Project/Site: Antrim Wind Project			City/County	y: Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable En			Sta	te: NH	Sampling Point: an23 upland	
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	 Hillside		_	(concave, convex, r		Slope: 15.0 % / 8.5 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
Soil Map Unit Name:					NWI classif	ication:
Are climatic/hydrologic conditions on	the site ty	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	*
Are Vegetation . , Soil .	, or Hydrold	ogy 🗌 significant	ly disturbed	? Are "Normal	Circumstances" p	oresent? Yes • No O
Are Vegetation . , Soil .	, or Hydrolo	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Att		<u> </u>	ampling	point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •				
Hydric Soil Present?	Yes 🔾	No •		the Sampled Area thin a Wetland?	Yes O No 🗨)
Wetland Hydrology Present?	Yes 🔾	No •				
I hadrada aya						
Hydrology						
Wetland Hydrology Indicators:		لا با سمع فحطف الحاد الحاد عام				ors (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	requirea;		(DO)		Surface Soil C	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph	, ,	ing Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)		Presence of Reduc	-		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery		Other (Explain in F	Remarks)			phic Relief (D4)
Sparsely Vegetated Concave Surface	(88)				FAC-neutral T	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):			rology Present?	Yes ○ No •
Saturation Present? (includes capillary fringe) Yes		Depth (inches):				Tes O NO O
Describe Recorded Data (stream gau	uge, monito	oring well, aerial photo	os, previous	inspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of plants

			ominant pecies?		Sampling Point: an23 upland	
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status		
1. Quercus rubra	25	V	29.4%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A))
2. Fagus grandifolia	25	~	29.4%	FACU		
3. Betula alleghaniensis	25	~	29.4%	FAC	Total Number of Dominant Species Across All Strata: 6 (B)	1
4. Tsuga canadensis	10		11.8%	FACU	Species Across Air Strata.	
5.			0.0%		Percent of dominant Species	(D)
6.			0.0%		That Are OBL, FACW, or FAC: 33.3% (A/	(B)
7	0		0.0%		Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: 15')	85	= To	otal Cove	r	Total % Cover of: Multiply by:	
1. Acer rubrum	20	V	50.0%	FAC	0BL species 0 x 1 = 0	
2. Pinus strobus	10	✓	25.0%	FACU	FACW species x 2 = 0	
3. Fraxinus americana			12.5%	FACU	FAC species x 3 =	
4. Quercus rubra	5		12.5%	FACU-	FACU species $\frac{113}{}$ x 4 = $\frac{452}{}$	
5.		$\overline{\Box}$	0.0%		UPL species $\frac{3}{}$ x 5 = $\frac{15}{}$	
6.		$\overline{\Box}$	0.0%		Column Totals: 166 (A) 617 (E	B)
7.			0.0%		Prevalence Index = $B/A = 3.717$	
Herb Stratum (Plot size: 5')	40	= To	otal Cove	r	Hydrophytic Vegetation Indicators:	
					Rapid Test for Hydrophytic Vegetation	
1.Aralia nudicaulis			80.5%	FACU	Dominance Test is > 50%	
2.Trientalis borealis			12.2%	FAC	Prevalence Index is ≤3.0 ¹	
3. Polygonatum pubescens			7.3%	UPL	☐ Morphological Adaptations ¹ (Provide supportin	ıa
4			0.0%		data in Remarks or on a separate sheet)	3
5		Н	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)	1
6	0		0.0%			
7	0	Ц	0.0%		¹ Indicators of hydric soil and wetland hydrology mu be present, unless disturbed or problematic.	ıst
8	0	Ц	0.0%			
9	0	Ц	0.0%		Definitions of Vegetation Strata:	
10	0	Ц	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diame	eter
11		Щ	0.0%		at breast height (DBH), regardless of height.	
12	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH an	nd
Woody Vine Stratum (Plot size:)	=	= To	otal Cove	r	greater than 3.28 ft (1m) tall	
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless	s of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.	
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in	
4	0		0.0%		height.	
	:	= To	otal Cove	r		
					Hydrophytic Vegetation Present? Yes ○ No ●	
Remarks: (Include photo numbers here or on a separate s	heet.)					

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

Soil Sampling Point: an23 upland

	iption: (Desc	cribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (m	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
				Color (moist) 76 Type Loc-		Remarks
0-9	10YR	3/2	100%		Loam	
9-12	10YR	4/3	100%		Fine Sandy Loam	
¹ Type: C=Cond	centration. D=	-Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	ition: PL=Pore Lining. M=N	Matrix
Hydric Soil I	ndicators:				Indicators for Prob	lematic Hydric Soils : ³
Histosol (A	A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
	edon (A2)			MLRA 149B)		ox (A16) (LRR K, L, R)
Black Hist				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		or Peat (S3) (LRR K, L, R)
_	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7)	
	Layers (A5)			Loamy Gleyed Matrix (F2)	Polyvalue Below S	Surface (S8) (LRR K, L)
	Below Dark Su		11)	☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6)	Thin Dark Surface	e (S9) (LRR K, L)
	k Surface (A12			Depleted Dark Surface (F7)	Iron-Manganese I	Masses (F12) (LRR K, L, R)
	ck Mineral (S1			Redox Depressions (F8)	Piedmont Floodpl	ain Soils (F19) (MLRA 149B)
	yed Matrix (S	4)		E Redux Depressions (10)	Mesic Spodic (TA	6) (MLRA 144A, 145, 149B)
Sandy Red					Red Parent Mater	ial (TF2)
Stripped N					Very Shallow Dark	k Surface (TF12)
☐ Dark Surfa	ace (S7) (LRR	R, MLRA	149B)		Other (Explain in	Remarks)
³ Indicators of	hydrophytic v	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble	ematic.	
Restrictive La	aver (if obse	rved):				
Type: Bo	•					
Depth (inch					Hydric Soil Present?	Yes ○ No ●
	100)					
Remarks:						



AN23 Upland



AN23 Wetland

Project/Site: Antrim Wind Project			City/County:	Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewak	licant/Owner: Eolian Renewable Energy, LLC estigator(s): AF JG dform (hillslope, terrace, etc.): Terrace region (LRR or MLRA): Map Unit Name: climatic/hydrologic conditions on the site typical for this Vegetation , Soil , or Hydrology si Vegetation , Soil , or Hydrology n mmary of Findings - Attach site map sho drophytic Vegetation Present? Yes No			Sta	te: NH	Sampling Point: AN24 wetland
Investigator(s): AF JG	olicant/Owner: Eolian Renewable Energy, LLC estigator(s): AF JG dform (hillslope, terrace, etc.): Terrace oregion (LRR or MLRA): I Map Unit Name: climatic/hydrologic conditions on the site typical for this ti Vegetation , Soil , or Hydrology significant of the site typical for the site typical for this ti Vegetation , Soil , or Hydrology national for the site typical for the site typical for this ti Vegetation , Soil , or Hydrology national for the site typical for the site typical for this tipical for the site typical for the s		Section. 1	Γownship, Range:	S. T.	
): Terrace		_	concave, convex, n		Slope: 0.0 % / 0.0 °
•		Lat.:	•			Datum:
		Lat		Long		
Soil Map Unit Name:					NWI classif	ication: PFO
Are climatic/hydrologic conditio	ns on the site ty	pical for this time of y	ear? Y	es No	(If no, explain in	•
Are Vegetation, Soil	, or Hydrold	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil	, or Hydrok	ogy 🗌 naturally p	roblematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings -	Attach site	map showing s	ampling p	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present						
Hydric Soil Present?	Yes 💿	No O		ne Sampled Area nin a Wetland?	Yes ● No ○)
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Hydrology						
Wetland Hydrology Indicators:	f and required.	abook all that apply)				ors (minimum of 2 required)
Primary Indicators (minimum of Surface Water (A1)	one required;		(0.0)		Surface Soil Ci	
High Water Table (A2)		✓ Water-Stained Lea☐ Aquatic Fauna (B1)			✓ Drainage Patte Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		a Roots (C3)		ws (co) ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	-	ig 10003 (00)		essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc		oils (C6)	✓ Geomorphic P	` '
☐ Iron Deposits (B5)		Thin Muck Surface		,	Shallow Aquita	ard (D3)
☐ Inundation Visible on Aerial Im	agery (B7)	Other (Explain in R	` ,		Microtopograp	phic Relief (D4)
Sparsely Vegetated Concave Su	ırface (B8)				FAC-neutral To	est (D5)
Field Observations:						
	s • No O	Depth (inches):	2	_		
Water Table Present? Yes	s O No 💿	Depth (inches):				Yes ● No ○
Saturation Present? (includes capillary fringe) Yes	No O	Depth (inches):	0	Wetland Hydr	ology Present?	Yes ♥ NO ∪
Describe Recorded Data (stream	n gauge, monito	oring well, aerial photo	os, previous ir	nspections), if avail	able:	
Remarks:						
Sphagnum 50% cover.						

EGETATION - Use scientific names of p			ominant pecies?		Sar	npling Po	int: AN	24 wetlan	d
ree Stratum (Plot size: 30')	Absolute % Cover	Re	el.Strat.	Indicator Status	Dominance Test wo	orksheet:			
Acor rubrum	33	✓	76.7%	FAC	Number of Dominant			6	(4)
Detrole alleghanismale	10	V	23.3%	FAC	That are OBL, FACW,	OF FAC:			(A)
				FAC	Total Number of Dom	ninant			
	0		0.0%		Species Across All Str	ata:		6	(B)
			0.0%		Percent of dominar	nt Snacia	c		
			0.0%		That Are OBL, FAC			100.0%	(A/B
			0.0%						
	0	Ш	0.0%		Prevalence Index w				
apling/Shrub Stratum (Plot size: 15')	43	= To	otal Cove	r	Total % Cove		Multipl		
Hamamelis virginiana	10	~	66.7%	FAC-	OBL species	0	x 1 =	0	-
Potulo alloghanioneia		✓	33.3%	FAC	FACW species	35	x 2 =	70	_
-			0.0%	170	FAC species	58	x 3 =	174	_
			0.0%		FACU species	0	x 4 =	0	_
			0.0%		UPL speci es	0	x 5 =	0	_
			0.0%		Column Totals:	93	(A)	244	(B)
·	0		0.0%						-
		 = To	otal Cove		Prevalence Inc		-	2.624	
erb Stratum (Plot size: 5')					Hydrophytic Vegeta				
1 .Osmunda cinnamomea	25	✓	71.4%	FACW	Rapid Test for			tation	
2.Rubus hispidus	10	~	28.6%	FACW	✓ Dominance Te				
3.	0		0.0%		✓ Prevalence Inc				
4.			0.0%		Morphological data in Remar	Adaptati	ons ¹ (Pr	ovide supp	orting
5.			0.0%		Problematic H		-		lain)
5.			0.0%		Froblematic II	yaropriye	ic vegeta	ition (EX	Jiaiii)
7.			0.0%		1 Indicators of hyd				gy mus
3.			0.0%		be present, unless	disturbed	d or probl	lematic.	
9.			0.0%		Definitions of Ve	getatio	n Strata	:	
0.		\Box	0.0%		Tara Marada alam	- 0:- /-			r
1.		\Box	0.0%		Tree - Woody plant at breast height (DE				namete
2.		\Box	0.0%		(,,			
		 = To	otal Cove	r	Sapling/shrub - Wo greater than 3.28 ft				3H and
Voody Vine Stratum (Plot size:)					greater than 6.20 it	(IIII) tall			
•			0.0%		Herb - All herbaced				rdless
)			0.0%		size, and woody pla	ants less	man 3.20	o II Iali.	
3			0.0%		Woody vine - All wo	ody vine	s greater	r than 3.28	ft in
•		Ш	0.0%		height.				
	0	= To	otal Cove	r					
					Llydronbyd:-				
					Hydrophytic Vegetation				
					Present? Ye	es 💿 🛚 M	10 O		

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

Soil Sampling Point: AN24 wetland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (ı	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
0-8	10YR	2/1	100%	Coloi (moist) 20 Type Luc-	Muck	sapri c
8-12	10YR	2/1	100%		Very Fine Sandy Loam	
¹ Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=f	Matrix
Hydric Soil I	Indicators:				Indicators for Prob	lematic Hydric Soils : 3
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,		(LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)			MLRA 149B)		ox (A16) (LRR K, L, R)
Black Hist				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)Loamy Gleyed Matrix (F2)	Dark Surface (S7	
	Layers (A5)			Depleted Matrix (F3)	Polyvalue Below	Surface (S8) (LRR K, L)
	Below Dark S		11)	Redox Dark Surface (F6)	Thin Dark Surface	e (S9) (LRR K, L)
	k Surface (A1			Depleted Dark Surface (F7)		Masses (F12) (LRR K, L, R)
	uck Mineral (S eyed Matrix (S			Redox Depressions (F8)		ain Soils (F19) (MLRA 149B)
Sandy Re		34)				6) (MLRA 144A, 145, 149B)
	Matrix (S6)				Red Parent Mater	
	ace (S7) (LRF	R R. MLRA	149B)		Very Shallow Dar	
					Other (Explain in	Remarks)
			i and wella	and hydrology must be present, unless disturbed or proble	ematic.	
Restrictive L	•	erved):				
Type: Re					Hydric Soil Present?	Yes ● No ○
Depth (inc	hes): 12				Tryano com Fresent.	Tes C NO C
Remarks:						

Project/Site: Antrim Wind Project			City/Count	:y: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Ene			Sta	te: NH	Sampling Point: AN24 Upland	
Investigator(s): AF JG			Section	, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.):	lillside		-	f (concave, convex, r		
Subregion (LRR or MLRA):		Lat.:		Long	1.:	Datum:
					-	-
Soil Map Unit Name:					NWI classifi	cation:
Are climatic/hydrologic conditions on	the site typi	ical for this time of ye	ear?	Yes No	(If no, explain in	•
Are Vegetation , Soil ,	or Hydrolog	gy 🗌 significant	ly disturbed	l? Are "Normal	Circumstances" p	resent? Yes • No C
Are Vegetation, Soil,	or Hydrolog	gy 🗌 naturally p	roblematic1	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Atta	ach site r	map showing s	ampling	point location	s, transects,	important features, etc.
		No •				
3		No •		the Sampled Area thin a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present?	Yes O	No 💿				
I hadrala ma						
Hydrology						
Wetland Hydrology Indicators:	roquirod, al	hook all that anniv				rs (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	required; cr		(20)		Surface Soil Cr	
High Water Table (A2)		Water-Stained Leave Aquatic Fauna (B13)			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide C			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosphe		ving Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	-	o . ,	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled	Soils (C6)	Geomorphic Po	osition (D2)
☐ Iron Deposits (B5)		☐ Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (Other (Explain in R	emarks)		Microtopograp	
Sparsely Vegetated Concave Surface	(B8)				FAC-neutral Te	est (D5)
Field Observations:						
Surface Water Present? Yes	No 💿	Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No •	Depth (inches):		Wetland Hydi	rology Present?	res ○ NO ⑤
Describe Recorded Data (stream gauge	ge, monitori	ing well, aerial photo	s, previous	inspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN24 Upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
1. Picea rubens	10		16.7%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
Tsuga canadensis	25	V	41.7%	FACU	
Betula papyrifera	10		16.7%	FACU	Total Number of Dominant Species Across All Strata: 8 (B)
Quercus rubra	15	V	25.0%	FACU-	Species Across All Strata: 8 (B)
		\Box	0.0%		Percent of dominant Species
· ·			0.0%		That Are OBL, FACW, or FAC: 25.0% (A/B)
	0		0.0%		Prevalence Index worksheet:
		= Tc	tal Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')					0BL species 0 x 1 = 0
. Fagus grandifolia			20.0%	FACU	FACW species $0 \times 2 = 0$
Picea rubens			20.0%	FACU	FAC species 18 x 3 = 54
Hamamelis virginiana			20.0%	FAC-	FACU species 84 x 4 = 336
Viburnum lentago		✓	40.0%	FAC	
j	0		0.0%		UPL Species X 5 =
5	0		0.0%		Column Totals: 107 (A) 415 (B)
7	0	Ш	0.0%		Prevalence Index = B/A = 3.879
lerb Stratum (Plot size: 5')	25	= To	tal Cove	r	Hydrophytic Vegetation Indicators:
1	0	~	07.407	FAOU	Rapid Test for Hydrophytic Vegetation
1.Aralia nudicaulis			36.4%	FACU	☐ Dominance Test is > 50%
2.Lycopodium obscurum	3		13.6%	FACU	Prevalence Index is ≤3.0 ¹
3. Pteridium aquilinum			13.6%	FACU	Morphological Adaptations ¹ (Provide supporting
4. Polygonatum pubescens			22.7%	UPL	data in Remarks or on a separate sheet)
5.Trientalis borealis	3		13.6%	FAC	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6	0	\square	0.0%		11
7			0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8		\square	0.0%		Definitions of Vegetation Strata:
9		\vdash	0.0%		Definitions of Vegetation Strata.
0	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1	0		0.0%		at breast height (DBH), regardless of height.
2	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Noody Vine Stratum (Plot size:)	22	= To	tal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless o
			0.0%		size, and woody plants less than 3.28 ft tall.
2			0.0%		
3 4			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
t					neight.
	0	= 10	tal Cove	ſ	
					Hydrophytic
					Vegetation Vac Na (8)
					Present? Yes UNO U

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

Soil Sampling Point: AN24 Upland

	iption: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (m	/latrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
0-4	10YR	3/2	100%	Color (moist) 78 Type Luc-	Loam	Remarks
					Fine Sandy Loam	
4-8	10YR	4/3	100%			
8-10	10YR	5/8	100%		Fine Sandy Loam	
					E	
1		D l - 4!	- DM DI	Water CC Coursed to Control Co		A_A_:
		Depletio	n. RIVI=Rea	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	ntion: PL=Pore Lining. M=N	2
Hydric Soil I				Polyvalue Below Surface (S8) (LRR R,		ematic Hydric Soils : 3
	edon (A2)			MLRA 149B)		(LRR K, L, MLRA 149B)
Black Histi				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		or Peat (S3) (LRR K, L, R)
_	Layers (A5)			Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7)	
	Below Dark Su	rface (A	11)	Depleted Matrix (F3)	·	Surface (S8) (LRR K, L)
_	Surface (A12)		,	Redox Dark Surface (F6)	Thin Dark Surface	
	ck Mineral (S1)			Depleted Dark Surface (F7)	_	Masses (F12) (LRR K, L, R)
	yed Matrix (S4			Redox Depressions (F8)		nin Soils (F19) (MLRA 149B)
Sandy Red		,				6) (MLRA 144A, 145, 149B)
Stripped N					Red Parent Mater	
	ace (S7) (LRR I	R, MLRA	149B)			
3Indicators of	hydrophytic y	anatatini	n and wetla	nd hydrology must be present, unless disturbed or proble		Nemarks)
			ii aliu wetia	The frydrology must be present, unless disturbed of proble	ematic.	
Restrictive La	•	ved):				
Type: Re					Hydric Soil Present?	Yes ○ No ●
Depth (inch	nes):				,	100 0 110 0
Remarks:						
i						
i						



AN24 Wetland



AN24 Upland



AN24 Wetland

Project/Site: Antrim Wind Project	City/County:	Antrim	Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		State: NH	Sampling Point: AN25 Wetland
Investigator(s): AF JG	Section. To	ownship, Range: S. T.	
Landform (hillslope, terrace, etc.): Terrace		oncave, convex, none): concave	Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA):	 Lat.:	Long.:	Datum:
			
Soil Map Unit Name:			fication: PFO
Are climatic/hydrologic conditions on the site ty	pical for this time of year? Ye	S No (If no, explain i	*
Are Vegetation \square , Soil \square , or Hydro	ogy significantly disturbed?	Are "Normal Circumstances"	present? Yes No
Are Vegetation, Soil, or Hydro	ogy naturally problematic?	(If needed, explain any answ	vers in Remarks.)
Summary of Findings - Attach site	e map showing sampling p	oint locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No O		
Hydric Soil Present? Yes Yes		Sampled Area a a Wetland? Yes • No	
Wetland Hydrology Present? Yes	No O		
Llydrology			
Hydrology			
Wetland Hydrology Indicators:	shock all that apply)		tors (minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)		Surface Soil	
High Water Table (A2)	✓ Water-Stained Leaves (B9) Aquatic Fauna (B13)	☐ Drainage Pat☐ Moss Trim Li	
Saturation (A3)	Marl Deposits (B15)		Vater Table (C2)
✓ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burr	
Sediment Deposits (B2)	Oxidized Rhizospheres along Living		sible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or S	tressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil	s (C6) Geomorphic	Position (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)	Shallow Aqui	* *
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopogra	•
Sparsely Vegetated Concave Surface (B8)		FAC-neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes • No •	Depth (inches): 6		
Water Table Present? Yes No •	Depth (inches):	Wetland Hydrology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No	Depth (inches): 0	wettand Hydrology Present?	
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous ins	pections), if available:	
Remarks:			
Contained up to 2 feet of standing water in Ma	y.		

VEGETATION - Use scientific names of pl	arits		ominant oecies?		Sampling Point: AN25 Wetland	
Tree Stratum (Plot size: 30')	Absolute % Cover			Indicator Status	Dominance Test worksheet:	
1. Acer rubrum			100.0%		Number of Dominant Species That are OBL, FACW, or FAC: 5	(A)
2.		$\overline{\Box}$	0.0%		That are obl., thow, or tho.	(1)
3.	0	\Box	0.0%		Total Number of Dominant Species Across All Strata: 5	(D)
i.		\Box	0.0%		Species Across All Strata: 5	(B)
 		\Box	0.0%		Percent of dominant Species	
5.	0		0.0%		That Are OBL, FACW, or FAC: 100.0%	(A/B)
7			0.0%		Prevalence Index worksheet:	
		= To	otal Cove		Total % Cover of: Multiply by:	
Sapling/Shrub Stratum (Plot size: 15')					0BL speci es 5 x 1 = 5	
. Ilex verticillata	3	✓	100.0%	FACW+	FACW species 21 x 2 = 42	
2	0		0.0%		FAC speci es 50 x 3 = 150	
3	0		0.0%		FACU species 0 x 4 = 0	
1	0		0.0%			
5	0		0.0%		ore species x 5 =	(B)
5	0		0.0%		Column Totals:	(6)
7		Ш	0.0%		Prevalence Index = B/A = 2.592	
Herb Stratum (Plot size: 5')	3	= To	otal Cove	-	Hydrophytic Vegetation Indicators:	
1	5	✓	21.7%	OBL	Rapid Test for Hydrophytic Vegetation	
2.Scirpus cyperinus			43.5%	FACW+	✓ Dominance Test is > 50%	
3.0smunda cinnamomea				FACW+	✓ Prevalence Index is ≤3.0 ¹	
4. Carex Intumescens			13.0%	FACW+	☐ Morphological Adaptations ¹ (Provide support	ting
5.	0		0.0%	TACVV	data in Remarks or on a separate sheet)	
6.	0	П	0.0%		Problematic Hydrophytic Vegetation ¹ (Explai	in)
7.	0	П	0.0%		1 Indicators of hydric soil and wetland hydrology	must
8.		П	0.0%		be present, unless disturbed or problematic.	
9.		П	0.0%		Definitions of Vegetation Strata:	
0.		П	0.0%			
<u> </u>		П	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diar at breast height (DBH), regardless of height.	nete
2.	0	\Box	0.0%			
		 = To	otal Cove		Sapling/shrub - Woody plants less than 3 in. DBH	and
Woody Vine Stratum (Plot size:)					greater than 3.28 ft (1m) tall	
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardle	ess c
2	0		0.0%		size, and woody plants less than 3.28 ft tall.	
3			0.0%		Woody vine - All woody vines greater than 3.28 ft i	in
4	0		0.0%		height.	
	0 :	= To	otal Cove	=		
					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: AN25 Wetland

	ription: (Des	scribe to	the depth	needed to d	ocument	the indic	ator or c	onfirm the	absence of indicators.)	
Depth (inches)	. Color (i	Matrix	_ %	_ Color (n		dox Featu %		Loc²	Texture	Remarks
0-8	10YR	2/1		Coloi (ii	ioist)		- Type		Muck	Remarks
			700/	10)/5	= //	050/				
8-16	2.5Y	5/1	70%	10YR	5/6	25%	C		Fine Loamy Sand	
				2.5Y	6/1	5%	D	M		
									-	
									-	
¹ Type: C=Con	ncentration. D	=Depletion	n. RM=Red	uced Matrix, C	S=Covere	ed or Coate	ed Sand G	ains ² Loca	ation: PL=Pore Lining. M=N	Лatrix
Hydric Soil I	Indicators:								Indicators for Probl	lematic Hydric Soils : 3
Histosol ((A1)					v Surface ((S8) (LRR	R,		(LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)				. 149B)	(CO) (I	DD D MI	DA 140D)		ox (A16) (LRR K, L, R)
Black Hist						nce (S9) (I				or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)					Aineral (F1 Matrix (F2))	Dark Surface (S7)	
	Layers (A5)				ted Matrix		'		Polyvalue Below S	Surface (S8) (LRR K, L)
	Below Dark S		11)		k Dark Sui				Thin Dark Surface	e (S9) (LRR K, L)
	rk Surface (A					Surface (F	7)		_	Masses (F12) (LRR K, L, R)
	uck Mineral (S eyed Matrix (S				x Depress		,			ain Soils (F19) (MLRA 149B)
Sandy Re		34)								6) (MLRA 144A, 145, 149B)
	Matrix (S6)								Red Parent Mater	
	face (S7) (LRI	R R, MLRA	149B)							
³ Indicators o				nd budrologu	must be n	rocont un	loce dietur	had ar prabl		Remarks)
			ii aliu wetia	na nyarology	must be p	resent, un	iess distui	bed of probl	erriatic.	
Restrictive L	ayer (if obs	erved):								
Type:	haa).								Hydric Soil Present?	Yes ● No ○
Depth (inc	:nes):									100 - 110 -
Remarks:										

Project/Site: Antrim Wind Project	City/County	: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN25 upland
Investigator(s): AF JG	Section.	Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Undulating		(concave, convex, n		Slope: 20.0 % / 11.3 °
Subregion (LRR or MLRA):	Lat.:	Long	 I.:	Datum:
Soil Map Unit Name:			NWI classif	ication:
		res ● No ○	_	
Are climatic/hydrologic conditions on the site ty			(If no, explain in	
Are Vegetation , Soil , or Hydrol	ogy	? Are "Normal	Circumstances" p	present? Yes S NO C
Are Vegetation , Soil , or Hydrol	ogy naturally problematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •	h - Cl - d A		
Hydric Soil Present? Yes	NO S wit	he Sampled Area hin a Wetland?	Yes O No 🗨)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures here	or in a separate report.)			
ATV trail nearby				
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil C	racks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	erns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin	es (B16)
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Livi	ng Roots (C3)	Saturation Vis	ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S	oils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral T	est (D5)
Field Observations				
Field Observations: Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			
		Wetland Hydr	ology Present?	Yes ○ No •
(includes capillary fringe) Yes V No S	Depth (inches):			
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous i	nspections), if avail	able:	
Remarks:				
Remarks:				

/EGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN25 upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
					Number of Dominant Species
Picea rubens	25		14.2%	FACU	That are OBL, FACW, or FAC: 0 (A)
Tsuga canadensis		▼ ,	23.6%	FACU	Total Number of Dominant
Quercus rubra			62.3%	FACU-	Species Across All Strata: 7 (B)
•		Η.	0.0%		Percent of dominant Species
•		Η.	0.0%		That Are OBL, FACW, or FAC: 0.0% (A/B)
		Η.	0.0%		Describer of Index wordshoot
		<u> </u>			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	106	= 10	tal Cove	r	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
. Picea rubens	10	V	33.3%	FACU	
. Fagus grandifolia	15	✓	50.0%	FACU	x
Tsuga canadensis	5		16.7%	FACU	FAC species $\frac{15}{216}$ x 3 = $\frac{45}{200}$
	0		0.0%		FACU species $\frac{216}{10}$ x 4 = $\frac{864}{10}$
	0		0.0%		UPL species $\frac{10}{}$ x 5 = $\frac{50}{}$
	0		0.0%		Column Totals: 241 (A) 959 (B)
· ·	0		0.0%		Prevalence Index = B/A = 3.979
		= To	tal Cove	r	Hydrophytic Vegetation Indicators:
derb Stratum (Plot size: 5')					Rapid Test for Hydrophytic Vegetation
1 .Malanthemum canadense	10		9.5%	FAC-	Dominance Test is > 50%
2.Pteridium aquilinum	50	lacksquare	47.6%	FACU	Prevalence Index is ≤3.0 ¹
3. Medeola virginiana	5		4.8%	UPL	Morphological Adaptations ¹ (Provide supporting
4.Gaultheria procumbens	15	✓.	14.3%	FACU	data in Remarks or on a separate sheet)
5.Polygonatum pubescens	5	\square	4.8%	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
6.Cornus canadensis	5	\sqsubseteq	4.8%	FAC-	
7. Aralia nudicaulis	15	✓.	14.3%	FACU	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
8		\sqsubseteq	0.0%		
9		\sqsubseteq	0.0%		Definitions of Vegetation Strata:
0		Ц.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1		\sqsubseteq	0.0%		at breast height (DBH), regardless of height.
2		Ш,	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Noody Vine Stratum (Plot size:)	105	= To	tal Cove	r	greater than 3.28 ft (1m) tall
	0		0.0%		Harb All barbassaus (non woody) plants, regardless
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall.
2 3		Η.	0.0%		
		\Box	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
4					neight.
	0	- 10	tal Cove	1	
					Hydrophytic
					Vegetation
					Present? Yes V NO V

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

Soil Sampling Point: AN25 upland

Profile Desci	ription: (Desc	ribe to t	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		latrix	_ ~	Redox Features	- -	5
	Color (mo	•	%	Color (moist) % Type 1 Loc²	Texture	Remarks
0-5	10YR	2/1	100%		Loam	
5-6	2.5Y	5/1	100%		Fine Loamy Sand	
6-16	5YR	4/4	100%		Sandy Loam	
					-	
					-	
1 Type: C. Con	ocentration D. I	Conlotion	n DM Doo	luced Matrix, CS=Covered or Coated Sand Grains ² Loca	ntion: DL Poro Lining M M	latriv
, , , , , , , , , , , , , , , , , , ,		Jepietioi	ii. Rivi=Rec	diced Matrix, C3=Covered of Coated Sand Grains -Loca		
Hydric Soil				Polyvalue Below Surface (S8) (LRR R,	Indicators for Problem	ematic Hydric Soils: 3
	pedon (A2)			MLRA 149B)		(LRR K, L, MLRA 149B)
Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) (LRR K, L, R)
	n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		or Peat (S3) (LRR K, L, R)
	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7)	
	Below Dark Sui	rface (A1	11)	☐ Depleted Matrix (F3)		urface (S8) (LRR K, L)
	rk Surface (A12)		•	Redox Dark Surface (F6)	Thin Dark Surface	
Sandy Mu	uck Mineral (S1))		Depleted Dark Surface (F7)		Masses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B)
	eyed Matrix (S4			Redox Depressions (F8)		o) (MLRA 144A, 145, 149B)
Sandy Re	edox (S5)				Red Parent Materi	
Stripped	Matrix (S6)				Very Shallow Dark	
☐ Dark Surf	face (S7) (LRR I	R, MLRA	149B)		Other (Explain in I	
³ Indicators o	f hydrophytic ve	egetation	n and wetla	and hydrology must be present, unless disturbed or probl		
	ayer (if obser					
Type:	ayer (ii obser	vcu).				
Depth (inc	:hes)·				Hydric Soil Present?	Yes O No 🗨
Remarks:						
Spodosol						
Spodosoi						



AN25 Wetland



AN25 Upland

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Energ	gy, LLC	Sta	te: NH	Sampling Point: AN26 Wetland
Investigator(s): AF JG		Section, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Va	alley bottom	Local relief (concave, convex, r		Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
			-	
Soil Map Unit Name:			NWI classific	PFO PFO
Are climatic/hydrologic conditions on the	he site typical for this time of y	rear? Yes No	(If no, explain in I	•
Are Vegetation . , Soil . , , c	or Hydrology 🗌 significant	tly disturbed? Are "Normal	Circumstances" pr	esent? Yes No
Are Vegetation . , Soil . , , o	or Hydrology 🗌 naturally p	problematic? (If needed,	explain any answei	rs in Remarks.)
Summary of Findings - Attac	ch site map showing s	sampling point location	s, transects,	important features, etc.
J. 1 J	Yes No			
3 · · · · · · · · · · · · · · · · · · ·	Yes No	Is the Sampled Area within a Wetland?	Yes No	
Wetland Hydrology Present?	Yes ● No ○			
Hydrology				
Hydrology				
Wetland Hydrology Indicators:	required, check all that apply)			s (minimum of 2 required)
Primary Indicators (minimum of one research) Surface Water (A1)		(DO)	Surface Soil Cra Drainage Patter	
High Water Table (A2)	✓ Water-Stained Lea☐ Aquatic Fauna (B1	, ,	Moss Trim Line	
Saturation (A3)	Marl Deposits (B15		Dry Season Wa	
Water Marks (B1)	Hydrogen Sulfide		Crayfish Burrov	
Sediment Deposits (B2)		eres along Living Roots (C3)		le on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduc	ced Iron (C4)	Stunted or Stre	ssed Plants (D1)
☐ Algal Mat or Crust (B4)	Recent Iron Reduc	ction in Tilled Soils (C6)	Geomorphic Po	sition (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface	e (C7)	Shallow Aquitar	
Inundation Visible on Aerial Imagery (B	U Otrici (Explain in i	Remarks)	Microtopograph	
Sparsely Vegetated Concave Surface (E	38)		✓ FAC-neutral Te	st (D5)
Field Observations:				
Surface Water Present? Yes O	No O Depth (inches):	2		
Water Table Present? Yes	No Depth (inches):	Wotland Hyd	rology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes	No Depth (inches):	0	ology Present?	1e3 C 140 C
Describe Recorded Data (stream gaug	e, monitoring well, aerial photo	os, previous inspections), if avai	lable:	
Remarks:				

VEGETATION - Use scientific names of p	idiiio	Dominant Species?			Sampling Point: AN26 Wetland				
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status					
1 _ Acer rubrum	20	V	57.1%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)				
2. Betula alleghaniensis	45	v	42.9%	FAC					
3.			0.0%		Total Number of Dominant Species Across All Strata: 7 (B)				
	0		0.0%		Species Across All Strata.				
5.	0		0.0%		Percent of dominant Species				
5.			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)				
	0		0.0%		Prevalence Index worksheet:				
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cove	r	Total % Cover of: Multiply by:				
Fravinus pappaulyanias	5	V	25.0%	FACW	0BL species 3 x 1 = 3				
) Annu muhanum			50.0%	FAC	FACW species $48 \times 2 = 96$				
Diese meriene			25.0%	FACW-	FAC species $\underline{60}$ x 3 = $\underline{180}$				
. Picea manana			0.0%	171011	FACU species $0 \times 4 = 0$				
·. 			0.0%		UPL species $0 \times 5 = 0$				
S			0.0%		Column Totals: 111 (A) 279 (B)				
7.	0		0.0%		Prevalence Index = B/A = 2.514				
Herb Stratum (Plot size: 5')		= To	otal Cove	r	Hydrophytic Vegetation Indicators:				
	_				Rapid Test for Hydrophytic Vegetation				
1. Onoclea sensibilis			14.3%	FACW	✓ Dominance Test is > 50%				
2.0smunda claytoniana			26.8%	FAC	✓ Prevalence Index is ≤3.0 ¹				
3. Osmunda regalis			5.4%	OBL	Morphological Adaptations ¹ (Provide supporting				
4. Impatiens capensis			35.7%	FACW	data in Remarks or on a separate sheet)				
5. Coptis trifolia			17.9%	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)				
6 7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must				
0			0.0%		be present, unless disturbed or problematic.				
9.			0.0%		Definitions of Vegetation Strata:				
0.			0.0%						
1.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.				
12.	0		0.0%		at bleast height (DBH), regardless of height.				
	0	 = To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall				
Woody Vine Stratum (Plot size:)	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of				
1			0.0%		size, and woody plants less than 3.28 ft tall.				
2		П	0.0%						
3 4			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.				
4		 _ To	otal Cove		Theight.				
		- 10	nai cove						
					Hydrophytic				
					Vegetation Present? Yes No No				

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

Soil Sampling Point: AN26 Wetland

Profile Desc Depth	•	be to the depth atrix	needed to document the indicator or confirm the Redox Features	absence of indicators	s.)
(inches)	Color (moi		Color (moist) % Type 1 Loc2	Texture	Remarks
0-8		2/1 100%		Muck	saprı c
8-9	2.5Y	6/1 100%		Loamy Sand	
					<u> </u>
				<u> </u>	
¹ Type: C=Cor	ncentration. D=De	epletion. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loc	ation: PL=Pore Lining.	M=Matrix
Hydric Soil	Indicators:			Indicators for P	roblematic Hydric Soils : 3
Histosol	(A1)		Polyvalue Below Surface (S8) (LRR R,		10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)		Redox (A16) (LRR K, L, R)
☐ Black His			Loamy Mucky Mineral (F1) LRR K, INLRA 1496)		Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Loamy Gleyed Matrix (F2)	☐ Dark Surface	(S7) (LRR K, L)
	Layers (A5)	(111)	Depleted Matrix (F3)		ow Surface (S8) (LRR K, L)
	l Below Dark Surfa rk Surface (A12)	ace (ATT)	Redox Dark Surface (F6)		face (S9) (LRR K, L)
_	uck Mineral (S1)		Depleted Dark Surface (F7)	_	ese Masses (F12) (LRR K, L, R)
	leyed Matrix (S4)		Redox Depressions (F8)		odplain Soils (F19) (MLRA 149B)
	edox (S5)				(TA6) (MLRA 144A, 145, 149B)
	Matrix (S6)			Red Parent M	ateriai (1F2) Dark Surface (TF12)
	face (S7) (LRR R,	MLRA 149B)		Other (Explain	
³ Indicators of	of hydrophytic vec	netation and wetla	and hydrology must be present, unless disturbed or prob		THI Kemarksy
Type: s	_ayer (if observ	ea):			
Depth (in				Hydric Soil Preser	nt? Yes No
	LI 163). <u>7</u>				
Remarks:					

Project/Site: Antrim Wind Project			City/County	: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	te: NH	Sampling Point: AN26 upland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Toeslope		-	(concave, convex, r		Slope: 15.0 % / 8.5 °
Subregion (LRR or MLRA):	<u> </u>	Lat.:		Long	1.:	Datum:
					NWI classif	
Soil Map Unit Name:					— INVVI CIASSIII	
Are climatic/hydrologic conditions o	n the site ty	pical for this time of ye	ear? Y	'es ● No ○	(If no, explain in	•
Are Vegetation, Soil	, or Hydrolo	ogy Significant	ly disturbed?	Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation , Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At			ampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes 🔾	No •				
Hydric Soil Present?	Yes 🔾	No •		he Sampled Area nin a Wetland?	Yes \bigcirc No $lacktriangle$)
Wetland Hydrology Present?	Yes 🔾	No •				
I hadrada ma						
Hydrology						
Wetland Hydrology Indicators:	o roguirod.	abaak all that annly)				ors (minimum of 2 required)
Primary Indicators (minimum of or Surface Water (A1)	e requireu;		(DO)		Surface Soil Co	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1)			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosphe		ng Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ed Iron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	oils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial ImagerSparsely Vegetated Concave Surface		Other (Explain in R	emarks)		Microtopograp	
Sparsely vegetated concave surface	e (B8)				FAC-neutral To	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):	-	_		
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No 💿	Depth (inches):		wetiand Hydi	rology Present?	res Unu U
Describe Recorded Data (stream ga	iuge, monito	oring well, aerial photo	s, previous i	nspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of p			ominant pecies?		Sampling Point: AN26 upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	el.Strat.	Indicator Status	Dominance Test worksheet:
Fogus grandifalla			16.7%		Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
Dioce ruhana		✓	55.6%	FACU FACU	That are OBL, FACW, or FAC: 0 (A)
					Total Number of Dominant
Betula papyrifera			16.7%	FACU	Species Across All Strata: 4 (B)
Betula alleghaniensis			11.1%	FAC	Percent of dominant Species
			0.0%		That Are OBL, FACW, or FAC: 0.0% (A/B)
)					
		Ш	0.0%		Prevalence Index worksheet:
apling/Shrub Stratum (Plot size: 15')	90	= To	otal Cove	r	Total % Cover of: Multiply by:
. Fagus grandifolia	10	V	23.3%	FACU	0BL species 0 x 1 = 0
. Acer pensylvanicum		V	76.7%	FACU	FACW species $0 \times 2 = 0$
			0.0%		FAC species $\frac{14}{1100}$ x 3 = $\frac{42}{1100}$
•			0.0%		FACU speci es x 4 =
•			0.0%		UPL species $\frac{5}{}$ x 5 = $\frac{25}{}$
	0	\Box	0.0%		Column Totals: 162 (A) 639 (B)
	0		0.0%		Prevalence Index = $B/A = 3.944$
lerb Stratum (Plot size: 5')		= To	otal Cove	r	Hydrophytic Vegetation Indicators:
	-				Rapid Test for Hydrophytic Vegetation
1.Aralia nudicaulis		\	69.0%	FACU	☐ Dominance Test is > 50%
2.Maianthemum canadense	3	Ц	10.3%	FAC-	Prevalence Index is ≤3.0 ¹
3. Trientalis borealis	1	Ш	3.4%	FAC	☐ Morphological Adaptations ¹ (Provide supporting
4. Polygonatum pubescens	5	Ц	17.2%	UPL	data in Remarks or on a separate sheet)
5	0	Ц	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
<u>6</u>	0	Ц	0.0%		
7	0	Ц	0.0%		¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
8	0	Ц	0.0%		
9	0		0.0%		Definitions of Vegetation Strata:
0	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1	0		0.0%		at breast height (DBH), regardless of height.
2	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Noody Vine Stratum (Plot size:)	29	= To	otal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless
2			0.0%		size, and woody plants less than 3.28 ft tall.
3		$\overline{\Box}$	0.0%		West and the Allerman desired and the account of the second section of the section of the second section of the sect
4		$\overline{\Box}$	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
Т.			otal Cove		Thoight.
			otal oove	•	
					Hydrophytic
					Vegetation Present? Yes No •
					Present? Yes O NO O

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

Soil Sampling Point: AN26 upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	" Color (Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Taytura Damarka
	Color (ı			Color (moist) % Type 1 Loc2	Texture Remarks
0-5	10YR	3/2	100%		Loam
5-16	10YR	4/6	100%		Fine Sandy Loam
1 _{Type: C=Con}	centration D	- Denletion	n RM-Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PI -Pore Lining M-Matrix
Hydric Soil		- Беріспоі	n. KW-Kea	deed Matrix, 65-60vered or obtated Sand Grains Loca	
Histosol (Polyvalue Below Surface (S8) (LRR R,	Indicators for Problematic Hydric Soils: 3
	pedon (A2)			MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	Layers (A5)			Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRR K, L)
	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
_	k Surface (A1		,	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)
	uck Mineral (S			Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
	eyed Matrix (Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Re					☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B) ☐ Red Parent Material (TF2)
	Matrix (S6)				☐ Very Shallow Dark Surface (TF12)
	face (S7) (LRI	R R, MLRA	149B)		Other (Explain in Remarks)
3 Indicators o	f hydronhytic	voqotation	a and wotla	and hydrology must be present, unless disturbed or proble	
			i and wella	ind flydrology flust be present, dilless disturbed of proble	inauc.
Restrictive L	ayer (if obs	erved):			
Type:					Hydric Soil Present? Yes ○ No ●
Depth (inc	hes):				Tryano con Freschi. Tes C 140 C
Remarks:					



AN26 Wetland



AN26 Upland

Project/Site: Antrim Wind Project	t		City/County	: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewa	ble Energy, LLC			Sta	ite: NH	Sampling Point: AN27 wetland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	
Landform (hillslope, terrace, etc	:.): Saddle		-	(concave, convex, r		
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
Soil Map Unit Name:						ication: PFO
					_	
Are climatic/hydrologic condition	ons on the site ty	pical for this time of ye	ear?	Yes ● No ○	(If no, explain in	
Are Vegetation, Soil	, or Hydrol	ogy 🗌 significantl	ly disturbed?	? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil [, or Hydrol	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings	- Attach site		ampling	point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Preser		No O	1-4	h - Cll A		
Hydric Soil Present?	Yes	No O		he Sampled Area hin a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes	No O				
Hydrology						
Wetland Hydrology Indicators					Sacandary Indicate	rs (minimum of 2 required)
Primary Indicators (minimum		check all that apply)			Surface Soil Cr	
Surface Water (A1)		✓ Water-Stained Leav	ves (B9)		✓ Drainage Patte	
✓ High Water Table (A2)		Aquatic Fauna (B13			Moss Trim Line	
Saturation (A3)		Marl Deposits (B15)		Dry Season W	ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide C	Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)		Oxidized Rhizosphe	eres along Livi	ng Roots (C3)	Saturation Visi	ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduce	ed Iron (C4)			essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	Soils (C6)	✓ Geomorphic P	` ,
☐ Iron Deposits (B5)☐ Inundation Visible on Aerial Ir	222074 (P7)	☐ Thin Muck Surface	` '		Shallow Aquita	, ,
Sparsely Vegetated Concave S		Other (Explain in R	emarks)		✓ Microtopograp✓ FAC-neutral Telephone	
sparsory regetation constants	(20)				TAC licular in	331 (100)
Field Observations:	es O No 💿	Donth (inches)				
		Depth (inches):				
		Depth (inches):	1	Wetland Hvd	rology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe)	es • No O	Depth (inches):	0			
Describe Recorded Data (stream	m gauge, monito	oring well, aerial photo	s, previous i	inspections), if avai	lable:	
Remarks:						

/EGETATION - Use scientific names of p	iaiitə		ominant ecies?		Sampling Point: AN27 wetland					
Tree Stratum (Plot size: 30')	Absolute % Cover	olute Rel.Strat.		Indicator Status	Dominance Test we					
	50	V	45.5%	FACW-	Number of Dominant That are OBL, FACW,			5	(A)	
2. Acer rubrum	50		45.5%	FAC	That are obe, thow,	01 1710.	-		(1.7)	
Betula alleghaniensis	10		9.1%	FAC	Total Number of Dom Species Across All Str			5	(B)	
l			0.0%		Species Across Air Str	ala.	-		(D)	
	0		0.0%		Percent of domina			100 00/	(A (D)	
5.			0.0%		That Are OBL, FAC	W, or FA	C:	100.0%	(A/B)	
·			0.0%		Prevalence Index w	orksheet/	:			
		= Tc	tal Cove	r	Total % Cove	er of:	Multiply	/ by:		
Sapling/Shrub Stratum (Plot size: 15')					0BL species	0	x 1 =	0	_	
. Betula alleghaniensis		V	50.0%	FAC	FACW species	105	x 2 =	210	-	
Picea mariana		✓	50.0%	FACW-	FAC species	65	x 3 =	195	-	
3	0		0.0%		FACU species	0	x 4 =	0	-	
	0		0.0%		UPL species	0	x 5 =	0	-	
	0		0.0%		1	170		405	- (B)	
	0		0.0%		Column Totals:	170	(A)	405	- (6)	
·	0	Ш	0.0%		Prevalence Inc	dex = B/A	\ = _	2.382		
Herb Stratum (Plot size: 5')	10	= To	tal Cove	r	Hydrophytic Vegeta	tion Indi	cators:			
	F0		400.00/	E4014/	Rapid Test for	Hydroph	ytic Veget	ation		
1.Osmunda cinnamomea 2.			100.0%	FACW	✓ Dominance Te	est is > 50)%			
3.			0.0%		✓ Prevalence In	dex is ≤3	. 0 ¹			
3 <u>.</u> 4.			0.0%		☐ Morphological Adaptations ¹ (Provide suppor					
5.	0		0.0%		data in Remar		•	•		
5 6.			0.0%		Problematic H	ydrophyt	ic Vegetat	tion ¹ (Exp	olain)	
7.	0		0.0%		¹ Indicators of hyd	tric soil a	nd wotlan	d bydrolog	av muci	
8.	0		0.0%		be present, unless	disturbed	or proble	ematic.	yy iiius	
9.	0	\vdash	0.0%		Definitions of Ve	getatio	n Strata:			
<u>. </u>	0		0.0%			8-14-11-				
1.	0		0.0%		Tree - Woody plant at breast height (D				liamete	
2.	0		0.0%		at breast neight (Di	ъп), rega	raiess or	neight.		
۷	0	Ш,	0.0%		Sapling/shrub - Wo			an 3 in. DE	3H and	
Noody Vine Stratum (Plot size:)	50	= Tc	tal Cove	r	greater than 3.28 ft	(1m) tall				
	0		0.0%		Herb - All herbaced	ous (non-	woody) pl	ants rega	rdless	
1 2		\Box	0.0%		size, and woody pla				. 4.000	
3		\Box	0.0%		l					
4		\Box	0.0%		Woody vine - All we height.	oody vine	s greater	than 3.28	ft in	
Т.,			otal Cove		15.9.1					
	0	- 10	nai cove	•						
					Hydrophytic					

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: AN27 wetland

	Describe to	the depth r	needed to document	the indicator or	confirm the	absence of indicators.)	
Depth (inches) Colo	Matrix r (moist)	- %	Red Color (moist)	lox Features % Type	1 Loc²	Texture	Remarks
0-36 10YR			COIOI (IIIOI31)	70 1960		Mucky Peat	hemi c
0-30 TOTA						wacky reat	
	_						
						-	
						-	
							_
1							
		n. RM=Redu	ced Matrix, CS=Covere	d or Coated Sand (Grains ² Loca	ation: PL=Pore Lining. M=	
Hydric Soil Indicator	s:					Indicators for Prob	lematic Hydric Soils : 3
Histosol (A1)			Polyvalue Belov MLRA 149B)	v Surface (S8) (LRF	? R,		(LRR K, L, MLRA 149B)
Histic Epipedon (A2	2)			ce (S9) (LRR R, M	I DA 1/1QR)		lox (A16) (LRR K, L, R)
Black Histic (A3)				lice (39) (LKK K, M Nineral (F1) LRR K,		5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A			Loamy Gleyed		L)	Dark Surface (S7) (LRR K, L)
Stratified Layers (A		-	Depleted Matrix			Polyvalue Below	Surface (S8) (LRR K, L)
Depleted Below Da		11)	Redox Dark Sui			Thin Dark Surfac	e (S9) (LRR K, L)
☐ Thick Dark Surface			Depleted Dark			Iron-Manganese	Masses (F12) (LRR K, L, R)
Sandy Muck Minera			Redox Depress			Piedmont Floodp	lain Soils (F19) (MLRA 149B)
Sandy Gleyed Matri	ix (S4)		Redox Depress	ons (i o)			.6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)						Red Parent Mate	rial (TF2)
Stripped Matrix (S6						Very Shallow Dar	k Surface (TF12)
Dark Surface (S7) (LRR R, MLRA	(149B)				Other (Explain in	Remarks)
³ Indicators of hydrophy	ytic vegetatio	n and wetlar	d hydrology must be p	resent, unless distu	irbed or proble	ematic.	
Restrictive Layer (if o	bserved):						
Type:	•						
Depth (inches):						Hydric Soil Present?	Yes No
Remarks:							
Remarks.							

Project/Site: Antrim Wind Project	City/Coun	ty: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN27 upland
Investigator(s): AF JG	Section	n, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Hillside		f (concave, convex, n		Slope: 20.0 % / 11.3 °
Subregion (LRR or MLRA):	Lat.:	Long	 1.:	Datum:
Soil Map Unit Name:			NWI classif	ication:
		Yes No		
Are climatic/hydrologic conditions on the site t			(If no, explain in	
Are Vegetation, Soil, or Hydro			Circumstances" p	present? Tes 🙂 NU 🔾
Are Vegetation , Soil , or Hydro	logy naturally problematic	? (If needed, o	explain any answe	ers in Remarks.)
Summary of Findings - Attach sit		point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •	the Commission Area		
Hydric Soil Present? Yes	NO S	the Sampled Area ithin a Wetland?	Yes O No 🗨)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures he	re or in a separate report.)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of 2 required)
Primary Indicators (minimum of one required	check all that apply)		Surface Soil C	
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	
☐ High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)		Dry Season W	ater Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	ows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Li	ving Roots (C3)	Saturation Vis	ible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (C4)	-	Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	ard (D3)
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp	ohic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral T	est (D5)
Field Observations: Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •				
	Depth (inches):	Wetland Hydr	rology Present?	Yes ○ No ●
(includes capillary fringe) Yes V No	Depth (inches):			
Describe Recorded Data (stream gauge, moni	toring well, aerial photos, previous	inspections), if avail	lable:	
Remarks:				
itemarks.				

Resistratury Plot size: 30'	/EGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN27 upland
Fagus grandffolia	Tree Stratum (Plot size: 30')		Re	I.Strat.		Dominance Test worksheet:
15 2 1.4% FACU Total Number of Dominant Species Across All Stratus 7 (8) 1.5% 1.4% FACU Total Number of Dominant Species Across All Stratus 7 (8) 1.5% 1.4%	Forms around (fello	20	_			
Betula papyrifera 20	Ouerane rubre	15				That are OBL, FACW, OF FAC:
Picea rubers	Datala manufera					
D	Di					Species Across All Strata: (B)
			Ö.		17100	Percent of dominant Species
Prevalence Index worksheet: Total % Cover of Multiply by: OBL species O			$\overline{\Box}$			That Are OBL, FACW, or FAC: 14.3% (A/B)
Total Score Total Cover Total Score				0.0%		Prevalence Index worksheet:
Plant Plot size: 15			= To	tal Cove	,	
. Fagus grandflolia . Betula papyrifera .	Sapling/Shrub Stratum (Plot size: 15')					133
Setula papyrifera				80.0%	FACU	
D	• • •		✓_	20.0%	FACU	
D		0	Ц.	0.0%		05 000
Col umn Total s: 97 (A) 386 (B) Prevalence Index = B/A = 3.979	·	0	Ц.	0.0%		TAGO Species X 4 -
D		0	\sqcup			'
Serb Stratum		0	Ц.	0.0%		Column lotals: 97 (A) 380 (B)
1. Acer rubrum	•	0	Щ	0.0%		Prevalence Index = B/A = 3.979
Acer rubrum	lerb Stratum (Plot size: 5')	25	= To	tal Cove	r	Hydrophytic Vegetation Indicators:
2.	1 ****	2		100.00/	FAC	Rapid Test for Hydrophytic Vegetation
Prevalence Index is \$3.0 1					FAC	☐ Dominance Test is > 50%
4.			Н-			Prevalence Index is ≤3.0 ¹
5.	-					☐ Morphological Adaptations ¹ (Provide supporting
6.	<u></u>		Н.			· · · · · · · · · · · · · · · · · · ·
7.			Η.			Problematic Hydrophytic Vegetation ¹ (Explain)
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 Period Cover Total Cover 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 size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation			Η-			1 Indicators of hydric soil and wetland hydrology mus
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 The entropy of the stratum of the plant			Н-			
1.	9		П-			Definitions of Vegetation Strata:
1.			П			
2.			\Box			
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall O			\Box			at broadt height (BBH), regulated of height.
Noody Vine Stratum (Plot size:) 1			 - To		,	
3	Voody Vine Stratum (Plot size:)		_ 10	tai covei		greater than 3.28 ft (1m) fall
3	1	0		0.0%		
3	2	0		0.0%		size, and woody plants less than 3.28 ft tall.
4				0.0%		Woody vine - All woody vines greater than 3.28 ft in
Hydrophytic Vegetation	1	0		0.0%		
Vegetation V. O. N. O.		0	= To	tal Cove	r	
Vegetation V						
Vegetation V. O. N. O. N						
Vegetation v						
						Vogotation

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

Soil Sampling Point: AN27 upland

- · · · · · · · · · · · · · · · · · · ·	ne depth nee	ded to document the indicator or confirm the	absence of indicators.)
Depth Matrix (inches) Color (moist)		Redox Features Color (moist) % Type 1 Loc²	Touture Demonto
T T Color (moles)	4000/	Color (moist) % Type 1 Loc2	Texture Remarks
0-4 10YR 3/2	100%		Loam
4-6 10YR 4/3	100%		Fine Sandy Loam
6-11 10YR 5/6	100%		Fine Sandy Loam
¹ Type: C=Concentration. D=Depletion.	. RM=Reduced	Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix
Hydric Soil Indicators:			Indicators for Problematic Hydric Soils: 3
Histosol (A1)		Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Histic (A3)		☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7) (LRR K, L)
Stratified Layers (A5)		Loamy Gleyed Matrix (F2)	Polyvalue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A1	1)	☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12)		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Muck Mineral (S1)		Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)			Red Parent Material (TF2)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 1	1.40R)		☐ Very Shallow Dark Surface (TF12)
			Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation	and wetland h	ydrology must be present, unless disturbed or proble	ematic.
Restrictive Layer (if observed):			
Type: <u>stony</u>			Hydric Soil Present? Yes ○ No ●
Depth (inches): 11		_	Hydric Soil Present? Yes ○ No ●
Remarks:			



AN27 Upland



AN27 Wetland



AN27 Wetland



AN27 Wetland



AN27 Wetland



AN27 Upland

Project/Site: Antrim Wind Project	City/Co	unty: Antrim		Sampling Date: 22-Aug-11				
Applicant/Owner: Eolian Renewable Energy, LLC		Stat	e: NH	Sampling Point: AN30 wetland				
Investigator(s): AF JG Section, Township, Range: S. T. R.								
Landform (hillslope, terrace, etc.): Footslope		elief (concave, convex, n		Slope: 3.0 % / 1.7 °				
Subregion (LRR or MLRA):	 Lat.:	Long		Datum:				
			-					
Soil Map Unit Name:			— INVVI CIASSITI	cation: PFO				
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in	•				
Are Vegetation \square , Soil \square , or Hydrol	ogy 🗌 significantly distur	bed? Are "Normal	Circumstances" p	resent? Yes No				
Are Vegetation, Soil, or Hydrol	ogy 🗌 naturally problema	itic? (If needed, e	explain any answe	ers in Remarks.)				
Summary of Findings - Attach site	map showing sampli	ng point location	s, transects,	important features, etc.				
Hydrophytic Vegetation Present? Yes	No O							
Hydric Soil Present? Yes Yes	No O	Is the Sampled Area within a Wetland?	Yes ● No ○					
Wetland Hydrology Present? Yes Yes	No O							
I hadrada ma								
Hydrology								
Wetland Hydrology Indicators:	aback all that apply)			rs (minimum of 2 required)				
Primary Indicators (minimum of one required; Surface Water (A1)			Surface Soil Cr					
High Water Table (A2)	✓ Water-Stained Leaves (B9) Aquatic Fauna (B13)		✓ Drainage Patte Moss Trim Line					
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro					
Sediment Deposits (B2)	Oxidized Rhizospheres along			ble on Aerial Imagery (C9)				
☐ Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Str	essed Plants (D1)				
Algal Mat or Crust (B4)	Recent Iron Reduction in Til	led Soils (C6)	✓ Geomorphic P	osition (D2)				
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	, ,				
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp					
Sparsely Vegetated Concave Surface (B8)			✓ FAC-neutral Te	est (D5)				
Field Observations:								
Surface Water Present? Yes No •	Depth (inches):							
Water Table Present? Yes No •	Depth (inches):	Watland Hydr	ology Present?	Yes ● No ○				
Saturation Present? (includes capillary fringe) Yes No No	Depth (inches):	wetiand nydi	biogy Present?					
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previo	ous inspections), if avail	able:					
Demonto								
Remarks:								

VEGETATION - Use scientific names of pla		_Sp	minant ecies?		Sampling Point: AN30 wetland		
Tree Stratum (Plot size:)	Absolute % Cover			Indicator Status			
1	0		0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)		
2.	0		0.0%				
3.	0		0.0%		Total Number of Dominant Species Across All Strata: 4 (B)		
4.	0		0.0%		Species Across Air Strata.		
5.	0		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 75.0% (A/B)		
6	0		0.0%		That Are OBL, FACW, or FAC: 75.0% (A/B)		
7			0.0%		Prevalence Index worksheet:		
		= To	tal Cover	-	Total % Cover of: Multiply by:		
, , , , , , , , , , , , , , , , , , , ,			E0 00/	F40	0BL speci es 0 x 1 = 0		
Betula alleghaniensis Fraxinus pennsylvanica	10		50.0%	FACW	FACW species35		
		<u> </u>	0.0%	FACVV	FAC species 10 x 3 = 30		
3			0.0%		FACU species $0 \times 4 = 0$		
4		\Box	0.0%		UPL species $\frac{25}{}$ x 5 = $\frac{125}{}$		
5	0		0.0%		Column Totals: 70 (A) 225 (B)		
7			0.0%				
7		To	tal Cover		Prevalence Index = B/A = 3.214		
Herb Stratum (Plot size: 5')		0	itai oovei		Hydrophytic Vegetation Indicators:		
1. Onoclea sensibilis	25	✓	50.0%	FACW	Rapid Test for Hydrophytic Vegetation		
2.Polygonatum pubescens	25	\checkmark	50.0%	UPL	Dominance Test is > 50%		
3	0		0.0%		Prevalence Index is ≤3.0 ¹		
4	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)		
6	0	\square .	0.0%				
7	0	\square .	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
8	0	\sqcup	0.0%				
9	0	Ц.	0.0%		Definitions of Vegetation Strata:		
10	0	Ц.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter		
11	0	Ц.	0.0%		at breast height (DBH), regardless of height.		
12	0	□.	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and		
Woody Vine Stratum (Plot size:)	50	= To	tal Cover	-	greater than 3.28 ft (1m) tall		
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of		
2		\Box	0.0%		size, and woody plants less than 3.28 ft tall.		
3	0		0.0%		Weeds the All weeds the COOK		
4	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in height.		
т.			3.370		1101g1111		

0 = Total Cover

Hydrophytic Vegetation

Present?

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

Yes ● No ○

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

Soil Sampling Point: AN30 wetland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	Color (i	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture Remarks
				Color (moist) 78 Type 1 Loc-	
0-8	10YR	3/2	100%		Loam
8-16	2.5Y	5/1	100%		Loamy Sand
1			- DM DI	All Marketine CC Courses of the Control Course of Courses of Cours	Atom Di Dona Lining M Makin
7.		=Depletioi	n. RIVI=Rea	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	
Hydric Soil I					Indicators for Problematic Hydric Soils : 3
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pedon (A2)			Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
	Below Dark S	Surface (A1	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
	k Surface (A		11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
	uck Mineral (S	•		Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
	eyed Matrix (Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Re		54)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Matrix (S6)				Red Parent Material (TF2)
	face (S7) (LRI	R R, MLRA	149B)		Very Shallow Dark Surface (TF12)
					Other (Explain in Remarks)
			n and wetta	nd hydrology must be present, unless disturbed or proble	ematic.
Restrictive L	ayer (if obs	erved):			
Type:					Hydric Soil Present? Yes ● No ○
Depth (inc	:hes):				Tryunc 3011 Fresent: Yes © NO C
Remarks:					

Project/Site: Antrim Wind Project	City/Cour	nty: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN30 upland
Investigator(s): AF JG	Section	on, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Footslope		ef (concave, convex, n		Slope: 3.0 % / 1.7 °
Subregion (LRR or MLRA):	 Lat.:	Long	-	Datum:
Soil Map Unit Name:			NWI classifi	
		·· • • • •	_	
Are climatic/hydrologic conditions on the site ty		Yes ● No ○	(If no, explain in	
Are Vegetation , Soil , or Hydrol	logy significantly disturbe	ed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation , Soil , or Hydro	logy 🗌 naturally problemation	c? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		g point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes	NO S	s the Sampled Area vithin a Wetland?	Yes \bigcirc No $lacktriangle$)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures her	e or in a separate report.)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil Cr	•
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Line	
Saturation (A3)	Marl Deposits (B15)		Dry Season W	ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along L	- · · ·		ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)			essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	d Soils (C6)	Geomorphic P	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7)		Shallow Aquita Microtopograp	
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		FAC-neutral Te	
Sparsery Vegetated concave surface (BO)			TAC-neutral re	est (D3)
Field Observations: Surface Water Present? Yes No No	D. II (' . I .)			
	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):	Wetland Hydr	ology Present?	Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No No	Depth (inches):			
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previou	is inspections), if avail	able:	
Remarks:				

/EGETATION - Use scientific names of pl	Domina Species				Sampling Point: AN30 upland				
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	I.Strat.	Indicator Status	Dominance Test worksheet:				
Tougo comodonelo	25	V	31.3%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)				
Outprove militare	15	<u> </u>	18.8%	FACU-	That are OBL, FACW, or FAC: 1 (A)				
		□ .			Total Number of Dominant				
Acer saccharum		<u> </u>	31.3%	FACU-	Species Across All Strata: 8 (B)				
Betula alleghaniensis		Η.	18.8%	FAC	Percent of dominant Species				
		Η.	0.0%		That Are OBL, FACW, or FAC: 12.5% (A/B)				
·		Η.	0.0%						
		Ш.	0.0%		Prevalence Index worksheet:				
Sapling/Shrub Stratum (Plot size: 15')	80	= To	tal Cove	r	Total % Cover of: Multiply by:				
. Fagus grandifolia	10	~	40.0%	FACU	0BL species 0 x 1 = 0				
. Pinus strobus		V	20.0%	FACU	FACW species $0 \times 2 = 0$				
. Quercus rubra		V	20.0%	FACU-	FAC species $30 \times 3 = 90$				
Acer pensylvanicum		V	20.0%	FACU	FACU speci es $\frac{109}{}$ x 4 = $\frac{436}{}$				
		\Box	0.0%		UPL species $0 \times 5 = 0$				
	0	\Box	0.0%		Column Totals: 139 (A) 526 (B)				
•		\Box	0.0%		Prevalence Index = B/A = 3.784				
		—. = То	tal Cove	r					
lerb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation				
1 .Maianthemum canadense	10	✓,	29.4%	FAC-	Dominance Test is > 50%				
2 _. Aralia nudicaulis	15	lacksquare	44.1%	FACU	Prevalence Index is ≤3.0 ¹				
3.Tsuga canadensis	3		8.8%	FACU	Morphological Adaptations ¹ (Provide supporting				
4.Lycopodium obscurum	1		2.9%	FACU	data in Remarks or on a separate sheet)				
5. Trientalis borealis	5		14.7%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)				
6	0		0.0%						
7	0		0.0%		¹ Indicators of hydric soil and wetland hydrology mus				
8.	0		0.0%		be present, unless disturbed or problematic.				
9	0		0.0%		Definitions of Vegetation Strata:				
0	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete				
1.	0		0.0%		at breast height (DBH), regardless of height.				
2.	0		0.0%						
	34	= To	tal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall				
Voody Vine Stratum (Plot size:)					graner man size in (, i				
1		\sqcup	0.0%		Herb - All herbaceous (non-woody) plants, regardless				
2		\sqcup	0.0%		size, and woody plants less than 3.28 ft tall.				
3		\sqcup	0.0%		Woody vine - All woody vines greater than 3.28 ft in				
4	0	\square	0.0%		height.				
	0	= To	tal Cove	r					
					Hydrophytic Vegetation Present? Yes No No				

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

Soil Sampling Point: AN30 upland

	-	-	needed to document the indicator or confirm	the absence of indicators.)	
Depth (inches)	Ma Color (mois	trix st) %	Redox Features Color (moist) % Type 1 Lo	oc² Texture	Remarks
0-8		3/2 100%		Loam	
8-12		4/3 100%		Loamy Sand	
0-12	TOTK 2	4/3 100%		Loanly Sand	
¹ Type: C=Cond	centration. D=De	pletion. RM=Red	duced Matrix, CS=Covered or Coated Sand Grains	² Location: PL=Pore Lining. M=	Matrix
Hydric Soil I	ndicators:		_	Indicators for Prob	lematic Hydric Soils : 3
Histosol (A	A1)		Polyvalue Below Surface (S8) (LRR R,		(LRR K, L, MLRA 149B)
	pedon (A2)		MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149	Coast Prairie Dad	ox (A16) (LRR K, L, R)
Black Hist			Loamy Mucky Mineral (F1) LRR K, L)	υ) <u> </u>	or Peat (S3) (LRR K, L, R)
	Sulfide (A4)		Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
	Layers (A5)	una (A11)	Depleted Matrix (F3)	Polyvalue Below	Surface (S8) (LRR K, L)
	Below Dark Surfa k Surface (A12)	ice (ATT)	Redox Dark Surface (F6)		e (S9) (LRR K, L)
	ck Mineral (S1)		Depleted Dark Surface (F7)		Masses (F12) (LRR K, L, R)
	eyed Matrix (S4)		Redox Depressions (F8)	_	lain Soils (F19) (MLRA 149B)
Sandy Red					6) (MLRA 144A, 145, 149B)
	Matrix (S6)			Red Parent Mater Very Shallow Dar	
	ace (S7) (LRR R,	MLRA 149B)		Other (Explain in	
³ Indicators of	hvdronhvtic vea	etation and wetl	and hydrology must be present, unless disturbed or		Keria Kaj
			and flydrology must be present, unless distarbed of	problematic.	
Type: bo	ayer (if observe	ea):			
Depth (inch				Hydric Soil Present?	Yes ○ No ●
	12				
Remarks:					



AN30 Wetland



AN30 Upland

Project/Site: Antrim Wind Project			City/County	y: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	te: NH	Sampling Point: AN31 Wetland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Terrace		_	(concave, convex, n		Slope: 2.0 % / 1.1 °
Subregion (LRR or MLRA):	1011400				-	
		Lat.:		Long		Datum:
Soil Map Unit Name:					NWI classifi	cation: PSS
Are climatic/hydrologic conditions o	n the site typ	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	*
Are Vegetation . , Soil .	, or Hydrold	ogy 🗌 significant	ly disturbed	? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - At	tach site	map showing s	ampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No O				
Hydric Soil Present?	Yes	No O		the Sampled Area thin a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes 💿	No O				
Lludrology						
Hydrology						
Wetland Hydrology Indicators:		-llll 4l4l- A				rs (minimum of 2 required)
Primary Indicators (minimum of on	e requirea;				Surface Soil Cr	
Surface Water (A1) High Water Table (A2)		Water-Stained Lea			Drainage Patte	
Saturation (A3)		Aquatic Fauna (B1) Marl Deposits (B15)			Moss Trim Line	ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		ring Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	_	ing Roots (65)		essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc		Soils (C6)	Geomorphic P	
☐ Iron Deposits (B5)		Thin Muck Surface			Shallow Aquita	
Inundation Visible on Aerial Imager	y (B7)	Other (Explain in R	` '		Microtopograp	hic Relief (D4)
Sparsely Vegetated Concave Surfac	e (B8)	_ , ,	ŕ		FAC-neutral Te	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				· • · ·
Saturation Present? (includes capillary fringe) Yes	No O	Depth (inches):	2	Wetland Hydr	ology Present?	Yes ● No ○
Describe Recorded Data (stream ga	uge, monito	ring well, aerial photo	os, previous	inspections), if avail	able:	
Remarks:						

Absolute % Cover 0 0 0 0 0		Indicator Status		
0 0	0.0%	Status	Number of Deminent Chesics	
0			Number of Dominant Species	
			That are OBL, FACW, or FAC: 4 (A)	
			Total Number of Dominant	
U	0.0%		Species Across All Strata: 4 (B)	
	0.0%		Percent of dominant Species	
			That Are OBL, FACW, or FAC: 100.0% (A/B)	
			Prevalence Index worksheet:	
0	= Total Cove	er	Total % Cover of: Multiply by: OBL species	
10	✓ 25.0%	FAC		
5	12.5%	FACW		
25	62.5%	FACW+	1770 Specifics x 0 =	
0	0.0%		FACU species $\frac{15}{2}$ x 4 = $\frac{60}{2}$	
0	0.0%		UPL species $0 \times 5 = 0$	
0	0.0%		Column Totals: 131 (A) 284 (B)	
0	0.0%		Prevalence Index = B/A = 2.168	
40	= Total Cove	er	Hydrophytic Vegetation Indicators:	
			Rapid Test for Hydrophytic Vegetation	
8	8.8%	FACW+	✓ Dominance Test is > 50%	
25	27.5%	FACW	✓ Prevalence Index is ≤3.0 ¹	
	5.5%_	OBL	Morphological Adaptations ¹ (Provide supporting	
	5.5%_	OBL	data in Remarks or on a separate sheet)	
	\neg	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)	
	16.5%	FACU	1	
		FACW	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.	
			Definitions of Vegetation Strata:	
			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 ar	
91	= Total Cove	er	greater than 3.28 ft (1m) tall	
0	0.0%		Herb - All herbaceous (non-woody) plants, regardless	
			size, and woody plants less than 3.28 ft tall.	
	0.0%		Woody vine - All woody vines greater than 3.28 ft in	
	0.0%		height.	
	-	er		
			Hydrophytic	
	0 0 0 10 5 25 0 0 0 0 40 8 25 5 5 5 8 15 25 0 0 0 0	0	0	

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

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

Soil Sampling Point: AN31 Wetland

	ription: (Des	scribe to	the depth	needed to doc	ument the	indicator	or confir	m the a	absence of indicators.)		
Depth (inches)	. Color (i	Matrix	_ %	_ Color (mo	_	Features % Type	ne 1	Loc2	- Texture	Remarks	
			76	Color (IIIo		76 I Y	<u> </u>	LUC-		Remarks	
0-8	10YR	3/2							Loam		
8-16	2.5Y	4/1	90%	10YR	5/8 10	% (Fine Sandy Loam		
									-		
1 _{Type: C=Con}	centration D		n RM-Red	ıced Matrix CS-	-Covered or	Coated Sar	d Grains	21 oca	ation: PL=Pore Lining. M=N	 Natriy	
Hydric Soil I		- Веріспо	n. Kw-Kcu	uccu Matrix, 05-	-covered or	Coatea Sai	u Grains	Loca			
Histosol (Polyvali	e Below Sur	face (S8) (I	DD D			lematic Hydric Soils :	
	pedon (A2)			MLRA 1		race (50) (i	.IXIX IX,			(LRR K, L, MLRA 149B)	
Black Hist				☐ Thin Da	rk Surface (S	S9) (LRR R	MLRA 14	49B)		ox (A16) (LRR K, L, R)	
	n Sulfide (A4)			Loamy I	Mucky Miner	al (F1) LRR	K, L)			or Peat (S3) (LRR K, L, R)	
	Layers (A5)			Loamy (Gleyed Matri	x (F2)			Dark Surface (S7)		
	Below Dark S	Surface (A	11)	Deplete	d Matrix (F3))				Surface (S8) (LRR K, L)	
	rk Surface (A				ark Surface				Thin Dark Surface	(S9) (LRR K, L) Masses (F12) (LRR K, L, R)	
Sandy Mu	uck Mineral (S	S1)			d Dark Surfa					ain Soils (F19) (MLRA 149B)	
Sandy Gle	eyed Matrix (S4)		☐ Redox [epressions	(F8)				6) (MLRA 144A, 145, 149B)	
Sandy Re	edox (S5)								Red Parent Mater		
Stripped I	Matrix (S6)								Very Shallow Dark		
☐ Dark Surf	face (S7) (LRI	R R, MLRA	149B)						Other (Explain in		
³ Indicators o	f hydrophytic	vegetation	n and wetla	nd hydrology mi	ıst be preser	nt, unless d	sturbed o	or proble			
Restrictive L											
Type:	ayer (ii obs	civea).									
Depth (inc	:hes):								Hydric Soil Present?	Yes No	
Remarks:											
Remarks.											

Project/Site: Antrim Wind Project	City/Cou	unty: Antrim	Sa	ampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH S	sampling Point: AN31 Upland
Investigator(s): AF JG	Secti	ion, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): Undulating		lief (concave, convex, n		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
Soil Map Unit Name:			NWI classifica	
			_	
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in Re	•
Are Vegetation, Soil, or Hydrolo	ogy L significantly disturb	ped? Are "Normal	Circumstances" pre	sent? Yes No
Are Vegetation , Soil , or Hydrolo	ogy 🗌 naturally problema	tic? (If needed, e	explain any answers	in Remarks.)
Summary of Findings - Attach site		ng point location	s, transects, ir	mportant features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes	No •	Is the Sampled Area within a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures here	or in a senarate report)			
Hydrology				
Wetland Hydrology Indicators:	abook all that apply)			(minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)			Surface Soil Crac	
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)		☑ Drainage Pattern☑ Moss Trim Lines	
Saturation (A3)	Marl Deposits (B15)		Dry Season Wate	• •
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows	
Sediment Deposits (B2)	Oxidized Rhizospheres along	Living Roots (C3)		e on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C		Stunted or Stress	- · · · ·
Algal Mat or Crust (B4)	Recent Iron Reduction in Till		Geomorphic Posi	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	(,	Shallow Aquitard	
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopographic	
Sparsely Vegetated Concave Surface (B8)	outer (Explain in Normanie)		FAC-neutral Test	(D5)
Field Observations: Surface Water Present? Yes No No				
	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydr	ology Present?	Tes Unio S
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previo	ous inspections), if avail	able:	
Remarks:				

/EGETATION - Use scientific names of pl		DominantSpecies?			Sampling Point: AN31 Upland				
Tree Stratum (Plot size:)	Absolute % Cover	Re	I.Strat.	Indicator Status	Dominance Test worksheet:				
	0		0.0%	Status	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)				
		\Box	0.0%		That are OBL, FACW, OF FAC:				
		Π.	0.0%		Total Number of Dominant				
3.		\Box	0.0%		Species Across All Strata: 4 (B)				
ł		Η.	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 25.0%				
 		\Box	0.0%						
·		\Box	0.0%		Prevalence Index worksheet:				
		ш. - то	tal Cove		Total % Cover of: Multiply by:				
Sapling/Shrub Stratum (Plot size: 15')	0	= 10	itai Cove	ľ	0BL species 0 x 1 = 0				
. Populus tremula	10	✓	47.6%	FACU					
Prunus serotina	3		14.3%	FACU					
Acer saccharum		✓	23.8%	FACU-	FAC species $0 \times 3 = 0$				
Quercus rubra	3		14.3%	FACU-	FACU speci es $\frac{86}{9}$ x 4 = $\frac{344}{9}$				
5			0.0%		UPL species $0 \times 5 = 0$				
5.	0		0.0%	-	Column Totals: 124 (A) 420 (B)				
, ·	0		0.0%		Prevalence Index = B/A = 3.387				
lerb Stratum (Plot size: 5')		= To	tal Cove	r	Hydrophytic Vegetation Indicators:				
1 Dubus shares	45		14 (0)	FACIL	Rapid Test for Hydrophytic Vegetation				
1.Rubus alumnus		□ .	14.6%	FACU-	uata ili kemarks or on a separate sneet)				
2.Solidago canadensis			48.5%	FACU					
3. Onoclea sensibilis		V	32.0%	FACW					
4.Spiraea alba 5.		Η.	4.9%	FACW+					
		Η.	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)				
6	0_	Η.	0.0%		¹ Indicators of hydric soil and wetland hydrology mus				
7	0_	Н.	0.0%		be present, unless disturbed or problematic.				
8 9.		Н.	0.0%		Definitions of Vegetation Strata:				
9 <u>. </u>		Η.	0.0%		Seminors of Vegetation Strata.				
		Н.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter				
1		Н.	0.0%		at breast height (DBH), regardless of height.				
2.	0	Ш.	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and				
Noody Vine Stratum (Plot size:)	103	= To	tal Cove	r	greater than 3.28 ft (1m) tall				
 1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless				
2		\Box	0.0%		size, and woody plants less than 3.28 ft tall.				
3			0.0%	-	Marahanina Allamarahanina arratarihan 0.00 %				
3 4			0.0%	-	Woody vine - All woody vines greater than 3.28 ft in height.				
т.			tal Cove						
					H. danabatin				
					Hydrophytic Vegetation Present? Yes No No				

Remarks. (Include prioto numbers here of on a separate sheet.)

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

Soil Sampling Point: AN31 Upland

Type: C=Concen Hydric Soil Indi Histosol (A1) Histic Epiped Black Histic (Hydrogen Su Stratified Lay Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyec Sandy Redox Stripped Matr Dark Surface	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Color (moist)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: ((LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R)
7-12 12-16 16-24 Type: C=Concen Hydric Soil Indi Histosol (Al) Histic Epipede Black Histic (Al) Stratified Lay Depleted Bele Thick Dark Stratified Lay Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mata	10YR 4/3 2.5Y 5/1 10YR 4/6 Intration. D=Depletion dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	100% 100% 100%	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Sandy Loam Medium Sand Sandy Loam PL=Pore Lining. M= Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surface Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Type: C=Concen Hydric Soil Indi Histosol (A1) Histic Epiped Black Histic (Hydrogen Su Stratified Lay Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyec Sandy Redox Stripped Matr Dark Surface	2.5Y 5/1 10YR 4/6 Intration. D=Depletion dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	100% 100%	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Medium Sand Sandy Loam PL=Pore Lining. M= Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surface Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Type: C=Concen Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate Dark Surface	ntration. D=Depletion dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	100%	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Sandy Loam 2Location: PL=Pore Lining. M=1 Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surface Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Type: C=Concen Hydric Soil Indi Histosol (A1) Histic Epiped Black Histic (Hydrogen Su Stratified Lay Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyec Sandy Redox Stripped Mata	ntration. D=Depletion dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	n. RM=Reduc	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	PL=Pore Lining. M=I Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Histosol (A1) Histic Epipedi Black Histic (Hydrogen Sul Stratified Lay Depleted Beld Thick Dark Sul Sandy Muck I Sandy Gleyect Sandy Redox Stripped Mate) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	11)	MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	(LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Histic Epipedo Black Histic (a Hydrogen Su Stratified Lay Depleted Beld Thick Dark Su Sandy Muck I Sandy Gleyect Sandy Redox Stripped Mate Dark Surface	don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	11)	MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	B) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	lox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) t') (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Black Histic (a) Hydrogen Sul Stratified Lay Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyed Sandy Redox Stripped Matt Dark Surface	(A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	11)	☐ Thin Dark Surface (S9) (LRR R, MLRA 149) ☐ Loamy Mucky Mineral (F1) LRR K, L) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7)	5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surface Iron-Manganese Piedmont Floodp	t or Peat (S3) (LRR K, L, R) (') (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Hydrogen Sul Stratified Lay Depleted Beld Thick Dark Sul Sandy Muck I Sandy Gleyed Sandy Redox Stripped Matr Dark Surface	ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	11)	Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfact Iron-Manganese Piedmont Floodp	7) (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Stratified Lay Depleted Bele Thick Dark Strain Sandy Muck I Sandy Gleyect Sandy Redox Stripped Mate Dark Surface	yers (A5) elow Dark Surface (A Surface (A12) . Mineral (S1) ed Matrix (S4) x (S5)	11)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyec Sandy Redox Stripped Mate Dark Surface	elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	.11)	Redox Dark Surface (F6) Depleted Dark Surface (F7)	☐ Thin Dark Surfac☐ Iron-Manganese☐ Piedmont Floodp	e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Thick Dark Su Sandy Muck I Sandy Gleyect Sandy Redox Stripped Mate Dark Surface	Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	,	Depleted Dark Surface (F7)	☐ Iron-Manganese ☐ Piedmont Floodp	Masses (F12) (LRR K, L, R)
Sandy Muck I Sandy Gleyec Sandy Redox Stripped Mati Dark Surface	Mineral (S1) ed Matrix (S4) x (S5)			Piedmont Floodp	
Sandy Gleyed Sandy Redox Stripped Matr Dark Surface	ed Matrix (S4) x (S5)		Redox Depressions (F8)		iain soiis (F19) (MLKA 149B)
Stripped Mati					A6) (MLRA 144A, 145, 149B)
Dark Surface	trix (S6)			Red Parent Mate	
					rk Surface (TF12)
	e (S7) (LRR R, MLRA	149B)		Other (Explain in	
Indicators of hy	ydrophytic vegetatio	n and wetlan	d hydrology must be present, unless disturbed or		
estrictive Lave	er (if observed):				
Type:	o. (0200.10 2).				
Depth (inches)	s):			Hydric Soil Present?	Yes 🔾 No 💿
emarks:					



AN31 Wetland



AN31 Upland



AN31 Wetland

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Ene	ergy, LLC	Sta	te: NH	Sampling Point: AN32 wetland
Investigator(s): AF JG		Section, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): For	notslope	Local relief (concave, convex, r		Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA):	<u> </u>		· ·	
	Lat.:	Lonç		Datum:
Soil Map Unit Name:			NWI classifi	cation: PSS
Are climatic/hydrologic conditions on	the site typical for this time of ye	ear? Yes No	(If no, explain in	•
Are Vegetation \square , Soil \square ,	or Hydrology 🗌 significant	ly disturbed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil,	or Hydrology 🔲 naturally p	problematic? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Atta	ach site map showing s	ampling point location	s, transects,	important features, etc.
J	Yes No			
Hydric Soil Present?	Yes ● No ○	Is the Sampled Area within a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes ● No ○			
I hadrala ma				
Hydrology				
Wetland Hydrology Indicators:	and the state of t			rs (minimum of 2 required)
Primary Indicators (minimum of one			Surface Soil Cr	
Surface Water (A1) High Water Table (A2)	Water-Stained Lea	, ,	✓ Drainage Patte	
Saturation (A3)	☐ Aquatic Fauna (B1:☐ Marl Deposits (B1:☐		Moss Trim Line	ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		eres along Living Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduc			essed Plants (D1)
Algal Mat or Crust (B4)		ction in Tilled Soils (C6)	✓ Geomorphic Po	` ,
☐ Iron Deposits (B5)	Thin Muck Surface	• •	Shallow Aquita	ird (D3)
☐ Inundation Visible on Aerial Imagery (` '	Microtopograp	hic Relief (D4)
Sparsely Vegetated Concave Surface		·	▼ FAC-neutral Te	est (D5)
Field Observations:				
Surface Water Present? Yes	No Depth (inches):			
Water Table Present? Yes	No Depth (inches):			Yes No
Saturation Present? (includes capillary fringe) Yes	No Depth (inches):	Wetland Hydi	ology Present?	Yes ♥ NO ∪
Describe Recorded Data (stream gauge	ge, monitoring well, aerial photo	os, previous inspections), if avai	able:	
Remarks:				

VEGETATION - Use scientific names of pl	ants		ominant pecies?		Sampling Point: AN32 wetland					
T (Not size)	Absolute	Re	el.Strat.	Indicator	Dominance Test worksheet:					
Tree Stratum (Plot size:)	% Cover			Status	Number of Dominant Species					
1	0		0.0%		That are OBL, FACW, or FAC: 3 (A)					
2	0	\vdash	0.0%		Total Number of Dominant					
3	0_		0.0%		Species Across All Strata: 4 (B)					
4	0_	H	0.0%		Percent of dominant Species					
5	0	\vdash	0.0%		That Are OBL, FACW, or FAC: 75.0% (A/B)					
6		H	0.0%							
7		Щ,			Prevalence Index worksheet:					
Sapling/Shrub Stratum (Plot size: 15')		= Tc	otal Cover	-	Total % Cover of: Multiply by:					
1. Spiraea alba	50	V	83.3%	FACW+	0BL species 12 x 1 = 12					
2. Acer rubrum	10		16.7%	FAC	FACW species $\frac{108}{10} \times 2 = \frac{216}{30}$					
3.			0.0%		FAC species 10 x 3 = 30					
4.	0		0.0%		FACU speci es $\frac{25}{2}$ x 4 = $\frac{100}{2}$					
5.	0		0.0%		UPL species $0 \times 5 = 0$					
6.	0		0.0%		Column Totals: 155 (A) 358 (B)					
7.	0		0.0%		Prevalence Index = B/A = 2.310					
	60	= Tc	tal Cover	•	Hydrophytic Vegetation Indicators:					
Herb Stratum (Plot size: 5')					Rapid Test for Hydrophytic Vegetation					
1.Carex crinita	12	\square	12.6%	OBL	✓ Dominance Test is > 50%					
2.Onoclea sensibilis	33	V	34.7%	FACW	✓ Prevalence Index is ≤3.0 ¹					
3. Carex Intumescens	25	V	26.3%	FACW+	Morphological Adaptations ¹ (Provide supporting					
4. Rubus hispidus	0	\Box	0.0%	FACW	data in Remarks or on a separate sheet)					
5. Solidago canadensis	25	V	26.3%	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)					
<u>6.</u>		Ц	0.0%							
7		Ц	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
8	0		0.0%		·					
9	0		0.0%		Definitions of Vegetation Strata:					
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter					
11	0		0.0%		at breast height (DBH), regardless of height.					
12	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and					
Woody Vine Stratum (Plot size:)	95	= To	otal Cover	-	greater than 3.28 ft (1m) tall					
	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of					
1			0.0%		size, and woody plants less than 3.28 ft tall.					
2 3			0.0%							
			0.0%		Woody vine - All woody vines greater than 3.28 ft in					
4		Ш,	0.076		height.					

0 = Total Cover

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

Yes ● No ○

Hydrophytic Vegetation

Present?

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

Soil Sampling Point: AN32 wetland

	ription: (Des	scribe to	the depth	needed to docu	ment the indi	cator or co	onfirm the	absence of indicators.)					
Depth (inches)	. Color (ı	Matrix	_ %	_ Color (mois	Redox Feat		Loc²	Texture	Remarks				
				Color (Illois	1) 76		LUC-		Remarks				
0-18	10YR	3/2	100%					Loam					
18-24	2.5Y	4/2	95%	10YR 5	5%	C		Sandy Loam					
									·				
						_		-					
1 Type: C=Con	centration D	=Depletion	n RM=Red	uced Matrix CS=C	overed or Coat	ed Sand Gr	ains 21 oca	ation: PL=Pore Lining. M=N					
Hydric Soil I		- Depiction	n. ruw-rea	acca mann, co-c		eu ounu or							
Histosol (Polyvalue	Below Surface	(S8) (I RR I	₹.		ematic nyunc sons :				
	pedon (A2)			MLRA 149		(50) (ERR 1	ν,		(LRR K, L, MLRA 149B)				
Black Hist				☐ Thin Dark	Surface (S9)	(LRR R, MLI	RA 149B)		ox (A16) (LRR K, L, R)				
	Sulfide (A4)			Loamy Mu	ıcky Mineral (F	1) LRR K, L)		or Peat (S3) (LRR K, L, R)				
	Layers (A5)			Loamy Glo	eyed Matrix (F2	2)		Dark Surface (S7)					
	Below Dark S	Surface (A	11)	Depleted	Matrix (F3)			☐ Polyvalue Below Surface (S8) (LRR K, L) ☐ Thin Dark Surface (S9) (LRR K, L)					
	k Surface (A1		,	Redox Da	rk Surface (F6)								
Sandy Mu	ıck Mineral (S	51)		Depleted	Dark Surface (F	7)			Masses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B)				
	eyed Matrix (Redox De	pressions (F8)				6) (MLRA 144A, 145, 149B)				
Sandy Re								Red Parent Mater					
	Matrix (S6)							☐ Very Shallow Dark Surface (TF12)					
Dark Surf	ace (S7) (LRF	R R, MLRA	149B)					Other (Explain in					
3Indicators o	f hydronhytic	vegetatio	n and wetla	nd hydrology mus	t he nresent iii	nlass disturl	ned or probl		Normania)				
			Turia wetia	na nyarology mas	be present, a	ness distail	sea or probl	icinatio.					
Restrictive L	ayer (if obs	erved):											
Type:	1							Hydric Soil Present?	Yes No				
Depth (inc	nes):							,	100 0 110 0				
Remarks:													

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy,	LLC	Sta	te: NH	Sampling Point: AN32 upland
Investigator(s): AF JG		Section, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Undu	ulating I	Local relief (concave, convex, n		
Subregion (LRR or MLRA):	Lat.:	Long	<u> </u>	Datum:
			-	
Soil Map Unit Name:			NWI classifi —	cation:
Are climatic/hydrologic conditions on the	site typical for this time of year	ar? Yes • No 🔾	(If no, explain in	•
Are Vegetation, Soil, or	Hydrology 🗌 significantly	y disturbed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil, or	Hydrology 🗌 naturally pr	oblematic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach		ampling point location	s, transects,	important features, etc.
1 2 . 2	s O No O			
, , , , , , , , , , , , , , , , , , ,	s O No 💿	Is the Sampled Area within a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present? Yes	s O No 💿			
Hydrology				
Wetland Hydrology Indicators:	المراجعة المطلق المراجعة المصادر			rs (minimum of 2 required)
Primary Indicators (minimum of one req Surface Water (A1)		(00)	Surface Soil Cr	
High Water Table (A2)	Water-Stained Leav☐ Aquatic Fauna (B13)	• •	☐ Drainage Patte	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide O		Crayfish Burro	
Sediment Deposits (B2)		res along Living Roots (C3)		ble on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduce			essed Plants (D1)
☐ Algal Mat or Crust (B4)	Recent Iron Reducti	ion in Tilled Soils (C6)	Geomorphic Po	osition (D2)
Iron Deposits (B5)	Thin Muck Surface ((C7)	Shallow Aquita	rd (D3)
Inundation Visible on Aerial Imagery (B7)	U Otrici (Explain in No	emarks)	Microtopograp	
Sparsely Vegetated Concave Surface (B8)			FAC-neutral Te	est (D5)
Field Observations:				
Curiado Mator Froduiti	Depth (inches):			
Water Table Present? Yes O N	Depth (inches):			
Saturation Present? (includes capillary fringe) Yes N	o Depth (inches):	Wetland Hydr	ology Present?	Yes ○ No ●
Describe Recorded Data (stream gauge,	monitoring well, aerial photos	s, previous inspections), if avail	able:	
Remarks:				

VEGETATION - Use scientific names of pl			minant ecies?		Sampling Point: AN32 upland				
Tree Stratum (Plot size:)	Absolute % Cover	Re		Indicator Status	Dominance Test worksho	et:			
				Status	Number of Dominant Specie			1	(4)
			0.0%		That are OBL, FACW, or FAC	; :	-	1	(A)
2.		Η.	0.0%		Total Number of Dominant				
3		H	0.0%		Species Across All Strata:		_	3	(B)
1		H.	0.0%		Percent of dominant Spe	ries			
5		H	0.0%		That Are OBL, FACW, or			33.3%	(A/B)
5 7		Π.	0.0%		Dravalance Index worksh				
-					Prevalence Index worksh Total % Cover of:		Aultiply	by:	
Sapling/Shrub Stratum (Plot size: 15')	0	= 10	tal Cove	r			/lultiply : 1 =		_
. Rhus copallinum	50	V	76.9%	NI		_			-
Pinus strobus	5		7.7%	FACU			2 =	-	-
3. Prunus serotina	5		7.7%	FACU	FAC speciles 15		3 =	45	-
1. Acer rubrum	5		7.7%	FAC			4 =	292	-
5.			0.0%		UPL speci es0	×	5 =	0	-
6.	0		0.0%		Column Totals: 13	((A)	413	(B)
7.	0		0.0%		Prevalence Index =	B/A =		3.153	
		= To	tal Cove	r	Hydrophytic Vegetation I	-			
Herb Stratum (Plot size: 5')					Rapid Test for Hydro			ation	
1 Pteridium aquilinum	20		17.2%	FACU	Dominance Test is		vegen	ation	
2.Rubus idaeus	10		8.6%	FAC-			ı		
3. Rubus allegheniensis	10		8.6%	FACU-	Prevalence Index is				
4. Solidago canadensis	33	\checkmark	28.4%	FACU	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
5. Phalaris arundinacea	33	✓	28.4%	FACW+	Problematic Hydrop		-		olain)
6.Carex crinita	10		8.6%	OBL			Ū		-
7	0		0.0%		1 Indicators of hydric so				gy must
8	0		0.0%		be present, unless distu				
9	0		0.0%		Definitions of Vegeta	tion S	trata:		
10	0		0.0%		Tree - Woody plants, 3 in	. (7.6	cm) or	more in d	liamete
l1 <u>. </u>	0		0.0%		at breast height (DBH), r				
12	0		0.0%		Conting/objects Monday	lanta l	th.	n 2 in DE	الممما الا
	116	= To	tal Cove	r	Sapling/shrub - Woody p greater than 3.28 ft (1m)	tall	ess ma	ın 3 in. De	on and
Woody Vine Stratum (Plot size:)									
1	0	\square	0.0%		Herb - All herbaceous (n size, and woody plants le				rdless o
2		Н.	0.0%		Size, and woody plants is	:55 IIIa	111 3.20	ii iaii.	
3		\square	0.0%		Woody vine - All woody v	ines g	reater	than 3.28	ft in
4		\square	0.0%		height.				
	0	= To	tal Cove	r					
					Hydrophytic Vegetation Present? Yes	No	•		

Remarks. (Include prioto numbers here of on a separate sheet.)

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

Soil Sampling Point: AN32 upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)					
Depth (inches)	. Color (ı	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc2	Texture Remarks					
				Color (moist) 28 Type 1 Loc-						
0-8	10YR	3/3	100%		Loam					
8-13	10YR	4/3	100%		Sandy Loam					
¹ Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix					
Hydric Soil I	Indicators:				Indicators for Problematic Hydric Soils: 3					
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)					
Histic Epi	pedon (A2)			MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)					
Black Hist	tic (A3)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)					
	n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	☐ Dark Surface (S7) (LRR K, L)					
	Layers (A5)			Loamy Gleyed Matrix (F2)☐ Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)					
	Below Dark S		11)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)					
	k Surface (A			Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)					
	uck Mineral (S eyed Matrix (S			Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)					
Sandy Re		34)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)					
	Matrix (S6)				Red Parent Material (TF2)					
	face (S7) (LRI	R R. MLRA	149B)		☐ Very Shallow Dark Surface (TF12) ☐ Out (F. Living Bounds)					
					U Other (Explain in Remarks)					
			i and wella	and hydrology must be present, unless disturbed or proble	ernatic.					
Restrictive L	ayer (if obs	erved):								
Type:					Hydric Soil Present? Yes No •					
Depth (inc	hes):				Tes O NO O					
Remarks:										



AN32 Upland



AN32 Wetland

Project/Site: Antrim Wind Project	City/	County: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy, Ll		Sta	te: NH	Sampling Point: AN33 Wetland
Investigator(s): AF JG	Sci	ection, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Footslo		relief (concave, convex, n		Slope: 3.0 % / 1.7 °
Subregion (LRR or MLRA):	Lat.:		-	Datum:
	Lat	Long	-	
Soil Map Unit Name:			NWI classif	ication: PSS
Are climatic/hydrologic conditions on the si	te typical for this time of year?	Yes No	(If no, explain in	•
Are Vegetation . , Soil . , or Hy	drology significantly dist	urbed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation , Soil , or Hy	drology aturally problem	matic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach	site map showing samp	oling point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes	● No ○	Is the Sampled Area within a Wetland?	Yes ● No ○)
Wetland Hydrology Present? Yes	● No ○			
Hydrology				
Wetland Hydrology Indicators:	rod, chock all that apply)			ors (minimum of 2 required)
Primary Indicators (minimum of one requi Surface Water (A1)		2)	Surface Soil Co	
High Water Table (A2)	✓ Water-Stained Leaves (B¹☐ Aquatic Fauna (B13)	7)	Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide Odor (0	21)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres al			ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	s)	Microtopograp	
Sparsely Vegetated Concave Surface (B8)			✓ FAC-neutral Te	est (D5)
Field Observations:				
Surface Water Present? Yes No				
Water Table Present? Yes No	Depth (inches):	Watland Hydr	ology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):	0 Wetland Hydi	ology Present?	Tes © NO ©
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, pre	evious inspections), if avail	able:	
Remarks:				

VEGETATION - Use scientific names of plan	nts	Domi			Sampling Point: AN33 Wetland				
	Absolute	Speci Rel.S		Indicator	Dominance Test worksheet:				
Tree Stratum (Plot size:)	% Cover	Cove	r	Status	Number of Dominant Species				
1	0		0.0%		That are OBL, FACW, or FAC: 4 (A)				
2	0	<u></u>	0.0%		Total Number of Dominant				
3	0	∐c	0.0%		Species Across All Strata: 5 (B)				
4	0		0.0%						
5	0		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 80.0% (A/B)				
6	0		0.0%		That Are OBL, FACW, or FAC: 80.0% (A/B)				
7	0		0.0%		Prevalence Index worksheet:				
Sapling/Shrub Stratum (Plot size: 15')		= Total	l Cover		Total % Cover of: Multiply by:				
			0.007	E 4 0) 4 /	0BL speci es36 x 1 =36				
1. Cornus stolonifera			0.0%	FACW+	FACW species 70 x 2 = 140				
2. Viburnum dentatum			0.0%	FAC	FAC species 5 x 3 = 15				
3			0.0%		FACU speci es 33 x 4 = 132				
4			0.0%		UPL species $0 \times 5 = 0$				
5			0.0%		Col umn Total s: 144 (A) 323 (B)				
6			0.0%		Cordini Total's: 144 (A) 323 (5)				
7		□ <u></u> _	0.0%		Prevalence Index = $B/A = 2.243$				
Herb Stratum (Plot size: 5')	10	= Total	l Cover		Hydrophytic Vegetation Indicators:				
1. Onoclea sensibilis	40	✓ 2	9.9%	EAC\A/	Rapid Test for Hydrophytic Vegetation				
2.Solidago canadensis	33		4.6%	FACU	✓ Dominance Test is > 50%				
3. Carex crinita	33		4.6%	OBL	✓ Prevalence Index is ≤3.0 ¹				
4. Rubus hispidus	25		8.7%	FACW	☐ Morphological Adaptations ¹ (Provide supporting				
5.Osmunda regalis	3		2.2%	OBL	data in Remarks or on a separate sheet)				
6.	0		0.0%	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)				
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must				
8.	0		0.0%		be present, unless disturbed or problematic.				
9.	0		0.0%		Definitions of Vegetation Strata:				
10.	0		0.0%						
11.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
12.					at bleast height (DDH), regardless of height.				
· · · · · · · · · · · · · · · · · · ·	124		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and				
Woody Vine Stratum (Plot size:)	134	= Total	Cover		greater than 3.28 ft (1m) tall				
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of				
2	0		0.0%		size, and woody plants less than 3.28 ft tall.				
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in				
4	0		0.0%		height.				
		_			l ~				

Hydrophytic Vegetation

Present?

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

0 = Total Cover

Yes ● No ○

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

Soil Sampling Point: AN33 Wetland

	ription: (De		the depth	needed to				nfirm the	absence of indicators.)	
Depth (inches)	Color (Matrix moist)	- %	Color (edox Featu %		_ Loc²	Texture	Remarks
0-14	10YR	3/2	100%		,		31		Loam	
14-20	2.5Y	5/2	90%	2.5Y	5/1	10%		M	Sand	
			-			_				
						_				_
										_
1 Typo: C-Cor	acontration D		n PM-Pod	Lucod Matrix	CS_Cover	od or Coate	od Sand Cr	nine 21 oc	ation: PL=Pore Lining. M=	—
		=Depletio	JII. KIVI=Keu	iuceu iviati ix,	C3=C0Vei	eu or coate	u sanu Gra	1111S ~LUC		
Hydric Soil Histosol				Poly	value Relo	w Surface ('S8) (I RR F			elematic Hydric Soils: 3
	ipedon (A2)			MLR	A 149B)	W Sanace (,00) (LIKIT	• 1		(LRR K, L, MLRA 149B)
Black His				Thir	Dark Surf	face (S9) (L	RR R, MLR	A 149B)		lox (A16) (LRR K, L, R)
	n Sulfide (A4)					Mineral (F1			Dark Surface (S7	t or Peat (S3) (LRR K, L, R)
Stratified	Layers (A5)					Matrix (F2)				Surface (S8) (LRR K, L)
✓ Depleted	Below Dark S	Surface (A	.11)		leted Matr					e (S9) (LRR K, L)
Thick Da	rk Surface (A	12)				urface (F6)	>			Masses (F12) (LRR K, L, R)
	uck Mineral (S					Surface (F)	/)			lain Soils (F19) (MLRA 149B)
	eyed Matrix (S4)		∟ Reu	ox Depres	SIUIIS (F8)			Mesic Spodic (TA	A6) (MLRA 144A, 145, 149B)
	edox (S5)								Red Parent Mate	rial (TF2)
	Matrix (S6)		\ 140D)							rk Surface (TF12)
	face (S7) (LR								Other (Explain in	Remarks)
³ Indicators of	of hydrophytic	vegetatio	n and wetla	and hydrology	must be	present, un	less disturb	ed or prob	lematic.	
Restrictive L	ayer (if obs	erved):								
Type:									Undria Cail Dracant2	Yes ● No ○
Depth (inc	ches):								Hydric Soil Present?	Yes No
Remarks:										

Project/Site: Antrim Wind Project			City/County	: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Er	nergy, LLC			Sta	te: NH	Sampling Point: AN33 Upland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.):	Hillside		_	(concave, convex, r		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):		Lat.:		Long	1.:	Datum:
					NWI classif	
Soil Map Unit Name:						
Are climatic/hydrologic conditions o	n the site ty	pical for this time of y	ear? Y	′es ● No ○	(If no, explain in	·
Are Vegetation , Soil	, or Hydrolo	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At		<u> </u>	ampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •				
Hydric Soil Present?	Yes 🔾	No •		he Sampled Area hin a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present?	Yes 🔾	No •				
Hydrology						
Wetland Hydrology Indicators:	a raquirad.	abaak all that annly)				rs (minimum of 2 required)
Primary Indicators (minimum of on Surface Water (A1)	e requirea;		(DO)		Surface Soil Co	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		ng Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ed Iron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	oils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfac		Other (Explain in F	Remarks)		Microtopograp	
Sparsely vegetated Concave Surface	3 (88)				FAC-neutral To	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):		_		
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No 💿	Depth (inches):		wetiand Hydi —	rology Present?	Tes ○ INO ⑤
Describe Recorded Data (stream ga	uge, monito	oring well, aerial photo	os, previous i	nspections), if avai	lable:	
Remarks:						

/EGETATION - Use scientific names of pl			minant cies?		Sampling Point: AN33 Upland				
Tree Stratum (Plot size: 30')	Absolute % Cover	Rel	Strat.	Indicator Status	Dominance Test worksheet:				
Fogue grandifella		✓	33.3%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)				
A		<u> </u>	33.3%	FACU-	That are OBL, FACW, or FAC: 0 (A)				
Acer saccharum Towns and address.		<u> </u>			Total Number of Dominant				
_ Tsuga canadensis		_	33.3%	FACU	Species Across All Strata: 6 (B)				
•		H-	0.0%		Percent of dominant Species				
		H-	0.0%		That Are OBL, FACW, or FAC: 0.0% (A/				
		H-	0.0%						
		Ш_	0.0%		Prevalence Index worksheet:				
apling/Shrub Stratum (Plot size: 15')	30	= Tot	al Cove	r	Total % Cover of: Multiply by:				
. Fagus grandifolia	25	✓	41.7%	FACU	0BL species 0 x 1 = 0				
Populus tremula	15	~	25.0%	FACU	FACW species 10 x 2 = 20				
Pinus strobus			8.3%	FACU	FAC species3 x 3 =9				
Fraxinus pennsylvanica		\Box	16.7%	FACW	FACU speci es80 x 4 =320				
. Quercus rubra	5	$\overline{\Box}$	8.3%	FACU-	UPL species $\frac{75}{}$ x 5 = $\frac{375}{}$				
		\Box	0.0%		Column Totals: 168 (A) 724 (E				
i		\Box	0.0%		Prevalence Index = B/A = 4.310				
•			al Cove						
Herb Stratum (Plot size: 5')		- 100	ai cove	•	Hydrophytic Vegetation Indicators:				
1.Dennstaedtia punctilobula	75	✓	96.2%	UPL	Rapid Test for Hydrophytic Vegetation				
2.Malanthemum canadense			3.8%	FAC-	☐ Dominance Test is > 50%				
3.			0.0%		Prevalence Index is ≤3.0 ¹				
4.			0.0%		Morphological Adaptations ¹ (Provide supportine data in Remarks or on a separate sheet)				
5.			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)				
6.			0.0%		Problematic hydrophytic vegetation (Explain)				
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology mu				
8.	0	\Box	0.0%		be present, unless disturbed or problematic.				
9.		\Box	0.0%		Definitions of Vegetation Strata:				
0.		\Box	0.0%		The analysis of the state of th				
1.		$\overline{\Box}$	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diame at breast height (DBH), regardless of height.				
2.			0.0%		at 27000t 1101g/11 (2 2 1.7); 10 gat aloos of 1101g/111				
- <u>·</u>		 - Tot	al Cove	- — — ·	Sapling/shrub - Woody plants less than 3 in. DBH an				
Noody Vine Stratum (Plot size:)	70	- 100	ai oove	•	greater than 3.28 ft (1m) tall				
	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless				
2	0		0.0%		size, and woody plants less than 3.28 ft tall.				
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in				
4			0.0%		height.				
	0	= Tot	al Cove	r					
					Hydrophytic				
					Vegetation Present? Yes No •				

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

Soil Sampling Point: AN33 Upland

Depth (inches)	. 0-1	Matrix	_ ~ -		dox Features	1	- Tourtum	Darrender
	Color (r		%	Color (moist)	% Type	1 Loc2	Texture	Remarks
0-8	10YR	3/3	100%				Loam	
8-15	2.5Y	5/3	100%				Loamy Sand	
						- ——	-	
							•	
							-	
						- ——		
								_
Type: C=Cor	centration. D	=Depletic	n. RM=Redu	uced Matrix, CS=Covere	ed or Coated Sand G	rains ² Loca	ation: PL=Pore Lining. M=	Matrix
Hydric Soil	Indicators:						Indicators for Brok	olematic Hydric Soils : 3
Histosol	(A1)			Polyvalue Belov	w Surface (S8) (LRR	R,		
Histic Epi	pedon (A2)			MLRA 149B)	. , ,) (LRR K, L, MLRA 149B)
Black His	•			☐ Thin Dark Surfa	ace (S9) (LRR R, ML	.RA 149B)		dox (A16) (LRR K, L, R)
Hydroger	n Sulfide (A4)			Loamy Mucky N	Mineral (F1) LRR K, I	_)		t or Peat (S3) (LRR K, L, R)
	Layers (A5)			Loamy Gleyed I	Matrix (F2)		Dark Surface (S7	
Depleted	Below Dark S	Surface (A	.11)	Depleted Matrix	x (F3)			Surface (S8) (LRR K, L) e (S9) (LRR K, L)
	rk Surface (A1			Redox Dark Sui	rface (F6)			Masses (F12) (LRR K, L, R)
Sandy Mu	uck Mineral (S	1)		Depleted Dark	Surface (F7)			lain Soils (F19) (MLRA 149B)
_	eyed Matrix (S			Redox Depress	ions (F8)			A6) (MLRA 144A, 145, 149B)
Sandy Re		ŕ					Red Parent Mate	
_	Matrix (S6)							rk Surface (TF12)
	face (S7) (LRF	R R, MLRA	A 149B)				Other (Explain in	
3 Indicators o	f budrophytic	voqotatic	n and watla	nd hydrology must be p	aracant unlace dictu	had ar prabl		i Kemarks)
			iii aiiu wetia	na nyarology mast be p	resent, unless distu	bed of probl	епанс.	
Restrictive L	•	erved):						
Type: B							Hydric Soil Present?	Yes ○ No •
Depth (inc	thes): 15						Hydric Soil Present?	Yes O No O
Remarks:								



AN33 Wetland



AN33 Upland



AN33 Wetland



AN33 Wetland

Project/Site: Antrim Wind Project			City/Count	:y: Antrim		Sampling Date: 26-Sep-11
Applicant/Owner: Eolian Renewable 8	Energy, LLC			Sta	te: NH	Sampling Point: AN35 wetland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Footslope		_	f (concave, convex, r		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
			-			
Soil Map Unit Name:					INVVI CIASSIII	cation: PFO/PSS
Are climatic/hydrologic conditions	on the site typ	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	·
Are Vegetation , Soil	, or Hydrolo	ogy 🗌 significant	lly disturbed	l? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation . , Soil .	, or Hydrolo	ogy 🗌 naturally p	oroblematic [*]	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - A			sampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No O				
Hydric Soil Present?		No O		the Sampled Area thin a Wetland?	Yes ● No C	
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Hydrology						
Wetland Hydrology Indicators:	no roquirod.	abaak all that annly)				rs (minimum of 2 required)
Primary Indicators (minimum of o	ie requireu; c		(DO)		Surface Soil Co	
✓ High Water Table (A2)		✓ Water-Stained Lea☐ Aquatic Fauna (B1			✓ Drainage Patte Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro	
Sediment Deposits (B2)		✓ Oxidized Rhizosph		ving Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ced Iron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	ction in Tilled	Soils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)		Thin Muck Surface	e (C7)		Shallow Aquita	
Inundation Visible on Aerial ImageSparsely Vegetated Concave Surfa		Other (Explain in F	Remarks)		Microtopograp	
Sparsely vegetated concave surfa	ле (во)				✓ FAC-neutral Te	est (D5)
Field Observations: Surface Water Present? Yes	O No ●					
		Depth (inches):				
Water Table Present? Yes		Depth (inches):	2	Wetland Hydi	rology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes	No O	Depth (inches):	0		ology Fresent:	103 9 NO 9
Describe Recorded Data (stream g	auge, monito	ring well, aerial photo	os, previous	inspections), if avai	lable:	
Remarks:						

Free Stratum (Plot size: 30') Acer rubrum Betula alleghaniensis Fraxinus pennsylvanica Fraxinus pennsylvanica Ilex verticillata Ilex verticillata Plot size: 5') 1. Onoclea sensibilis	0 0 0 0 55 20 10 0	Rec Co	27.3% 27.3% 27.3% 45.5% 0.0% 0.0% 0.0% 0.0%	FAC FAC FACW	Number of Dominant Species That are OBL, FACW, or FAC: 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:			
Acer rubrum Betula alleghaniensis Fraxinus pennsylvanica Capling/Shrub Stratum (Plot size: 15') Fraxinus pennsylvanica Ilex verticillata Cerb Stratum (Plot size: 5')	15 25 0 0 0 0 55 20 10 0 0	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	27.3% 27.3% 45.5% 0.0% 0.0% 0.0% 0.0%	FAC FAC FACW	That are OBL, FACW, or FAC: 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:			
Betula alleghaniensis Fraxinus pennsylvanica Sapling/Shrub Stratum (Plot size: 15') Fraxinus pennsylvanica Ilex verticillata Gerb Stratum (Plot size: 5')	15 25 0 0 0 0 55 20 10 0 0	✓✓✓<!--</td--><td>27.3% 45.5% 0.0% 0.0% 0.0% 0.0%</td><td>FACW</td><td>Total Number of Dominant Species Across All Strata: Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% Prevalence Index worksheet:</td>	27.3% 45.5% 0.0% 0.0% 0.0% 0.0%	FACW	Total Number of Dominant Species Across All Strata: Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% Prevalence Index worksheet:			
Fraxinus pennsylvanica Gapling/Shrub Stratum (Plot size: 15') Fraxinus pennsylvanica Herb Stratum (Plot size: 5')	25 0 0 0 0 0 55 20 10 0 0		45.5% 0.0% 0.0% 0.0% 0.0% otal Cover	FACW	Species Across All Strata: 6 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet:			
isapling/Shrub Stratum (Plot size: 15') Fraxinus pennsylvanica Ilex verticillata Ilex Stratum (Plot size: 5')	0 0 0 0 55 20 10 0 0	✓	0.0% 0.0% 0.0% 0.0% otal Cover		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size: 15') Fraxinus pennsylvanica Ilex verticillata Ilex betratum (Plot size: 5')	0 0 0 55 20 10 0 0	✓	0.0% 0.0% otal Cover		That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet:			
isapling/Shrub Stratum (Plot size: 15') Fraxinus pennsylvanica Ilex verticillata Ilex verticillata Ilex verticillata Ilex verticillata Ilex verticillata	0 0 55 20 10 0 0	✓	0.0% otal Cove		Prevalence Index worksheet:			
isapling/Shrub Stratum (Plot size: 15') Fraxinus pennsylvanica Ilex verticillata Ilex verticillata Ilex berticulata Ilex berticulata	0 55 20 10 0 0	✓	otal Cove	,				
isapling/Shrub Stratum (Plot size: 15') Fraxinus pennsylvanica Illex verticillata Illex verticillata Illex verticillata Illex verticillata Illex verticillata Illex verticillata	55 20 10 0 0	✓		,	Total % Cover of: Multiply by:			
Ilex verticillata	10 0 0		66 7%		Total % Cover of: Multiply by:			
llex verticillata level Stratum (Plot size: 5')	10 0 0		66 7%		OBL species 0 x 1 = 0			
derb Stratum (Plot size: 5')	0 0		00.770	FACW	FACW species 115 x 2 = 230			
erb Stratum (Plot size: 5')	0		33.3%	FACW+	FAC species $30 \times 3 = 90$			
erb Stratum (Plot size: 5')	0		0.0%		FACU species 0 x 4 = 0			
lerb Stratum (Plot size: 5')	0		0.0%		0 0			
Herb Stratum (Plot size: 5')			0.0%		(2)			
lerb Stratum (Plot size: 5')	0		0.0%		Column Totals: 145 (A) 320 (B)			
1 Omenica consibilio	0	Ш	0.0%		Prevalence Index = B/A = 2.207			
1 Omenica consibilio	30	= To	tal Cove	r	Hydrophytic Vegetation Indicators:			
I . Unoclea sensibilis			00.00/	E4 014/	Rapid Test for Hydrophytic Vegetation			
		✓	83.3%	FACW	✓ Dominance Test is > 50%			
2.0smunda cinnamomea	10		16.7%	FACW	✓ Prevalence Index is ≤3.0 ¹			
3			0.0%		Morphological Adaptations ¹ (Provide supporting			
4			0.0%		data in Remarks or on a separate sheet)			
5 6.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)			
o <u>. </u>	0		0.0%		Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.			
	0		0.0%					
8 9.	0		0.0%		Definitions of Vegetation Strata:			
9 0.	0		0.0%					
0 1.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter			
1			0.0%		at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and			
۷	0	_	0.0%					
Voody Vine Stratum (Plot size:)	60	= 10	tal Cove	ſ	greater than 3.28 ft (1m) tall			
	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless o			
2.	0		0.0%		size, and woody plants less than 3.28 ft tall.			
3	0		0.0%		Monday vine All woods vines greater than 2.29 ft in			
1			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.			
	0	– Ta	tal Cove	-				
			5000					
					Hydrophytic Vegetation			

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: AN35 wetland

	iption: (Des	scribe to	the depth	needed to d	ocument	the indic	ator or c	onfirm the	absence of indicators.)			
Depth (inches)	. Color (r	Matrix	_ %	Color (n		dox Featu %		Loc2	Texture	Remarks		
0-8	10YR	3/2	100%	Coloi (I	ioist)		_ rype		Loam	Remarks		
				10)/5								
8-14	2.5Y	4/2	95%	10YR	4/6	5%	C		Fine Sandy Loam	Bedrock		
14+										- Dear oek		
							_					
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, C	S=Covere	ed or Coate	ed Sand G	ains ² Loc	ation: PL=Pore Lining. M=	Matrix		
Hydric Soil I	ndicators:								Indicators for Prob	lematic Hydric Soils	: 3	
Histosol (w Surface ((S8) (LRR	R,		(LRR K, L, MLRA 1498		
Histic Epip	pedon (A2)				. 149B)	(CO) (I	IDD D MI	DA 140D)		lox (A16) (LRR K, L, R)	,	
Black Hist						ace (S9) (I Mineral (F1				or Peat (S3) (LRR K, L	., R)	
	Sulfide (A4)					Matrix (F2))	Dark Surface (S7	Dark Surface (S7) (LRR K, L)		
	Layers (A5)		14)		ted Matrix		,		Polyvalue Below	Surface (S8) (LRR K, L))	
	Below Dark S k Surface (A1		11)			rface (F6)				e (S9) (LRR K, L)		
	ick Mineral (S	•		_		Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R)			
					k Depress					Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gleyed Matrix (S4) Sandy Redox (S5)						.6) (MLRA 144A, 145, 1	49B)					
Stripped Matrix (S6)					Red Parent Mate							
Dark Surface (S7) (LRR R, MLRA 149B)												
³ Indicators of				nd hydrology	must ho n	rocont un	loce dietur	had ar prabl		Remarks)		
			ii and wetta	na nyarology	iliust be p	nesent, un	iless distui	bed of probl	lematic.			
Restrictive L	ayer (if obs	erved):										
Type:	hoo).								Hydric Soil Present?	Yes ● No C		
Depth (inc	nes):									100 - 110 -		
Remarks:												

Project/Site: Antrim Wind Project	City/Cou	nty: Antrim		Sampling Date: 26-Sep-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: an35 upland
Investigator(s): AF JG	Section	on, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Footslope		ef (concave, convex, r		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):	Lat.:	Long	 1.:	Datum:
			NWI classif	
Soil Map Unit Name:			— INVVI CIASSIII	
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes No	(If no, explain in	· · · · · · · · · · · · · · · · · · ·
Are Vegetation \square , Soil \square , or Hydro	logy significantly disturb	ed? Are "Normal	Circumstances" p	oresent? Yes • No •
Are Vegetation , Soil , or Hydro	logy naturally problemati	ic? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach site	e map showing samplin	g point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes		Is the Sampled Area within a Wetland?	Yes ○ No ●)
Wetland Hydrology Present? Yes	No •	within a wonding.		
Remarks: (Explain alternative procedures her	o or in a congrato report)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil Co	racks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin	• •
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1) Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	5 1 (02)	Crayfish Burro	
Drift deposits (B3)	Oxidized Rhizospheres along			ible on Aerial Imagery (C9) essed Plants (D1)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4 Recent Iron Reduction in Tille		Geomorphic P	
Iron Deposits (B5)	Thin Muck Surface (C7)	d solis (Co)	Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)			ohic Relief (D4)
☐ Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		FAC-neutral To	est (D5)
Field Observations:				
Surface Water Present? Yes No •	Depth (inches):			
Water Table Present? Yes O No •	Depth (inches):			
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydi	rology Present?	Yes ○ No •
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previou	us inspections), if avai	lable:	
Remarks:				

VEGETATION - Use scientific names of pla	nts		ominant pecies?		Sampling Point: an35 upland		
Tree Stratum (Plot size: 30')	Absolute % Cover		el.Strat. over	Indicator Status	Dominance Test worksheet:		
1. Quercus rubra	33	<u> </u>	46.5%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: (A)		
Fagus grandifolia Pinus strobus Acer saccharum	10		28.2% 11.3% 14.1%	FACU FACU-	Total Number of Dominant Species Across All Strata: 7 (B)		
5	0		0.0%	TAGO	Percent of dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)		
7	0			r	Prevalence Index worksheet: Total % Cover of: Multiply by:		
1. Fagus grandifolia 2. Fraxinus pennsylvanica 3. 4. 5. 6. 7.	10 0 0 0		60.0% 40.0% 0.0% 0.0% 0.0% 0.0%	FACU FACW	OBL species 0 x 1 = 0 FACW species 10 x 2 = 20 FAC species 15 x 3 = 45 FACU species 111 x 4 = 444 UPL species 10 x 5 = 50 Col umn Total s: 146 (A) 559 (B) Prevalence Index = B/A = 3.829		
Herb Stratum (Plot size: 5') 1.Trientalis borealis 2.Aralia nudicaulis	15	= To	30.0% 50.0%	FAC FACU	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 1		
3. Dennstaedtia punctilobula 45.			20.0%	UPL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)		

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

= Total Cover

= Total Cover

0

0

0

0

50

0

0

0

0

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

Woody Vine Stratum (Plot size:_____)

7.

8.

9.

10.

11.

12.

¹ Indicators of hydric soil and wetland hydrology must

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

No 💿

Woody vine - All woody vines greater than 3.28 ft in

be present, unless disturbed or problematic.

at breast height (DBH), regardless of height.

size, and woody plants less than 3.28 ft tall.

Yes 🔾

Definitions of Vegetation Strata:

greater than 3.28 ft (1m) tall..

height.

Hydrophytic Vegetation

Present?

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

Soil Sampling Point: an35 upland

Profile Descr	ription: (Desc	cribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)			
Depth (inches)		Matrix		Redox Features	- -	B		
	Color (m		%	Color (moist) % Type 1 Loc²	Texture	Remarks		
0-6	10YR	3/2	100%		Loam			
6-11	10YR	4/6	100%		Fine Sandy Loam			
11-16	10YR	4/4	100%		Fine Sandy Loam			
1 Type: C. Con		Doplotio	n DM Doo	luced Matrix, CS=Covered or Coated Sand Grains ² Loc	ation: DL Poro Lining M Mate	-iv		
		Беріецо	II. KIVI=Ket	diced Matrix, C3=Covered of Coated Sand Grains ~Loc				
Hydric Soil I				Polyvalue Below Surface (S8) (LRR R,	Indicators for Problem	natic Hydric Soils : 3		
	pedon (A2)			MLRA 149B)	2 cm Muck (A10) (LF			
Black Hist				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		Peat (S3) (LRR K, L, R)		
	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (L			
	Below Dark Su	urface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surf			
☐ Thick Dark Surface (A12)				Redox Dark Surface (F6)	Thin Dark Surface (S			
Sandy Muck Mineral (S1) Depleted Dark Surface (F7)						ses (F12) (LRR K, L, R) Soils (F19) (MLRA 149B)		
	eyed Matrix (S			Redox Depressions (F8)		MLRA 144A, 145, 149B)		
Sandy Re	dox (S5)				Red Parent Material			
Stripped I	Matrix (S6)				Very Shallow Dark Surface (TF12)			
☐ Dark Surf	face (S7) (LRR	R, MLRA	149B)		Other (Explain in Rer			
³ Indicators o	f hydrophytic \	/egetatio	n and wetla	and hydrology must be present, unless disturbed or prob		,		
Restrictive L								
Type:	ayer (ii obse	ivea).						
Depth (inc	hes).				Hydric Soil Present?	Yes ○ No •		
Remarks:								
Remarks.								



AN35 Wetland

Project/Site: Antrim Wind Project	ect		City/County: Anti	rim		Sampling Date: 27-Sep-11
Applicant/Owner: Eolian Renev	wable Energy, LLC			State	: NH	Sampling Point: an36 wetland
Investigator(s): AF JG			Section, Towns	ship. Range: S.	Т.	
Landform (hillslope, terrace, e	etc.): Saddle		Local relief (conca			Slope: 0.0% / 0.0°
Subregion (LRR or MLRA):	dadalo		(_		- nat	
_		Lat.: _		Long.:		Datum:
Soil Map Unit Name:					NWI classifi	cation: PFO
Are climatic/hydrologic condi	tions on the site typ	oical for this time of ye	ear? Yes 🖭	No 🔾	lf no, explain in	· ·
Are Vegetation, Soil	, or Hydrold	ogy 🗌 significantl	y disturbed?	Are "Normal C	ircumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally pi	roblematic?	(If needed, ex	plain any answe	ers in Remarks.)
Summary of Findings	s - Attach site	map showing sa	ampling poin	t locations	, transects,	important features, etc.
Hydrophytic Vegetation Pres		No O				
Hydric Soil Present?	Yes 💿	No O	Is the San within a W	npled Area Vetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Hydrology						
Wetland Hydrology Indicator		المسمع فعطة العادات		<u></u>		rs (minimum of 2 required)
Primary Indicators (minimur Surface Water (A1)	n or one required;		(20)		Surface Soil Cr	
✓ High Water Table (A2)		✓ Water-Stained Leav☐ Aquatic Fauna (B13	• •	L [Drainage PatteMoss Trim Line	
Saturation (A3)		Marl Deposits (B15)		[_	ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide O		[Crayfish Burro	
Sediment Deposits (B2)			eres along Living Root	ts (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduce		[_	essed Plants (D1)
☐ Algal Mat or Crust (B4)			tion in Tilled Soils (C6) [Geomorphic P	
Iron Deposits (B5)		☐ Thin Muck Surface	(C7)	[Shallow Aquita	ard (D3)
Inundation Visible on Aerial		Other (Explain in Re	emarks)		Microtopograp	
Sparsely Vegetated Concave	e Surface (B8)			Ŀ	FAC-neutral Te	est (D5)
Field Observations:	0 0					
	Yes O No •	Depth (inches):				
Water Table Present?	Yes No	Depth (inches):	<u> </u>			Yes ● No ○
(includes capillary tringe)	Yes No	Depth (inches):	0	Wetland Hydrol		res ⊕ No ∪
Describe Recorded Data (stre	eam gauge, monito	ring well, aerial photo	s, previous inspect	tions), if availat	ole:	
Remarks:						

VEGETATION - Use scientific names of plants	Dominant Species 2
	Species?

VEGETATION - Ose scientific flames of pla	1113		ominant pecies?		Sampling Point: an36 wetland
(0)-1-1-20	Absolute	Re	el.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover		over	Status	Number of Dominant Species
1. Acer rubrum		✓	100.0%	FAC	That are OBL, FACW, or FAC: 5 (A)
2	0		0.0%		Total Number of Dominant
3	0		0.0%		Species Across All Strata: 5 (B)
4	0	Ц	0.0%		Demonstrate demonstrate Consider
5	0		0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
6	0		0.0%		That the est, then, of the
7	0	Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cover	-	Total % Cover of: Multiply by:
1. Acer rubrum	20	V	34.5%	FAC	0BL species 3 x 1 = 3
2. Betula alleghaniensis	20	~	34.5%	FAC	FACW species $23 \times 2 = 46$
2 Fravinus pappauluspias	8	\Box	13.8%	FACW	FAC species85
A Vihumum lantanaidaa	10	\Box	17.2%	FAC	FACU species $0 \times 4 = 0$
5		\Box	0.0%	77.0	UPL speci es $0 \times 5 = 0$
6.	0	\Box	0.0%		Column Totals: 111 (A) 304 (B)
7	0		0.0%		Prevalence Index = B/A = 2.739
		 _ Ta	otal Cover		Prevalence Index = B/A = 2.739
Herb Stratum (Plot size: 5')	58	= 10	nai covei		Hydrophytic Vegetation Indicators:
1.Betula alleghaniensis	15	~	45.5%	FAC	Rapid Test for Hydrophytic Vegetation
2.Osmunda regalis	3		9.1%	OBL	✓ Dominance Test is > 50%
3.0smunda cinnamomea	15	✓	45.5%	FACW	Prevalence Index is ≤3.0 ¹
4.	0	\Box	0.0%		Morphological Adaptations ¹ (Provide supporting
5.	0	\Box	0.0%		data in Remarks or on a separate sheet)
6		\Box	0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)
7			0.0%		1 Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9.	0	\Box	0.0%		Definitions of Vegetation Strata:
10.	0	\Box	0.0%		
11		\Box	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.	0	\Box	0.0%		at broadt noight (BBH), rogardiodo or noight.
· - ·		 _ To	otal Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)		- 10	otal cover		greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0_		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0_		0.0%		height.
	0 :	= Tc	otal Cover		
					Hydrophytic
					Vegetation Present? Yes No
Remarks: (Include photo numbers here or on a separate she	act)				
Remarks. (Hiciade photo humbers here of on a separate site	ee. <i>)</i>				

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

Soil Sampling Point: an36 wetland

	iption: (Desc	ribe to t	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (m	Matrix	- %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
				Color (moist) % Type 1 Loc2		Remarks
0-22	10YR	2/1	100%		Peat	
22+	2.5Y	5/1	100%		Gravelly Sand	
						-
1						
		Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	ation: PL=Pore Lining. M=N	Matrix
Hydric Soil I					Indicators for Probl	lematic Hydric Soils: ³
✓ Histosol (A				Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
Histic Epip				Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
Black Histi				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Dark Surface (S7)) (LRR K, L)
	Layers (A5) Below Dark Su	urfana (A1	11)	Depleted Matrix (F3)		Surface (S8) (LRR K, L)
	seiow Dark Su k Surface (A12		11)	Redox Dark Surface (F6)	Thin Dark Surface	
				Depleted Dark Surface (F7)		Masses (F12) (LRR K, L, R)
	ck Mineral (S1			Redox Depressions (F8)		ain Soils (F19) (MLRA 149B)
	yed Matrix (S4	4)				6) (MLRA 144A, 145, 149B)
Sandy Red Stripped M					Red Parent Mater	
	natrix (S6) nce (S7) (LRR	D MIDA	1/0P)		Very Shallow Darl	
					Other (Explain in	Remarks)
³ Indicators of	hydrophytic v	regetation	and wetla	and hydrology must be present, unless disturbed or problem	ematic.	
Restrictive La	ayer (if obse	rved):				
Type:						
Depth (inch	nes):				Hydric Soil Present?	Yes ● No ○
Remarks:						

Project/Site: Antrim Wind Project	City/County	: Antrim		Sampling Date: 27-Sep-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: an36 upland
Investigator(s): AF JG	Section.	Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Saddle		concave, convex, n		Slope: 15.0 % / 8.5 °
Subregion (LRR or MLRA):	Lat.:	Long	 I.:	
Soil Map Unit Name:			NWI classif	ication:
		'es ● No ○	_	
Are climatic/hydrologic conditions on the site t	J		(If no, explain in	•
Are Vegetation , Soil , or Hydro	ology	Are "Normal	Circumstances" p	present? Yes No
Are Vegetation, Soil, or Hydro	ology naturally problematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach sit		point location	s, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes	with	he Sampled Area nin a Wetland?	Yes O No 🖲)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures he	re or in a separate report.)			
Hydrology				
Wetland Hydrology Indicators: Primary Indicators (minimum of one required	chock all that apply)			ors (minimum of 2 required)
Surface Water (A1)			Surface Soil C Drainage Patte	
High Water Table (A2)	Water-Stained Leaves (B9)☐ Aquatic Fauna (B13)		Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)			/ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along Livir	ng Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled So	oils (C6)	Geomorphic P	Position (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		_	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral T	est (D5)
Field Observations:				
Surface Water Present? Yes No No	Depth (inches):	_		
Water Table Present? Yes O No •	Depth (inches):	_		
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydr —	ology Present?	Yes O No 🖲
Describe Recorded Data (stream gauge, moni	toring well, aerial photos, previous in	nspections), if avail	able:	
Remarks:				

VEGETATION - Use scientific names of plants	Dominant Species?	

VEGETATION - Ose scientific flames of plai	113		ominant pecies?		Sampling Point: an36 upland	
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:	
4 Assault		✓			Number of Dominant Species	
1. Acer saccharum	15	✓	33.3%	FACU-	That are OBL, FACW, or FAC: 2 (A)	
2. Fagus grandifolia	15	▼	33.3%	FACU	Total Number of Dominant	
3. Betula alleghaniensis			33.3%	FAC	Species Across All Strata: 8 (B)	
4			0.0%		Percent of dominant Species	
5			0.0%		That Are OBL, FACW, or FAC: 25.0% (A/B)	
6			0.0%			
7	0	_	0.0%		Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: 15')	45	= To	otal Cove	r	Total % Cover of: Multiply by: OBL species 0 x 1 = 0	
1. Fagus grandifolia	8	✓	30.8%	FACU	· — —	
2. Picea rubens	18	✓	69.2%	FACU		
3.	0		0.0%		170 Species x e =	
4.	0		0.0%		FACU speci es $\frac{66}{2}$ x 4 = $\frac{264}{2}$	
5.	0		0.0%		UPL species0 x 5 =0	
6.	0		0.0%		Column Totals: <u>86</u> (A) <u>324</u> (B)	
7.	0		0.0%		Prevalence Index = B/A = 3.767	
Herb Stratum (Plot size: 5')	26	= To	otal Cove	r	Hydrophytic Vegetation Indicators:	
					Rapid Test for Hydrophytic Vegetation	
1. Aralia nudicaulis	5	V	33.3%	FACU	Dominance Test is > 50%	
2.Fagus grandifolia		✓	33.3%	FACU	Prevalence Index is ≤3.0 ¹	
3. Trientalis borealis	5	✓	33.3%	FAC	☐ Morphological Adaptations ¹ (Provide supporting	
4	0		0.0%		data in Remarks or on a separate sheet)	
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)	
6	0	Ц	0.0%		-	
7	0		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8	0	Ш	0.0%			
9	0	Ш	0.0%		Definitions of Vegetation Strata:	
10	0	Ш	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter	
11	0		0.0%		at breast height (DBH), regardless of height.	
12	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and	
Woody Vine Stratum (Plot size:)	15	= To	otal Cove	r	greater than 3.28 ft (1m) tall	
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of	
2	0		0.0%		size, and woody plants less than 3.28 ft tall.	
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in	
4	0		0.0%		height.	
	0	= To	otal Cove	r		
Remarks: (Include photo numbers here or on a separate she	et.)				Hydrophytic Vegetation Present? Yes ○ No ●	

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

Soil Sampling Point: an36 upland

Profile Desci	ription: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		Watrix		Redox Features	- T	
	Color (m		%	Color (moist) % Type 1 Loc²	Texture Remar	KS
0-6	10YR	3/2	100%		Loam	
6-9	10YR	4/4	100%		Sandy Loam	
9-13	10YR	4/6	100%		Sandy Loam	
1 Type: C. Con		Doplotio	n DM Doo	luced Matrix, CS=Covered or Coated Sand Grains ² Loc.	etion: DL Poro Lining M Matrix	
• •		Беріецо	II. KIVI=Ket	diced Matrix, C3=Covered of Coated Sand Grains -Loc	<u> </u>	2
Hydric Soil				Polyvalue Below Surface (S8) (LRR R,	Indicators for Problematic Hydric S	Soils: 3
	pedon (A2)			MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA	
Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, I	
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR	K, L, R)
	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)	
	Below Dark Su	ırface (A	11)	☐ Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR	K, L)
	k Surface (A12		,	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L))
Sandy Mu	uck Mineral (S1)		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRF☐ Piedmont Floodplain Soils (F19) (M	
	eyed Matrix (S			Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 1-	
Sandy Re	dox (S5)				Red Parent Material (TF2)	13, 1470)
Stripped	Matrix (S6)				Very Shallow Dark Surface (TF12)	
☐ Dark Surf	face (S7) (LRR	R, MLRA	149B)		Other (Explain in Remarks)	
³ Indicators o	f hydrophytic \	egetatio	n and wetla	and hydrology must be present, unless disturbed or prob		
	ayer (if obse			, , ,		
Type:	ayer (ii obse	iveu).				
Depth (inc	hes).				Hydric Soil Present? Yes O	lo 💿
Remarks:						
Remarks.						



AN36 Wetand

ible Energy, LLC		County: Antrim		Sampling Date: 27-Sep-11
		Stat	e: NH	Sampling Point: an37 wetland
	Se	ction, Township, Range:	S. T.	
:.): Terrace		relief (concave, convex, n		Slope: 0.0% / 0.0°
	 Lat.:	Long		Datum:
			-	-
			— INVVI CIASSIII	cation: PFO
ons on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in	
, or Hydrol	ogy 🗌 significantly distu	urbed? Are "Normal	Circumstances" p	resent? Yes No
, or Hydrol	ogy 🗌 naturally problem	natic? (If needed, e	xplain any answe	ers in Remarks.)
- Attach site	map showing samp	ling point location	s, transects,	important features, etc.
	No O			
	_	vithin a Wetland?	Yes 💿 No 🗆	
Yes 💿	No O			
				() ()
	check all that apply)			
one required,)		
	_	,		
	Marl Deposits (B15)			ater Table (C2)
	Hydrogen Sulfide Odor (C	1)	Crayfish Burro	ws (C8)
	Oxidized Rhizospheres alo	ng Living Roots (C3)	Saturation Visi	ble on Aerial Imagery (C9)
	Presence of Reduced Iron	(C4)	Stunted or Str	essed Plants (D1)
	Recent Iron Reduction in	Tilled Soils (C6)		
2000 (DZ)	Thin Muck Surface (C7)			, ,
nagery (B7) Surface (B8)	Other (Explain in Remarks	·)	✓ Microtopograp✓ FAC-neutral To	
es • No O	Depth (inches):	1		
es • No ·	-	0		M. Q. N. O.
	Depth (inches):	0	ology Present?	Yes ● No ○
	, or Hydrold , or Hydrold , or Hydrold Attach site Yes Yes Yes Perpocedures here continuous procedures here to one required;	, or Hydrology	, or Hydrology	ons on the site typical for this time of year? Yes No (If no, explain in , or Hydrology significantly disturbed? Are "Normal Circumstances" p , or Hydrology naturally problematic? (If needed, explain any answer. Attach site map showing sampling point locations, transects, not? Yes No Is the Sampled Area within a Wetland? Yes No No Yes No Yes No No Yes No No Yes No No Yes No

VEGETATION - Use scientific names of pla	ants
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VEGETATION - Use scientific names of p	iaiits		ominant pecies?		Sampling Point: an37 wetland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
4 4 1	20	_	100.0%		Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)
1. Acer rubrum 2.			0.0%	TAC	That are Obl., FACW, OF FAC.
			0.0%		Total Number of Dominant
3			0.0%		Species Across All Strata: 5 (B)
4					Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
6		Н	0.0%		
7		Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	20	= To	otal Cove	r	Total % Cover of: Multiply by:
1. Acer rubrum	10	V	28.6%	FAC	OBL species 3 x 1 = 3
2. Betula alleghaniensis	20	<u>✓</u>	57.1%	FAC	FACW species $10 \times 2 = 20$
2 Vanadadum aamuudaanuu			14.3%	FACW-	FAC species 50 x 3 = 150
			0.0%	TACV	FACU species x 4 =0
			0.0%		UPL species $0 \times 5 = 0$
5					Column Totals: 63 (A) 173 (B)
6			0.0%		
7		\Box	0.0%		Prevalence Index = B/A = 2.746
Herb Stratum (Plot size: 5')	35	= To	otal Cove	r	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1. Osmunda cinnamomea	5	✓	62.5%	FACW	
2.Carex lurida	3	✓	37.5%	OBL	
3.	0		0.0%		✓ Prevalence Index is ≤3.0 ¹
4.	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.			0.0%		Problematic rigurophytic vegetation (Explain)
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.		П	0.0%		be present, unless disturbed or problematic.
9.	0	\Box	0.0%		Definitions of Vegetation Strata:
10.		$\overline{\Box}$	0.0%		The Mandagan O's (7.0 and an and in Francisco
 11.		\Box	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.			0.0%		at steast noight (2217), regardless of height
· -		т.	otal Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	8	= 10	otal Cove	Γ	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0	$\overline{\Box}$	0.0%		Mandada Allandada and a constant and a constant
4	0	\Box	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
T			-	-	Thoight.
	0	= 10	otal Cove	Γ	
					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: an37 wetland

0-10 10YR 3/2 100% Muck	(inches)	_	Matrix	- %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
ppe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix price: Soil Indicators: Indicators for Problematic Hydric Soils: 3	0.10				Color (moist) % Type Loc-		Remarks
rpe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains **Location:** PL=Pore Lining. M=Matrix **Indicators for Problematic Hydric Soils:** Indicators for Problematic Hydric Soils:** **Istiosol (A1)						_	
Histosol (A1)	10-15	2.5Y	4/2	100%		Fine Sandy Loam	
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1) Histosol (A2) Black Histic Epipedon (A2) Hydrogen Sulfide (A4) Depleted Below Matrix (F3) 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) Mesic Spodic (TA6) (MLRA 144B) Mesic Spolic (TF12) Other (Explain in Remarks) Hydrio Sail Present 2 Mac (A10) Histic Epipedon (A2) Polyvalue Below Surface (S9) (LRR K, L, R) Stratified Layers (A5) Dark Surface (S7) (LRR K, L) Dark Surface (S7) (LRR K, L) Dark 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) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dother (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	pe: C=Cond	centration. D=	=Depletio	n. RM=Redu	uced Matrix, CS=Covered or Coated Sand Grains ² L	ocation: PL=Pore Lining. M=I	Matrix
Histosol (A1) Histosol (A2) 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 K, L, R) Histosol (A1) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) LRR K, L) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Polyvalue Below 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) Bark Surface (S7) (LRR R, MLRA 149B) Thin Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dother (Explain in Remarks) Type: Histosol (A10) Loamy Muck Mineral (F1) Dark Surface (S9) (LRR K, L) Dark Surface (S7) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (S9) (LRR K, L) Diedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dother (Explain in Remarks) Dother (Explain in Remarks)	dric Soil I	ndicators:				Indicators for Prob	lematic Hydric Soils : 3
Histic Epipedon (A2) Histic Epipedon (A2)] Histosol (/	A1)			Polyvalue Below Surface (S8) (LRR R,		ematic riyunc sons .
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 Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Depleted Dark Surface (F8) Redox Depressions (F8) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Depleted Dark Surface (F8) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Stripped Matrix (S6) Dark Surface (S7) Depleted Matrix (S6) Redox Depressions (F8) Stripped Matrix (S6) Dork Surface (S7) Stripped Matrix (S6) Dork Surface (S7) Dork Surface (S7) Dork Surface (S7) Depleted Matrix (S6) Redox Depressions (F8) Redox Depressions (F8) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type:	Histic Epir	pedon (A2)			MLRA 149B)		
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 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) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 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) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type:	,				Thin Dark Surface (S9) (LRR R, MLRA 149B)		
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) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Tron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Depressions (F8) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Type: Type:	Hydrogen	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		
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) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) 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) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	Stratified [Layers (A5)					
Thick Dark Surface (A12) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (TF2) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Strictive Layer (if observed): Type: Wettin Sail Present? Max (P) Max (Depleted f	Below Dark S	urface (A	11)		<u> </u>	
Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Hydria Sail Present3 (Se) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) According to the present of the prese	Thick Darl	k Surface (A1	2)				
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydria Sail Present? Wesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) No. 20 N] Sandy Mu	ck Mineral (S	1)			_	
Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydria Sail Present? Was Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Hydria Sail Present? Was Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Description: Hydria Sail Present? Was Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Description: Hydria Sail Present? Was Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Description: Hydria Sail Present?	Sandy Gle	yed Matrix (S	54)		Redox Depressions (F8)		
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydria Sail Present? Was Remarks	Sandy Red	dox (S5)					
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydria Sail Present? Vea (P) Na (P)	☐ Stripped N	Matrix (S6)					
ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type: Hydria Sail Present? Yea (1) No. (1) No. (2) No. (3) No. (4) No.	Dark Surfa	ace (S7) (LRR	R, MLRA	149B)			
Type: Hydria Sail Present? Yes A No			veretatio	n and wetlar	nd hydrology must be present upless disturbed or pr		Kemarksy
Type:			vegetatio	iii and wettai	in flydrology must be present, unless disturbed of pro-	objettiatic.	
Hydrig Sail Procent? Ves Ala	Indicators of						
Depth (inches):	Indicators of		erved):				
	ndicators of strictive La Type:	ayer (if obse	erved):			Hydria Sail Brasant?	Van (•) Na ()
	Indicators of estrictive La	ayer (if obse	erved):			Hydric Soil Present?	Yes ● No U
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes ● No ○
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes ● No ○
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes ● No ○
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No

Project/Site: Antrim Wind Project	City/Cour	nty: Antrim	Sam	pling Date: 27-Sep-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	e: Sam	npling Point: an37 upland
Investigator(s): AF JG	Section	on, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): Hillside		ef (concave, convex, n		Slope: 25.0 % / 14.0 °
Subregion (LRR or MLRA):	Lat.:	Long	.:	Datum:
Soil Map Unit Name:			NWI classificatio	n:
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes ● No ○	— (If no, explain in Rema	arks.)
Are Vegetation , Soil , or Hydrol		ed? Are "Normal	Circumstances" preser	
Are Vegetation , Soil , or Hydrol	ogy aturally problemation	c? (If needed, e	xplain any answers in	Remarks.)
Summary of Findings - Attach site	map showing samplin			
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes		s the Sampled Area within a Wetland?	Yes O No 💿	
Wetland Hydrology Present?	No •	vitimi a victiana.	*	
Remarks: (Explain alternative procedures here	e or in a separate report.)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicators (mi	•
Primary Indicators (minimum of one required;			Surface Soil Cracks (
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (E	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B1	
Saturation (A3) Water Marks (B1)	Marl Deposits (B15)		Dry Season Water T	
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	5 . (02)	Crayfish Burrows (C	
Drift deposits (B3)	Oxidized Rhizospheres along L	-		n Aerial Imagery (C9)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4 Recent Iron Reduction in Tiller		Stunted or Stressed Geomorphic Position	
Iron Deposits (B5)		u 30115 (Co)	Shallow Aquitard (D:	
Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)		Microtopographic Re	
Sparsely Vegetated Concave Surface (B8)			FAC-neutral Test (D	
Field Observations:				
Surface Water Present? Yes No •	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			es O No 💿
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydr	ology Present? Ye	S O NO O
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previou	us inspections), if avail	able:	
Remarks:				

VEGETATION - Use scientific names of pla		_Sp	ominant pecies?		Sampling Point: an37 upland
Tree Stratum (Plot size: 30')	Absolute % Cover		el.Strat. over	Indicator Status	Dominance Test worksheet:
1. Quercus rubra	50	V	60.2%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2. Tsuga canadensis	33	V	39.8%	FACU	
3.	0		0.0%		Total Number of Dominant Species Across All Strata: 7 (B)
4.			0.0%		Species violes viii strata.
5	0		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 28.6% (A/B)
6			0.0%		That Are OBL, FACW, or FAC:(A/B)
7	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cove	er	Total % Cover of: Multiply by:
1	10	~	25.0%	FAC	0BL speci es 0 x 1 = 0
• •			37.5%	FACU	FACW species 0 x 2 = 0
Acer pensylvanicum Viburnum lantanoides	- - 15 - 15		37.5%	FAC	FAC species 25 x 3 = 75
A			0.0%	FAC	FACU species113 x 4 =452
			0.0%		UPL speci es x 5 =0
5 6	0		0.0%		Column Totals: 138 (A) 527 (B)
7			0.0%		Prevalence Index = B/A = 3.819
·	40	 = To	otal Cove		
Herb Stratum (Plot size: 5')			otal oove	·•	Hydrophytic Vegetation Indicators:
1.Aralia nudicaulis	5	✓	33.3%	FACU	Rapid Test for Hydrophytic Vegetation
2. Quercus rubra	10	✓	66.7%	FACU-	☐ Dominance Test is > 50%
3	0		0.0%		Prevalence Index is ≤3.0 ¹
4	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6	0		0.0%		
7	0		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0		0.0%		· ·
Ι Ο	^		0.007		Definitions of Vegetation Strata:

0 _

0

0

0

0

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0 = Total Cover

= Total Cover

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

10.

Woody Vine Stratum (Plot size: ______)

11.

12.

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

No •

Woody vine - All woody vines greater than 3.28 ft in

at breast height (DBH), regardless of height.

size, and woody plants less than 3.28 ft tall.

Yes 🔾

greater than 3.28 ft (1m) tall..

height.

Hydrophytic Vegetation

Present?

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

Soil Sampling Point: an37 upland

Profile Description: (Describe to the depth needed to do	cument the indicator or confirm the ab	sence of indicators.)
Depth Matrix (inches) Color (moist) % Color (m	Redox Features pist) % Type 1 Loc2	Texture Remarks
0-8 10YR 3/2 100%		Loam
8-16 10YR 4/4 100%		Sandy Loam Bedrock
16+		
¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS	=Covered or Coated Sand Grains ² Locatio	on: PL=Pore Lining. M=Matrix
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils: 3
MIDA	ue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
HISTIC Epipedon (AZ)	ark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
☐ DIACK HISTIC (AS)	Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Trydrogen samae (A4)	Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
Stratifica Edycr3 (A3)	ed Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
Depicted below bank surface (ATT)	Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
	ed Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Gleyed Matrix (S4)	Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)		Red Parent Material (TF2)
Stripped Matrix (S6)		Very Shallow Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149B)		Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and wetland hydrology m	nust be present, unless disturbed or problem	
Restrictive Layer (if observed):		
Type: Bedrock		
Depth (inches): 16		Hydric Soil Present? Yes ○ No ●
Remarks:		
Normal No.		



AN37 Wetand

Project/Site: Antrim Wind Pro	ject		City/County:	Antrim		Sampling Date: 27-Sep-11
Applicant/Owner: Eolian Rene	wable Energy, LLC		-	Sta	te: NH	Sampling Point: an38 wetland
Investigator(s): AF JG			Section, Toy	vnship, Range:	S. T.	
Landform (hillslope, terrace,	etc.): Terrace		Local relief (cor			Slope: 0.0% / 0.0°
• • • •	1011400				-	
Subregion (LRR or MLRA):		Lat.: _		Long		Datum:
Soil Map Unit Name:					NWI classif	cation: PFO/PSS
Are climatic/hydrologic cond	itions on the site t	ypical for this time of ye	ear? Yes	● No ○	(If no, explain in	
Are Vegetation, Soil	, or Hydro	logy 🗌 significantl	ly disturbed?	Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydro	logy 🗌 naturally pi	roblematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Finding	s - Attach site	e map showing s	ampling po	int location	s, transects,	important features, etc.
Hydrophytic Vegetation Pres		No O				
Hydric Soil Present?	Yes ●	No O		Sampled Area a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Hydrology						
Wetland Hydrology Indicato		abook all that apply)				rs (minimum of 2 required)
Primary Indicators (minimu	n or one required;		(20)		Surface Soil C	
✓ High Water Table (A2)		✓ Water-Stained Leav☐ Aquatic Fauna (B13			Drainage Patte	
Saturation (A3)		Marl Deposits (B15)				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide O			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosphe		Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduce	0 0	.00.5 (55,		essed Plants (D1)
☐ Algal Mat or Crust (B4)		Recent Iron Reduct		(C6)	✓ Geomorphic P	osition (D2)
Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aeria		Other (Explain in Re	emarks)		Microtopograp	
Sparsely Vegetated Concav	e Surface (B8)				✓ FAC-neutral To	est (D5)
Field Observations:						
	Yes • No O	Depth (inches):	12			
Water Table Present?	Yes ● No ○	Depth (inches):	0			Yes ● No ○
(includes capillary fringe)	Yes No	Depth (inches):	0		ology Present?	res ⊕ No ∪ ————————————————————————————————————
Describe Recorded Data (str	eam gauge, monit	oring well, aerial photo	s, previous insp	ections), if avail	able:	
Remarks:						

VEGETATION - Use scientific names of pla	ants	DominantSpecies?		Sa	mpling Po	oint: an3	8 wetland	ı
Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test w	orksheet:			
1. Acer rubrum	20	100.0%	FAC	Number of Dominant That are OBL, FACW			4	(A)
2	0	0.0%		Total Number of Dor	almont			
3	0	0.0%		Species Across All St			4	(B)
4	0	0.0%				_		
5	0			Percent of domina That Are OBL, FAG			100.0%	(A/B)
5		0.0%		That Ale Obl, FAC	VV, OI FA	C		_ (/
7	0	0.0%		Prevalence Index v	vorksheet	:		
Sapling/Shrub Stratum (Plot size: 15')	20 :	= Total Cover		Total % Cov		Multiply	by:	_
1 11-11-11-11-1	50	100.0%	FACW+	OBL species	3	x 1 =	3	_
		0.0%	TACWT	FACW species	75	x 2 =	150	_
2		0.0%		FAC species	20	x 3 =	60	_
3		0.0%		FACU species	0	x 4 =	0	_
4 5		0.0%		UPL species	0	x 5 =	0	_
).		0.0%		Column Totals:	98	(A)	213	(B)
7.		0.0%		Prevalence In	dov D/A		2.173	-
		= Total Cove					2.173	
Herb Stratum (Plot size: 5')		- 10141 0010	•	Hydrophytic Veget				
1.Osmunda cinnamomea	10	✓ 35.7%	FACW	Rapid Test for	• • •		ation	
2. Iris versicolor	3	10.7%	OBL	✓ Dominance To				
				✓ Prevalence In	dex is ≤3	.0 +		
3.Coptis trifolia	15	✓ 53.6%	FACW			1 -		
		53.6%	FACW	Morphologica	l Adaptati			orting

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

= Total Cover

= Total Cover

0

0

0

0

28

0

0

0

0

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

Woody Vine Stratum (Plot size:_____)

7.

8.

9.

10.

11.

12.

¹ Indicators of hydric soil and wetland hydrology must

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

No \bigcirc

Woody vine - All woody vines greater than 3.28 ft in

be present, unless disturbed or problematic.

at breast height (DBH), regardless of height.

size, and woody plants less than 3.28 ft tall.

Yes

Definitions of Vegetation Strata:

greater than 3.28 ft (1m) tall..

height.

Hydrophytic Vegetation

Present?

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

Soil Sampling Point: an38 wetland

	iption: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	Color (r	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc2	Texture Remarks
				Color (moist) 78 Type Loc-	
0-12	2.5Y	2/1	100%		Muck
12+	2.5Y	5/1	100%		Gravelly Sand
7.		=Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix
Hydric Soil I					Indicators for Problematic Hydric Soils: 3
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oedon (A2)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist					5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRR K, L)
	Layers (A5)			Depleted Matrix (F2)	Polyvalue Below Surface (S8) (LRR K, L)
	Below Dark S		11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
	k Surface (A1	•		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)
	ck Mineral (S			Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
	eyed Matrix (S	S4)		☐ Nedox Depressions (1 0)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Re					Red Parent Material (TF2)
	Matrix (S6)				Very Shallow Dark Surface (TF12)
☐ Dark Surf	ace (S7) (LRF	R, MLRA	149B)		Other (Explain in Remarks)
³ Indicators of	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble	ematic.
Restrictive L	ayer (if obs	erved):			
Type:	•				
Depth (inc	hes):				Hydric Soil Present? Yes ● No ○
Remarks:					
Kemarks.					

Project/Site: Antrim Wind Project	City/Cour	nty: Antrim	Sampling Date: 27-Sep-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH Sampling Point: AN38 upland
Investigator(s): AF JG	Section	on, Township, Range:	S. T. R.
Landform (hillslope, terrace, etc.): Hillside		ef (concave, convex, n	
Subregion (LRR or MLRA):	Lat.:	Long	i.: Datum:
Soil Map Unit Name:			NWI classification:
		Yes ● No ○	
Are climatic/hydrologic conditions on the site ty			(If no, explain in Remarks.) Circumstances" present? Yes No No
Are Vegetation . , Soil . , or Hydrol			Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrol	ogy	c? (If needed, e	explain any answers in Remarks.)
		g point location	s, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No •		
Hydric Soil Present? Yes	NO S	s the Sampled Area within a Wetland?	Yes ○ No •
Wetland Hydrology Present? Yes	No •		
Remarks: (Explain alternative procedures here	or in a separate report.)		
Hydrology			
Wetland Hydrology Indicators:			Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)		Dry Season Water Table (C2)
Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along L	Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4	1)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tille	d Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			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):	Wetland Hydr	ology Present? Yes O No 💿
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previou	us inspections), if avail	able:
Remarks:			
romano.			

/EGETATION - Use scientific names of			ominant pecies?		Sampling Point: AN38 upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	el.Strat.	Indicator Status	Dominance Test worksheet:
Dinus etrahus	22	✓	34.4%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
) Forms grandifalla	22	V	34.4%	FACU	That are OBL, FACW, or FAC: 0 (A)
Our miles	15		15.6%	FACU-	Total Number of Dominant
Quercus rubra	45		15.6%		Species Across All Strata: 5 (B)
Tsuga canadensis			0.0%	FACU	Percent of dominant Species
j			0.0%		That Are OBL, FACW, or FAC: 0.0% (A/B)
·			0.0%		P. J.
.					Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	96	= Tc	otal Cove	ŗ	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
. Fagus grandifolia	25	V	100.0%	FACU	
2.	0		0.0%		x
3.	0		0.0%		FAC species $0 \times 3 = 0$
	0		0.0%		FACU species $\frac{123}{9}$ x 4 = $\frac{492}{9}$
j	0		0.0%		UPL species $0 \times 5 = 0$
5.	0		0.0%		Column Totals: 123 (A) 492 (B)
7.			0.0%		Prevalence Index = B/A = 4.000
		= Tc	otal Cove	- <u> </u>	Trevalence maex
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1. Quercus rubra	1	✓	50.0%	FACU-	
2.Fagus grandifolia	1	✓	50.0%	FACU	☐ Dominance Test is > 50%
3	0		0.0%		Prevalence Index is ≤3.0 ¹
4	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6	0		0.0%		
7	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9	0		0.0%		Definitions of Vegetation Strata:
0.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete
1.			0.0%		at breast height (DBH), regardless of height.
2.	0		0.0%		Configuration Was developed the City DDU and
	2	= To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Noody Vine Stratum (Plot size:)					greater many engage in (vivi) tamin
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2			0.0%		size, and woody plants less than 3.28 ft tall.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4		Ш	0.0%		height.
	0	= To	otal Cove	r	
					Hydrophytic Vegetation
					Present? Yes No •

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

Soil Sampling Point: AN38 upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)			
Depth (inches)	. 0-1 (-	Matrix		Redox Features Color (moist) % Type 1 Loc ²	Touton Barrado			
	Color (I		100%	Color (moist) % Type 1 Loc2	Texture Remarks			
0-5		3/2	100%		Loam			
5-7	2.5Y	6/1	100%		Fine Sandy Loam			
7-14	10YR	4/4	100%		Sandy Loam			
14-20	10YR	4/6	100%		Sandy Loam			
4		-						
• •		=Depletio	n. RM=Red	luced Matrix, CS=Covered or Coated Sand Grains ² Loca	*			
Hydric Soil I					Indicators for Problematic Hydric Soils: $^{\scriptsize 3}$			
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)			
Black Hist	pedon (A2)			Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)			
	nc (AS) n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
	Layers (A5)			☐ Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)			
	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)			
	k Surface (A		,	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L) ☐ Iron-Manganese Masses (F12) (LRR K, L, R)			
Sandy Mu	uck Mineral (S	51)		Depleted Dark Surface (F7)	Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy Gle	eyed Matrix (S4)		Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy Re	dox (S5)				Red Parent Material (TF2)			
	Matrix (S6)				Very Shallow Dark Surface (TF12)			
Dark Surf	face (S7) (LRI	R R, MLRA	149B)		Other (Explain in Remarks)			
³ Indicators o	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble	ematic.			
Restrictive L	ayer (if obs	erved):						
Type:		•						
Depth (inc	thes):				Hydric Soil Present? Yes ○ No •			
Remarks:								



AN38 Wetland



AN38 Upland



AN38 Wetland



AN38 Wetland

Project/Site: Antrim Wind Project	City/Co	ounty: Antrim		Sampling Date: 30-Nov-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN41up
Investigator(s): AF JG	Sec	tion, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Toeslope		elief (concave, convex, n		Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR R	Lat.:	Long	1.:	Datum:
Soil Map Unit Name:			NWI classif	
			_	
Are climatic/hydrologic conditions on the site t	ypical for this time of year?	Yes ● No ○	(If no, explain in	•
Are Vegetation , Soil , or Hydro	ology	rbed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydro	ology naturally problem	atic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach sit		ing point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes	No •	Is the Sampled Area within a Wetland?	Yes \bigcirc No $lacktriangle$)
Wetland Hydrology Present? Yes	No •			
I hadrala ma				
Hydrology				
Wetland Hydrology Indicators:	, check all that apply)			ors (minimum of 2 required)
Primary Indicators (minimum of one required Surface Water (A1)			Surface Soil C Drainage Patte	
High Water Table (A2)			Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)			dater Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres alor	•		ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron	(C4)	Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in T	illed Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)			ohic Relief (D4)
Sparsely vegetated Concave Surface (88)			FAC-neutral T	est (D5)
Field Observations:				
Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No No	Depth (inches):	Wetlend Hid	ology Present?	Yes ○ No ●
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	wetiand Hydr	ology Present?	Tes UNU U
Describe Recorded Data (stream gauge, moni	toring well, aerial photos, prev	ious inspections), if avail	able:	
Remarks:				
Remarks:				

VEGETATION - Use scientific names of pl			minant ecies?		Sampling Point: AN41up
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	I.Strat.	Indicator Status	Dominance Test worksheet:
		_			Number of Dominant Species
_ Acer rubrum		✓ _	33.3%	FAC	That are OBL, FACW, or FAC: 2 (A)
P. Fagus grandifolia		✓.	25.0%	FACU	Total Number of Dominant
Picea rubens			16.7%	FACU	Species Across All Strata: 10 (B)
L. Quercus rubra		✓.	25.0%	FACU-	Percent of dominant Species
5		Η.	0.0%		That Are OBL, FACW, or FAC: 20.0% (A/B
5		Η.	0.0%		
7		Ш.	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	60	= To	tal Cove	r	Total % Cover of: Multiply by:
France annualification	10	✓	40.0%	FACU	0BL species 0 x 1 = 0
) Diana makana		✓	40.0%	FACU	FACW species 0 x 2 = 0
) Pl		▼ .	20.0%	FACU	FAC species 39 x 3 = 117
		<u> </u>	0.0%	IACU	FACU species $\frac{120}{}$ x 4 = $\frac{480}{}$
		Η.	0.0%		UPL species $0 \times 5 = 0$
5	0				Column Totals: 159 (A) 597 (B)
5			0.0%		
·		Ш,	0.0%		Prevalence Index = B/A = 3.755
Herb Stratum (Plot size: 5')	25	= To	tal Cove	r	Hydrophytic Vegetation Indicators:
1. Dryopteris intermedia	15	V	20.3%	FACU	Rapid Test for Hydrophytic Vegetation
2. Gaultheria procumbens	15	V	20.3%	FACU	☐ Dominance Test is > 50%
3. Thelypteris noveboracensis	19	V	25.7%	FAC	Prevalence Index is ≤3.0 ¹
4.Lycopodium obscurum		V	33.8%	FACU	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology mus
8.			0.0%		be present, unless disturbed or problematic.
9.			0.0%		Definitions of Vegetation Strata:
10.			0.0%		Tree Meady plants 2 in (7.6 cm) or more in diamet
11.		\Box	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.		\Box	0.0%		
· <u>-</u>		 _ To	tal Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)		- 10	tai cove	•	greater than 3.28 ft (1m) tall
 1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless
2.			0.0%		size, and woody plants less than 3.28 ft tall.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4			0.0%		height.
		= To	tal Cove	r	
					Hydrophytic Vegetation Present? Yes No No

Remarks. (Include prioto numbers here of on a separate sheet.)

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

Soil Sampling Point: AN41up

	iption: (Des	cribe to	the depth	needed to	document	the indic	ator or co	nfirm the	absence of indicators.)		
Depth (inches)	Color (m	Matrix	_ %	_ Color (dox Featu %		Loc2	Texture	Remarks	
0-5	10YR	3/2	100%		illoist)		Туре		Loam	Remarks	_
5-12	10YR	4/3	100%						Sandy Loam		
12-15	2.5Y	5/2	95%	10YR	4/6	5%	C	M	Sandy Loam		
15+										stony refusal	
											_
									-		_
											_
									-		—
¹ Type: C=Con	centration. D=	=Depletio	n. RM=Rec	uced Matrix,	CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=I	Matrix	
Hydric Soil I	ndicators:								Indicators for Prob	lematic Hydric Soils: 3	
Histosol (A1)					w Surface (S8) (LRR R	2,		(LRR K, L, MLRA 149B)	
Histic Epip	oedon (A2)				A 149B)	(00) (1				ox (A16) (LRR K, L, R)	
Black Hist	ic (A3)					ace (S9) (L				or Peat (S3) (LRR K, L, R)	
	Sulfide (A4)					Mineral (F1)			Dark Surface (S7		
	Layers (A5)				ny Gleyed leted Matri:	Matrix (F2)			Polyvalue Below	Surface (S8) (LRR K, L)	
	Below Dark Su		11)		ox Dark Su				☐ Thin Dark Surface (S9) (LRR K, L)		
	k Surface (A1:	•				Surface (F7	')		Iron-Manganese Masses (F12) (LRR K, L, R)		
	ick Mineral (S1				ox Depress		,		☐ Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Ge	eyed Matrix (S	4)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Matrix (S6)								Red Parent Mater		
	ace (S7) (LRR	R. MLRA	149B)						Very Shallow Dar		
									Other (Explain in	Remarks)	
	f hydrophytic v		n and wella	ina nyarology	must be p	resent, uni	ess disturb	ea or probl	lematic.		
Restrictive L	-	erved):									
Type: Bo									Hydric Soil Present?	Yes ○ No •	
Depth (inc	hes):_15								Tryuno con rresent.	163 © 140 ©	
Remarks:											

Project	City/C	County: Antrim		Sampling Date: 30-No	v-11
enewable Energy, LLC		Sta	te: NH	Sampling Point:	AN41wet
	Se	ection, Township, Range:	S. T.	 R.	
e, etc.): Toeslope					0% / 0.0°
<u> </u>			-		
LKK K	Lat.:	Long			
			NWI classifi	ication: PFO	
nditions on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in	•	
oil 🗌 , or Hydrol	ogy 🗌 significantly distu	urbed? Are "Normal	Circumstances" p	oresent? Yes 💿	No O
oil 🗌 , or Hydrol	ogy naturally problem	natic? (If needed, o	explain any answe	ers in Remarks.)	
gs - Attach site	map showing samp				res, etc.
	No O				
		within a Wetland?	Yes 💿 No 🔾)	
nt? Yes ●	No O				
				()) ()	`
	check all that apply))
idili oi one required,					
	_	,	_		
	Marl Deposits (B15)				
	Hydrogen Sulfide Odor (C	1)	Crayfish Burro	ws (C8)	
			Saturation Visi	ible on Aerial Imagery (C9)	
	Presence of Reduced Iron	(C4)	Stunted or Str	essed Plants (D1)	
		T'' 10 '' (04)			
	Recent Iron Reduction in	Tilled Solls (C6)	Geomorphic P		
(07)	Thin Muck Surface (C7)	Tilled Solis (C6)	Shallow Aquita	ard (D3)	
rial Imagery (B7) cave Surface (B8)			Shallow Aquita	ard (D3) ohic Relief (D4)	
cave Surface (B8)	☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks		Shallow Aquita Microtopograp	ard (D3) ohic Relief (D4)	
Yes No •	Thin Muck Surface (C7)		Shallow Aquita Microtopograp	ard (D3) ohic Relief (D4)	
cave Surface (B8)	Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches):	0	Shallow Aquita Microtopograp FAC-neutral To	ard (D3) phic Relief (D4) est (D5)	
Yes No •	Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches): Depth (inches):	0	Shallow Aquita Microtopograp	ard (D3) ohic Relief (D4)	
	nditions on the site ty oil , or Hydrol oil	LRR R Lat.: Lat.:	Section, Township, Range: Le, etc.): Toeslope	Section, Township, Range: S. T. Ite, etc.): Toeslope	Section, Township, Range: S. T. R. Le, etc.): Toeslope

VEGETATION - Use scientific names of pl	Dominant Species?				Sampling Point: AN41wet			
Tree Stratum (Plot size: 30')	Absolute % Cover	Rel	.Strat.	Indicator Status				
1. Acer rubrum	22			FAC	Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)			
2 Fraxinus pennsylvanica	10	<u> </u>	23.3%	FACW	That are obe, mon, or me.			
3.			0.0%		Total Number of Dominant Species Across All Strata: 5 (B)			
ĺ.			0.0%		Species Across All Strata.			
			0.0%		Percent of dominant Species			
5.			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)			
			0.0%		Prevalence Index worksheet:			
		= Tot	al Cove		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15')					0BL species 0 x 1 = 0			
. Acer rubrum	10	<u>~</u> _	55.6%	FAC	FACW species 60 x 2 = 120			
Betula alleghaniensis		∠ _	44.4%	FAC	FAC speci es 51 x 3 = 153			
3	0	\sqcup _	0.0%		FACU speci es x 4 =0			
·	0	\sqcup _	0.0%		0 0			
5		Ц_	0.0%		ort species			
S		Ц_	0.0%		Column Totals: 111 (A) 273 (B)			
·		Ш_	0.0%		Prevalence Index = B/A = 2.459			
Herb Stratum (Plot size: 5')	18	= Tot	al Cove	٢	Hydrophytic Vegetation Indicators:			
1	F.0	✓	400.007	E4014/	Rapid Test for Hydrophytic Vegetation			
1.Osmunda cinnamomea 2.			100.0%	FACW	✓ Dominance Test is > 50%			
3.		<u> </u>	0.0%		✓ Prevalence Index is ≤3.0 ¹			
-		H-	0.0%		☐ Morphological Adaptations ¹ (Provide supporting			
4 5.	0	H-	0.0%		data in Remarks or on a separate sheet)			
6.		Н_	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)			
7.	0	H-	0.0%		¹ Indicators of hydric soil and wetland hydrology must			
8.	0	H-	0.0%		be present, unless disturbed or problematic.			
9.		Н-	0.0%		Definitions of Vegetation Strata:			
0.		H-	0.0%					
1.		H-	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2.		H-	0.0%		at breast height (DBH), regardless of height.			
<u></u>					Sapling/shrub - Woody plants less than 3 in. DBH and			
Woody Vine Stratum (Plot size:)	50	= 10t	al Covei		greater than 3.28 ft (1m) tall			
 1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of			
2.			0.0%		size, and woody plants less than 3.28 ft tall.			
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in			
4			0.0%		height.			
• •		= Tot	al Cove	-				
					Hydrophytic			
					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: AN41wet

	ription: (Des	scribe to	the depth	needed to document	the indicator or con	firm the a	bsence of indicators.)		
Depth (inches)	Color (ı	Matrix	_ %		ox Features % Type 1	1002	Toyturo	Remarks	
				Color (moist)		LUC-	Texture	muck	
0-9	2.5Y	2/1	100%				sapric	organi c streaki ng	
9+	10YR	2/2	100%				Sandy Loam		
							-		
1		Daalatia	- DM D			21	tion DI Dona Linion M	Makaii	
		=Depletioi	n. RIVI=Rea	uced Matrix, CS=Covered	d or Coated Sand Grain	ns ² Loca	tion: PL=Pore Lining. M=		
Hydric Soil I					0 ((00) (100 =		Indicators for Pro	blematic Hydric Soils : ³	
Histosol (☐ Polyvalue Below MLRA 149B)	Surface (S8) (LRR R,		2 cm Muck (A10	D) (LRR K, L, MLRA 149B)	
	pedon (A2)				ce (S9) (LRR R, MLRA	149B)	Coast Prairie Re	edox (A16) (LRR K, L, R)	
Black Hist					lineral (F1) LRR K, L)	,	5 cm Mucky Pea	at or Peat (S3) (LRR K, L, R)	
_	n Sulfide (A4) Layers (A5)			Loamy Gleyed M			Dark Surface (S	57) (LRR K, L)	
	Below Dark S	Surface (A	11)	Depleted Matrix				V Surface (S8) (LRR K, L)	
	rk Surface (A1		11)	Redox Dark Surf				ce (S9) (LRR K, L)	
	uck Mineral (S	•		Depleted Dark S	Surface (F7)			e Masses (F12) (LRR K, L, R)	
	eyed Matrix (Redox Depression	ons (F8)			plain Soils (F19) (MLRA 149B)	
Sandy Re		54)						(A6) (MLRA 144A, 145, 149B)	
	Matrix (S6)						Red Parent Material (TF2)		
	face (S7) (LRF	R R. MLRA	149B)					ark Surface (TF12)	
							Other (Explain i	n Remarks)	
			n and wetia	and hydrology must be pr	esent, uniess disturbe	a or proble	ematic.		
Restrictive L	ayer (if obs	erved):							
Type:							Hydric Soil Present?	? Yes ● No ○	
Depth (inc	ches):						nyunc son Present	r res S No C	
Remarks:									



AN41 Wetland

EXHIBIT 6 VERNAL POOL REPORT

VERNAL POOL 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 July 2015

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APPENDIX B – VERNAL POOL FIELD DATA

Vernal Pool Field Data Forms

Vernal Pool Site Photographs

1.0 INTRODUCTION

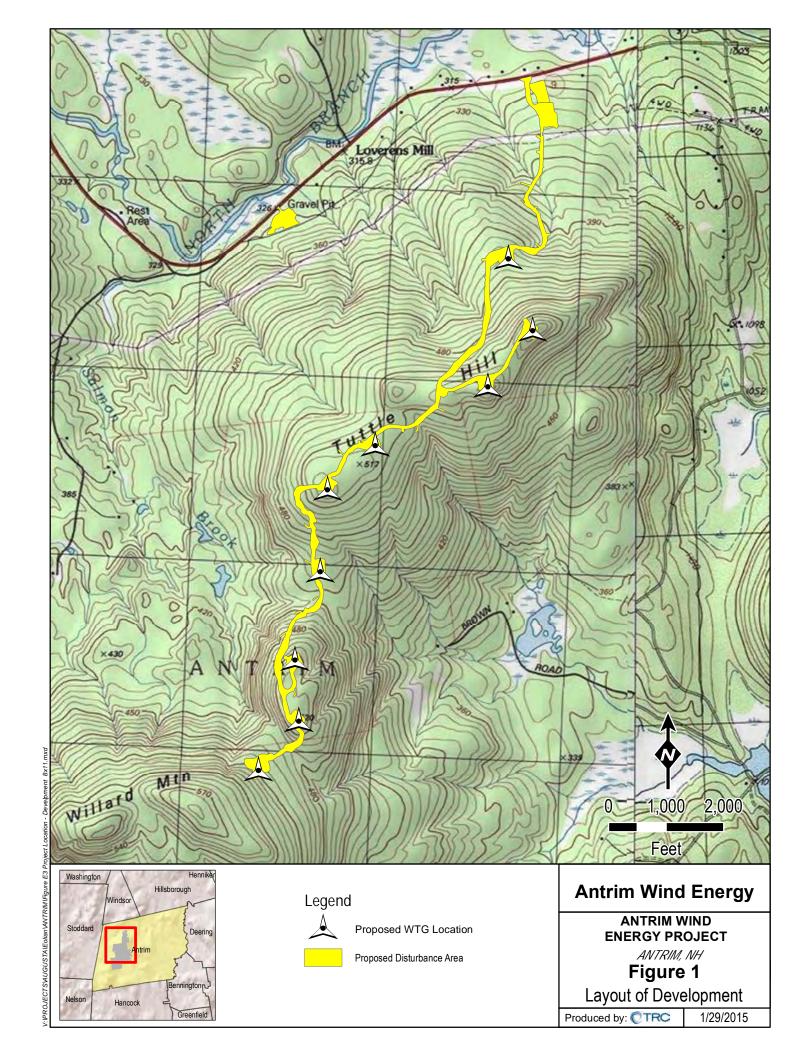
This vernal pool report has been prepared by TRC for Antrim Wind Energy, LLC (AWE) in support of state and federal environmental permit applications. Antrim Wind Energy LLC (AWE) is proposing to construct the Antrim Wind Energy Project (Project) on Tuttle Hill and Willard Mountain in the Town of Antrim, Hillsborough Country, 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 9 wind turbines, an electrical collection system and interconnection substation, approximately 3.6 miles of 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 Figure 1 on the following page for a map of the Project area and Project elements.

TRC Environmental Corporation (TRC) was retained by AWE to identify and delineate vernal pools within the project area to support the design, or layout, of the proposed facilities. TRC has prepared this vernal pool 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).

TRC conducted vernal pool surveys within an approximately 409 acre survey area during May 2nd, 5th and 9th of 2011. Follow up visits were made to each pool during early June to confirm their condition (i.e., watered or dry). Additional survey was also performed during September in approximately 53 acres added to the Project survey area in several discreet sections to provide for expanded project design options. An additional potential vernal pool was identified in this area, and follow-up surveys in spring 2015 confirmed this feature as a vernal pool.

The following sections describe the vernal pool field survey methodology utilized.



2.0 VERNAL POOL SURVEY METHODOLOGY

For the purposes of the field effort, TRC adopted the vernal pool definitions as described by the USACE Programmatic General Permit (PGP) for the State of New Hampshire and the NHDES Administrative Rules Env-Wt 101.99 for identifying vernal pools and vernal pool habitat along the Project corridor. With the exception of minor differences, each agency has a similar definition of what constitutes a vernal pool. Each respective definition is provided below.

According to the ACOE NHPGP, vernal pools and vernal pool habitat consists of:

"VPs are confined basin depressions with water for two or more continuous months in the spring and/or summer, for which evidence of one of more of the following indicator vernal pools species: wood frogs (Rana sylvatica), mole salamanders (Ambystoma spp), and fairy shrimp (Eubranchipus spp) has been documented **OR** for which evidence of two or more of the following facultative organisms: caddisfly (Trichoptera) larvae casings, fingernail clams (Sphaeriidae), or amphibious snails (Basammatophora) and evidence that the pool does not contain an established reproducing fish population has been documented. Vernal pool habitat is the seasonal pool depression, seasonal pool envelope (100 FT radius from the VP edge) and seasonal pool terrestrial habitat (750 FT radius from the VP edge). The Corps will determine on a case-by-case basis which vernal pools are within their jurisdiction."

The NHDES wetlands Bureau defines a vernal pool in their Administrative Rules Env-Wt 101.106 as:

"a surface water or wetland, including an area intentionally created for purposes of compensatory mitigation, which provides breeding habitat for amphibians and invertebrates that have adapted to the unique environments provided by such pools and which:

- (a) Is not the result of on-going anthropogenic activities that are not intended to provide compensatory mitigation, including but not limited to:
 - (1) Gravel pit operations in a pit that has been mined at least every other year; and
 - (2) Logging and agricultural operations conducted in accordance with all applicable New Hampshire statutes and rules; and
- (b) Typically has the following characteristics:
 - (1) Cycles annually from flooded to dry conditions, although the hydroperiod, size, and shape of the pool might vary from year to year;
 - (2) Forms in a shallow depression or basin;
 - (3) Has no permanently flowing outlet;
 - (4) Holds water for at least 2 continuous months following spring ice-out;
 - (5) Lacks a viable fish population; and
 - (6) Supports one or more primary vernal pool indicators, or 3 or more secondary vernal pool indicators."

Primary vernal pool indicators in NH include wood frogs, mole salamanders and fairy shrimp. Secondary indicators include species of aquatic insects including the larvae of caddisfly, dragonfly, and damselfly; fingernail clams and certain aquatic beetles; and other specific species that inhabit vernal pools.

TRC utilized a comprehensive vernal pool survey protocol and field data forms found in the document "Identification and Documentation of Vernal Pools in New Hampshire", published by the New Hampshire Fish and Game Department Nongame and Endangered Wildlife Program (NHFGD 1997). In general, field surveys were conducted during the recommended timeframes for identifying amphibian egg masses and tabulating egg mass abundance. Peak breeding for wood frogs is generally earlier in the season, typically mid to late April, than that of the spotted and blue-spotted salamanders (ambystomid salamanders), typically in early May (Hunter & Calhoun 1999). Seasonal and weather conditions were also considered when applying these recommended survey timeframes as amphibian breeding can vary based on springtime conditions. For example, experiencing a cold spring versus a warm, wet spring could delay amphibian breeding for as much as two weeks and vice versa. Therefore, TRC attempted to conduct the surveys in early May of 2011 to capture the overlap of peak breeding of both the wood frogs and spotted salamanders.

2.1 General Field Survey Approach

Field surveys were conducted by a team of two qualified biologists familiar with vernal pool resources within New England. The team completed visual meanders surveys throughout the entire Project area. Each field crew was outfitted with the necessary field equipment to conduct a detailed survey and to thoroughly document each pool that was inventoried. Typical equipment consisted of hip/chest waders, polarized sunglasses, view tubes, dipnet, thermometer, fairy shrimp sampling equipment, and digital camera. For each pool, a standardized vernal pool determination field data form was completed, the vernal pool area was photo-documented, and the pool basin was located in the field using a global positioning system (GPS) unit. GPS data was specifically collected at the approximate perceived boundary of the highwater mark for all vernal pools exceeding approximately 10 feet in diameter.

2.2 Vernal Pool Species Observations

Egg mass surveys were conducted during the day time hours, preferably when the sun was out, between the hours of 9:00am to 3:00pm to the extent possible to maximize viewing opportunity within the pools. Two biologists began at one end of the pool and thoroughly searched the entire area simultaneously wading along the pool margin. The entire pool was searched (including the center) in this manner to ensure that all egg masses were tabulated. To reduce the possibility of overlooking or misidentifying egg masses, the field biologists worked together to observe, identify, and count egg masses. When agreement was reached regarding the species and number of egg masses within an individual pool, a data form and all other necessary pool documentation was completed (see Natural Resource Survey Map in Appendix A). As described in Section 2.0 above, each pool was examined twice during the survey period to document all vernal pool species utilizing the resource.

As with the egg mass surveys, surveys to document the presence/absence of fairy shrimp were also conducted concurrently. When optimal daytime conditions were not available or for pools with dark tannin stained water, field crews used dip nets and view tubes to search for fairy shrimp. When possible, sampling efforts were focused on sunny patches along the pool, as fairy shrimp often congregate in these areas.

Vernal pools were classified into one of three categories: (1) natural vernal pools; (2) potential vernal pools; and (3) non-jurisdictional features. The natural vernal pools were those pools as defined in Section 2.0 above that met the state criteria under the Administrative Rules. The potential pools were those pools that were identified outside of the indicator species breeding season as the scope of the project had changed after the initial vernal pool survey was performed. These pools had the abiotic characteristics as described in the state and federal definitions, but would require a visit in breeding season to confirm the presence of the indicator species use. The "non-jurisdictional feature" category included all other areas where amphibian breeding was documented but did not meet the state and federal definition of a vernal pool described in Section 2.0.

3.0 VERNAL POOL FIELD SURVEY RESULTS

Vernal pool surveys were conducted within the Project area on May 2nd, 5th and 9^{th of} 2011, with additional survey conducted in extra project area performed in September 2011. A total of 7 features were identified within the Project area. Of these, 5 were identified as Natural Vernal pools, 1 as a potential vernal pool (located in September), and 1 feature was designated as a non-jurisdictional amphibian breeding area. Follow-up site visit in the spring 2015 confirmed the potential vernal pool as a natural vernal pool. Mapping of the pools is provided on the Natural Resource Survey Map in Appendix A, and the field data forms and site photographs for each feature are provided in Appendix B. An abbreviated summary of the vernal pool data is provided in Table 1 below.

TABLE 1: SUMMARY OF VERNAL POOLS WITHIN ANTRIM WINDPARK

Pool Type	No. of Features Within the Project Survey Corridor
Natural Vernal Pool	6
Non-jurisdictional Feature	1
TOTAL	7

A summary of the vernal pool characteristics for each pool is provided in Table 2 below. In summary, only VP4 contained significant numbers of egg masses. Vernal Pool Data Sheets are included in Appendix B.

TABLE 2: VERNAL POOL CHARACTERISTICS

Pool ID	Date Surveyed	Natural Setting (y/n)	Indicator Species Observed	Facultative Species Observed	Holds Water For At Least Two Months (y/n)	Associated Wetland
VP1	5/2/2011	Y	Spotted Salamander – 8 egg masses Wood Frog – 5 egg masses Green Frog - Vocalization	Green frog - Vocalization	Y	AN1
VP2	5/5/2011	Y	Spotted Salamander – 16 egg masses Wood Frog – 1 egg mass		Y	AN4
VP3	5/5/2011	Y	Spotted Salamander – 9 egg masses Wood Frog – 5 egg masses	Red-spotted newt - 1 adult	Y	AN5
VP4	5/5/2011	Y	Spotted Salamander – 55 egg masses Wood Frog – 4 egg masses		Y	AN25
VP5	5/9/2011	Y	Spotted Salamander – 10 egg masses		Y	AN24
VP6	5/9/2011	N	Spotted Salamander – 9 egg masses		N	Upland
VP7	9/27/2011 ; 5/5/2015	Y	Spotted Salamander – 5 egg masses		Y	AN38

Six of the pools observed occurred in natural isolated basins without an inlet or an outlet and no populations of predatory fish. Vernal Pools 1-5 and 7 are within isolated palustrine forested wetlands along the Tuttle Hill ridgeline and are located in depressions within the regional bedrock.

Vernal Pool 6 is located within a depression in an old woods road and is a man-made feature. This pool was also observed to be completely dry on June 6, 2011. No hydrophytic vegetation was observed in the vicinity of the pool depression and as a result is not a jurisdictional wetland. Therefore, the pool is considered a non-jurisdictional feature.

During the siting phase of the Project, several routing options were evaluated that were later rejected due to landowner or environmental concerns. During the spring and summer of 2011 when these particular route options were still under consideration, additional surveys for vernal pools were completed. As a result, one other feature Vernal Pool 7 (VP7) was identified within the current Project area. VP7 is located within an isolated forested wetland (Wetland AN38) west of proposed turbines 5 and 6. The wetland was observed to have an area of standing water approximately 1 foot deep and contained an abundance of shrubby vegetation, conducive of supporting egg attachment sites for pool breeding amphibians. An ephemeral outlet was observed draining to the northwest through a gap in the regional bedrock, but did not meet the criteria for a stream or wetland and did not have the necessary characteristics to support predatory fish populations. Follow-up survey of this pool in spring 2015 confirmed this feature as a natural vernal pool.

Although intensively surveyed for, no fairy shrimp were found or documented within any of the vernal pools. Furthermore, no rare or state-listed threatened or endangered species known to use vernal pools for at least one critical life stage were documented in any of the vernal pools found within the Project area. The field data forms and site photographs for these seven areas are provided in Appendix B.

4.0 VERNAL POOL IMPACTS

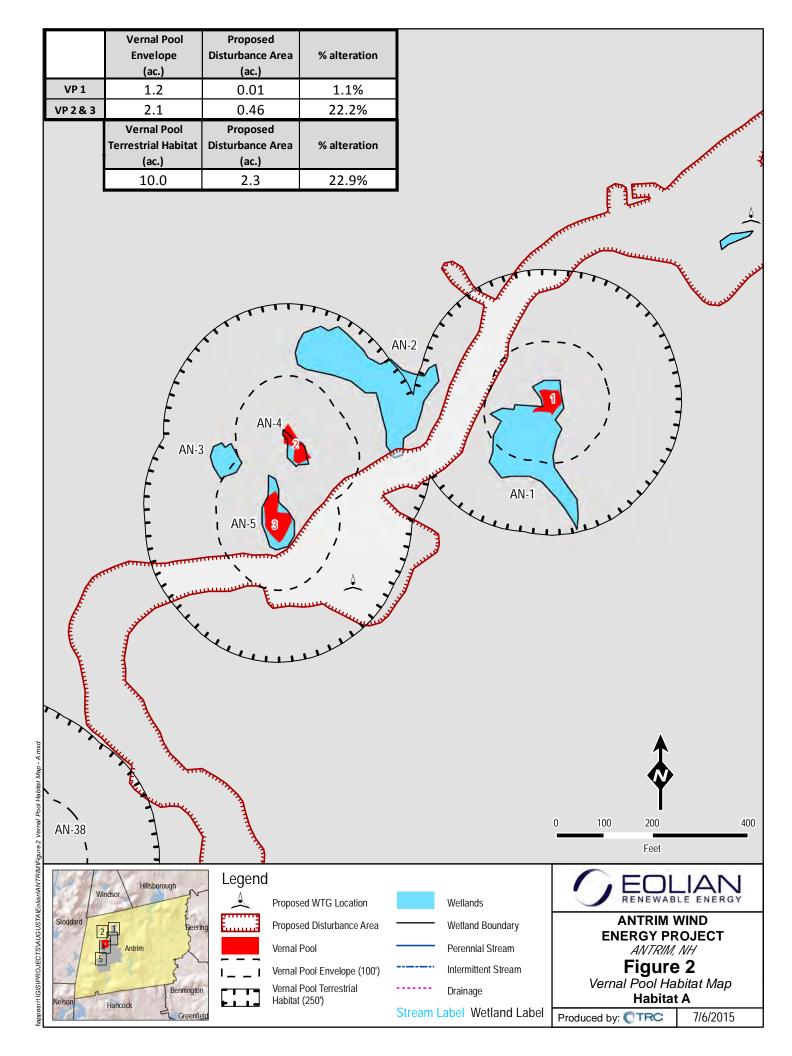
There are no impacts to vernal pool depressions. Impacts to vernal pools are indirect and are from road and turbine construction in areas adjacent to the pools. The indirect impacts to the 6 natural vernal pools (VP1-VP5 and VP7) were all assessed. In discussions with Mark Kern from the U.S. Environmental Protection Agency and David Keddell from the Army Corps (during a site visit to the vernal pools December 13, 2011), the assessment of impacts should consider the project footprint within 250 feet of the pools, and the area within 100 feet of the vernal pool depression. The upland and wetland area within 250 feet and adjacent to the vernal pool is defined as vernal pool "terrestrial habitat", and the area within 100 feet of the pool is the vernal pool "envelope" (Calhoun and Klemens 2002; Calhoun and deMaynadier 2004). See Figure 2 for detailed maps of the vernal pools and the terrestrial habitat areas.

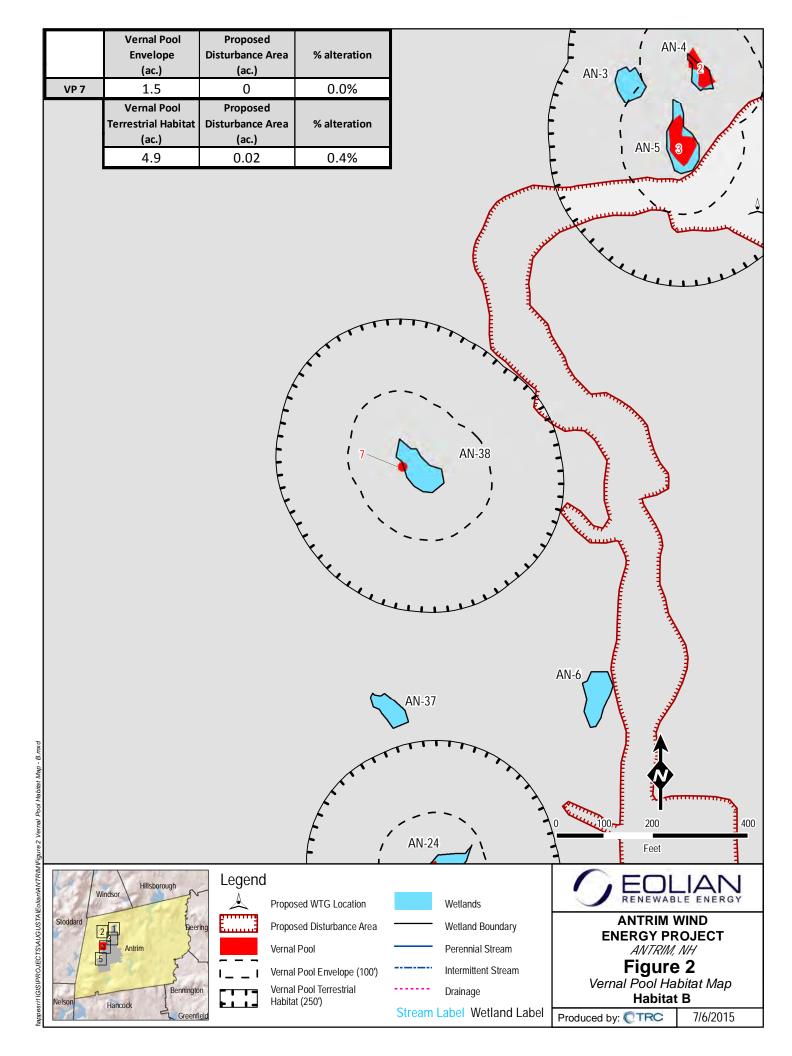
The vernal pools found on this site are in three distinct areas. Vernal pools 1, 2 and 3 are close to each other, and their terrestrial habitats overlap ("Habitat A"). Vernal pools 4 and 5 are also close to each other and their respective terrestrial habitat areas also overlap ("Habitat C"). Vernal pool VP7 terrestrial habitat does not overlap with any other vernal pool habitat ("Habitat B").

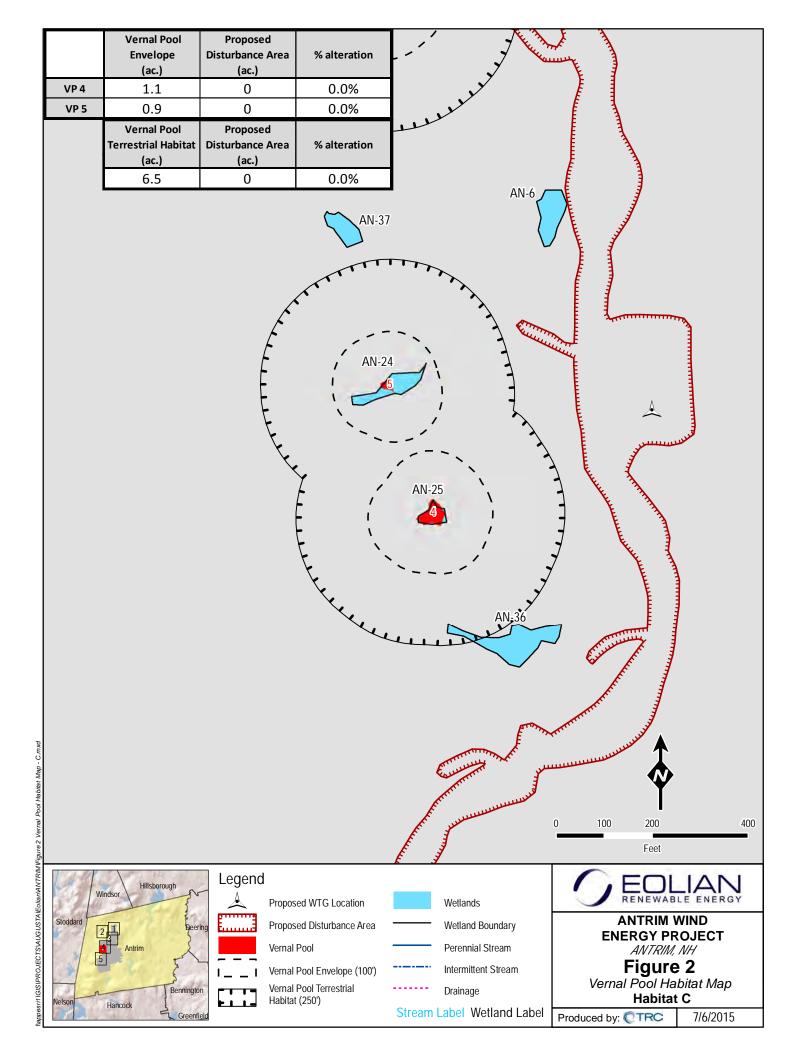
There are no state regulations in New Hampshire, other than wetland protection rules, to regulate development within and adjacent to vernal pools. The Army Corps does regulate impacts to vernal pools as a type of special wetland through Section 404 of the Clean Water Act. The Army Corps Programmatic General Permit No: NAE-2007-461 (PGP) for the State of New Hampshire states that applicants must minimize surrounding upland impacts to the greatest extent practicable, with the effort to minimize impacts being commensurate with the value of the VP. The Army Corps PGP also recommends that impacts should be excluded from the vernal pool envelope and that certain guidelines for vernal pool management are followed, which suggest that the developed area (such as gravel surfaces) is kept to less than 25% of the terrestrial habitat area (Calhoun and Klemens 2002).

A gravel road and turbine pad is found within vernal pool Habitat A and a small portion of road is found within Habitat B. Analysis demonstrates that the impact to Habitat A terrestrial habitat is 2.3 acres of the 10 acre terrestrial habitat area, or 22.9% of the total terrestrial habitat area. Vernal pool 1 envelope impact is .01 acre of a 1.2 acre envelope area, or 1.1% of the envelope. Vernal pools 2 and 3 envelope impact is 0.46 acres to a 2.1 acre envelope area, or 22.2% of the envelope. Impact to Habitat B is approximately 0.02 acres of the 4.9 acre terrestrial habitat area, or 0.4% of the total terrestrial habitat area. There is no impact to Habitat B (VP7) vernal pool envelope. There is no impact to the terrestrial habitat or envelope of Habitat C.

The level of impact to the terrestrial habitat areas is below the recommended 25% developed area threshold. There is, however some impact to the vernal pool envelope area. These impacts are mitigated by the gravel road not being open to public vehicle traffic and as such will have a very limited volume of traffic and a very low potential to impact any vernal pool species crossing the road. Narrow gravel roads are also not significant barriers to amphibians, and will not hinder movement of the animals through the area. It is anticipated that the proposed development of this area will have no impact on the productivity of these vernal pools.



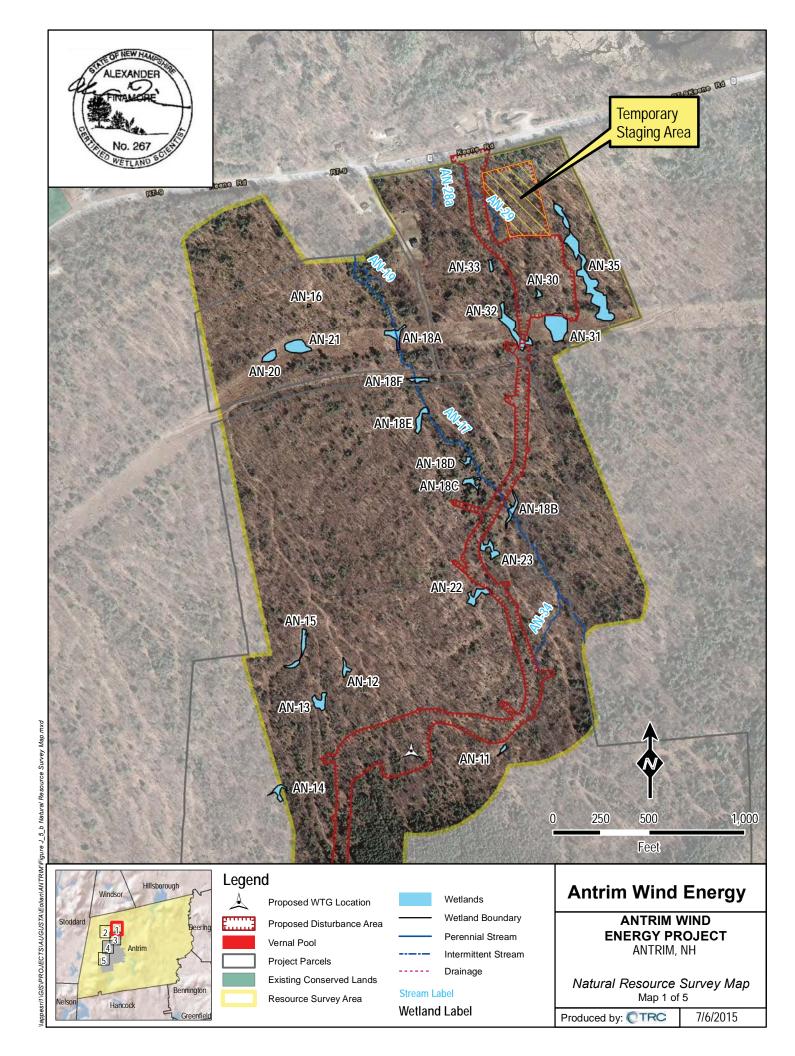


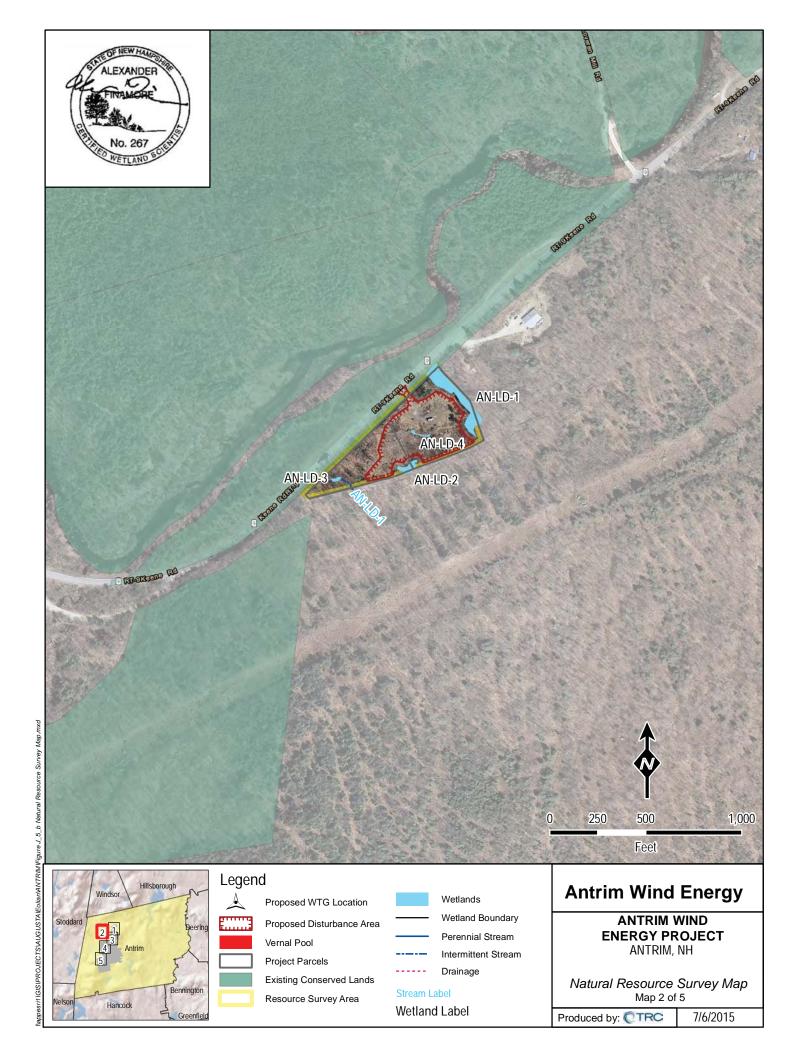


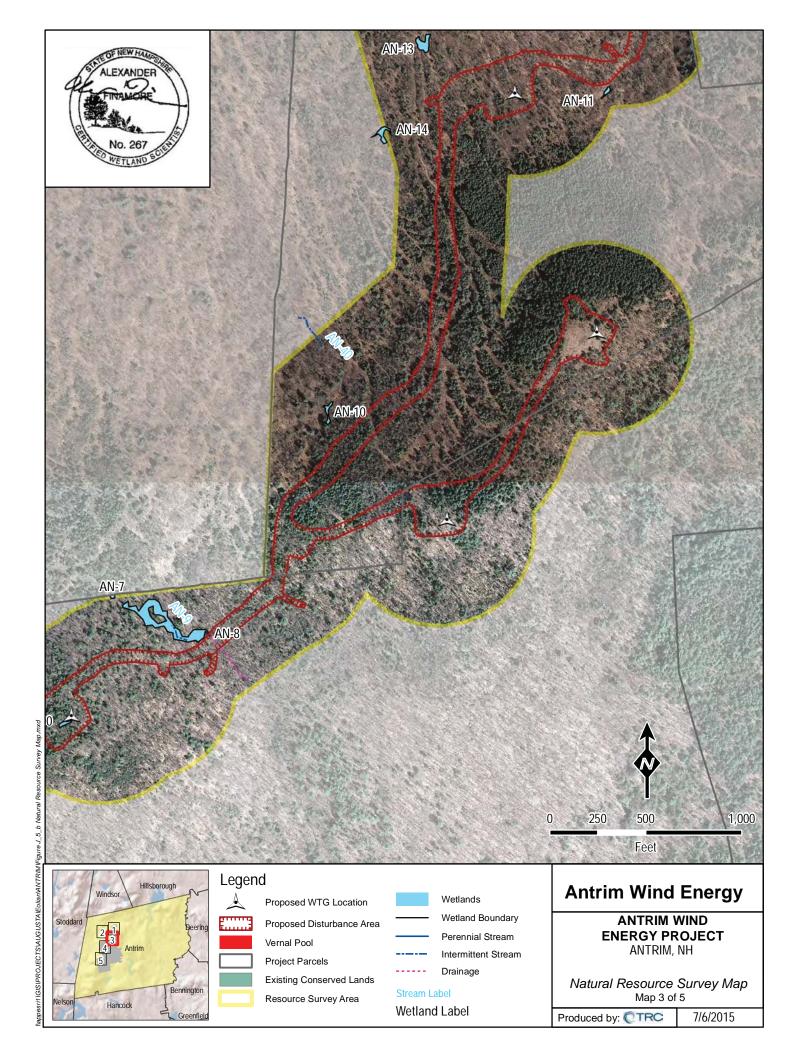
5.0 REFERENCES

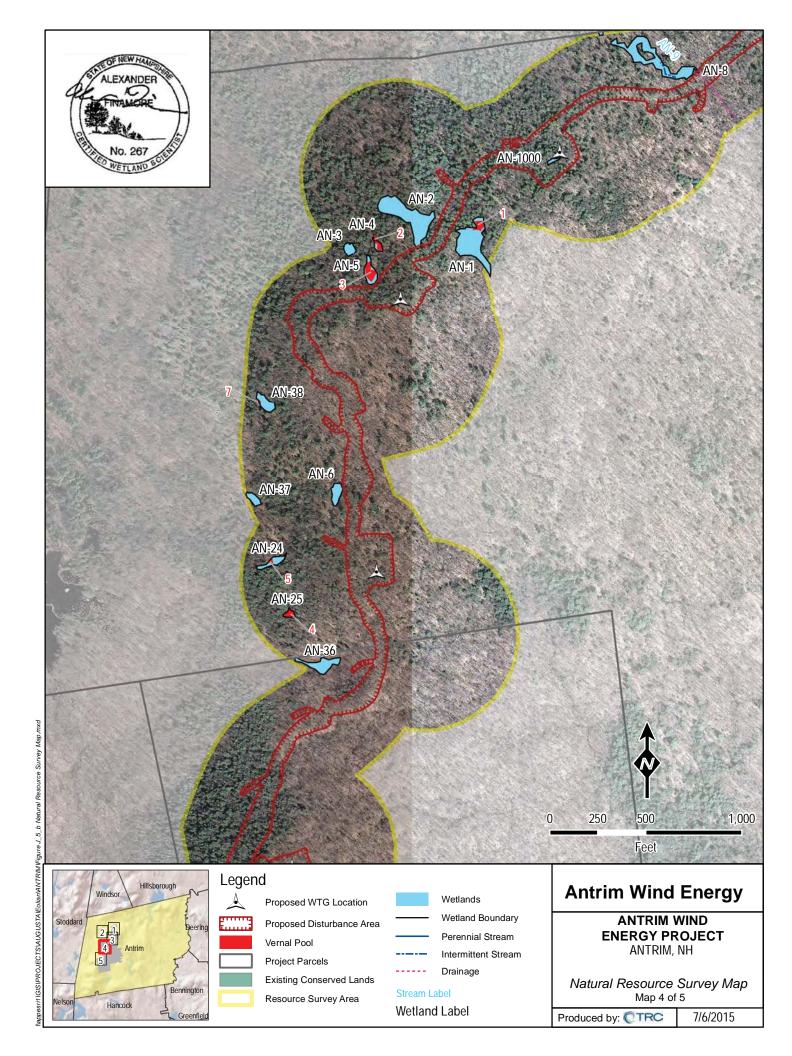
- Calhoun, A. J. K. and P. deMaynadier. 2004. Forestry habitat management guidelines for vernal pool wildlife. MCA Technical Paper No. 6, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.
- Calhoun, A. J. K. and M. W. Klemens. 2002. Best development practice: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservations Society, Bronx, New York.
- Identification and Documentation of Vernal Pools in New Hamphire. Anne Tappan, Ed. NH Fish & Game Department, Nongame and Endangered Wildlife Program. 1997.
- Maine Amphibians and Reptiles. Malcolm J. Hunter, Aram J.K. Calhoun, & Mark McCollough, Ed. University of Maine Press. 1999.

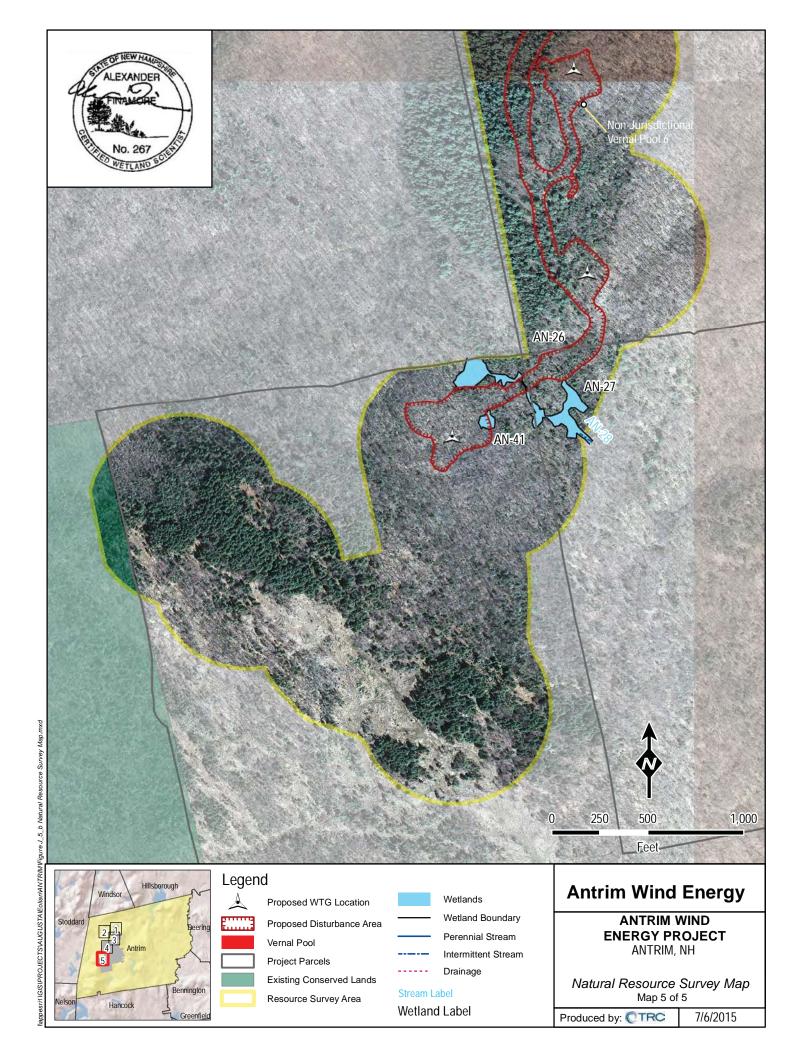
APPENDIX A Natural Resource Survey Map









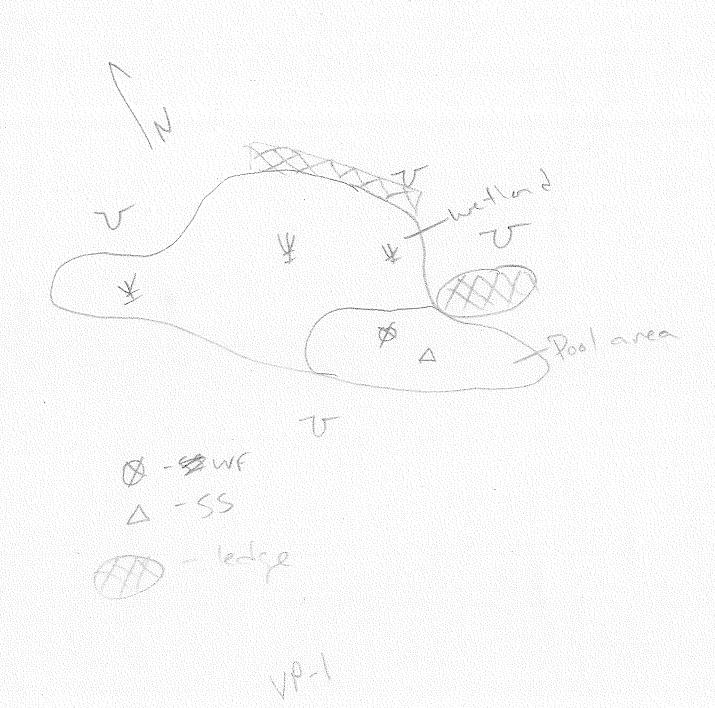


APPENDIX B

Vernal Pool Field Data Forms & Wernal Pool Site Photographs

WERNAL POOL DOCUMENTATION (PART 1 OF 2)

Bolding FALEX FIRMAGE Phone number (207) 879-1930 EXT 143 **VERNAL POOL DOCUMENTATION (PART 1 OF 2)** Observer's name Location of pool ____/\u03bb/1 Longitude <u>W072°01.08</u>2 GPS (if available): Datum_ Photos attached Time end_ 2:45 Time start_ 🔗 Weather OWCAS Pool size 20 Water depth 2-5 ☐ measured ☐ estimated **SPECIES** wad has adult vocalization amplexus courtship spermatophores 5masses tadpoles/larvae juveniles Comments: Date: Time start Time end Weather Pool size Water depth_ **SPECIES** adult vocalization amplexus courtship spermatophores eggs tadpoles/larvae juveniles Comments: Use the back of the sheet for sketch/field map of the pool.



...

VERNAL POOL HABITAT DOCUMENTATION (Part 2 of 2)

Pool Location	Tuttle Hill ANTRIN NH Observer JB + AF
SITE/ TYPE:	
SHL/TIFL.	upland-isolated (pool not associated with a wetland)
	bottomland-isolated (pool in a floodplain, not in a wetland)
	wetland complex (pool within or associated with a larger wetland
	habitat, i.e. red maple swamp, marsh, pond edge, other)
HABITAT: (estimate	
	50% woodland (specify type) deciduous coniferous mixed
	agriculture or open fields
	gravel pit
	residential
	roadside
OVERSTORY:	
	heavy overstory, >50% shrubs and/or trees
	moderate overstory, <50% shrubs and/or trees
	open site with grasses, forbs, scattered shrubs
COVER: Any mat	erial in the pool that can provide egg attachment sites and offer concealment to aquatic adults and/o
developir	ng arvae (estimate % of type).
	<u>20%</u> shrubs
	emergent vegetation (i.e. grass, cattails)
	hranches, twigs (in pool or overhanging into water)
	submergent vegetation
	<i>§0%</i> sphagnum moss
	other
BOTTOM: (estimate	e % of types composing bottom surface)
	sand
	mud/soft sediment
	leaf litter 90%
	submergent vegetation
	emergent vegetation
No. on C. C. S.	
DOMINANI PLANI	Sphagner I car Sp., Osm cin
	Solarnum 1 ror to Och rin
COMMENTS:	P.7 + mound surrounded by mosky wetland
y .	if eggs mature
₩ Attach location de	vi ~
Attach location docu	unonauui.

Photo 1 - South Photo 4- woodfrog Photo 2- west Photo 3- Soutted

VP-1

include wi	ith documentation for each vernal pool.
floo	ded pool visit photos included
dry,	drying pool visit photos included
field	map of pool
writt	en directions to pool
Usc	GS map, photo copy
ONE	E of the following, indicating pool location:
	tax assessors map detailed location information
Pho Doc	chorus amplexus egg mass tadpoles salamander (spotted, Jefferson, blue-spotted) courtship spermatophores egg mass larvae tos of indicator species umentation forms and maps submitted to both: town conservation commission Nongame and Endangered Wildlife Program, NH Fish and Game Department, 11 Hazen Drive, Concord, NH 0330
	ame Jim Bolduc + Alex Finamore
Address <u>4</u>	OO Southborough Drive
South F.	OD Southborough Drive ONTLAND, ME 04/06
	per (207) 879-1930 Ext 143



VP1



VP1 wood frog eggs



VP1 spotted salamander eggs





VP1 second visit June 2011



VP1 second visit June 2011

VERNAL POOL DOCUMENTATION (PART 1 OF 2)

		HW A	Control of the Control Control of the Control of the Control			
GPS (if available): Photos attached	Latitude 4	<u>3 </u>	Longitude_	72, 01.200 animals	Datum MA	<u>08</u>
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SPECIES	WE.	55				
adult						
vocalization		•				
amplexus						
courtship						
spermatophores						
eggs	1	16				
tadpoles/larvae						
			(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			
juveniles Comments:						
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Comments:			Time start_	• • • • • • • • • •	Time end	
Comments:			Time start_			
Comments: Date: Weather			Time start_			
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Comments: Date: Veather SPECIES adult			Time start_			
Comments: Date: Veather SPECIES adult vocalization			Time start_			
Comments: Date: Weather SPECIES adult vocalization amplexus			Time start_			
Comments: Date: Weather SPECIES adult vocalization amplexus courtship			Time start_			
Comments: Date: Weather SPECIES adult vocalization amplexus courtship spermatophores			Time start_			
Comments: Date: Veather SPECIES adult vocalization amplexus courtship spermatophores eggs			Time start_			

-55 esqs (egprox) - WF egg D-Wiener

VF 2

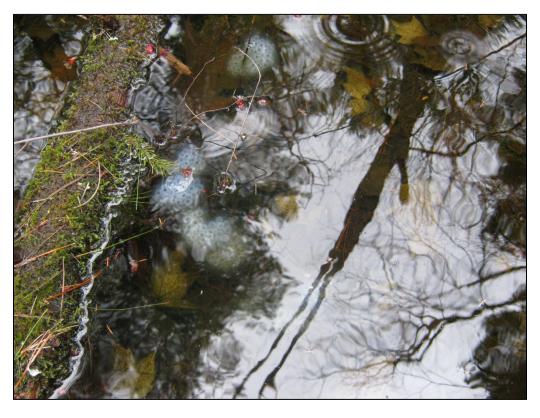
VERNAL POOL HABITAT DOCUMENTATION (Part 2 of 2)

Pool Location	Hetliu, Antim Observer IB+AF
SITE/ TYPE:	
VII - / 1 1 1 1 1 1 1 1 1 1	upland-isolated (pool not associated with a wetland)
	bottomland-isolated (pool in a floodplain, not in a wetland)
	wetland complex (pool within or associated with a larger wetland
	habitat i.e. red manle swamn marsh nond edge other)
	habitat, i.e. red maple swamp, marsh, pond edge, other) Tolated fed maple Swamp (vey Small
HABITAT: (estimate %	6 of type)
/4o.4	woodland (specify type) deciduous coniferous mixed
<u> </u>	agriculture or open fields
	gravel pit
	residential
	roadside
	other
OVERSTORY:	./
	heavy overstory, >50% shrubs and/or trees
	moderate overstory, <50% shrubs and/or trees
	open site with grasses, forbs, scattered shrubs
	al in the pool that can provide egg attachment sites and offer concealment to aquatic adults and/or
	arvae (estimate % of type). Shrubs
<u> </u>	
7	emergent vegetation (i.e. grass, cattails)
<u> </u>	branches, twigs (in pool or overhanging into water)
7	submergent vegetation
	sphagnum moss
	<u>other</u>
3OTTOM: (estimate %	6 of types composing bottom surface)
	sand
	mud/soft sediment
70	leaf litter
	submergent vegetation
	emergent vegetation
OMINANT PLANTS,	LIST: (optional) Ace My Vac cor, Sp. lat
:OMMENTS: J	olated pool in pocket of ledge near
To	e of mnt.
ttach location docum	

VERNAL POOL DOCUMENTATION COVER SHEET Include with documentation for each vernal pool. flooded pool visit photos included dry, drying pool visit ____ photos included field map of pool written directions to pool USGS map, photo copy ONE of the following, indicating pool location: tax assessors map detailed location information Evidence of vernal pool indicator species (check all present): fairy shrimp ____wood frog chorus amplexus egg mass tadpoles salamande (spotted, Jefferson, blue-spotted) courtship spermatophores egg mass larvae Photos of indicator species Documentation forms and maps submitted to both: town conservation commission Nongame and Endangered Wildlife Program, NH Fish and Game Department, 11 Hazen Drive, Concord, NH 03301 Reporter's name I'm Bolduc + Alex Finamore Address Phone number _____ Thank you for participating in the vital process of protecting the resources of your community and the state.



VP2 wood frog eggs



VP2 spotted salamander eggs



VP2



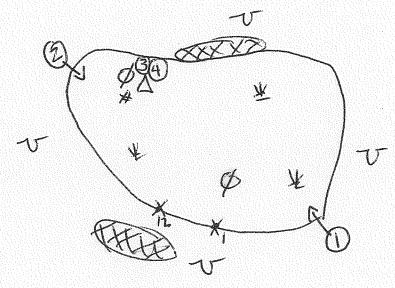


VP2 second visit June 2011

12 Augs

VERNAL POOL DOCUMENTATION (PART 1 OF 2)

Observer's name	R+/	\mathcal{H}		Phone numbe	ır		
Address							
Location of pool To	HeH	: (-)	~intoA	~			
Location of pool To	Latitude 4	<u>5 03, 414</u>	Longit	ude <u>72</u> 001.	202	Datum_ <u>NA</u>	0 83
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SPECIES	WF	55	Redirect				
adult							
vocalization							
amplexus							
courtship							
spermatophores							
eggs	5	9					
tadpoles/larvae							
juveniles							
••••••••••••••••••••••••••••••••••••••			· · · · · · · · · · Time st	• • • • • • • • • • • • • • • • • • •	1000	Time end	C. 0 s s b a p
Weather				e		Water depth	
SPECIES							
adult							
vocalization							
amplexus							
courtship							
spermatophores							
eggs							
tadpoles/larvae							
juveniles							
omments:							
se the back of the shee	t for sketch/fiel	d map of the p	ool.				



= ledge outerop

Photo location (+ disection)

VP-3

VERNAL POOL HABITAT DOCUMENTATION (Part 2 of 2)

SITE/ TYPE:		
	upland-isolated (pool not associated with a wetland)	
	bottomland-isolated (pool in a floodplain, not in a wetland)	
	wetland complex (pool within or associated with a larger wetland	
	habitat, i.e. red maple swamp, marsh, pond edge, other)	
HABITAT: (esti	imate % of type) /oo woodland (specify type) deciduous coniferous / mixed	
	/oo woodland (specify type) deciduous coniferous mixed agriculture or open fields	
	gravel pit	
	residential	
	roadside	
	other	
OVERSTORY:		
	heavy overstory, >50% shrubs and/or trees	
	moderate overstory, <50% shrubs and/or trees	
	open site with grasses, forbs, scattered shrubs	
	material in the pool that can provide egg attachment sites and offer concealment to aquatic adults and/or eloping arvae (estimate % of type). shrubs	
	material in the pool that can provide egg attachment sites and offer concealment to aquatic adults and/or eloping arvae (estimate % of type).	
	material in the pool that can provide egg attachment sites and offer concealment to aquatic adults and/or eloping arvae (estimate % of type). shrubs emergent vegetation (i.e. grass, cattails) branches, twigs (in pool or overhanging into water) submergent vegetation sphagnum moss	
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deve	material in the pool that can provide egg attachment sites and offer concealment to aquatic adults and/or eloping arvae (estimate % of type). Shrubs	
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	flooded pool visit photos included
-	dry, drying pool visit photos included
	field map of pool
	written directions to pool
	USGS map, photo copy
	ONE of the following, indicating pool location: tax assessors map detailed location information
	Evidence of vernal pool indicator species (check all present): fairy shrimp wood frog chorus amplexus egg mass tadpoles salamander (spotted, Jefferson, blue-spotted) courtship spermatophores egg mass larvae Photos of indicator species Documentation forms and maps submitted to both: town conservation commission Nongame and Endangered Wildlife Program, NH Fish and Game Department, 11 Hazen Drive, Concord, NH 0330
Report	er's name Jim Bolduc + Alex Finamore
Addres	SS
Phone	number



VP3 wood frog eggs



VP3 spotted salamander eggs



VP3





VP3 second visit June 2011

VP-4 Flags 1-10

VERNAL POOL DOCUMENTATION (PART 1 OF 2)

Observer's name	estable entre distriction in a reference in			The state of the s		
Address	T-pointing.					
_ocation of pool	<u>JSetwee</u>	- Title	4011 + U	Allerd A	m	Artri
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Photos attached		pool		animals		
			Time start	1:50	Time end \overline{Z}	.::5°.
Weather Partly	<u>Cbud</u>	1 220	Pool size 50 x	்டும் estimated	Water depth_	16"
SPECIES	WF	SS				
adult						
vocalization						
amplexus						
courtship						
spermatophores						
	14	55				
eggs						
eggs tadpoles/larvae	1					
tadpoles/larvae juveniles						
tadpoles/larvae juveniles omments:			Time start		Time and	
tadpoles/larvae juveniles omments:) o s a a s a				Time end	
tadpoles/larvae juveniles omments: ate: eather) o s a a s a				Time end	
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- 446-2 Photo lication (w/d.raction)

VP-4

VERNAL POOL HABITAT DOCUMENTATION (Part 2 of 2)

Pool Location <u></u>	en Tothe Hun + would mil Observer TO + AF
SITE/ TYPE:	
	upland-isolated (pool not associated with a wetland) bottomland-isolated (pool in a floodplain, not in a wetland) wetland complex (pool within or associated with a larger wetland habitat, i.e. red maple swamp, marsh, pond edge, other) ### Tendow Section 1.5.
HABITAT: (estimate % o	of type)
/ <u>/oc</u> 	woodland (specify type) deciduous coniferous mixed agriculture or open fields gravel pit residential roadside other
OVERSTORY:	
<u>v</u>	heavy overstory, >50% shrubs and/or trees moderate overstory, <50% shrubs and/or trees open site with grasses, forbs, scattered shrubs
developing ar \$ \$ 40	in the pool that can provide egg attachment sites and offer concealment to aquatic adults and/or vae (estimate % of type) shrubs emergent vegetation (i.e. grass, cattails) _ branches, twigs (in pool or overhanging into water) _ submergent vegetation _ sphagnum moss _ other
<u></u>	of types composing bottom surface) sand mud/soft sediment leaf litter submergent vegetation emergent vegetation
OMINANT PLANTS, L	IST: (optional) Ace rub, Tsu can, Osmcin
Hòl	aced to ATV trail

40-4

Inclu	de with documentation for each vernal pool.
<u>. v</u>	flooded pool visit photos included it photos included
	dry, drying pool visit photos included
	field map of pool
	written directions to pool
	USGS map, photo copy
	ONE of the following, indicating pool location:
	tax assessors map detailed location information
	Evidence of vernal pool indicator species (check all present): fairy shrimp wood frog chorus amplexus egg mass tadpoles salamander (spotted, Jefferson, blue-spotted) courtship spermatophores egg mass larvae Photos of indicator species Documentation forms and maps submitted to both: town conservation commission Nongame and Endangered Wildlife Program, NH Fish and Game Department, 11 Hazen Drive, Concord, NH 0330
Reporto	er's name Im Bolduc + Alex Financia
	S
7.9	
Phone	number



VP4 spotted salamander eggs



VP4 spotted salamander eggs



VP4

