

1.0 COMPENSATION AND MITIGATION OPTION PACKAGE

1.1 PROJECT OVERVIEW

Blue Sky West, LLC and Blue Sky West II, LLC (Applicants)¹, wholly owned subsidiaries of First Wind Energy, LLC, have proposed construction of the Bingham Wind Project (project), a utility-scale wind energy facility in Bingham, Moscow, Mayfield Township, Kingsbury Plantation, Abbot, and Parkman, in Somerset and Piscataquis Counties, Maine. The project is expected to consist of approximately 62 turbines (63 potential turbine locations are being permitted) in Bingham, Kingsbury Plantation, and Mayfield Township capable of generating up to 191 megawatts (MW) of electricity. Other project features include: new access roads and upgrades to existing roads; up to 5 permanent and up to 5 temporary meteorological (met) towers; an Operations and Maintenance (O&M) building in Mayfield Township; above and below ground 34.5 kilovolt (kV) electrical collector lines (the majority of which will be buried alongside project roads) and connecting turbines to a new collector substation in Mayfield Township; and an approximately 17-mile 115-kV generator lead connecting to an existing Central Maine Power Company (CMP) substation in Parkman, Maine. It is anticipated that a dynamic reactive device (DRD) such as a synchronous condenser will be required at the project collector substation to meet the interconnection requirements of ISO NE and CMP.

The project is located in a landscape managed for commercial timber products and containing an extensive network of existing haul roads. The ridgeline portion of the project area includes several low ridgelines and hills (below 1,800 feet in elevation). The generator lead corridor crosses an area of generally lower elevation (600 to 750 feet) that is primarily managed for timber but also includes agriculture and sparse residential development.

1.2 PROJECT IMPACTS

The project has been carefully designed through multiple iterations to avoid resource impacts and to minimize impacts to the greatest extent where avoidance was not possible or practicable.

The landscape within and surrounding most of the project area has been managed for commercial forestry, in some areas heavily, for decades. The wetlands in the project area have some variety and include small, isolated emergent wetlands created by timber management activity, as well as large forested wetlands previously disturbed by timber management activity. The majority of the wetland and stream resources are not unique or exemplary natural communities; they do not support a great diversity of plant species or wildlife habitats and are characteristic of the large expanses of wetlands typically found in north-central Maine.

The proposed impacts associated with this project are low relative to the size and scope of the project. There will be an emphasis on construction practices that reduce erosion, maintain stream and vernal pool buffers, and reduce fragmentation. Project components have been co-located with existing developed areas where possible. Prior to harvesting and construction activities, resources and associated buffers will be flagged and marked to limit impacts to permitted areas. This project will result in the following wetland and habitat impacts, as detailed in Table 1 (attached):

- 1.3 acres of permanent wetland impact from poles and crane access roads;
- 6.3 acres of temporary wetland fill in the form of temporary mats for construction vehicles primarily related to the generator lead construction;
- 12.2 acres of upland forest (buffer) clearing within 100 feet of streams;

¹ Blue Sky West, LLC is the wind energy project entity; Blue Sky West II, LLC is the electrical generator lead entity.

- 33.8 acres of secondary wetland impacts, consisting of conversion of forested wetlands to scrub-shrub wetlands within the generator lead corridor; and
- 26.9 acres of non-wetland clearing in State-mapped wildlife habitats, including Inland Wading Bird and Waterfowl Habitat (IWWH) and Deer Wintering Area (DWA) habitat.

Stantec Consulting (Stantec) has calculated the impact numbers for each category as defined in the July 2010 Corps Guidance² and applied accepted Best Management Practices to reduce those numbers for the utility corridor. As detailed in Table 1, the permanent and temporary impacts, U.S. Army Corps of Engineers (Corps) regulated secondary wetland impacts, and Maine Department of Environmental Protection (MDEP) regulated habitat impacts require compensation totaling 133 acres for the Corps and 65 acres for MDEP. This compensation plan includes upland and wetland preservation, vernal pool enhancement, and wetland restoration as mitigation.

1.3 COMPENSATION

1.3.1 COMPENSATION SITE SEARCH

A mitigation site search in 2012 focused on identifying parcels or areas of high value resources that: (1) are located in the vicinity of the proposed project area; (2) have contiguity with other public or conservation lands; (3) are under threat of development; (4) are of sufficient size and quality to contain diverse wetland types and wildlife habitats; and (5) ideally include an opportunity to enhance or restore wetland functions and values. This search identified several parcels scattered across the landscape that contained some portion of the habitats and resources required for compensation, and ultimately led to the selection of a 268-acre parcel in Monson near two of the alternative generator lead corridor options. A more detailed investigation of the parcel identified it as an ample and multifaceted compensation opportunity.

The proposed compensation area (Figure 1) is within two miles of three existing conservation parcels managed by the Appalachian Trail Conservancy, Maine Department of Inland Fisheries and Wildlife (MDIFW), and a private easement with the Bureau of Public Lands (refer to Figure 2). It contains 75.8 acres of mapped MDIFW-regulated DWA, the majority of which has conforming DWA cover (though some areas have marginal to poor cover as the result of timber harvesting). The parcel would be the only conservation area within 12 miles of the project that preserves mapped DWA habitat. Deer sign (tree rubs, pellets, and tracks) was observed within the DWA, and the forested areas were observed to be mostly intact (Photos 1, 2, and 3), with some harvest activity nearest the gravel access roads.

Portions of the proposed conservation parcel were surveyed in 2012 for wetlands and vernal pools as generator lead corridor alternatives, and a site visit was completed on April 29, 2013, to identify additional features. As a result, wetlands not included in the National Wetlands Inventory (NWI) were identified and mapped. Small portions of the DWA are also part of the 24.7 acres of forested wetland located on the parcel. The parcel also contains small, isolated emergent and scrub-shrub wetlands and large, natural vernal pools that meet the Natural Resource Protection Act (NRPA) definition of a Significant Vernal Pool (SVP). In addition, it has 1.25 miles of frontage on both sides of the Piscataquis River, on a portion of the river defined as an Outstanding River Segment (Photo 4).

This compensation area parcel is currently for sale and is at risk of development due to its proximity to the Piscataquis River Outstanding River Segment and the potential for future timber harvest throughout the parcel. This parcel is within a contiguous forested block of land, 500 feet from development and improved roads. There is an existing camp lot adjacent to the conservation parcel with gravel road access from Barrow Falls Road. There is access to the majority of the parcel via the Barrow Falls Road.

² Corps of Engineers July 2010 Revision of the New England District Compensatory Mitigation Guidance and Central Maine Power Company Mitigation Guidance: Adjustments to Standard Ratios/Amounts for Temporary & Indirect Impacts Activities.

May 2009 CMP Mitigation Guidance: Adjustments to Standard Ratios/Amounts for Temporary & Secondary Impacts

1.3.2 COMPENSATION DETAILS

1.3.2.1 Wetland Restoration

The proposed compensation area contains existing logging roads (see Figure 1). The parcel offers the opportunity to restore approximately 4,800 square feet of filled wetlands at one location where a logging road was created over a wetland and altered the hydrology.

The Applicants propose to remove road fill and associated culverts from this wetland location, restoring the natural grade, hydrology, and habitat. The restoration area will eventually revert to scrub-shrub or forested wetland communities following re-grading, seeding, and installation of wetland trees and shrubs.

1.3.2.2 Wetland and Upland Preservation

The proposed 268-acre compensation area is comprised of a valuable and complex mosaic of wetland and upland habitats (Figure 1 and Photos 5 through 10). Permanent conservation of the area will preserve an estimated 35 acres of wetland habitats, including approximately 1.4 acres of unconsolidated bottom or emergent wetland, approximately 9.1 acres of scrub-shrub wetland, and approximately 24.5 acres of forested wetland. Upland habitats in the compensation are characterized by a mix of regenerating forest types.

Forested and scrub-shrub wetlands on the parcel are mapped by the NWI along the Piscataquis River. These floodplain wetland complexes offer valuable riparian habitats to support a variety of birds, mammals, reptiles, and amphibians. The unconsolidated bottom and emergent wetlands within the compensation area are primarily associated with the permanently flooded beaver (*Castor canadensis*) flowage in the southern part of the parcel on the west side of the river. Small pockets of emergent or scrub-shrub wetland, which are generally not apparent on aerial photos or NWI maps, are likely to occur elsewhere on the parcel in association with recent forest harvest activity.

The southeastern section of the compensation area has been harvested within the last 10 years. The majority of the wetlands that occur in this area have been altered or created by the forest harvest activity. These wetland features are primarily located in the topographical terraces on a slope where machinery trails have interrupted the natural hydrological flow. This type of wetland is common in areas that have been harvested recently, and it is expected that dominant trees and shrubs will likely regenerate to a forested complex. Examples of this wetland type were mapped as an alternative to the project's generator lead corridor, but those alternatives surveyed were not ultimately used.

1.3.2.3 Wildlife Habitat Preservation

Deer Wintering Habitat - Stantec's 2013 deer yard surveys of the project area indicate that two of the four mapped and regulated DWAs that will be impacted along the proposed generator lead corridor are not presently functioning as DWAs. Past and present timber management activity have removed the suitable softwood shelter stands and fragmented the travel corridors. The DWA mapped in the compensation parcel was visited in the spring of 2013 and was found to contain conforming softwood stands. Throughout the DWA on the proposed compensation parcel, there was evidence of deer use (tracks, tree rubs, and pellets). Preservation of this DWA will help ensure that the forested habitat will continue to provide appropriate winter cover for deer over the long term.

Fisheries Habitat - The area of the Piscataquis River within this parcel is designated Atlantic salmon (*Salmo salar*) habitat. This section of the river is annually stocked with brook trout (*Salvenius fontinalis*). During Stantec's April 29, 2013, site visit, 5 fishermen were observed recreating within the compensation area.

Vernal Pool Habitat - Stantec's 2012 vernal pool surveys identified one SVP (Photo 5) and three additional non-significant or man-made vernal pools. Additional visits to the compensation area in spring 2013 identified an additional SVP. Below are the species and egg mass counts for each of these pools.

- SVP115TT_N: A natural significant pool with 119 wood frog (*Lithobates sylvatica*) and 49 spotted salamander (*Ambystoma maculatum*) egg masses.
- SVP40SK_N: A natural, significant pool with 30 wood frog and 42 spotted salamander egg masses.
- VP45SK_M: A man-made pool with 21 spotted salamander egg masses.
- VP38SK_M: A man-made pool with 15 wood frog egg masses.
- VP37SK_N: A natural-modified pool with 11 wood frog egg masses.

IWWH - There is no mapped IWWH habitat within this proposed compensation parcel. However, there are two ponded areas created by beaver activity, as well as some backwater and oxbow areas along the Piscataquis River that can provide habitat for waterfowl and wading birds.

1.3.2.4 Vernal Pool Enhancement

Adjacent to a logging road on the parcel is a borrow pit that was historically excavated for road construction. The pit is 15 feet long and 6 feet wide, and was dug deeper than the current water table; it is seasonally filled with more than 1 foot of standing water and contains a variety of woody debris and other waste (Photo 11). It is not considered a jurisdictional wetland because it is an isolated excavated upland with no wetland vegetation. The borrow pit currently has steep sideslopes along the edges of the standing water. During the April 29, 2013, site visit, the pit was observed to contain three spotted salamander egg masses.

The Applicants propose to enhance the function and value of this pit as vernal pool habitat by grading the edges of the pit to a more gradual slope to improve access by amphibians, removing foreign debris, adding natural egg-attachment sites (e.g., dead branches), and seeding any erodible soils. The goal is to improve the habitat features and hydrology for vernal pool species use of the pool.

1.3.2.5 Recreation

The conservation parcel contains existing public recreation opportunities, including a picnic area, a campsite, canoe/kayak access to the river, hiking trails for fishing access, an all-terrain vehicle trail head along Barrow's Falls Road, and access to hunting. Public access is primarily from the Barrow's Falls Road.

1.4 SUMMARY

The proposed compensation area in Monson provides the following wetland and habitat values:

- Long-term conservation of approximately 268 acres of wetland and upland habitat along the Piscataquis River;
- Opportunity to restore 4,800 square feet of wetland habitat by removing a section of logging road;
- Preservation of 35 acres of wetland comprised of:
 - approximately 1.4 acres of emergent and unconsolidated bottom wetland;
 - approximately 9.1 acres of scrub-shrub wetland;
 - approximately 24.7 acres of forested wetland;
- Preservation of 75.8 acres of conforming-cover DWA with documented use by deer;
- Protection of 2 documented SVPs and 3 non-significant vernal pools;
- Enhancement of a 15-foot by 6-foot borrow pit;
- Protection of approximately 1.25 miles of the Piscataquis River (both sides) within an Outstanding River Segment designated for Atlantic Salmon spawning and habitat; and

- Preservation of access to an existing public picnic area and primitive campsite on the east side of the river.

It is anticipated that the compensation area would be deeded to a third party (i.e., the State of Maine or a local land trust organization). The mapped DWA habitat would be protected (e.g., by deed restrictions) from development and future timber harvest activity. The convergence of attributes found on this parcel (location, continuity, natural resources, habitats, and public access) make this compensation proposal appropriate for restoration, enhancement, and long-term preservation.



Photo 1: Documented deer use in Deer Wintering Area (pellets).
Stantec Consulting April 29, 2013.



Photo 2: Documented deer use in Deer Wintering Area (tree rub).
Stantec Consulting April 29, 2013.



Photo 3: Deer Wintering Area with conforming cover.
Stantec Consulting April 29, 2013.



Photo 4: Piscataquis River, designated Outstanding River Segment and Atlantic Salmon Habitat.
Stantec Consulting April 29, 2013.



Photo 5: SVP151TT – natural significant vernal pool.
Stantec Consulting April 29, 2013.



Photo 6: Typical scrub-shrub wetland.
Stantec Consulting April 29, 2013.



Photo 7: Typical previously harvested upland.
Stantec Consulting April 29, 2013.



Photo 8: Typical forested wetland floodplain.
Stantec Consulting April 29, 2013.



Photo 9: Typical backwater associated with the Piscataquis River.
Stantec Consulting April 29, 2013.



Photo 10: Scenic picnic area on Barrow's Falls Road.
Stantec Consulting April 29, 2013.



Photo 11: Borrow pit enhancement opportunity.
Stantec Consulting April 29, 2013.

Table 1. Detailing the Impact Types, Impact Extents, and Compensation Ratios and Reductions Used to Determine Compensation Required and Provided

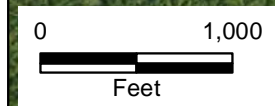
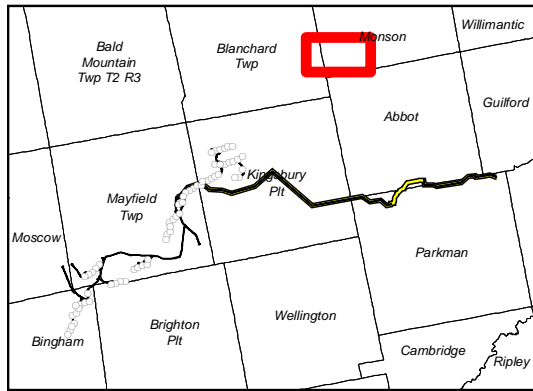
Impacts		Impact Extent (acres)	USACE Compensation Required using standard USACE ratios and adjustment ¹ (acres)	MDEP Compensation Required using standard MDEP ratios and adjustment ¹ (acres)	Standard Ratios and Reductions Used for Preservation	Compensation Provided
Activity						
1. Temporary (< 18 mo) Wetland Fill from Construction Access Roads	Temporary (< 18 mo) fill in non-forested wetlands from construction access roads	0.88 ac.	1.32	not required	15:1 to 10%	At least 10.5 acres of unconsolidated bottom and emergent wetland preservation
	Temporary (< 18 mos.) fill in forested wetlands from construction access roads	5.44 ac.	12.24	not required	15:1 to 15%	
	Temporary (< 18 mo) fill in MDEP and ACOE Significant Vernal Pool (SVP)	0.00 ac.	0.00	0.00	15:1 to 100%, 8:1 to 100%	
	Total Temporary Fill Impacts	6.32 ac.	13.56	0.00		
2. Permanent Cover Type Conversion of Forested Wetlands to Scrub/Shrub		33.75 ac.	75.94	not required	15:1 to 15%	24.7 acres of forested wetland preservation
3. Permanent Cover Type Conversion in High and Moderate Value Inland Wading Bird and Waterfowl Habitat		3.13 ac.	not required	8.26	8:1 to 33%	75.8 acres of DWA habitat preservation, 2 SVPs and 3 non-SVPs, Vernal Pool enhancement in one non-jurisdictional borrow pit, 4,800 square feet of wetland restoration
4. Permanent Cover Type Conversion in High and Moderate Value Deer Wintering Area Habitat		16.90 ac.	not required	44.62	8:1 to 33%	
5. Permanent Cover Type Conversion in Vernal Pool Habitats (250 feet)³		6.88 ac.	20.64	5.50	15:1 to 20%; 8:1 to 10%	
6. Permanent Cover Type Conversion in Vernal Pool Depression Area³		0.07 ac.	0.63	0.17	15:1 to 60%; 8:1 to 30%	
7. Permanent Wetland Fill	Permanent Fill associated with Pole Locations	0.01 ac.	0.03	0.01	3:1 at 100%; 1:1 at 100%	
	Permanent Fill associated with Access Roads	1.32 ac.	3.96	1.32	3:1 at 100%; 1:1 at 100%	
	Permanent Fill in ACOE High-Function Vernal Pools	0.01 ac.	0.03	not required	3:1 at 100%; 1:1 at 100%	
	Total Permanent Fill Impacts	1.34 ac.	4.02	1.33	3:1 at 100%; 1:1 at 100%	
8. Stream Impacts (Clearing upland within 100')		12.18 ac.	18.27	4.87	15:1 to 10%; 8:1 to 5%	1.25 miles of shoreline and riparian habitat preservation along an Outstanding River Segment
Totals:			133.1 acres	59.9 acres		<ul style="list-style-type: none"> • 4,800 sf wetland restoration • 268 ac Preservation <ul style="list-style-type: none"> ○ 35 ac wetland ○ 77.8 ac DWA ○ 5 vernal pools ○ 1 vernal pool enhance ○ 1.25 mi Outstanding River

¹USACE Standard Ratios: 1:1 for stream restoration, 15:1 for wetland/upland preservation, 3:1 for restoration/enhancement - also utilizing the document *CMP Mitigation Guidance: Adjustments to standard ratios/amounts for temporary & indirect impacts activities*

MDEP Standard Ratios: 1:1 for stream restoration, 8:1 for wetland/upland preservation, 1:1 for restoration/enhancement - also utilizing the document *CMP Mitigation Guidance: Adjustments to standard ratios/amounts for temporary & indirect impacts activities*

³Includes MDEP Significant Vernal Pools and Man-Made Vernal Pools under USACE jurisdiction which meet the MDEP Significance criteria

Figure 1
Compensatory Plan Map



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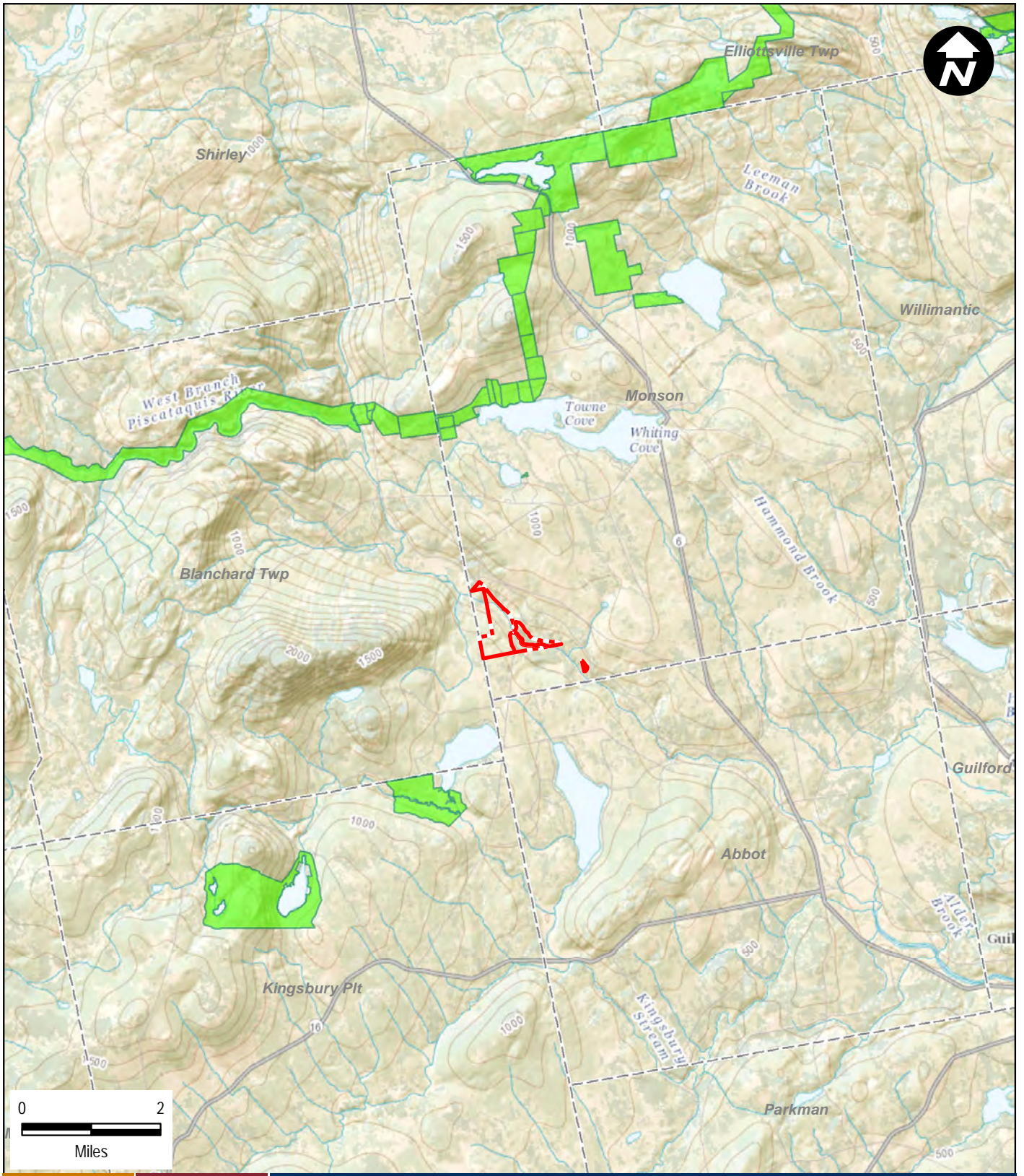
- Proposed Compensation Area (Approx. 268.3 acres)
- NWI PFO Wetland
- NWI PSS Wetland
- NWI PUB Wetland
- Proposed Restoration Wetland
- Wetland Delineated by Stantec
- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Atlantic Salmon Habitat
- Enhancement Pool
- DWA Within Approximate Compensation Area (Approx. 75.7 acres)
- Town Boundary
- Campsite
- Culvert In
- Culvert Out
- Picnic Area
- ATV Trail Head Access

Client/Project
 Bingham Wind Project
 195600539

Figure No.
 1

Title
 Compensation Plan Map
 5/8/2013

Figure 2
Nearby Conservation Areas






195600539



Stantec

Stantec Consulting Services Inc. Legend

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-  Proposed Compensation Area (Approx. 268.3 acres)
-  Nearby Conservation
-  Town Boundary

Client/Project
 Bingham Wind Project

Figure No.

2

Title

Compensation Plan Map

5/8/2013