	
4. <i>Picea rubens</i>	15	<input checked="" type="checkbox"/>	21.4%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>70 = Total Cover</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x <b>1</b> = <u>0</u> <b>FACW species</b> <u>0</u> x <b>2</b> = <u>0</u> <b>FAC species</b> <u>2</u> x <b>3</b> = <u>6</u> <b>FACU species</b> <u>95</u> x <b>4</b> = <u>380</u> <b>UPL species</b> <u>0</u> x <b>5</b> = <u>0</u> <b>Column Totals:</b> <u>97</u> <b>(A)</b> <u>386</u> <b>(B)</b>  Prevalence Index = B/A = <u>3.979</u>
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status	
1. <i>Fagus grandifolia</i>	20	<input checked="" type="checkbox"/>	80.0%	FACU	
2. <i>Betula papyrifera</i>	5	<input checked="" type="checkbox"/>	20.0%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>25 = Total Cover</b>					
Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Acer rubrum</i>	2	<input checked="" type="checkbox"/>	100.0%	FAC	
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>2 = Total Cover</b>					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status	<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Hydrophytic Vegetation Present?    Yes <input type="radio"/>    No <input checked="" type="radio"/></b>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN27 Upland



AN27 Wetland



AN27 Wetland



AN27 Wetland



AN27 Wetland



AN27 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 22-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN30 wetland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): concave Slope: 3.0% / 1.7°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PFO with ephemeral inlet and outlet towards intermittent stream AN29.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN30 wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
1. _____	0	<input type="checkbox"/> 0.0%			
2. _____	0	<input type="checkbox"/> 0.0%			
3. _____	0	<input type="checkbox"/> 0.0%			
4. _____	0	<input type="checkbox"/> 0.0%			
5. _____	0	<input type="checkbox"/> 0.0%			
6. _____	0	<input type="checkbox"/> 0.0%			
7. _____	0	<input type="checkbox"/> 0.0%			
				<b>Dominance Test worksheet:</b>	
				Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)	
				Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
				Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)	
				<b>Prevalence Index worksheet:</b>	
				Total % Cover of: Multiply by:	
				OBL species	<u>0</u> x <b>1</b> = <u>0</u>
				FACW species	<u>35</u> x <b>2</b> = <u>70</u>
				FAC species	<u>10</u> x <b>3</b> = <u>30</u>
				FACU species	<u>0</u> x <b>4</b> = <u>0</u>
				UPL species	<u>25</u> x <b>5</b> = <u>125</u>
				<b>Column Totals:</b>	<u>70</u> (A) <u>225</u> (B)
				Prevalence Index = B/A = <u>3.214</u>	
				<b>Hydrophytic Vegetation Indicators:</b>	
				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input checked="" type="checkbox"/> Dominance Test is > 50%	
				<input type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup>	
				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				<b>Definitions of Vegetation Strata:</b>	
				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vine - All woody vines greater than 3.28 ft in height.	
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 22-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN30 upland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): flat Slope: 3.0% / 1.7°  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification:         

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	



**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN30 upland

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Tsuga canadensis</i>	25	<input checked="" type="checkbox"/>	31.3%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>12.5%</u> (A/B)
2. <i>Quercus rubra</i>	15	<input type="checkbox"/>	18.8%	FACU-	
3. <i>Acer saccharum</i>	25	<input checked="" type="checkbox"/>	31.3%	FACU-	
4. <i>Betula alleghaniensis</i>	15	<input type="checkbox"/>	18.8%	FAC	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>80 = Total Cover</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 0      x 2 =      0 <b>FAC species</b> 30      x 3 =      90 <b>FACU species</b> 109      x 4 =      436 <b>UPL species</b> 0      x 5 =      0 <b>Column Totals:</b> 139      (A)      526      (B)  Prevalence Index = B/A =      3.784
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					
1. <i>Fagus grandifolia</i>	10	<input checked="" type="checkbox"/>	40.0%	FACU	
2. <i>Pinus strobus</i>	5	<input checked="" type="checkbox"/>	20.0%	FACU	
3. <i>Quercus rubra</i>	5	<input checked="" type="checkbox"/>	20.0%	FACU-	
4. <i>Acer pensylvanicum</i>	5	<input checked="" type="checkbox"/>	20.0%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>25 = Total Cover</b>					
<b>Herb Stratum (Plot size: 5')</b>					
1. <i>Maianthemum canadense</i>	10	<input checked="" type="checkbox"/>	29.4%	FAC-	
2. <i>Aralia nudicaulis</i>	15	<input checked="" type="checkbox"/>	44.1%	FACU	
3. <i>Tsuga canadensis</i>	3	<input type="checkbox"/>	8.8%	FACU	
4. <i>Lycopodium obscurum</i>	1	<input type="checkbox"/>	2.9%	FACU	
5. <i>Trientalis borealis</i>	5	<input type="checkbox"/>	14.7%	FAC	
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>34 = Total Cover</b>					
<b>Woody Vine Stratum (Plot size: )</b>					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Hydrophytic Vegetation Indicators:</b>					
<input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤ 3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)					
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
<b>Definitions of Vegetation Strata:</b>					
Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN30 Wetland



AN30 Upland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 22-Aug-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN31 Wetland  
 Investigator(s): AF JG Section, Township, Range: S.          T.          R.           
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): flat Slope: 2.0% / 1.1°  
 Subregion (LRR or MLRA):          Lat.:          Long.:          Datum:           
 Soil Map Unit Name:          NWI classification: PSS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PSS wetland entirely within maintained transmission line ROW.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
<input type="checkbox"/> Drainage Patterns (B10)																																
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<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u>																																
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																																
Remarks:  																																

**VEGETATION - Use scientific names of plants**

Sampling Point: AN31 Wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/> 0.0%		<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15' _____ )</b>		<b>0 = Total Cover</b>		<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ <b>OBL species</b> <u>18</u> x 1 = <u>18</u> <b>FACW species</b> <u>88</u> x 2 = <u>176</u> <b>FAC species</b> <u>10</u> x 3 = <u>30</u> <b>FACU species</b> <u>15</u> x 4 = <u>60</u> <b>UPL species</b> <u>0</u> x 5 = <u>0</u> <b>Column Totals:</b> <u>131</u> (A) <u>284</u> (B)  Prevalence Index = B/A = <u>2.168</u>
1. <i>Acer rubrum</i>	10	<input checked="" type="checkbox"/> 25.0% FAC		
2. <i>Lyonia ligustrina</i>	5	<input type="checkbox"/> 12.5% FACW		
3. <i>Spiraea alba</i>	25	<input checked="" type="checkbox"/> 62.5% FACW+		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5' _____ )</b>		<b>40 = Total Cover</b>		<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Scirpus cyperinus</i>	8	<input type="checkbox"/> 8.8% FACW+		
2. <i>Onoclea sensibilis</i>	25	<input checked="" type="checkbox"/> 27.5% FACW		
3. <i>Carex crinita</i>	5	<input type="checkbox"/> 5.5% OBL		
4. <i>Carex lurida</i>	5	<input type="checkbox"/> 5.5% OBL		
5. <i>Scirpus atrovirens</i>	8	<input type="checkbox"/> 8.8% OBL		
6. <i>Solidago canadensis</i>	15	<input type="checkbox"/> 16.5% FACU		
7. <i>Rubus hispidus</i>	25	<input checked="" type="checkbox"/> 27.5% FACW		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: _____ )</b>		<b>91 = Total Cover</b>		<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
		<b>0 = Total Cover</b>		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 22-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN31 Upland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Undulating      **Local relief (concave, convex, none):** undulating      **Slope:** 5.0 % / 2.9 °  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Transmission line maintained ROW	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (Includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN31 Upland

Tree Stratum (Plot size: _____ )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/>	0.0%		Number of Dominant Species That are OBL, FACW, or FAC: <span style="float:right">1 (A)</span>  Total Number of Dominant Species Across All Strata: <span style="float:right">4 (B)</span>  Percent of dominant Species That Are OBL, FACW, or FAC: <span style="float:right">25.0% (A/B)</span>
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> 0      x 1 =      0 <b>FACW species</b> 38     x 2 =      76 <b>FAC species</b> 0        x 3 =      0 <b>FACU species</b> 86      x 4 =     344 <b>UPL species</b> 0        x 5 =      0 <b>Column Totals:</b> 124     (A)      420     (B)  Prevalence Index = B/A =      3.387
Sapling/Shrub Stratum (Plot size: 15' )					
1. <i>Populus tremula</i>	10	<input checked="" type="checkbox"/>	47.6%	FACU	
2. <i>Prunus serotina</i>	3	<input type="checkbox"/>	14.3%	FACU	
3. <i>Acer saccharum</i>	5	<input checked="" type="checkbox"/>	23.8%	FACU-	
4. <i>Quercus rubra</i>	3	<input type="checkbox"/>	14.3%	FACU-	
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
<b>21 = Total Cover</b>					
Herb Stratum (Plot size: 5' )					
1. <i>Rubus alumnus</i>	15	<input type="checkbox"/>	14.6%	FACU-	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Solidago canadensis</i>	50	<input checked="" type="checkbox"/>	48.5%	FACU	
3. <i>Onoclea sensibilis</i>	33	<input checked="" type="checkbox"/>	32.0%	FACW	
4. <i>Spiraea alba</i>	5	<input type="checkbox"/>	4.9%	FACW+	
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
<b>103 = Total Cover</b>					
Woody Vine Stratum (Plot size: _____ )					
1. _____	0	<input type="checkbox"/>	0.0%		<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
					<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN31 Wetland



AN31 Upland



AN31 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 22-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN32 wetland  
**Investigator(s):** AFJG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Foothlope **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:** PSS

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes  No  (If no, explain in Remarks.)  
**Are Vegetation , Soil , or Hydrology  significantly disturbed?** **Are "Normal Circumstances" present?** Yes  No   
**Are Vegetation , Soil , or Hydrology  naturally problematic?** (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Isolated PSS wetland entirely within maintained transmission line ROW.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants**

Sampling Point: AN32 wetland

<b>Tree Stratum</b> (Plot size: _____ )	<b>Absolute % Cover</b>	<b>Dominant Species? Rel.Strat. Cover</b>	<b>Indicator Status</b>	<b>Dominance Test worksheet:</b>	
1. _____	0	<input type="checkbox"/> 0.0%		Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)	
2. _____	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)	
4. _____	0	<input type="checkbox"/> 0.0%		<b>Prevalence Index worksheet:</b>	
5. _____	0	<input type="checkbox"/> 0.0%		Total % Cover of: _____ Multiply by: _____	
6. _____	0	<input type="checkbox"/> 0.0%		<b>OBL species</b> <u>12</u> x <b>1</b> = <u>12</u>	
7. _____	0	<input type="checkbox"/> 0.0%		<b>FACW species</b> <u>108</u> x <b>2</b> = <u>216</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: 15' _____ )	<b>= Total Cover</b>			<b>FAC species</b> <u>10</u> x <b>3</b> = <u>30</u>	
1. <i>Spiraea alba</i>	50	<input checked="" type="checkbox"/> 83.3% FACW+		<b>FACU species</b> <u>25</u> x <b>4</b> = <u>100</u>	
2. <i>Acer rubrum</i>	10	<input type="checkbox"/> 16.7% FAC		<b>UPL species</b> <u>0</u> x <b>5</b> = <u>0</u>	
3. _____	0	<input type="checkbox"/> 0.0%		<b>Column Totals:</b> <u>155</u> (A) <u>358</u> (B)	
4. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>2.310</u>	
5. _____	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Indicators:</b>	
6. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b>	
7. _____	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> <b>Dominance Test is &gt; 50%</b>	
8. _____	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> <b>Prevalence Index is ≤ 3.0</b> <sup>1</sup>	
9. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
10. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)	
11. _____	0	<input type="checkbox"/> 0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
12. _____	0	<input type="checkbox"/> 0.0%		<b>Definitions of Vegetation Strata:</b>	
<b>Herb Stratum</b> (Plot size: 5' _____ )	<b>= Total Cover</b>			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1. <i>Carex crinita</i>	12	<input type="checkbox"/> 12.6% OBL		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.	
2. <i>Onoclea sensibilis</i>	33	<input checked="" type="checkbox"/> 34.7% FACW		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3. <i>Carex intumescens</i>	25	<input checked="" type="checkbox"/> 26.3% FACW+		Woody vine - All woody vines greater than 3.28 ft in height.	
4. <i>Rubus hispidus</i>	0	<input type="checkbox"/> 0.0% FACW			
5. <i>Solidago canadensis</i>	25	<input checked="" type="checkbox"/> 26.3% FACU			
6. _____	0	<input type="checkbox"/> 0.0%			
7. _____	0	<input type="checkbox"/> 0.0%			
8. _____	0	<input type="checkbox"/> 0.0%			
9. _____	0	<input type="checkbox"/> 0.0%			
10. _____	0	<input type="checkbox"/> 0.0%			
11. _____	0	<input type="checkbox"/> 0.0%			
12. _____	0	<input type="checkbox"/> 0.0%			
<b>Woody Vine Stratum</b> (Plot size: _____ )	<b>= Total Cover</b>				
1. _____	0	<input type="checkbox"/> 0.0%			
2. _____	0	<input type="checkbox"/> 0.0%			
3. _____	0	<input type="checkbox"/> 0.0%			
4. _____	0	<input type="checkbox"/> 0.0%			
	0	<b>= Total Cover</b>			

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic Vegetation Present? Yes  No

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 22-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN32 upland  
**Investigator(s):** AF JG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Undulating **Local relief (concave, convex, none):** undulating **Slope:** 8.0 % / 4.6 °  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> bouldery	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:  	

**VEGETATION - Use scientific names of plants**

Sampling Point: AN32 upland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
1. _____	0	<input type="checkbox"/> 0.0%			
2. _____	0	<input type="checkbox"/> 0.0%			
3. _____	0	<input type="checkbox"/> 0.0%			
4. _____	0	<input type="checkbox"/> 0.0%			
5. _____	0	<input type="checkbox"/> 0.0%			
6. _____	0	<input type="checkbox"/> 0.0%			
7. _____	0	<input type="checkbox"/> 0.0%			
<b>0 = Total Cover</b>					
Sapling/Shrub Stratum (Plot size: 15' )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
1. <i>Rhus copallinum</i>	50	<input checked="" type="checkbox"/> 76.9%	NI		
2. <i>Pinus strobus</i>	5	<input type="checkbox"/> 7.7%	FACU		
3. <i>Prunus serotina</i>	5	<input type="checkbox"/> 7.7%	FACU		
4. <i>Acer rubrum</i>	5	<input type="checkbox"/> 7.7%	FAC		
5. _____	0	<input type="checkbox"/> 0.0%			
6. _____	0	<input type="checkbox"/> 0.0%			
7. _____	0	<input type="checkbox"/> 0.0%			
<b>65 = Total Cover</b>					
Herb Stratum (Plot size: 5' )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
1. <i>Pteridium aquilinum</i>	20	<input type="checkbox"/> 17.2%	FACU		
2. <i>Rubus idaeus</i>	10	<input type="checkbox"/> 8.6%	FAC-		
3. <i>Rubus allegheniensis</i>	10	<input type="checkbox"/> 8.6%	FACU-		
4. <i>Solidago canadensis</i>	33	<input checked="" type="checkbox"/> 28.4%	FACU		
5. <i>Phalaris arundinacea</i>	33	<input checked="" type="checkbox"/> 28.4%	FACW+		
6. <i>Carex crinita</i>	10	<input type="checkbox"/> 8.6%	OBL		
7. _____	0	<input type="checkbox"/> 0.0%			
8. _____	0	<input type="checkbox"/> 0.0%			
9. _____	0	<input type="checkbox"/> 0.0%			
10. _____	0	<input type="checkbox"/> 0.0%			
11. _____	0	<input type="checkbox"/> 0.0%			
12. _____	0	<input type="checkbox"/> 0.0%			
<b>116 = Total Cover</b>					
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
1. _____	0	<input type="checkbox"/> 0.0%			
2. _____	0	<input type="checkbox"/> 0.0%			
3. _____	0	<input type="checkbox"/> 0.0%			
4. _____	0	<input type="checkbox"/> 0.0%			
<b>0 = Total Cover</b>					

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:			
<b>OBL species</b>	<u>10</u>	<b>x 1 =</b>	<u>10</u>		
<b>FACW species</b>	<u>33</u>	<b>x 2 =</b>	<u>66</u>		
<b>FAC species</b>	<u>15</u>	<b>x 3 =</b>	<u>45</u>		
<b>FACU species</b>	<u>73</u>	<b>x 4 =</b>	<u>292</u>		
<b>UPL species</b>	<u>0</u>	<b>x 5 =</b>	<u>0</u>		
<b>Column Totals:</b>	<u>131</u> (A)		<u>413</u> (B)		
Prevalence Index = B/A =			<u>3.153</u>		

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN32 Upland



AN32 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 22-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN33 Wetland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Foothslope      **Local relief (concave, convex, none):** flat      **Slope:** 3.0% / 1.7°  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:** PSS

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Isolated PSS wetland within skidder trail.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?      Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0 <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN33 Wetland

Tree Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				
Sapling/Shrub Stratum (Plot size: 15' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Cornus stolonifera</i>	5	<input checked="" type="checkbox"/>	50.0%	FACW+
2. <i>Viburnum dentatum</i>	5	<input checked="" type="checkbox"/>	50.0%	FAC
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
<b>10 = Total Cover</b>				
Herb Stratum (Plot size: 5' _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Onoclea sensibilis</i>	40	<input checked="" type="checkbox"/>	29.9%	FACW
2. <i>Solidago canadensis</i>	33	<input checked="" type="checkbox"/>	24.6%	FACU
3. <i>Carex crinita</i>	33	<input checked="" type="checkbox"/>	24.6%	OBL
4. <i>Rubus hispidus</i>	25	<input type="checkbox"/>	18.7%	FACW
5. <i>Osmunda regalis</i>	3	<input type="checkbox"/>	2.2%	OBL
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
11. _____	0	<input type="checkbox"/>	0.0%	
12. _____	0	<input type="checkbox"/>	0.0%	
<b>134 = Total Cover</b>				
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				

Dominance Test worksheet:			
Number of Dominant Species That are OBL, FACW, or FAC:	4		(A)
Total Number of Dominant Species Across All Strata:	5		(B)
Percent of dominant Species That Are OBL, FACW, or FAC:	80.0%		(A/B)

Prevalence Index worksheet:			
Total % Cover of:	Multiply by:		
OBL species	36	x 1 =	36
FACW species	70	x 2 =	140
FAC species	5	x 3 =	15
FACU species	33	x 4 =	132
UPL species	0	x 5 =	0
<b>Column Totals:</b>	<b>144</b>	<b>(A)</b>	<b>323</b>
		<b>(B)</b>	
Prevalence Index = B/A = 2.243			

Hydrophytic Vegetation Indicators:	
<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
<input checked="" type="checkbox"/> Dominance Test is > 50%	
<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:	
Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..	
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vine - All woody vines greater than 3.28 ft in height.	

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>
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Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 22-Aug-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN33 Upland  
**Investigator(s):** AF JG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** flat **Slope:** 5.0 % / 2.9 °  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b>    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)	
<b>Field Observations:</b>			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION - Use scientific names of plants**

Sampling Point: AN33 Upland

<b>Tree Stratum</b> (Plot size: 30' )					
1. <i>Fagus grandifolia</i>	10	<input checked="" type="checkbox"/>	33.3%	FACU	
2. <i>Acer saccharum</i>	10	<input checked="" type="checkbox"/>	33.3%	FACU-	
3. <i>Tsuga canadensis</i>	10	<input checked="" type="checkbox"/>	33.3%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	<b>30</b>	<b>= Total Cover</b>			
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Fagus grandifolia</i>	25	<input checked="" type="checkbox"/>	41.7%	FACU	
2. <i>Populus tremula</i>	15	<input checked="" type="checkbox"/>	25.0%	FACU	
3. <i>Pinus strobus</i>	5	<input type="checkbox"/>	8.3%	FACU	
4. <i>Fraxinus pennsylvanica</i>	10	<input type="checkbox"/>	16.7%	FACW	
5. <i>Quercus rubra</i>	5	<input type="checkbox"/>	8.3%	FACU-	
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	<b>60</b>	<b>= Total Cover</b>			
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Dennstaedtia punctilobula</i>	75	<input checked="" type="checkbox"/>	96.2%	UPL	
2. <i>Maianthemum canadense</i>	3	<input type="checkbox"/>	3.8%	FAC-	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
	<b>78</b>	<b>= Total Cover</b>			
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
	<b>0</b>	<b>= Total Cover</b>			

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:		
<b>OBL species</b>	<u>0</u>	x 1 =	<u>0</u>	
<b>FACW species</b>	<u>10</u>	x 2 =	<u>20</u>	
<b>FAC species</b>	<u>3</u>	x 3 =	<u>9</u>	
<b>FACU species</b>	<u>80</u>	x 4 =	<u>320</u>	
<b>UPL species</b>	<u>75</u>	x 5 =	<u>375</u>	
<b>Column Totals:</b>	<u>168</u> (A)		<u>724</u> (B)	
Prevalence Index = B/A =			<u>4.310</u>	

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.







AN33 Wetland



AN33 Upland



AN33 Wetland



AN33 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 26-Sep-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** AN35 wetland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      **T.**      **R.**  
**Landform (hillslope, terrace, etc.):** Footslope      **Local relief (concave, convex, none):** flat      **Slope:** 5.0% / 2.9°  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:** PFO/PSS

Are climatic/hydrologic conditions on the site typical for this time of year?    Yes  No     (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed?    Are "Normal Circumstances" present?    Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic?    (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present?    Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland?    Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Wetland partially within Transmission ROW and extends downslope to the North.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
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<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches):    2 Saturation Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches):    0 (includes capillary fringe)																																
Wetland Hydrology Present?    Yes <input checked="" type="radio"/> No <input type="radio"/>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Sampling Point: AN35 wetland

<b>Tree Stratum</b> (Plot size: 30' )					
1. <i>Acer rubrum</i>	15	<input checked="" type="checkbox"/>	27.3%	FAC	
2. <i>Betula alleghaniensis</i>	15	<input checked="" type="checkbox"/>	27.3%	FAC	
3. <i>Fraxinus pennsylvanica</i>	25	<input checked="" type="checkbox"/>	45.5%	FACW	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	55	<b>= Total Cover</b>			
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )					
1. <i>Fraxinus pennsylvanica</i>	20	<input checked="" type="checkbox"/>	66.7%	FACW	
2. <i>Ilex verticillata</i>	10	<input checked="" type="checkbox"/>	33.3%	FACW+	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
	30	<b>= Total Cover</b>			
<b>Herb Stratum</b> (Plot size: 5' )					
1. <i>Onoclea sensibilis</i>	50	<input checked="" type="checkbox"/>	83.3%	FACW	
2. <i>Osmunda cinnamomea</i>	10	<input type="checkbox"/>	16.7%	FACW	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
	60	<b>= Total Cover</b>			
<b>Woody Vine Stratum</b> (Plot size: )					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
	0	<b>= Total Cover</b>			

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:
<b>OBL species</b>	0	x 1 = 0
<b>FACW species</b>	115	x 2 = 230
<b>FAC species</b>	30	x 3 = 90
<b>FACU species</b>	0	x 4 = 0
<b>UPL species</b>	0	x 5 = 0
<b>Column Totals:</b>	<u>145</u> (A)	<u>320</u> (B)

Prevalence Index = B/A = 2.207

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 26-Sep-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an35 upland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): flat Slope: 5.0 % / 2.9 °  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	









AN35 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 27-Sep-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an36 wetland  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Saddle Local relief (concave, convex, none): flat Slope: 0.0% / 0.0°  
 Subregion (LRR or MLRA): Lat.: Long.: Datum:  
 Soil Map Unit Name: NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.) Saddle PFO between ridgeline near ATV trail. Drains west through boulders	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of 2 required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																
<b>Field Observations:</b> <table style="width:100%; border: none;"> <tr> <td style="width:30%;">Surface Water Present?</td> <td style="width:10%;">Yes <input type="radio"/> No <input checked="" type="radio"/></td> <td style="width:20%;">Depth (inches): _____</td> <td style="width:40%;"></td> </tr> <tr> <td>Water Table Present?</td> <td>Yes <input checked="" type="radio"/> No <input type="radio"/></td> <td>Depth (inches): <u>1</u></td> <td rowspan="2" style="text-align: right; vertical-align: middle;"><b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/></td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td>Yes <input checked="" type="radio"/> No <input type="radio"/></td> <td>Depth (inches): <u>0</u></td> </tr> </table>		Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>																				
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Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>																														
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an36 wetland

Tree Stratum (Plot size: 30' )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/>	100.0%	FAC	
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15' )</b>					
	20	<b>= Total Cover</b>			
1. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/>	34.5%	FAC	
2. <i>Betula alleghaniensis</i>	20	<input checked="" type="checkbox"/>	34.5%	FAC	
3. <i>Fraxinus pennsylvanica</i>	8	<input type="checkbox"/>	13.8%	FACW	
4. <i>Viburnum lantanoides</i>	10	<input type="checkbox"/>	17.2%	FAC	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>Herb Stratum (Plot size: 5' )</b>					
	58	<b>= Total Cover</b>			
1. <i>Betula alleghaniensis</i>	15	<input checked="" type="checkbox"/>	45.5%	FAC	
2. <i>Osmunda regalis</i>	3	<input type="checkbox"/>	9.1%	OBL	
3. <i>Osmunda cinnamomea</i>	15	<input checked="" type="checkbox"/>	45.5%	FACW	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>Woody Vine Stratum (Plot size: )</b>					
	33	<b>= Total Cover</b>			
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
	0	<b>= Total Cover</b>			

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
<b>OBL species</b> <u>3</u>	<b>x 1 =</b> <u>3</u>
<b>FACW species</b> <u>23</u>	<b>x 2 =</b> <u>46</u>
<b>FAC species</b> <u>85</u>	<b>x 3 =</b> <u>255</u>
<b>FACU species</b> <u>0</u>	<b>x 4 =</b> <u>0</u>
<b>UPL species</b> <u>0</u>	<b>x 5 =</b> <u>0</u>
<b>Column Totals:</b> <u>111</u> (A)	<u>304</u> (B)
Prevalence Index = B/A = <u>2.739</u>	

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 27-Sep-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** an36 upland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Saddle      **Local relief (concave, convex, none):** convex      **Slope:** 15.0 % / 8.5 °  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b>    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)	
<b>Field Observations:</b>			
Surface Water Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____			
Water Table Present?      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____			
Saturation Present? (includes capillary fringe)      Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an36 upland

Tree Stratum (Plot size: 30')	Absolute % Cover	<input type="checkbox"/>	Rel.Strat. Cover	Indicator Status	
1. <i>Acer saccharum</i>	15	<input checked="" type="checkbox"/>	33.3%	FACU-	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)
2. <i>Fagus grandifolia</i>	15	<input checked="" type="checkbox"/>	33.3%	FACU	
3. <i>Betula alleghaniensis</i>	15	<input checked="" type="checkbox"/>	33.3%	FAC	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>45 = Total Cover</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x 1 = <u>0</u> <b>FACW species</b> <u>0</u> x 2 = <u>0</u> <b>FAC species</b> <u>20</u> x 3 = <u>60</u> <b>FACU species</b> <u>66</u> x 4 = <u>264</u> <b>UPL species</b> <u>0</u> x 5 = <u>0</u> <b>Column Totals:</b> <u>86</u> (A) <u>324</u> (B)  Prevalence Index = B/A = <u>3.767</u>
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					
1. <i>Fagus grandifolia</i>	8	<input checked="" type="checkbox"/>	30.8%	FACU	
2. <i>Picea rubens</i>	18	<input checked="" type="checkbox"/>	69.2%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>26 = Total Cover</b>					
<b>Herb Stratum (Plot size: 5')</b>					
1. <i>Aralia nudicaulis</i>	5	<input checked="" type="checkbox"/>	33.3%	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Fagus grandifolia</i>	5	<input checked="" type="checkbox"/>	33.3%	FACU	
3. <i>Trientalis borealis</i>	5	<input checked="" type="checkbox"/>	33.3%	FAC	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>15 = Total Cover</b>					
<b>Woody Vine Stratum (Plot size: )</b>					
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>					<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN36 Wetand



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 27-Sep-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: an37 wetland  
 Investigator(s): AFJG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): flat Slope: 0.0% / 0.0°  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an37 wetland

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status		
1. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/> 100.0%	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2.	0	<input type="checkbox"/> 0.0%			
3.	0	<input type="checkbox"/> 0.0%			
4.	0	<input type="checkbox"/> 0.0%			
5.	0	<input type="checkbox"/> 0.0%			
6.	0	<input type="checkbox"/> 0.0%			
7.	0	<input type="checkbox"/> 0.0%			
<b>20 = Total Cover</b>					
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					
1. <i>Acer rubrum</i>	10	<input checked="" type="checkbox"/> 28.6%	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>3</u> x 1 = <u>3</u> <b>FACW species</b> <u>10</u> x 2 = <u>20</u> <b>FAC species</b> <u>50</u> x 3 = <u>150</u> <b>FACU species</b> <u>0</u> x 4 = <u>0</u> <b>UPL species</b> <u>0</u> x 5 = <u>0</u> <b>Column Totals:</b> <u>63</u> (A) <u>173</u> (B)  Prevalence Index = B/A = <u>2.746</u>	
2. <i>Betula alleghaniensis</i>	20	<input checked="" type="checkbox"/> 57.1%	FAC		
3. <i>Vaccinium corymbosum</i>	5	<input type="checkbox"/> 14.3%	FACW-		
4.	0	<input type="checkbox"/> 0.0%			
5.	0	<input type="checkbox"/> 0.0%			
6.	0	<input type="checkbox"/> 0.0%			
7.	0	<input type="checkbox"/> 0.0%			
<b>35 = Total Cover</b>					
<b>Herb Stratum (Plot size: 5')</b>					
1. <i>Osmunda cinnamomea</i>	5	<input checked="" type="checkbox"/> 62.5%	FACW		
2. <i>Carex lurida</i>	3	<input checked="" type="checkbox"/> 37.5%	OBL		
3.	0	<input type="checkbox"/> 0.0%			
4.	0	<input type="checkbox"/> 0.0%			
5.	0	<input type="checkbox"/> 0.0%			
6.	0	<input type="checkbox"/> 0.0%			
7.	0	<input type="checkbox"/> 0.0%			
8.	0	<input type="checkbox"/> 0.0%			
9.	0	<input type="checkbox"/> 0.0%			
10.	0	<input type="checkbox"/> 0.0%			
11.	0	<input type="checkbox"/> 0.0%			
12.	0	<input type="checkbox"/> 0.0%			
<b>8 = Total Cover</b>					
<b>Woody Vine Stratum (Plot size: )</b>					
1.	0	<input type="checkbox"/> 0.0%			
2.	0	<input type="checkbox"/> 0.0%			
3.	0	<input type="checkbox"/> 0.0%			
4.	0	<input type="checkbox"/> 0.0%			
<b>0 = Total Cover</b>					

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 <sup>1</sup>

Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 27-Sep-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: \_\_\_\_\_ Sampling Point: an37 upland  
 Investigator(s): AF JG Section, Township, Range: S. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): undulating Slope: 25.0 % / 14.0 °  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  		
Remarks:   		

**VEGETATION - Use scientific names of plants**

Sampling Point: an37 upland

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30' )				
1. <i>Quercus rubra</i>	50	<input checked="" type="checkbox"/>	60.2%	FACU-
2. <i>Tsuga canadensis</i>	33	<input checked="" type="checkbox"/>	39.8%	FACU
3.	0	<input type="checkbox"/>	0.0%	
4.	0	<input type="checkbox"/>	0.0%	
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
<b>83 = Total Cover</b>				
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )				
1. <i>Acer rubrum</i>	10	<input checked="" type="checkbox"/>	25.0%	FAC
2. <i>Acer pensylvanicum</i>	15	<input checked="" type="checkbox"/>	37.5%	FACU
3. <i>Viburnum lantanoides</i>	15	<input checked="" type="checkbox"/>	37.5%	FAC
4.	0	<input type="checkbox"/>	0.0%	
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
<b>40 = Total Cover</b>				
<b>Herb Stratum</b> (Plot size: 5' )				
1. <i>Aralia nudicaulis</i>	5	<input checked="" type="checkbox"/>	33.3%	FACU
2. <i>Quercus rubra</i>	10	<input checked="" type="checkbox"/>	66.7%	FACU-
3.	0	<input type="checkbox"/>	0.0%	
4.	0	<input type="checkbox"/>	0.0%	
5.	0	<input type="checkbox"/>	0.0%	
6.	0	<input type="checkbox"/>	0.0%	
7.	0	<input type="checkbox"/>	0.0%	
8.	0	<input type="checkbox"/>	0.0%	
9.	0	<input type="checkbox"/>	0.0%	
10.	0	<input type="checkbox"/>	0.0%	
11.	0	<input type="checkbox"/>	0.0%	
12.	0	<input type="checkbox"/>	0.0%	
<b>15 = Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: )				
1.	0	<input type="checkbox"/>	0.0%	
2.	0	<input type="checkbox"/>	0.0%	
3.	0	<input type="checkbox"/>	0.0%	
4.	0	<input type="checkbox"/>	0.0%	
<b>0 = Total Cover</b>				

<b>Dominance Test worksheet:</b>			
Number of Dominant Species That are OBL, FACW, or FAC:	2		(A)
Total Number of Dominant Species Across All Strata:	7		(B)
Percent of dominant Species That Are OBL, FACW, or FAC:	28.6%		(A/B)
<b>Prevalence Index worksheet:</b>			
Total % Cover of:		Multiply by:	
<b>OBL species</b>	0	x 1 =	0
<b>FACW species</b>	0	x 2 =	0
<b>FAC species</b>	25	x 3 =	75
<b>FACU species</b>	113	x 4 =	452
<b>UPL species</b>	0	x 5 =	0
<b>Column Totals:</b>	138	(A)	527 (B)
Prevalence Index = B/A =		3.819	
<b>Hydrophytic Vegetation Indicators:</b>			
<input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b>			
<input type="checkbox"/> <b>Dominance Test is &gt; 50%</b>			
<input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup>			
<input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
<input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)			
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
<b>Definitions of Vegetation Strata:</b>			
Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.			
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
Woody vine - All woody vines greater than 3.28 ft in height.			
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>			

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN37 Wetand

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Antrim Wind Project      **City/County:** Antrim      **Sampling Date:** 27-Sep-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC      **State:** NH      **Sampling Point:** an38 wetland  
**Investigator(s):** AF JG      **Section, Township, Range:** S.      T.      R.  
**Landform (hillslope, terrace, etc.):** Terrace      **Local relief (concave, convex, none):** flat      **Slope:** 0.0% / 0.0°  
**Subregion (LRR or MLRA):**      **Lat.:**      **Long.:**      **Datum:**  
**Soil Map Unit Name:**      **NWI classification:** PFO/PSS

**Are climatic/hydrologic conditions on the site typical for this time of year?**      Yes  No       (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?**      Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?**      (If needed, explain any answers in Remarks.)

### Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Potential Vernal Pool. Wetland in ledge pocket on West side of ridgeline.	

### Hydrology

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>12</u> Water Table Present?      Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u> Saturation Present?      Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u> (includes capillary fringe)	
<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: an38 wetland

Tree Stratum (Plot size: 30' )	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
1. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/> 100.0%	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Sapling/Shrub Stratum (Plot size: 15' )</b>				
1. <i>Ilex verticillata</i>	50	<input checked="" type="checkbox"/> 100.0%	FACW+	
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
<b>Herb Stratum (Plot size: 5' )</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Osmunda cinnamomea</i>	10	<input checked="" type="checkbox"/> 35.7%	FACW	
2. <i>Iris versicolor</i>	3	<input type="checkbox"/> 10.7%	OBL	
3. <i>Coptis trifolia</i>	15	<input checked="" type="checkbox"/> 53.6%	FACW	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
11.	0	<input type="checkbox"/> 0.0%		
12.	0	<input type="checkbox"/> 0.0%		
<b>Woody Vine Stratum (Plot size: )</b>				<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
<b>0 = Total Cover</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 27-Sep-11  
**Applicant/Owner:** Eollan Renewable Energy, LLC **State:** NH **Sampling Point:** AN38 upland  
**Investigator(s):** AF JG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Hillside **Local relief (concave, convex, none):** undulating **Slope:** 25.0 % / 14.0 °  
**Subregion (LRR or MLRA):** **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN38 upland

Tree Stratum (Plot size: 30')	Absolute % Cover		Rel.Strat. Cover	Indicator Status	
1. <i>Pinus strobus</i>	33	<input checked="" type="checkbox"/>	34.4%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. <i>Fagus grandifolia</i>	33	<input checked="" type="checkbox"/>	34.4%	FACU	
3. <i>Quercus rubra</i>	15	<input type="checkbox"/>	15.6%	FACU-	
4. <i>Tsuga canadensis</i>	15	<input type="checkbox"/>	15.6%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>96 = Total Cover</b>					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x 1 = <u>0</u> <b>FACW species</b> <u>0</u> x 2 = <u>0</u> <b>FAC species</b> <u>0</u> x 3 = <u>0</u> <b>FACU species</b> <u>123</u> x 4 = <u>492</u> <b>UPL species</b> <u>0</u> x 5 = <u>0</u> <b>Column Totals:</b> <u>123</u> (A) <u>492</u> (B)  Prevalence Index = B/A = <u>4.000</u>
<b>Sapling/Shrub Stratum (Plot size: 15')</b>					
1. <i>Fagus grandifolia</i>	25	<input checked="" type="checkbox"/>	100.0%	FACU	
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>25 = Total Cover</b>					
<b>Herb Stratum (Plot size: 5')</b>					<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0<sup>1</sup></b> <input type="checkbox"/> <b>Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</b> <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</b>  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Quercus rubra</i>	1	<input checked="" type="checkbox"/>	50.0%	FACU-	
2. <i>Fagus grandifolia</i>	1	<input checked="" type="checkbox"/>	50.0%	FACU	
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>2 = Total Cover</b>					
<b>Woody Vine Stratum (Plot size: )</b>					<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Hydrophytic Vegetation Present?      Yes <input type="radio"/>      No <input checked="" type="radio"/></b>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN38 Wetland



AN38 Upland



AN38 Wetland



AN38 Wetland

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Antrim Wind Project City/County: Antrim Sampling Date: 30-Nov-11  
 Applicant/Owner: Eolian Renewable Energy, LLC State: NH Sampling Point: AN41up  
 Investigator(s): AF JG Section, Township, Range: S. T. R.  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex Slope: 0.0 % / 0.0 °  
 Subregion (LRR or MLRA): LRR R Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	



**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN41up

Tree Stratum (Plot size: 30' )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>10</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)
1. <i>Acer rubrum</i>	20	<input checked="" type="checkbox"/>	33.3%	FAC	
2. <i>Fagus grandifolia</i>	15	<input checked="" type="checkbox"/>	25.0%	FACU	
3. <i>Picea rubens</i>	10	<input type="checkbox"/>	16.7%	FACU	
4. <i>Quercus rubra</i>	15	<input checked="" type="checkbox"/>	25.0%	FACU-	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>60 = Total Cover</b>					
Sapling/Shrub Stratum (Plot size: 15' )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: <b>OBL species</b> <u>0</u> x 1 = <u>0</u> <b>FACW species</b> <u>0</u> x 2 = <u>0</u> <b>FAC species</b> <u>39</u> x 3 = <u>117</u> <b>FACU species</b> <u>120</u> x 4 = <u>480</u> <b>UPL species</b> <u>0</u> x 5 = <u>0</u> <b>Column Totals:</b> <u>159</u> (A) <u>597</u> (B)  Prevalence Index = B/A = <u>3.755</u>
1. <i>Fagus grandifolia</i>	10	<input checked="" type="checkbox"/>	40.0%	FACU	
2. <i>Picea rubens</i>	10	<input checked="" type="checkbox"/>	40.0%	FACU	
3. <i>Pinus strobus</i>	5	<input checked="" type="checkbox"/>	20.0%	FACU	
4.	0	<input type="checkbox"/>	0.0%		
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
<b>25 = Total Cover</b>					
Herb Stratum (Plot size: 5' )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> <b>Rapid Test for Hydrophytic Vegetation</b> <input type="checkbox"/> <b>Dominance Test is &gt; 50%</b> <input type="checkbox"/> <b>Prevalence Index is ≤3.0</b> <sup>1</sup> <input type="checkbox"/> <b>Morphological Adaptations</b> <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> <b>Problematic Hydrophytic Vegetation</b> <sup>1</sup> (Explain)
1. <i>Dryopteris intermedia</i>	15	<input checked="" type="checkbox"/>	20.3%	FACU	
2. <i>Gaultheria procumbens</i>	15	<input checked="" type="checkbox"/>	20.3%	FACU	
3. <i>Thelypteris noveboracensis</i>	19	<input checked="" type="checkbox"/>	25.7%	FAC	
4. <i>Lycopodium obscurum</i>	25	<input checked="" type="checkbox"/>	33.8%	FACU	
5.	0	<input type="checkbox"/>	0.0%		
6.	0	<input type="checkbox"/>	0.0%		
7.	0	<input type="checkbox"/>	0.0%		
8.	0	<input type="checkbox"/>	0.0%		
9.	0	<input type="checkbox"/>	0.0%		
10.	0	<input type="checkbox"/>	0.0%		
11.	0	<input type="checkbox"/>	0.0%		
12.	0	<input type="checkbox"/>	0.0%		
<b>74 = Total Cover</b>					
Woody Vine Stratum (Plot size: )	Absolute % Cover		Rel.Strat. Cover	Indicator Status	<b>Definitions of Vegetation Strata:</b>  Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.
1.	0	<input type="checkbox"/>	0.0%		
2.	0	<input type="checkbox"/>	0.0%		
3.	0	<input type="checkbox"/>	0.0%		
4.	0	<input type="checkbox"/>	0.0%		
<b>0 = Total Cover</b>					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>					

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

**Project/Site:** Antrim Wind Project **City/County:** Antrim **Sampling Date:** 30-Nov-11  
**Applicant/Owner:** Eolian Renewable Energy, LLC **State:** NH **Sampling Point:** AN41wet  
**Investigator(s):** AF JG **Section, Township, Range:** S. T. R.  
**Landform (hillslope, terrace, etc.):** Toeslope **Local relief (concave, convex, none):** concave **Slope:** 0.0 % / 0.0 °  
**Subregion (LRR or MLRA):** LRR R **Lat.:** **Long.:** **Datum:**  
**Soil Map Unit Name:** **NWI classification:** PFO

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes  No  (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?** **Are "Normal Circumstances" present?** Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**  **naturally problematic?** (If needed, explain any answers in Remarks.)

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks: (Explain alternative procedures here or in a separate report.)</b> Isolated PFO at toe of slope in a basin formation.	

**Hydrology**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of 2 required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0 Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0	
<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Sphagnum 50% cover.	

**VEGETATION - Use scientific names of plants**

Dominant Species?

Sampling Point: AN41wet

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Acer rubrum</i>	33	<input checked="" type="checkbox"/> 76.7%	FAC
2. <i>Fraxinus pennsylvanica</i>	10	<input checked="" type="checkbox"/> 23.3%	FACW
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
<b>43 = Total Cover</b>			
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Acer rubrum</i>	10	<input checked="" type="checkbox"/> 55.6%	FAC
2. <i>Betula alleghaniensis</i>	8	<input checked="" type="checkbox"/> 44.4%	FAC
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
<b>18 = Total Cover</b>			
Herb Stratum (Plot size: 5')	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1. <i>Osmunda cinnamomea</i>	50	<input checked="" type="checkbox"/> 100.0%	FACW
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
<b>50 = Total Cover</b>			
Woody Vine Stratum (Plot size: )	Absolute % Cover	Rel.Strat. Cover	Indicator Status
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
<b>0 = Total Cover</b>			

<b>Dominance Test worksheet:</b>			
Number of Dominant Species That are OBL, FACW, or FAC:	5	(A)	
Total Number of Dominant Species Across All Strata:	5	(B)	
Percent of dominant Species That Are OBL, FACW, or FAC:	100.0%	(A/B)	
<b>Prevalence Index worksheet:</b>			
Total % Cover of:	Multiply by:		
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	51	x 3 =	153
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
<b>Column Totals:</b>	<b>111</b>	<b>(A)</b>	<b>273</b> <b>(B)</b>
Prevalence Index = B/A =		2.459	
<b>Hydrophytic Vegetation Indicators:</b>			
<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation			
<input checked="" type="checkbox"/> Dominance Test is > 50%			
<input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 <sup>1</sup>			
<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
<b>Definitions of Vegetation Strata:</b>			
Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.			
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
Woody vine - All woody vines greater than 3.28 ft in height.			
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>			

Remarks: (Include photo numbers here or on a separate sheet.)

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.





AN41 Wetland

**EXHIBIT 6**

**USACE NH PROGRAMMATIC PERMIT APPENDIX B**



**US Army Corps  
of Engineers**  
New England District

**New Hampshire General Permits (GPs)  
Appendix B - Corps Secondary Impacts Checklist  
(for inland wetland/waterway fill projects in New Hampshire)**

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

<b>1. Impaired Waters</b>	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See <a href="http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm">http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm</a> to determine if there is an impaired water in the vicinity of your work area.*		✓
<b>2. Wetlands</b>	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	✓	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> . The book <a href="#">Natural Community Systems of New Hampshire</a> also contains specific information about the natural communities found in NH.		✓
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	✓	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		✓
2.5 The overall project site is more than 40 acres?	✓	
2.6 What is the area of the previously filled wetlands?	9,277 sf	
2.7 What is the area of the proposed fill in wetlands?	10,000 sf	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	0.3 %	
<b>3. Wildlife</b>	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> USFWS IPAC website: <a href="https://ecos.fws.gov/ipac/location/index">https://ecos.fws.gov/ipac/location/index</a>		✓



3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: <ul style="list-style-type: none"> <li>• PDF: <a href="http://www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm">www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm</a>.</li> <li>• Data Mapper: <a href="http://www.granit.unh.edu">www.granit.unh.edu</a>.</li> <li>• GIS: <a href="http://www.granit.unh.edu/data/downloadfreedata/category/databycategory.html">www.granit.unh.edu/data/downloadfreedata/category/databycategory.html</a>.</li> </ul>	✓	
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?	✓	
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		✓
3.5 Are stream crossings designed in accordance with the GC 21?	✓	
<b>4. Flooding/Floodplain Values</b>	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		✓
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		
<b>5. Historic/Archaeological Resources</b>		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form ( <a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a> ) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	✓	

\*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

\*\* If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

**EXHIBIT 7**  
**PROPERTY INFORMATION**

<b>Map</b>	<b>Lot</b>	<b>Owner</b>	<b>Type</b>	<b>Property Address</b>	<b>Owner Address</b>	<b>Owner Address</b>
212	27.1	PSNH DBA EVERSOURCE ENERGY	Project Parcels	KEENE ROAD	780 NORTH COMMERCIAL STREET	MANCHESTER, NH 03101
212	27	MICHAEL JAMES HUTCHINS OTT	Project Parcels	354 KEENE ROAD	PO BOX 160	ANTRIM, NH 03440

EOLIAN RENEWABLE ENERGY LLC  
155 FLEET ST.  
PORTSMOUTH NH 03801  
ATTN: JACK KENWORTHY

Antrim Wind (Antrim, NH – Map #212 Lot #'s 212-030-000; 212-027-000; 212-034-000 –  
Michael J. Ott)

**EXHIBIT C**  
MEMORANDUM OF LEASE

**PARTIES TO LEASE:**

LESSOR  
Michael J. Ott  
P.O. Box 160  
Antrim, New Hampshire 03440

LESSEE  
Antrim Wind Energy LLC  
c/o Eolian Renewable Energy  
155 Fleet Street  
Portsmouth, New Hampshire 03801

**PREMISES:**

Lessor is the owner of that certain real property described in Exhibit A attached hereto (“Lessor’s Land”). Lessor leases to Lessee all or a portion of Lessor’s Property as depicted on the map attached hereto as Exhibit B (the “Leased Premises”), together with the non-exclusive right of ingress to and egress from Windpower Facilities (defined in the Lease) located on the Leased Premises, adjoining properties and elsewhere over and across the Leased Premises and Lessor’s Land by means of existing roads and lanes, if any, or otherwise by such route or routes as Lessee may construct from time to time.

**TERM OF LEASE:**

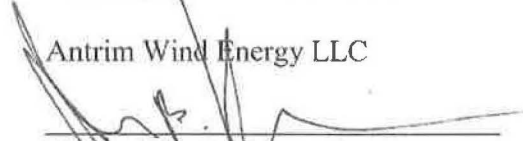
Lease shall be for an initial term of twenty-five (25) years and shall commence on the Effective Date.

**EXTENSION TERM:**

Lessee shall have the option to renew the Lease for one additional twenty-five (25) year term.

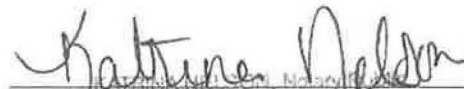
Antrim Wind (Antrim, NH – Map #212 Lot #'s 212-030-000; 212-027-000; 212-034-000 – Michael J. Ott)

DATED at Portsmouth, New Hampshire this 18th day of December 2009.


By:   
Name: John B. Kenworthy  
Its: Manager

STATE OF NEW HAMPSHIRE  
ss.:  
COUNTY OF ~~HILLSBORO~~ Rockingham

On this 18th day of December, 2009, before me, the undersigned, a Notary Public in and for said State, personally appeared John B. Kenworthy, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his, signature on the instrument, the individual(s) or the person(s) upon behalf of which the individual acted, executed the instrument.

  
My Commission Expires May 10, 2010 Notary Public

DATED at Town Hall, Antrim NH this 24 day of December, 2009.

MICHAEL J.H. OTT  
By:   
Name: Michael J. H. Ott  
Its: Self

STATE OF NEW HAMPSHIRE  
ss.:  
COUNTY OF HILLSBORO

On this 24 day of December, 2009 before me, the undersigned, a Notary Public in and for said State, personally appeared Michael J. H. Ott, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his, signature on the instrument, the individual(s) or the person(s) upon behalf of which the individual acted, executed the instrument.



  
Notary Public

EXHIBIT A to MEMORANDUM OF LEASE

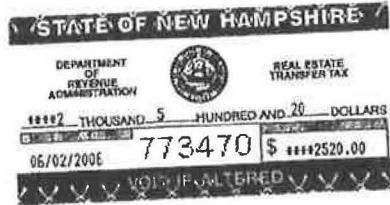
6038778

2006 JUN -2 PM 2:37

AL7

Record and return to:  
Craighead and Martin, PLLC  
62 Stark Street  
Manchester, NH 03101

22.39  
2  
24.39



9-60  
9-61  
9-64

2520

TS

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, That, we, John A. Eddy and Laura C. Eddy, husband and wife, both of 763 Templeton Turnpike Road, Fitzwilliam, County of Cheshire, and State of New Hampshire, for consideration paid, grants to Michael James Hutchins Ott, a single person of 493 Ocean Boulevard, #24, Hampton, County of Rockingham, and State of New Hampshire, with Warranty Covenants:

The following four (4) tracts of land situated in Antrim, County of Hillsborough and State of New Hampshire:

Tract 1:

A certain tract of land situated in the northwest part of Antrim in the County of Hillsborough and State of New Hampshire, bounded and described as follows:

Beginning at the Northeast corner of the premises at a stake and stones by an old road leading from near the dwelling formerly occupied by Walter Buchanan to the dwelling of the late William R. Carr; thence

1. Westerly by the same old road about 101.5 rods to land formerly owned by the late Hiram Griffin; thence
2. Southerly by said Griffin land about 62 rods to the corner of the wall by land of the Steele heirs; thence
3. Easterly by said last mentioned land about 94 rods to the corner of the wall by land of the late William R. Carr; thence
4. Northerly by said Carr land about 19.5 rods to a stake and stones; thence

7-20-33

7-21-205

7-24-2.5

9-61-205  
212-30-24(ack)

BK 7685P60864  
9-60-33  
212-27-39(ack)

9-64-2.5  
212-35-5(ack)

ORIGINAL NOT SUITABLE FOR  
PROPER REPRODUCTION

5. Easterly by said Carr land about 21.5 rods to a stake and stones; thence
6. Northerly by said Carr land about 49 rods to the first named bound.

Estimated to contain 43 acres, more or less.

**Tract 2:**

Also another tract of land situated in the northwest part of said Antrim, New Hampshire, bounded and described as follows:

Beginning at the Northeast corner of the premises; thence

1. Southerly by land formerly owned by Samuel Tuttle 52 rods; thence
2. Westerly by the wall by land formerly owned by Dodge to the Northwest corner of said Dodge land; thence
3. Southerly by said Dodge land to land formerly owned by Davis; thence
4. Westerly by said Davis land and land formerly owned by Handley to land formerly of Samuel Curtis; thence
5. Northerly and Easterly by said Curtis land to land formerly owned by John McClure, et al; thence
6. Easterly by said McClure land to land formerly owned by Samuel Weston; thence
7. Southerly by said Weston land to land formerly owned by Samuel Tuttle, et al, about 57 rods; thence
8. Easterly by said Tuttle land to the point of beginning.

Said to contain 150 acres, more or less.

**Tract 3:**

A certain tract of land with the buildings thereon, if any, situate in the north part of Antrim, Hillsborough County and State of New Hampshire, bounded and described as follows:

BK 7685PG0865

Beginning at the Northwest corner of the premises at a stake and stones by land formerly owned by John Dodge; thence

1. Southerly by said Dodge land to the old road leading from the former residence of William R. Carr to the former residence of Samuel Dinsmore, to a stake and stones; thence
2. Easterly by said road about 37 rods to stake and stones; thence
3. Northerly by land formerly owned by Chandler Boutelle to a stake and stones by land formerly owned by Grafton Curtice; thence
4. Westerly by said Curtice land to the bound first mentioned.

Estimated to contain 6.5 acres, more or less, but reserving to the Public Service Company of New Hampshire and those claiming under it, any pole rights it may have acquired.

**Tract 4:**

Also another tract adjoining the above tract, bounded and described as follows:

Beginning at a bound on the Southerly side of the Keene Road, State Highway, at an old roadway; thence

1. Easterly by said Keene Road to land formerly of William M. Conn; thence
2. Southerly by wall and said Conn land to land formerly of William Boutelle; thence
3. Westerly by said Boutelle land to a stake and stones; thence
4. Southerly by said Boutelle land to the Old Town Road; Thence
5. Westerly by said Old Road to road first above mentioned; thence
6. Northerly by said roadway to the bound of beginning.

Said premises are subject to the rights of the public of the State highway and rights heretofore conveyed to the Public Service Company of New Hampshire.

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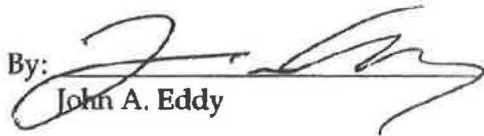


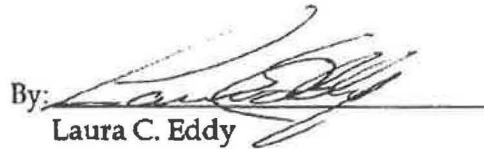
Subject to current use tax recorded with the said Registry of Deeds at Book 3696, Page 137.

This conveyance of the within described properties are not subject to homestead rights.

Meaning and intending to describe and convey the same premises conveyed to the within grantor by Warranty Deed of Donald H. Hardwick, Sr., dated June 10<sup>th</sup>, 1999, and recorded at the Hillsborough County Registry of Deeds at Book 6115 Page 1762.

SIGNED this 2<sup>nd</sup> day of June, 2006.

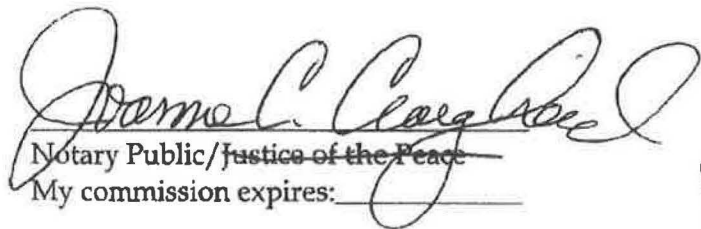
By:   
John A. Eddy

By:   
Laura C. Eddy

STATE OF NEW HAMPSHIRE  
COUNTY OF HILLSBOROUGH

On this 2<sup>nd</sup> day of June, 2006, personally appeared the above-named John A. Eddy and Laura C. Eddy, known to me (or satisfactorily proven) to be the persons whose names are subscribed to the foregoing instrument, and acknowledged that they executed the same in that capacity, and for the purposes therein contained.



  
Notary Public/Justice of the Peace  
My commission expires: \_\_\_\_\_

BK 7685 PG 0867