Wetland and Waterbody Delineation and Vernal Pool Report

Bingham Wind Project
Bingham, Moscow, Mayfield Township, Kingsbury Plantation, Abbot, and Parkman
Somerset and Piscataquis Counties, Maine

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1.0 INTRODUCTION

The Bingham Wind Project (project) is a proposed utility-scale wind energy facility located in Somerset and Piscataquis Counties, Maine (Figure 1).). As currently proposed, the project includes approximately 62 turbines; associated access roads; up to 5 permanent meteorological (met) towers; an Operations and Maintenance (O&M) building; electrical collector system; an electrical substation; and an approximately 17-mile generator lead extending easterly to an existing Central Maine Power Company (CMP) substation in Parkman. It is anticipated that a dynamic reactive device such as a synchronous condenser will be required at the project collector substation to meet the interconnection requirements of ISO NE and CMP. Turbines will have a maximum height of 151.5 meters (m; 497 feet [ft]), and permanent met towers will be 104-meters (341 ft). In addition, up to 5 104-m temporary met towers may be installed at or near turbine locations before turbines are erected; however these temporary towers will be removed prior to the completion of construction. For a more detailed project description, please refer to Section 1 of this application.

The project will be constructed on ridges and hills in the vicinity of Route 16, including Johnson Mountain and unnamed hills north and northeast of Johnson Mountain, and an unnamed ridge north of Route 16 (Appendix A). New and existing access roads and crane paths will connect each turbine location. Existing roads will provide construction and maintenance access north and south of Route 16. The electrical collector will connect each turbine location and will run mainly underground along project roads, ultimately connecting to a proposed project substation located in the northern turbine string. The collector system will include an approximately 4-mile long aboveground segment that will parallel the north side of Route 16. The generator lead extends from the substation on the northeastern turbine string east and southeast to an existing Central Maine Power Company (CMP) substation

Between 2010 and 2013, Stantec Consulting (Stantec) completed the following wetland and waterbody resource delineations and vernal pool surveys in association with the project area (Appendix A) that included the following.

- The ridgeline corridors where turbines, roads, collector substation, O&M building, and electrical collector lines will be located, including Johnson Mountain and adjacent unnamed hills, and the unnamed ridge north of Route 16. Each corridor is at least 1,500 feet wide.
- Potential access road corridors, including existing access roads such as T Road that extends from Route 16 in Moscow to the north end of Johnson Mountain and New Hayden Pond Road that extends from Route 16 northwest into the project area. Potential access road corridors are approximately 300 feet wide.
- Approximately 10 miles of possible above-ground electrical collector line between project components.
- Approximately 17 miles of generator lead corridor extending from the ridgeline in Kingsbury Plantation to the existing CMP substation in Parkman. This corridor is approximately 400 feet wide.

This report includes descriptions of the wetland and waterbody and vernal pool resources located within approximately 300 feet of proposed edge of gravel surfaces and those resources located within the approximately 100-foot wide electrical corridors. These findings provide information typically required for the state and federal permitting processes.

2.0 SURVEY METHODS

2.1. WETLAND AND WATERBODY RESOURCE DELINEATION

Surveys for wetland and waterbody resources were conducted between 2010 and 2013. Delineations were conducted under seasonally-appropriate field conditions or were verified under growing-season conditions. Delineations conducted during December 2012 and between January and March 2013 will be field verified during the 2013 growing-season. Wetland boundaries under federal and state jurisdiction were determined using the technical criteria described in the U.S. Army Corps of Engineers (Corps) *1987*

Wetland Delineation Manual Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Regional Supplement.[1] Wetland boundaries were marked with pink, alphanumeric-coded flags. Boundary flags were located using Trimble® Pro Series Global Positioning System (GPS) receivers. Stream locations were also recorded using GPS receivers. MDEP jurisdictional stream and Wetland of Special Significance (WSS) determinations made during the wetland and waterbody resource delineations were based on the criteria in the Maine Natural Resources Protection Act (NRPA). Identification of streams and WSS was limited to observable conditions within the project area and available background information. GPS data were used to produce the attached natural resource maps (Appendix B). The results of this survey can be found in Section 3.2 below, and additional details of these surveys are available in Appendix C. Corps wetland determination data forms are presented in Appendix D.

2.2. VERNAL POOL SURVEY

Stantec conducted initial vernal pool surveys in April and May 2010, which included the majority of the ridgeline portion of the project area. In May 2011, Stantec conducted vernal pool surveys along the generator lead extending from an unnamed ridgeline in Kingsbury Plantation east and southeast to the CMP substation in Parkman. An approximately four-mile long aboveground collector corridor located along the north side of Route 16 in Mayfield Township was added to the project in the fall of 2012. Wetlands within this aboveground collector corridor were delineated in the fall of 2012, and potential vernal pools (PVPs) and potential Significant Vernal Pools (PSVPs) were identified during the course of these delineations.

The purpose of the surveys conducted in 2010 and 2011 was to evaluate vernal pool habitat within the defined project area. The results of these surveys were derived using standard field techniques and represent observations made during the respective 2010 and 2011 amphibian breeding seasons. The presence, absence, and number of egg masses presented in this report reflect the results of these surveys. Vernal pools are dynamic habitats that vary in water level, vegetative cover, and other physical characteristics during the course of a year, as well as from year to year. In addition, the breeding activity of amphibians, particularly the initiation of breeding, is dependent upon seasonal environmental parameters such as temperature and precipitation. Due to this variability, the presence and number of egg masses may differ between breeding seasons and during the course of a given breeding season. Based upon Stantec's observations of the on-site vernal pools, all survey events were appropriately timed to capture peak amphibian breeding activity.

In 2010 and 2011, each vernal pool was thoroughly surveyed by slowly wading through the pool basin searching for amphibian breeding activity, including the presence of egg masses and noting other vernal pool-dependent species use. During the surveys, egg masses for each vernal pool-dependent amphibian species were counted and recorded. Presence of other life stages of these amphibians was noted, as was the physical and biological characteristics of the pool such as the presence/absence of a permanently flowing inlet or outlet and the presence/absence of fish. Once a determination was made that a regulatory vernal pool was present, a GPS receiver was used to locate the boundary of the vernal pool envelope. GPS data were then used to produce the attached resource maps (Appendix B). Each pool was assigned a unique alpha-numeric code (e.g., VP_05AA_M, SVP_50KN_N) that appears on the maps and within this report. The results of these surveys can be found in Section 3.3 below, and further detail can be found in Appendices C, E and F.

The data collected during the surveys were used to determine if the pools met the criteria of a Significant Vernal Pool (SVP) as defined in Chapter 335(9) of rules adopted under the NRPA. That rule defines a vernal pool as a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no

[1] U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

permanent inlet or outlet and no viable populations of predatory fish. During seasonally appropriate surveys, an SVP contains one of the following:

- 40 or more wood frog (*Lithobates sylvatica*) egg masses;
- 20 or more spotted salamander (*Ambystoma maculatum*) egg masses;
- 10 or more blue spotted salamander (*Ambystoma laterale*) egg masses;
- Presence of fairy shrimp (*Eubranchipus* spp.); or
- Documented use by a state-listed rare, threatened or endangered species that commonly require a vernal pool to complete a critical portion of their life-history such as Blanding's turtle (*Emydoidea blandingii*), spotted turtle (*Clemmys guttata*), or ringed bog haunter dragonfly (*Williamsonia lintneri*).

Vernal pools that occur within a wetland but are not naturally-occurring are not regulated vernal pools under NRPA. However, these pools may be regulated by the Corps, the U.S. Environmental Protection Agency (USEPA), and the U.S. Fish and Wildlife Service (USFWS) under the Clean Water Act depending on their function and value as a resource.

In addition, the characteristics of the pools were compared to the definition of a vernal pool included in the Corp's Maine General Permit (GP). It should be noted that the Corps does not regulate vernal pools if they are not located within a jurisdictional wetland.

> Temporary to semi-permanent bodies of water occurring in a shallow depression that typically fills during the spring and fall and may dry during the summer. Vernal pools have no permanent inlet or outlet or viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs, spotted salamanders, blue-spotted salamanders, and fairy shrimp, as well as valuable habitat for other plants and wildlife including several rare, threatened and endangered species. For the purposes of the GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs.

PVPs were identified based upon the presence or evidence of surface water at the time of the delineations, as well as geomorphic position and other physical characteristics. A single point identifying the PVP depression was located using GPS receivers. Similar to the vernal pools, each PVP was assigned a unique alpha-numeric code (e.g., PVP_02AA_M, PVP_01CF_N) that appears on the natural resource maps and within this report.

On the natural resource maps, the 250-foot critical terrestrial habitat is shown in association with the following types of vernal pools and PVPs. These vernal pools were considered higher functioning resources based upon egg mass counts, use by a diverse assemblage of vernal pool-associated amphibians, the presence of one or more rare, threatened or endangered species, or the presence of fairy shrimp, including:

- Pools meeting the NRPA definition of an SVP;
- The presence of wood frog, spotted salamander, and blue spotted salamander egg masses in a single pool, regardless of the pool's origin (natural or man-made);
- Natural pools with 20 or more egg masses, cumulatively across the 3 vernal pool-associated amphibian species (wood frog, spotted salamander, blue spotted salamander);
- Man-made pools that meet the egg mass count thresholds for an SVP;
- Clusters of two or more pools, regardless of origin, that have overlapping critical terrestrial habitat within 100 feet of the pool envelopes and cumulatively have egg mass counts that meet or exceed the thresholds for an SVP; and
- Naturally occurring PVPs.

3.0 NATURAL RESOURCE SURVEY RESULTS

3.1. GENERAL SITE DESCRIPTION

The project is located in the Central Mountains and Western Foothills biophysical regions.[2] The ridgelines and hills in Mayfield Township, Kingsbury Plantation and Bingham fall within the Central Mountains Region or straddle the boundary between the Central Mountains and Western Foothills regions. The generator lead crosses through the Western Foothills biophysical region. Although the Central Mountains Region includes some of the highest peaks in Maine, the physiography of the project area more closely represents that described for the Western Foothills Region. The Western Foothills Region is characterized by hilly terrain with elevations that average between 600 and 1000 feet. The western boundary of this region generally marks the transition from temperate forest to boreal forest species. There are several cemeteries, stone walls, and foundations scattered throughout or near the project area that provide evidence of former homesteads and agricultural use of the area. Much of the evidence of former homesteads is located in Kingsbury Plantation north of Kingsbury Pond, in proximity to Old Mountain Road.

The ridgeline portion of the project area includes several low-elevation ridgelines and hills (i.e., below 1,800 feet in elevation) within a landscape exclusively managed for commercial timber products. A network of unpaved logging roads occurs throughout this portion of the project area. Evidence of a commercial slate mining operation is present north of Route 16 along the west side of Bigelow Brook. The generator lead corridor crosses through an area of generally lower elevation, dropping to approximately 750 feet in elevation in southeastern Kingsbury Plantation to an elevation typically less than 600 feet across the remainder of the corridor. The landscape is primarily forested with small areas of agriculture and sparse residential development.

The forests present within the project area include second and third-growth mixed native forests, early successional and regenerating forest stands, and plantations of both native and exotic tree species, including red pine (*Pinus resinosa*), Jack pine (*Pinus banksiana*), red spruce (*Picea rubens*), and hybrid larch trees (*Larix* spp.). Several recent cuts that exceed 30 acres in size are scattered throughout the ridgeline area. The project area is dominated by Beech-Birch-Maple Forest and Spruce-Northern Hardwoods Forest in various stages of regeneration following timber harvesting. Dominant trees present in these forested uplands include yellow birch (*Betula alleghenensis*), red spruce, American beech (*Fagus grandifolia*), and sugar maple (*Acer saccahrum*) with balsam fir (*Abies balsamea*), paper birch (*Betula papyrifera*), and striped maple (*Acer pennsylvanicum*) also present. The understory ranges from sparse to densely vegetated depending in large part on the successional stage of the area. Species present in the sapling and shrub layer include those tree species listed above, as well as beaked hazelnut (*Corylus cornuta*), hobblebush (*Viburnum lantanoides*) and northern mountain-ash (*Sorbus decora*). Canadian bunchberry (*Cornus canadensis*), hay-scented fern (*Dennstaedtia punctilobula*), wild sarsaparilla (*Aralia nudicaulis*), and evergreen wood fern (*Dryopteris intermedia*) dominate the herbaceous layer with bracken fern (*Pteridium aquilinum*), yellow bluebead-lily (*Clintonia borealis*), maystar (*Trientalis borealis*), painted wakerobin (*Trillium undulatum*), sessile-leaf bellwort (*Uvularia sessilifolia*), red raspberry (*Rubus idaeus ssp. idaeus*), and seedlings of tree species also present.

Forested, scrub-shrub, and emergent wetlands, as well as small to moderate-sized perennial and intermittent streams, are located throughout the ridgeline areas and along the generator lead corridor. Wetlands that occur on the ridgelines and hills are located primarily in topographic low points and drainages. Larger wetlands occur in areas of relatively moderate topography such as occurs between the northern end of Johnson Mountain and Route 16, and along the eastern portion of the generator lead corridor. The generator lead corridor, which occurs at generally lower elevation than the ridgeline areas, includes a few larger perennial streams such as Kingsbury Stream and Gales Brook.

[2] McMahon, Janet. 1998 (July). An Ecological Reserves System Inventory. Augusta, ME. Maine State Planning Office. 122 pp.

3.2. WETLAND AND WATERBODY DELINEATION RESULTS

The following is a brief summary of the wetland and waterbody resources identified within the project area.

- 414 wetland resources regulated by the Corps or Maine Department of Environmental Protection (MDEP) were identified within the project area.
- 67 streams were identified within the project area, 36 of which are perennial or have a perennial component (e.g. transition from intermittent to perennial).
- 66 wetland resources are considered WSS. The majority of these resources are within 25 feet of a stream, and others are include Significant Wildlife Habitat or are within a floodplain.

Additional information on the project area resources is presented in Appendices B and C. Appendix B includes natural resource figures that show the location of each delineated wetland and stream identified within the project area. The resources found on these figures correspond to the numbered resources shown in Appendix C. Table C-1 details the wetland resources identified in the project area, including the resource identifier, wetland classifications (i.e., types), associated streams and vernal pools, and impact status of each wetland. Stantec identified palustrine forested,[3] palustrine scrub-shrub, palustrine emergent, and palustrine open water/unconsolidated bottom wetlands within the project area. Corps wetland delineation data forms are presented in Appendix D of this application.

Forested Wetlands

Forested wetlands are common throughout the ridgeline portion of the project area and along the generator lead corridor. The canopy of these forested wetlands is dominated by red spruce, green ash (*Fraxinus pennsylvanica*), yellow birch, and northern white cedar (*Thuja occidentalis*) with a smaller component of balsam fir, black ash (*Fraxinus nigra*), and red maple (*Acer rubrum*). Speckled alder (*Alnus incana*) and shrub and sapling size tree species are common within the shrub layer with lesser amounts of white meadowsweet (*Spiraea alba*), rosy meadowsweet (*Spiraea tomentosa*), common winterberry (*Ilex verticillata*), mountain holly (*Nemopanthus mucronatus*), long-beaked willow (*Salix bebbiana*), and hobblebush (*Viburnum lantanoides*) also present. The herbaceous layer is dominated by three-seed sedge (*Carex trisperma*), northeastern manna grass (*Glyceria melicaria*), common woolsedge (*Scirpus cyperinus*) and cinnamon fern (*Osmunda cinamomea*) with interrupted fern (*Osmunda claytoniana*), sensitive fern (*Onoclea sensibilis),* bristly blackberry (*Rubus hispidus*), nodding sedge (*Carex gynandra*), spotted touch-me-not (*Impatiens capensis*), sharp-toothed nodding-aster (*Oclemena acuminata*), purple-stemmed American-aster (*Symphyotrichum puniceum*), white turtlehead (*Chelone glabra*), tall white-aster (*Doellingeria umbellata*), northern water-horehound (*Lycopus uniflorus*), three-leaved goldthread (*Coptis trifolia*), red raspberry (*Rubus idaeus*) and Canada dwarf-dogwood (*Cornus canadensis*) also present. Soils in these wetlands are variable and include histosols (16 inches or more of organics), shallower organics (6 to 10 inches) over rock or depleted mineral soil, and mineral soils with a depleted matrix and redoximorphic concentrations. At the time of the surveys, commonly observed hydrologic indicators included areas of surface water, soil saturation to the surface, highwater table (within 3 inches of surface), hydrogen sulfide odor, water-stained leaves, and drainage patterns.

Several of the forested wetlands along the eastern portion of the generator lead corridor are dominated by northern white cedar and are characterized by relatively dense canopies and open understories. Other trees present within these northern white cedar-dominated communities include red maple, yellow birch, balsam fir, and green ash. The shrub layer includes the tree species referenced above, as well as black ash, speckled alder, and white meadowsweet. Herbaceous species present include cinnamon fern and sensitive fern. Soils in these wetlands are generally histosols or shallower organics over rock (8 to 12 inches) with some areas of mineral soils that have a depleted matrix. At the time of the surveys, hydrologic indicators included areas of surface water, highwater table (to the surface in some locations), and soil saturation to surface.

[3] Wetland classifications per Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, U.S. Fish and Wildlife Service. FWS/OBS-79/31.

Scrub-shrub Wetlands

Scrub-shrub wetlands are common throughout the project area, although not quite as prevalent as forested wetland communities. Scrub-shrub communities, particularly on the ridgelines, are previously forested wetlands that were altered by timber harvesting activities. Naturally occurring scrub-shrub communities are more generally found in association with the larger watercourses along the Route 16 collector line corridor and the generator lead corridor. The scrub-shrub wetlands that represent early successional forested wetlands are typically dominated by shrub and sapling sized tree species such as red spruce, red maple, balsam fir, yellow birch, black ash, green ash, quaking aspen (*Populus tremuloides*) and big-tooth aspen (*Populus grandidentata*). Speckled alder is often dominant or codominant with the tree species and other shrub species such as long-beaked willow, pussy willow (*Salix discolor*) and white meadowsweet also are present. Species commonly present in the herbaceous layer of these wetlands includes fowl manna grass (*Glyceria striata*), northeastern manna grass, Canada reed grass (*Calamagrostis canadensis*), nodding sedge, common woolsedge, three-seed sedge, awl-fruited sedge (*Carex stipata*), bristly blackberry, dwarf raspberry (*Rubus pubescens*), cinnamon fern, interrupted fern, sensitive fern, spotted touch-me-not and tree seedlings. Soils within these communities are variable and include histosols, several inches of organic material over a depleted mineral horizon, and a depleted matrix with redoximorphic concentrations. At the time of the surveys, commonly observed hydrologic indicators included areas of surface water, soil saturation within the upper 12 inches of soil, water-stained leaves, drainage patterns, and geomorphic position.

Within the naturally occurring scrub-shrub communities, speckled alder is dominant with winterberry, southern arrow-wood (*Viburnum dentatum*), mountain holly, black ash, American elm (*Ulmus americana*), red maple, American larch (*Larix laricina*), and balsam fir also present. The herbaceous layer includes northeastern manna grass, Canada reed grass, tall meadow-rue (*Thalictrum pubescens*), sensitive fern, cinnamon fern, interrupted fern, and woodland horsetail (*Equisetum sylvaticum)*. Soils within these communities are variable and include histosols, several inches of organic material over a depleted mineral horizon, and a depleted matrix with redoximorphic concentrations. At the time of the surveys, hydrologic indicators included areas of surface water, highwater table, soil saturation to surface, and drainage patterns.

Emergent Wetlands

Emergent wetlands are common throughout the project area and often occur in previously forested areas that recently have been altered by timber harvesting activities. These types of emergent wetlands are typically referred to as wet meadows. Wet meadows are dominated by herbaceous species that are adapted to saturated soil conditions but are not adapted to long periods of inundations as would be common in marsh habitats. These wetlands are dominated by herbaceous vegetation such as fowl manna grass, northeastern manna grass, Canada reed grass, nodding sedge (*Carex gynandra*), common woolsedge, barber-pole bulrush (*Scirpus microcarpus*), cinnamon fern, interrupted fern, soft rush (*Juncus effuses*), spotted touch-me-not, and common wrinkle-leaved goldenrod (*Solidago rugosa*). Soils within these wetlands are variable ranging from a shallow organic horizon (three to five inches) over rock to several inches of organic material over a depleted mineral horizon to histosols. At the time of the surveys, commonly observed hydrologic indicators included areas of surface water, soil saturation to surface, water-stained leaves, geomorphic position, and drainage patterns.

Naturally occurring emergent wetland communities are limited within the project area. These include what appear to be an old stream bed that succeeded to an emergent drainage and an emergent depression within a larger forested wetland, which functions as a vernal pool. Dominant vegetation within these naturally occurring emergent communities is similar to that found in the wet meadows described above.

Open Water Wetlands

Open water wetland communities within the project area are limited to three locations: two locations along the aboveground collector corridor and one location along the generator lead corridor. These open water communities are part of larger wetland complexes that include other wetland community types. The open water communities within wetlands MAY_W095 and BING_W096 are likely the result of impoundment caused by an improperly size or placed culvert under the adjacent road. Within Wetland PARK_W395, the open water component represents a pond created by beaver (*Castor canadensis*) activity.

Streams

Stantec identified 67 jurisdictional streams within the project area. Table C-2 details the stream resources identified in the project area, including stream identifier (e.g. S001), associated wetland identifier (if present), channel substrate, average bankfull width, flow regime, and whether the stream is shown on U.S. Geological Survey (USGS) maps. Twenty-nine streams within the project area are mapped by the USGS, and seven of these are named, including Bigelow Brook within the ridgeline area, and Bottle Brook, Bear Brook, Cook Brook, Kingsbury Stream, Carlton Stream, and Gales Stream along the generator lead corridor.

3.3. VERNAL POOL SURVEY RESULTS

Stantec identified 58 vernal pools within the project area. Thirteen of these vernal pools were determined to be naturally-occurring. The remaining 45 pools, which are located in all-terrain vehicle trails, borrow pits along gravel logging roads, or ruts made by logging equipment like skidders, were characterized as man-made. Each vernal pool identified is located within a jurisdictional wetland. Of the natural vernal pools identified, four were determined to be SVPs as defined by the NRPA. A comprehensive table detailing the amphibian breeding activity in each pool, its associated wetland, and use by vernal pool-dependent species is presented in Appendix E. MDIFW vernal pool data forms are presented in Appendix F. The vernal pools also are identified on the Natural Resource Maps found in Appendix B.

In the fall of 2012, Stantec identified four PVPs along the Route 16 collector line corridor. Three of these PVPs are located within jurisdictional wetlands, and one is located in an upland depression. Three of these pools were determined to be naturally-occurring. The other pool is located in a borrow pit along an existing road. Information related to the PVPs is presented in the vernal pool summary table provided in Appendix E. The PVPs are also identified on the Natural Resource Maps found in Appendix B.

4.0 REGULATORY INFORMATION

4.1. STATE AND FEDERAL WETLAND REGULATIONS

Pursuant to a new law adopted in 2011, known as Public Law 2011, Chapter 682, effective September 1, 2012, projects that trigger the Site Location of Development Law (Site Law) in the unorganized or de-organized territories are permitted by the MDEP. The MDEP and Corps may regulate impacts to the wetlands and waterbodies identified within the project area. The Maine NRPA establishes standards for activities in, over or adjacent to a wetland or waterbody. Under the provisions of Section 404 of the Clean Water Act, the Corps regulates activities within waters of the United States, which include navigable waters and all their tributaries, adjacent wetlands, and other waters or wetlands where degradation or destruction could affect interstate or foreign commerce.

In general, projects that are not located within a wetland or waterbody, alter less than 4,300 square feet of wetland, are not within the Shoreland Zone, and do not impact a WSS are exempt from NRPA permitting requirements. Typically projects with cumulative impacts to freshwater wetlands between 4,300 and 15,000 square feet are eligible for review under the Tier 1 process. The Tier 2 review process applies to alterations that affect between 15,000 and 43,560 square feet (i.e., 1 acre) of freshwater wetlands. Cumulative freshwater wetland impacts that exceed 1 acre typically require a Tier 3 review. Impacts to

WSS, rivers, streams, brooks, great ponds and Significant Wildlife Habitat typically require an Individual Permit.

Significant Wildlife Habitat includes habitats of state- and federally-listed threatened or endangered animal species, Deer Wintering Areas (DWA), Inland Waterfowl and Wading Bird Habitats (IWWH), shorebird nesting, feeding, and staging areas, or seabird nesting islands and SVPs. The turbine strings located north of Route 16 and the generator lead corridor occur within designated Critical Habitat [HUC 0102000401 Piscataquis River (1)] for the freshwater geographic range occupied by the Gulf of Maine Distinct Population Segment of Atlantic salmon (*Salmo salar*), which is federally-listed as endangered. In addition, wetland MAY_W137 includes an area where Stantec identified potential bog lemming activity. The northern bog lemming is stated listed as threatened. Other wetlands within the project area occur within mapped DWAs, IWWH or include vernal pools determined to be SVPs.

Stantec also identified a total of 66 wetlands within the project area that meet the criteria to be considered WSS according to the NRPA. The resource identification number of each wetland and the reasons for this designation are provided in Appendix C of this report. Within the project area, wetlands were given this state regulatory designation because they are located within 25 feet of a river, stream or brook, or include Significant Wildlife Habitat or are located within a floodplain.

4.2. State and Federal Vernal Pool Regulations

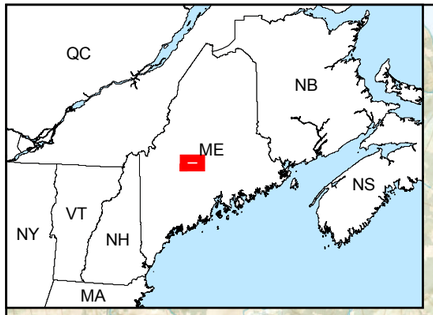
MDEP may regulate vernal pools within the project area. Chapter 335 details specific definitions and standards regarding the characterization and protection of SVPs in Maine. In summary, unavoidable impacts to an SVP, which includes the critical terrestrial habitat within 250 feet of the high water line of the actual vernal pool, may require a NRPA Permit. The concurrent adoption of a Permit by Rule (PBR), Chapter 305 Section 19, allows some activities within 250 feet of SVPs or PSVP if the standards of this PBR can be met. If impacts to the SVP cannot be avoided and the standards for the PBR cannot be met, an Individual Permit may be required.

In addition to providing a definition of a vernal pool, the GP also defines a Vernal Pool Management Area (VPMA), which includes the vernal pool plus the area within 750 feet of the pool edge. Projects are required to avoid and minimize impacts within the VPMA. Projects located within the management area must meet a specific set of management practices to be permitted as a Category 1 project. Projects that cannot meet the management practices may require an Individual Permit. Of particular interest to the Corps are vernal pools that:

- Are naturally occurring and that meet MDEP's definition of an SVP;
- Are man-made and that meet NRPA's SVP thresholds for egg mass counts;
- Contain a diverse assemblage of species (i.e., blue-spotted salamanders, fairy shrimp);
- Contain rare species (e.g., spotted turtle, Blanding's turtle); and
- Occur in a cluster, especially if the combined egg mass totals meet the NRPA's SVP thresholds.

Each pool identified within the project area falls within a wetland and therefore the jurisdiction of the GP with the exception of PVP_03CF_N, which is not located within a jurisdictional wetland. In addition, 10 pools, including both naturally-occurring and man-made pools, meet SVP thresholds for egg mass counts, and 2 pool clusters have a cumulative egg mass counts that meet the NRPA's SVP threshold.

Appendix A
Site Location Map



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00539_1-1_Location.mxd

Legend

- Turbine Location
- Permanent MET Tower
- O&M Building
- Substation
- Edge of Gravel
- Electrical Generator Lead
- Overhead Collector
- Underground Collector

0 8,000
Feet

Client/Project
Bingham Wind Project

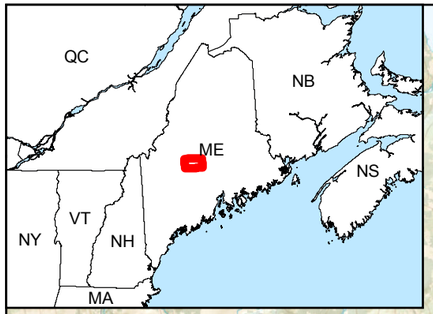
195600539

Figure No.
1

Title
Bingham Wind Project Location

4/16/2013

Appendix B
Resource Maps



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Legend

- Electrical Generator Lead
- Clearing Limits
- Natural Resource Map Extent

Client/Project
Bingham Wind Project

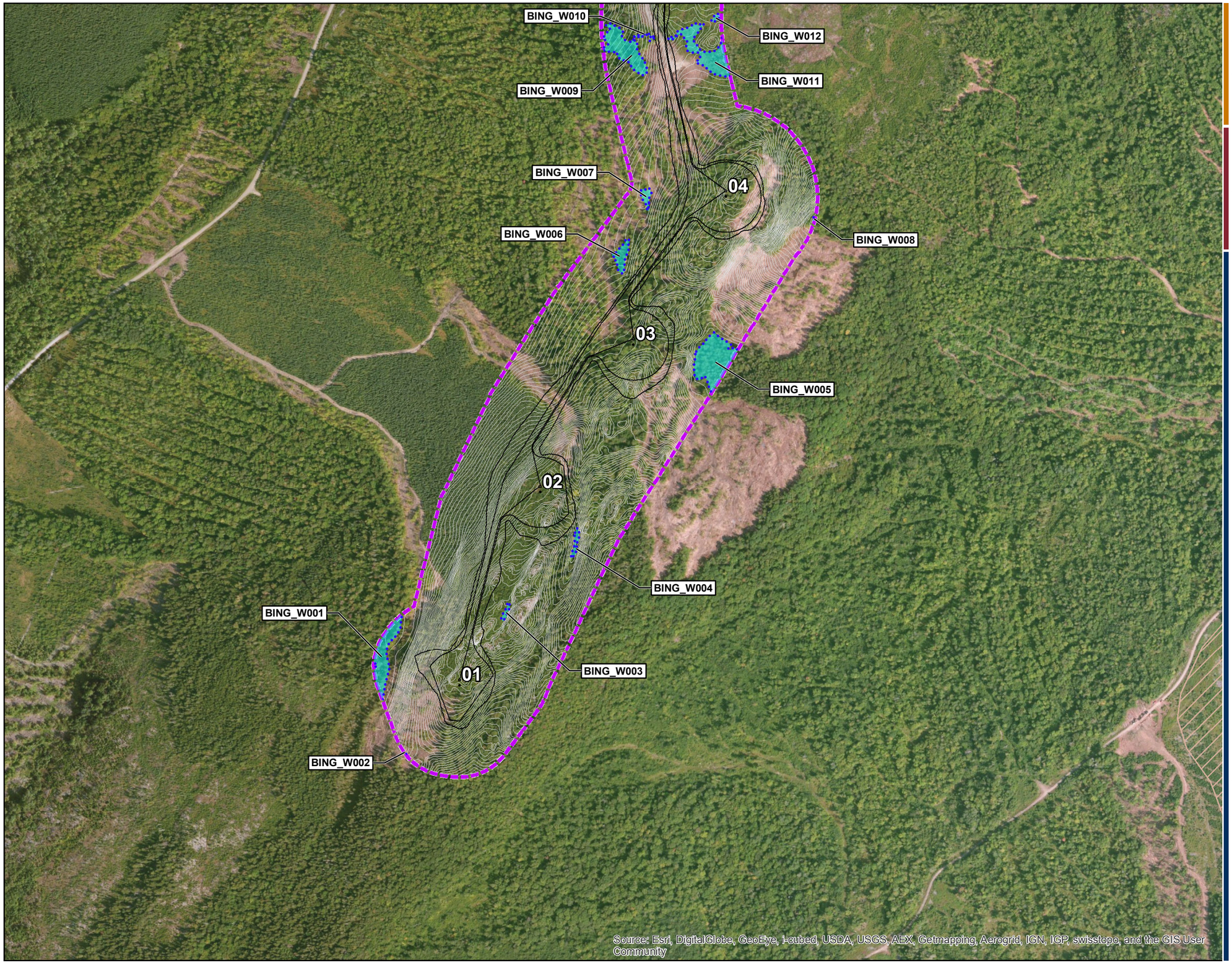
195600539

Figure No.
Key

Title
Delineated Natural Resource Map

4/9/2013

00539_NRMapKey.mxd



Title

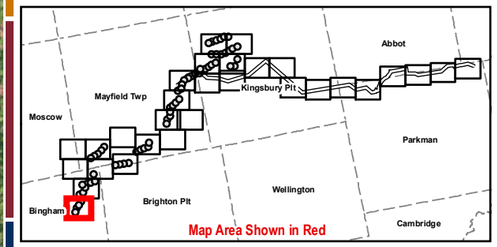
Delineated Natural Resource Map

Figure No.

1

Client/Project

Bingham Wind Project



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Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
- Northern Bog Lemming 250' Habitat
- Northern Spring Salamander Stream 250' Habitat
- Reporting Limits
- Deer Wintering Area
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- Utility Pole
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- Electrical Generator Lead
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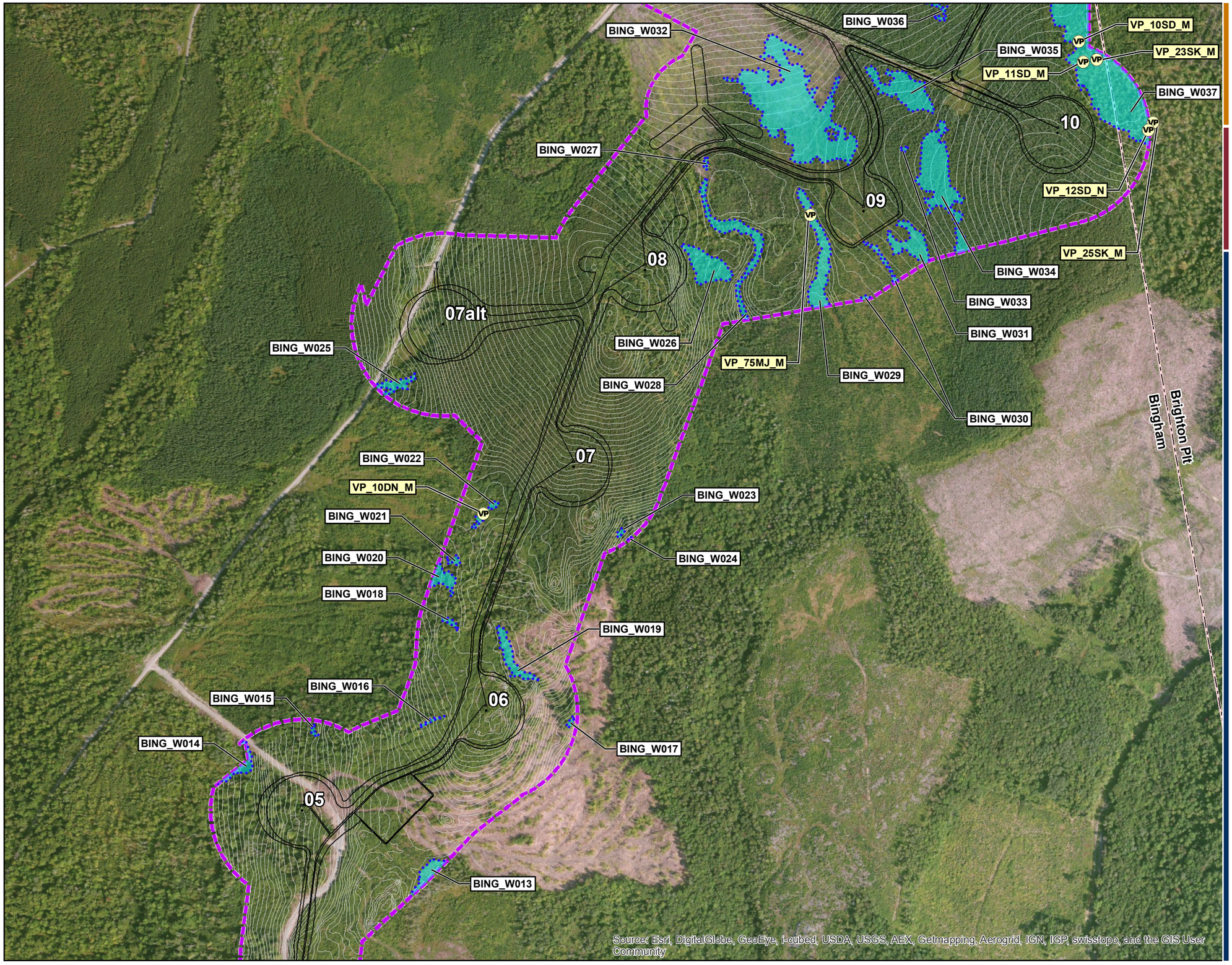


Title

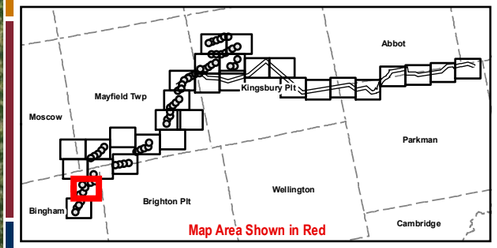
Delineated Natural Resource Map

Figure No.

2

Client/Project

Bingham Wind Project



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Feet

Legend

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- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
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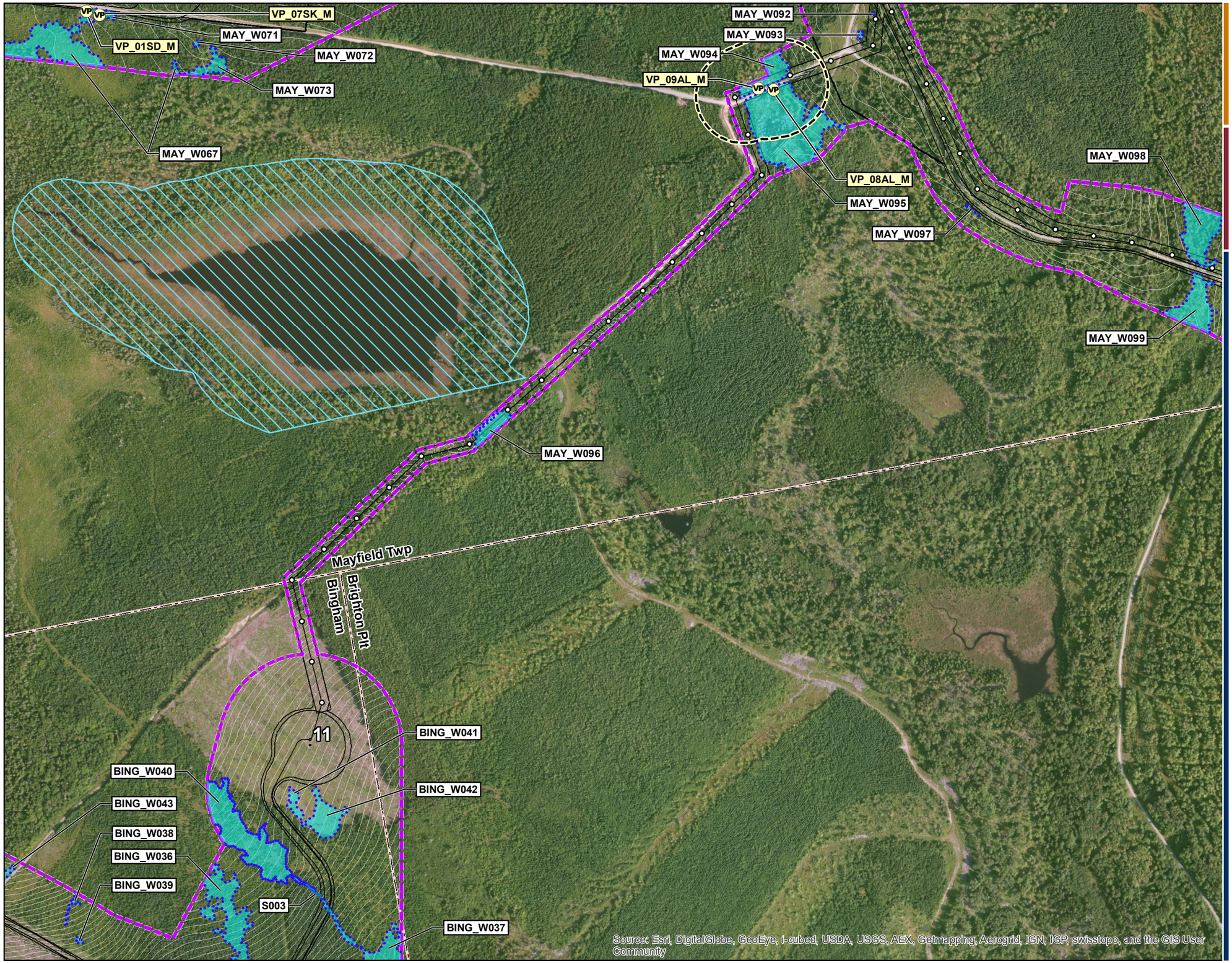


Title

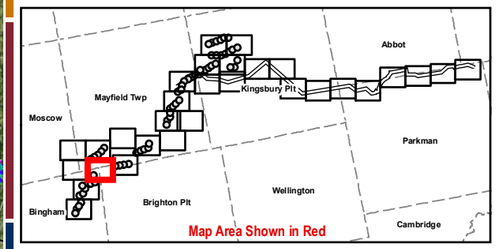
Delineated Natural Resource Map

Figure No.

3

Client/Project

Bingham Wind Project



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Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
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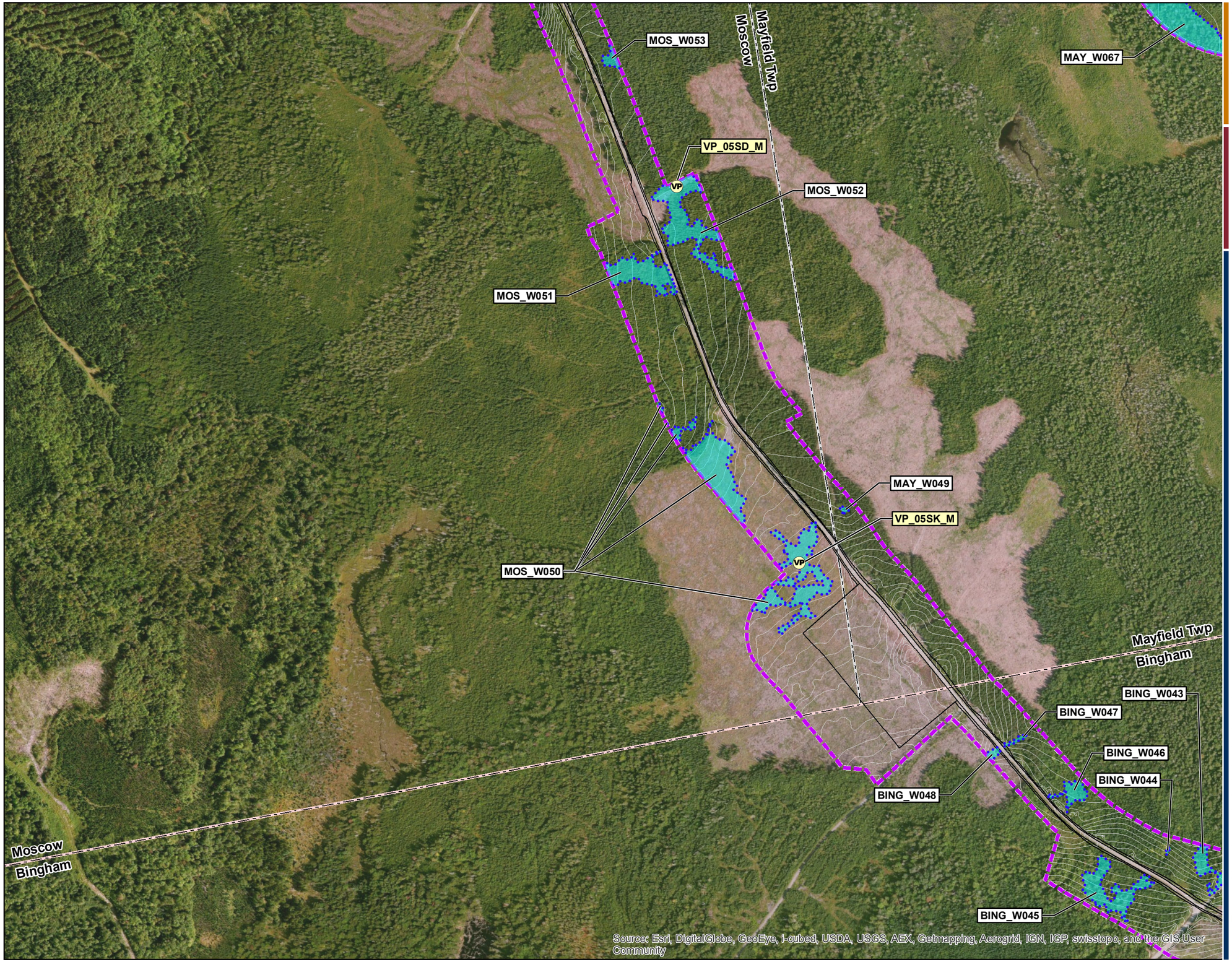


Title

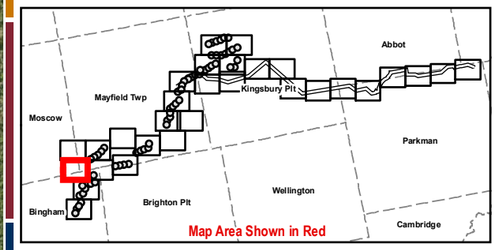
Delineated Natural Resource Map

Figure No.

4

Client/Project

Bingham Wind Project



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Feet

Legend

- VP — Vernal Pool Identified by Stantec
- SVP — Significant Vernal Pool Identified by Stantec
- PVP — Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
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- Significant Vernal Pool 250' Habitat
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Title

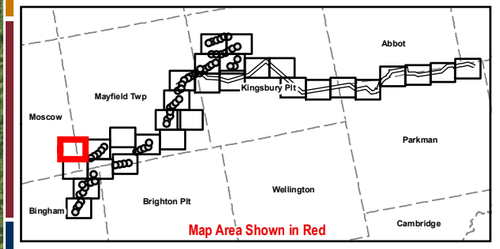
Delineated Natural Resource Map

Figure No.

5

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
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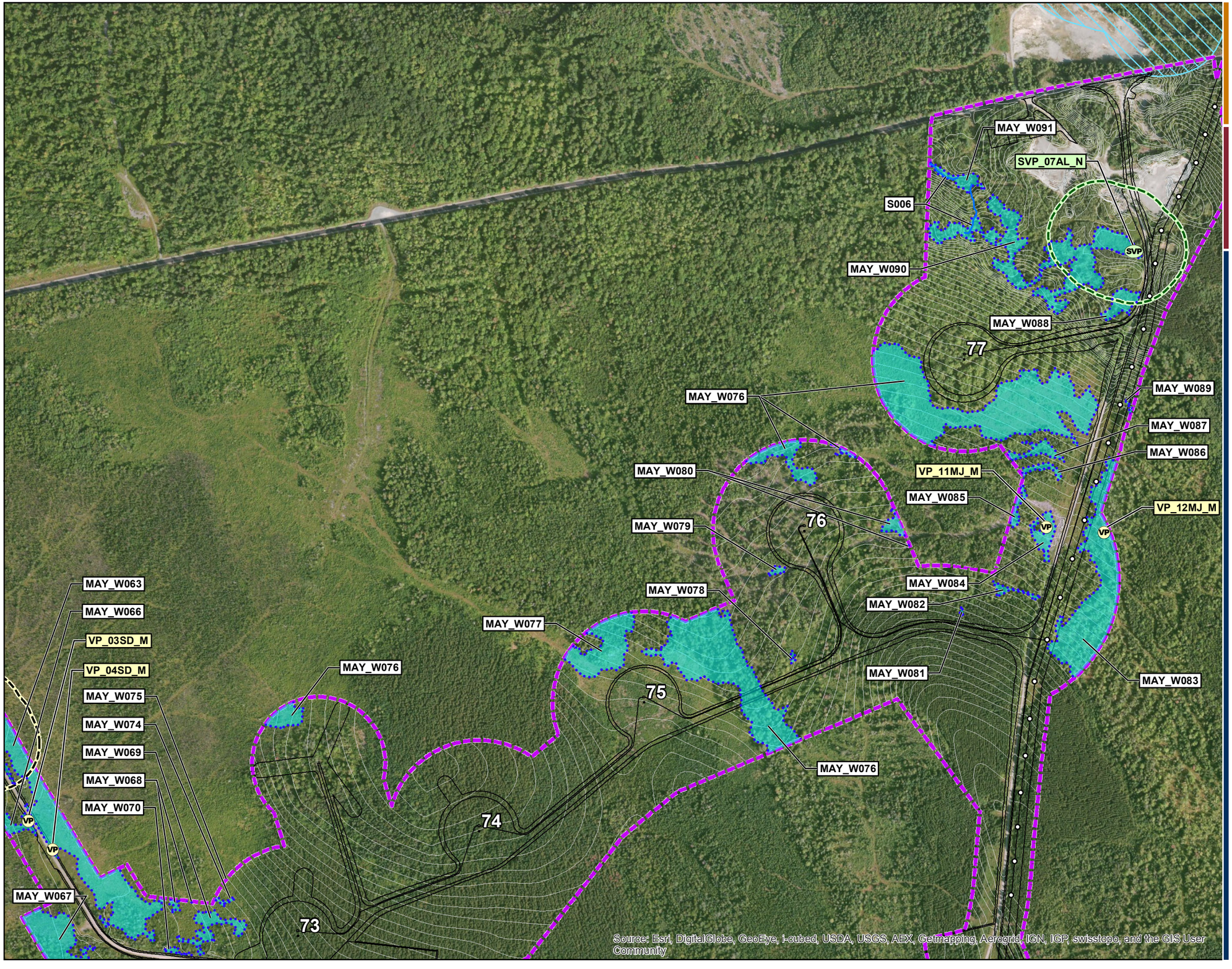


Title

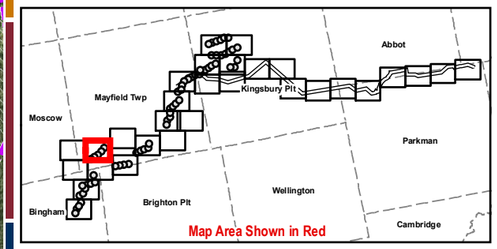
Delineated Natural Resource Map

Figure No.

6

Client/Project

Bingham Wind Project



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Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
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Title

Delineated Natural Resource Map

Figure No.

7

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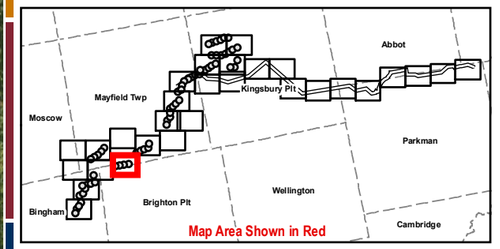
Bingham Wind Project



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Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
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Title

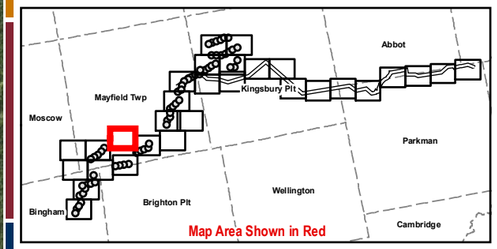
Delineated Natural Resource Map

Figure No.

8

Client/Project

Bingham Wind Project



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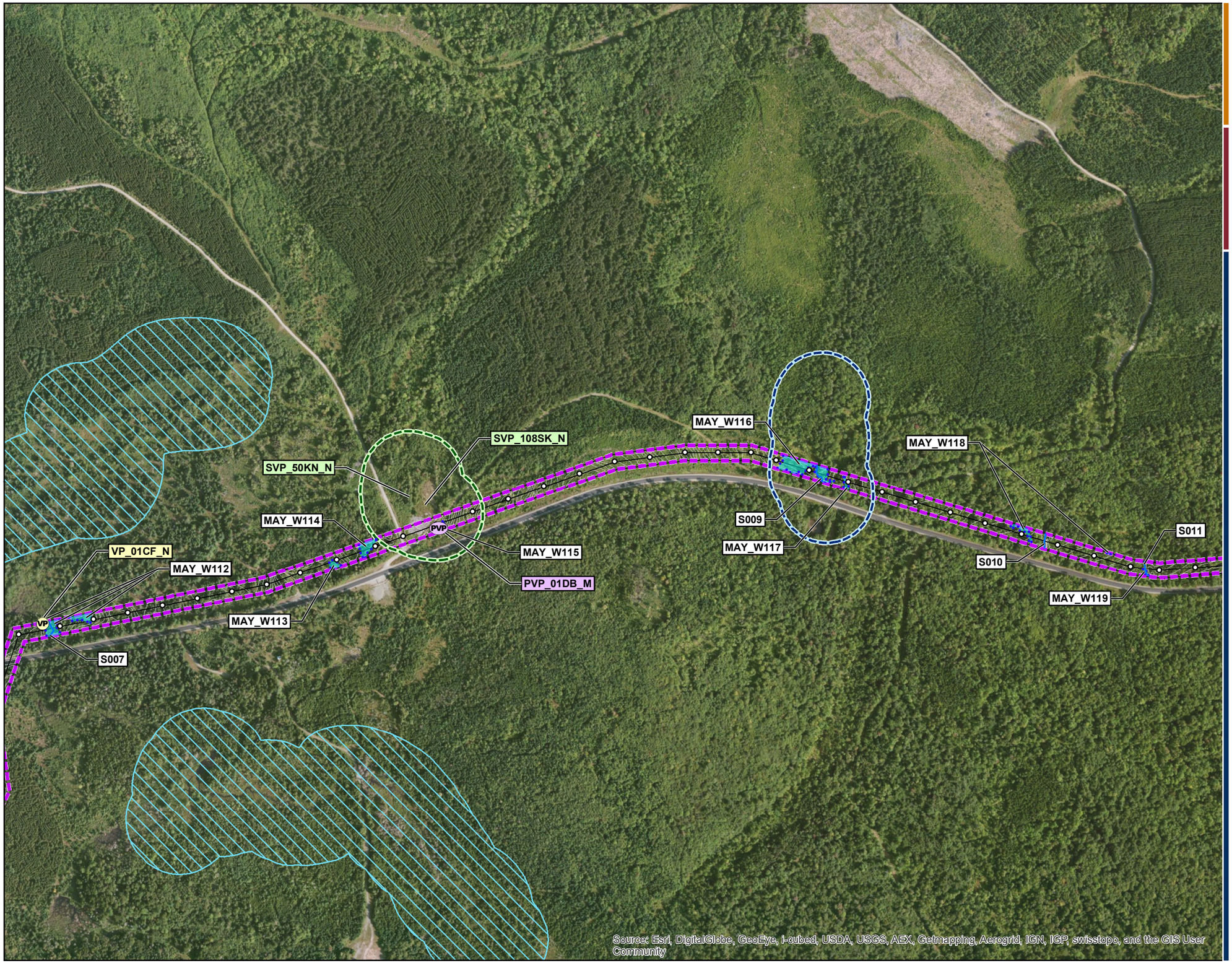

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
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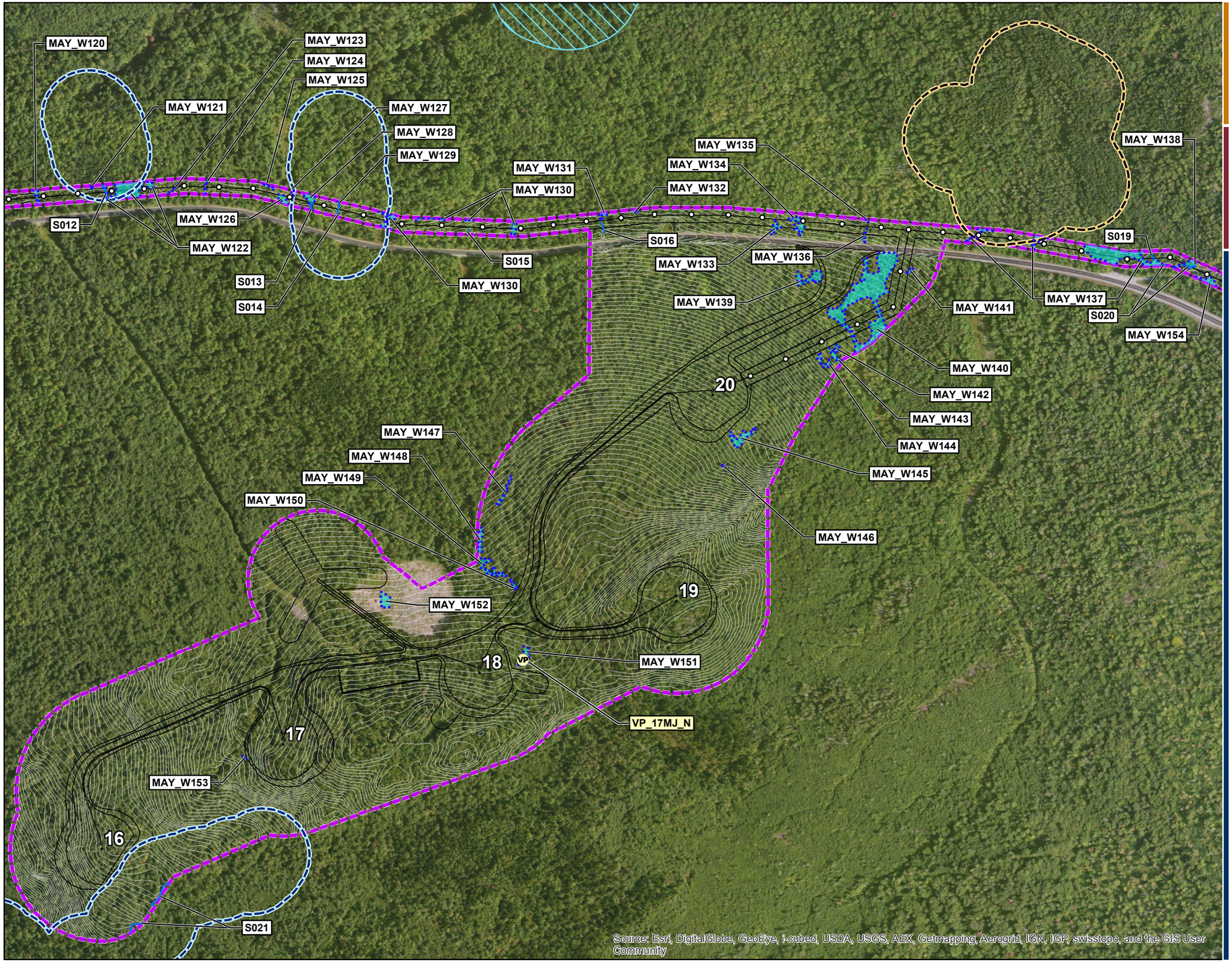


Title

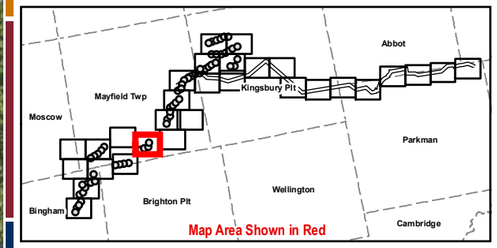
Delineated Natural Resource Map

Figure No.

9

Client/Project

Bingham Wind Project



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Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
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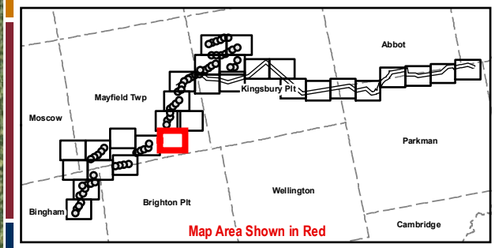
Delineated Natural Resource Map

Figure No.

10

Client/Project

Bingham Wind Project



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Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
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Title

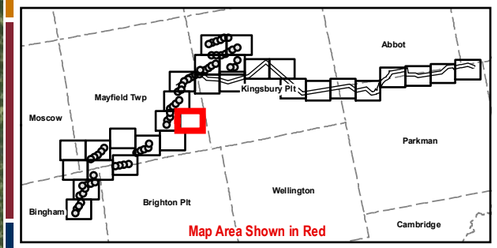
Delineated Natural Resource Map

Figure No.

11

Client/Project

Bingham Wind Project



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Feet

Legend

- VP — Vernal Pool Identified by Stantec
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- PVP — Potential Vernal Pool Identified by Stantec
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Delineated Natural Resource Map

Figure No.

12

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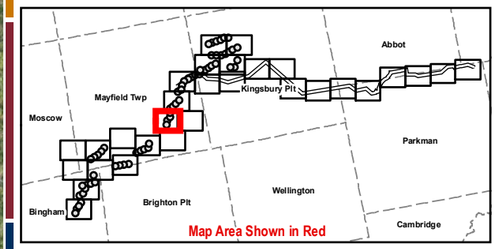

0 500

Feet

Legend

- Vernal Pool Identified by Stantec
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- Stream Identified by Stantec
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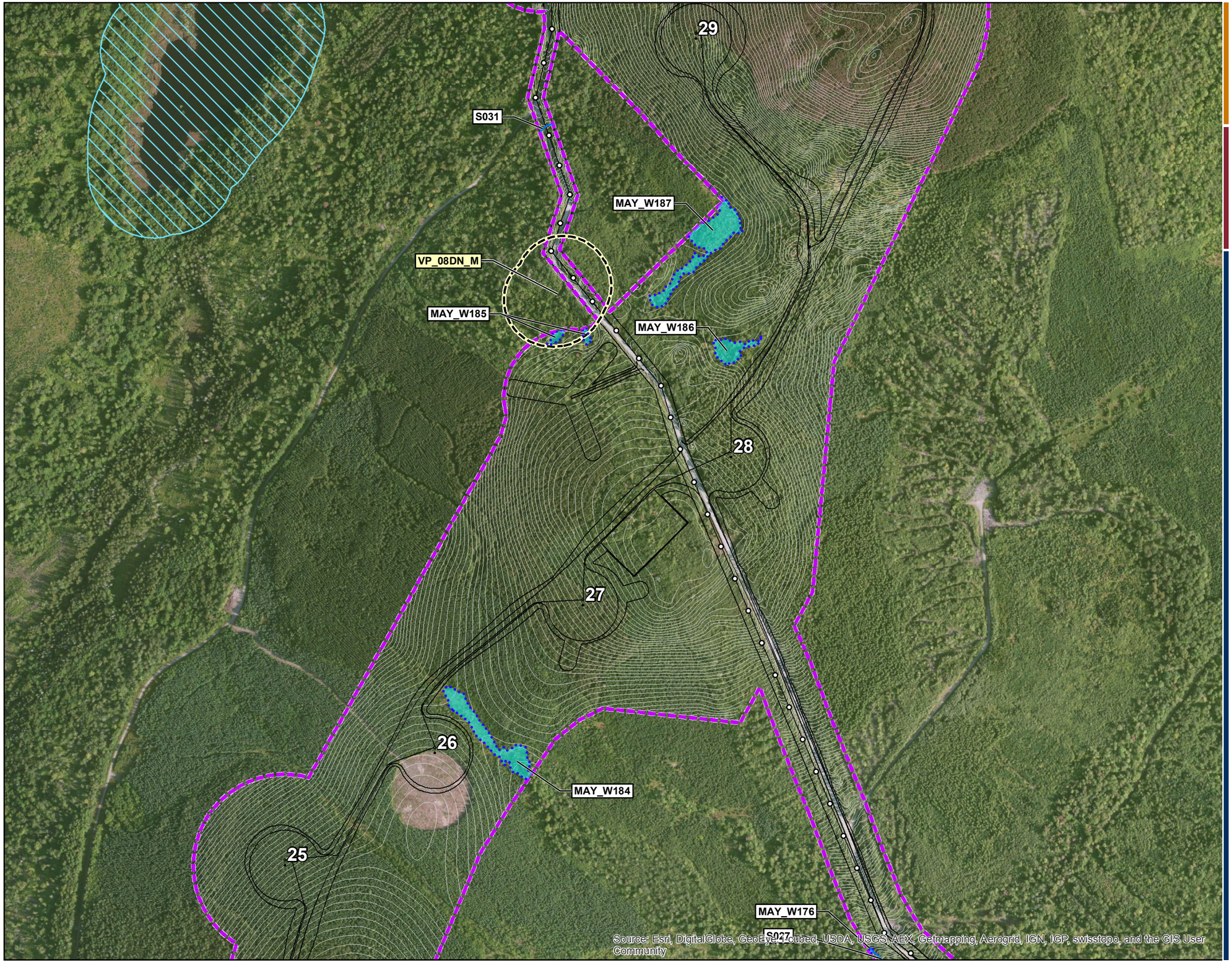


Title

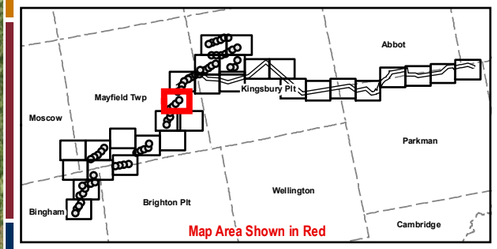
Delineated Natural Resource Map

Figure No.

13

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
- Northern Bog Lemming 250' Habitat
- Northern Spring Salamander Stream 250' Habitat
- Reporting Limits
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat
- Utility Pole
- Site Plan
- Clearing Limits
- Electrical Generator Lead
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Title

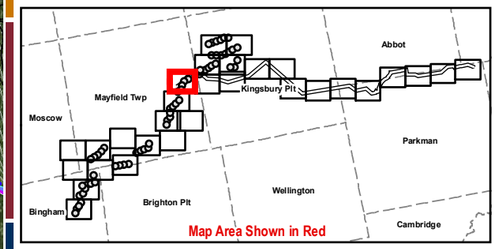
Delineated Natural Resource Map

Figure No.

14

Client/Project

Bingham Wind Project



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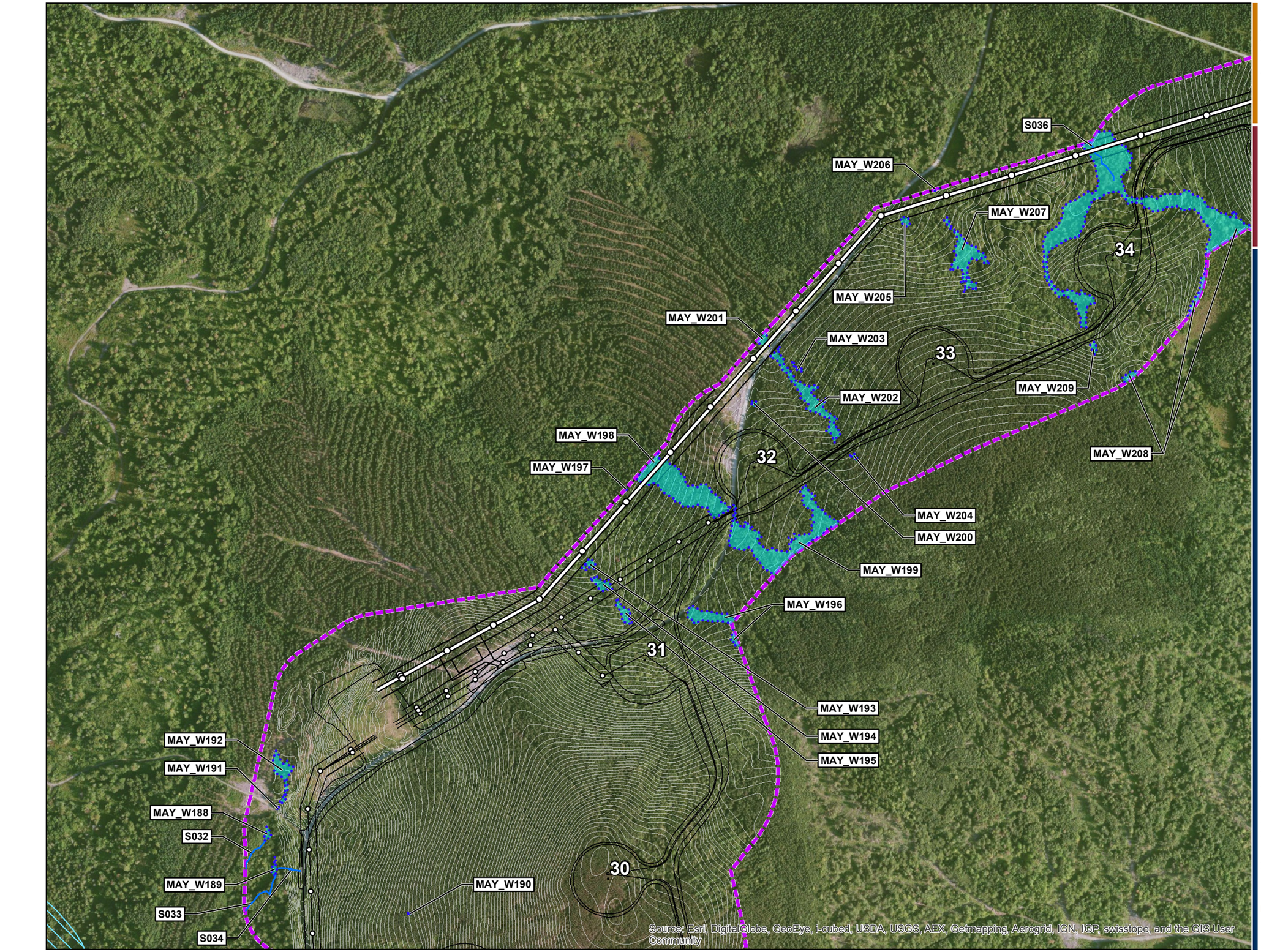

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
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- Northern Spring Salamander Stream 250' Habitat
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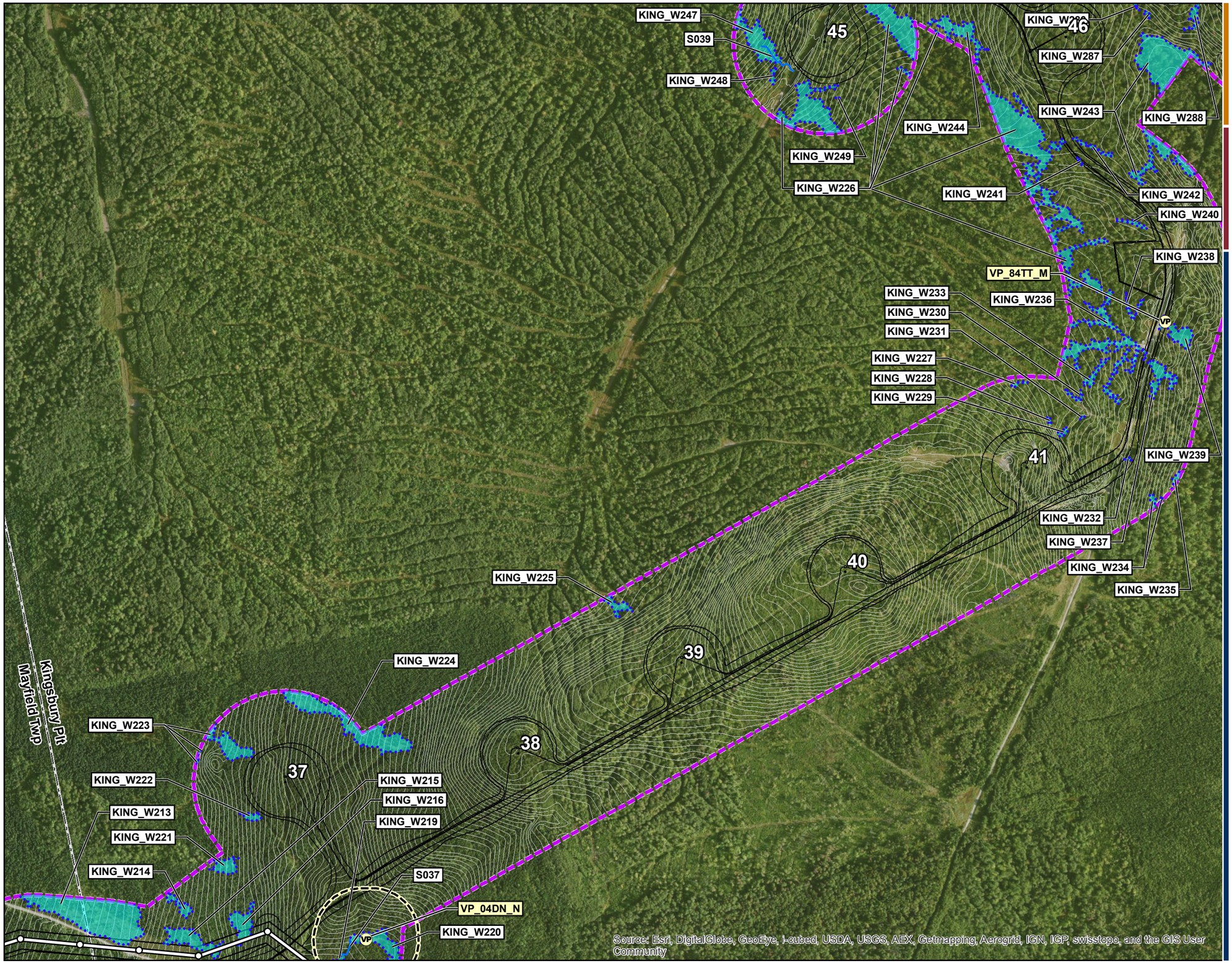


Title

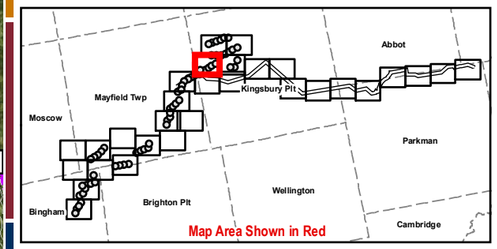
Delineated Natural Resource Map

Figure No.

15

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
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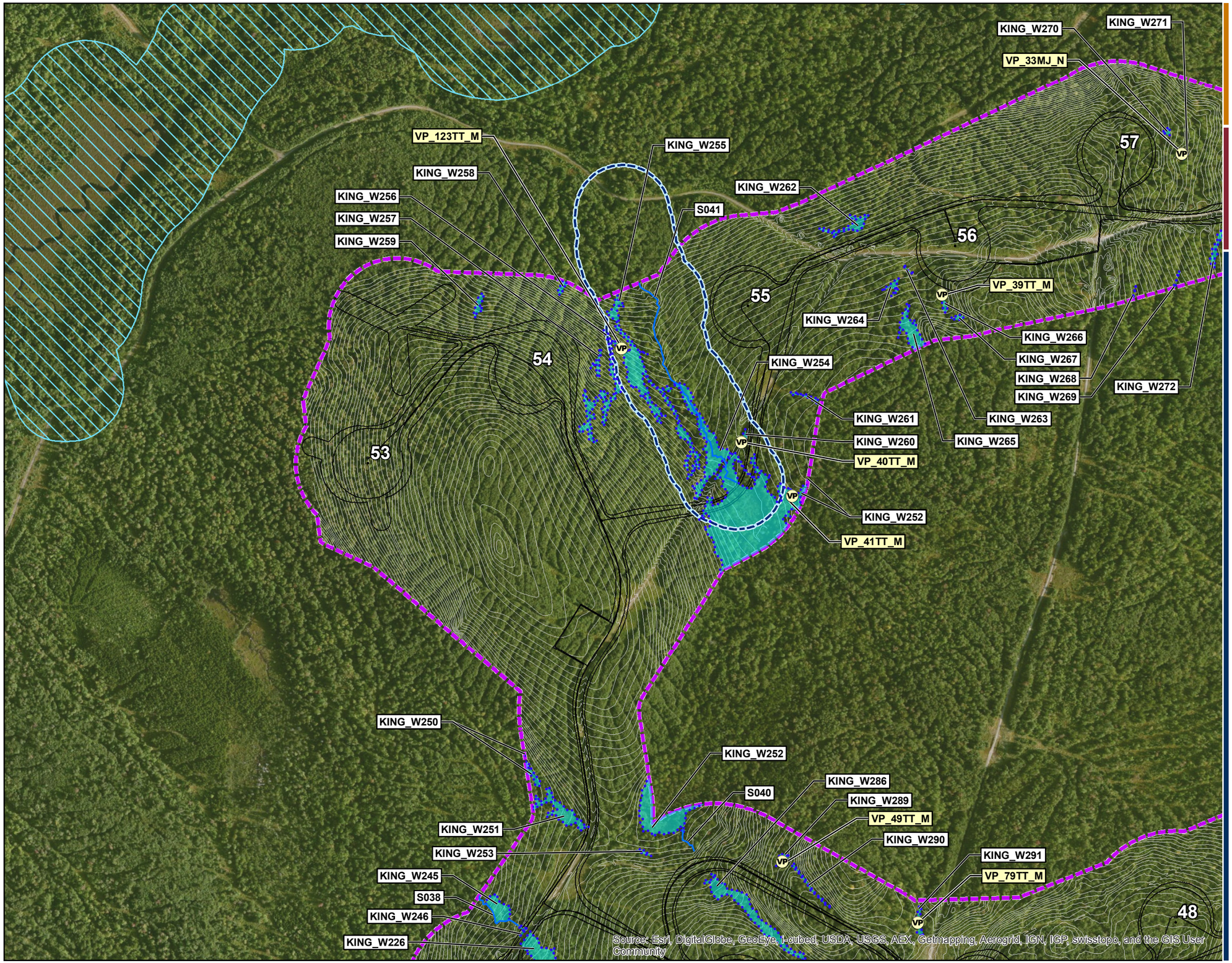


Title

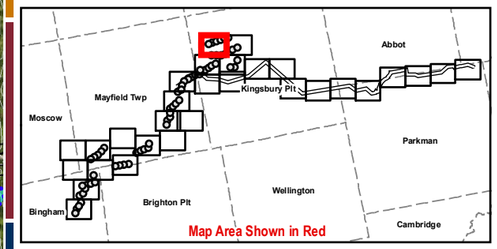
Delineated Natural Resource Map

Figure No.

16

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
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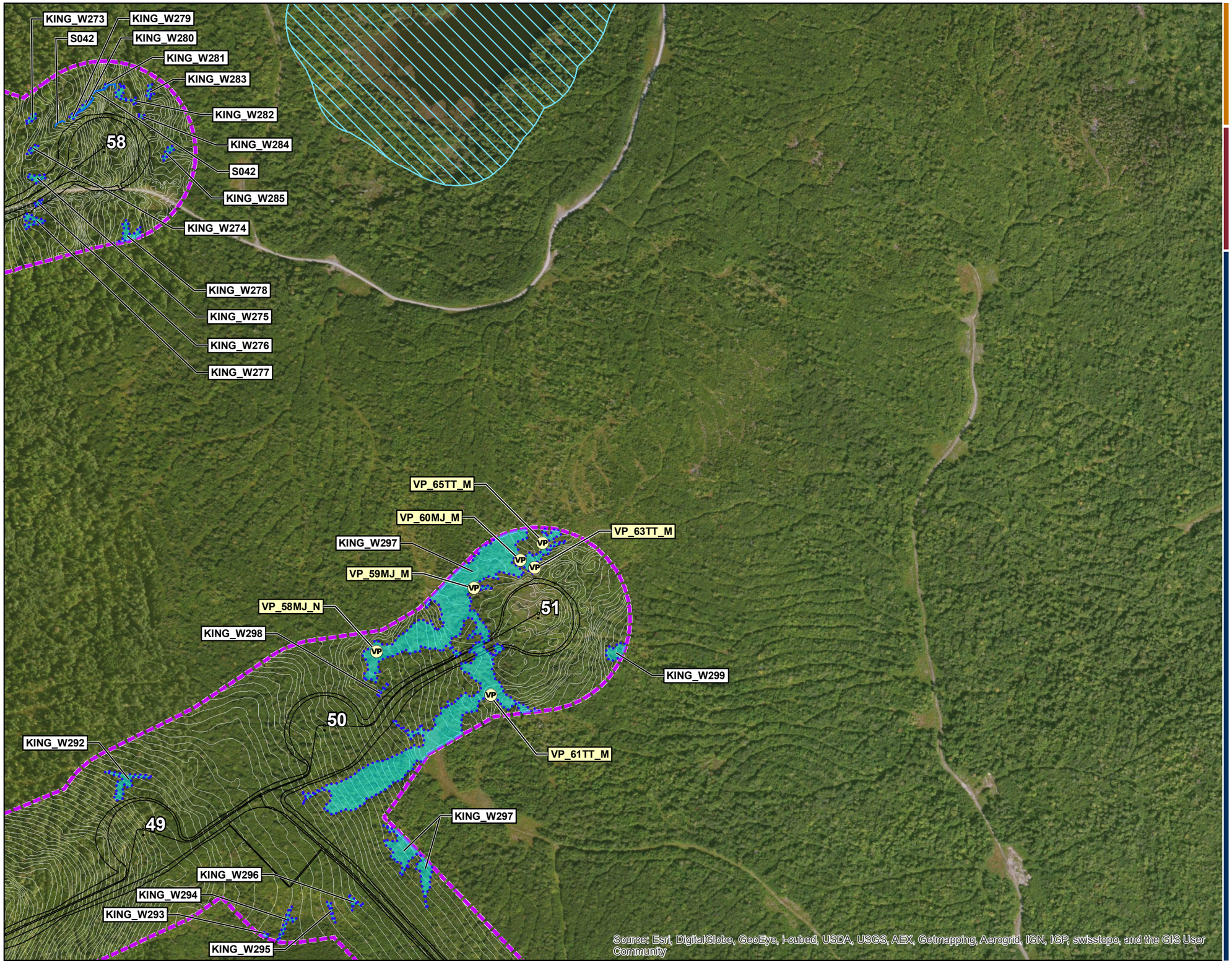


Title

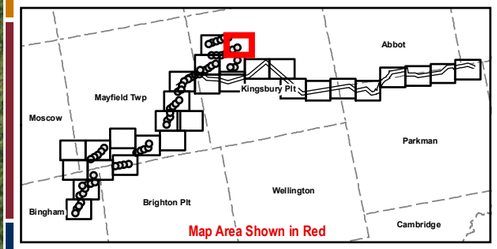
Delineated Natural Resource Map

Figure No.

17

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
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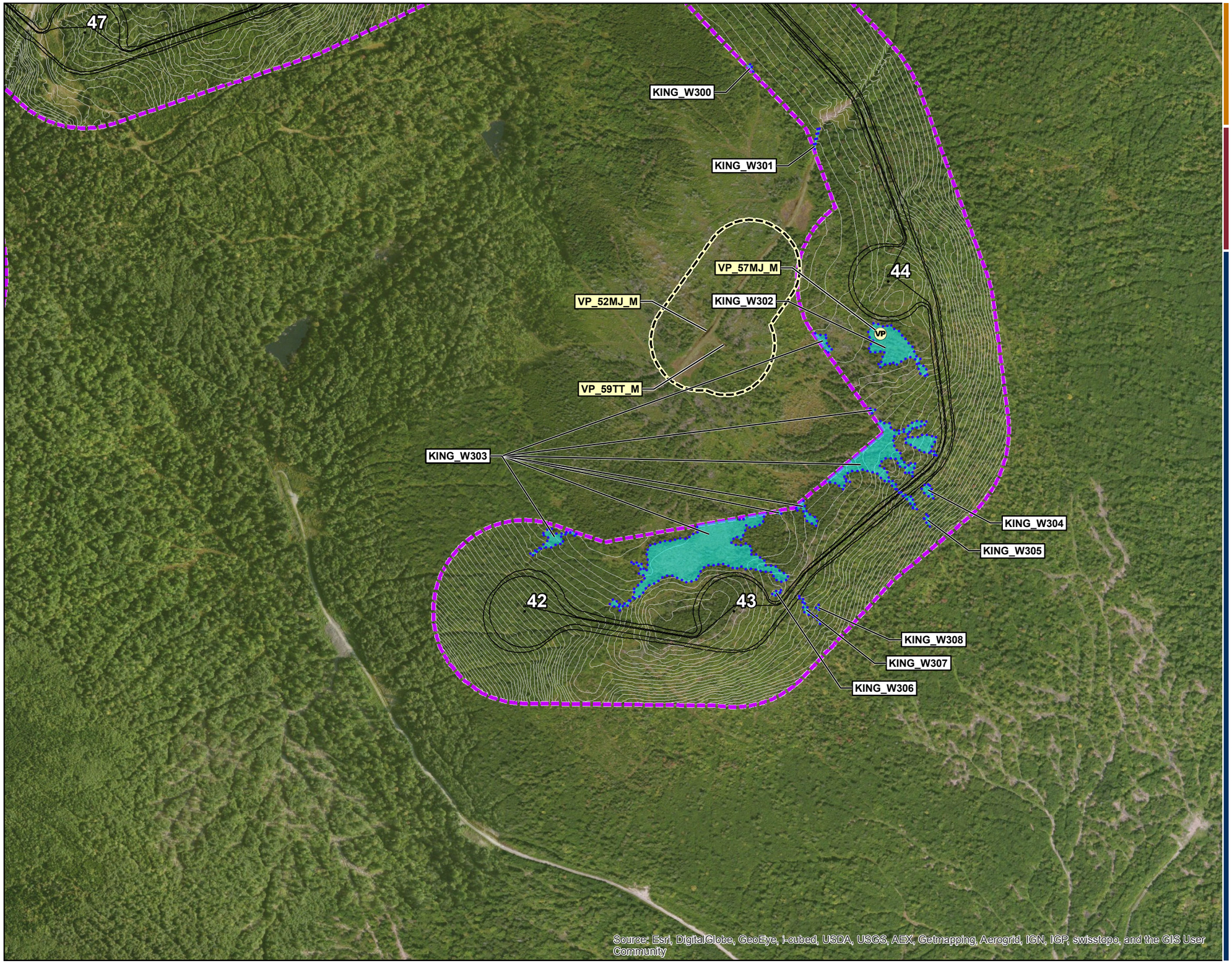


Title

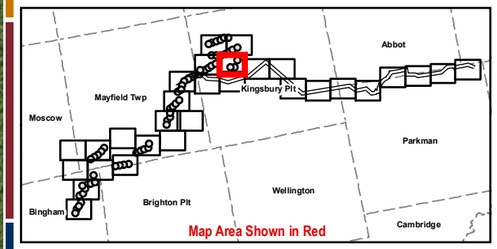
Delineated Natural Resource Map

Figure No.

18

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
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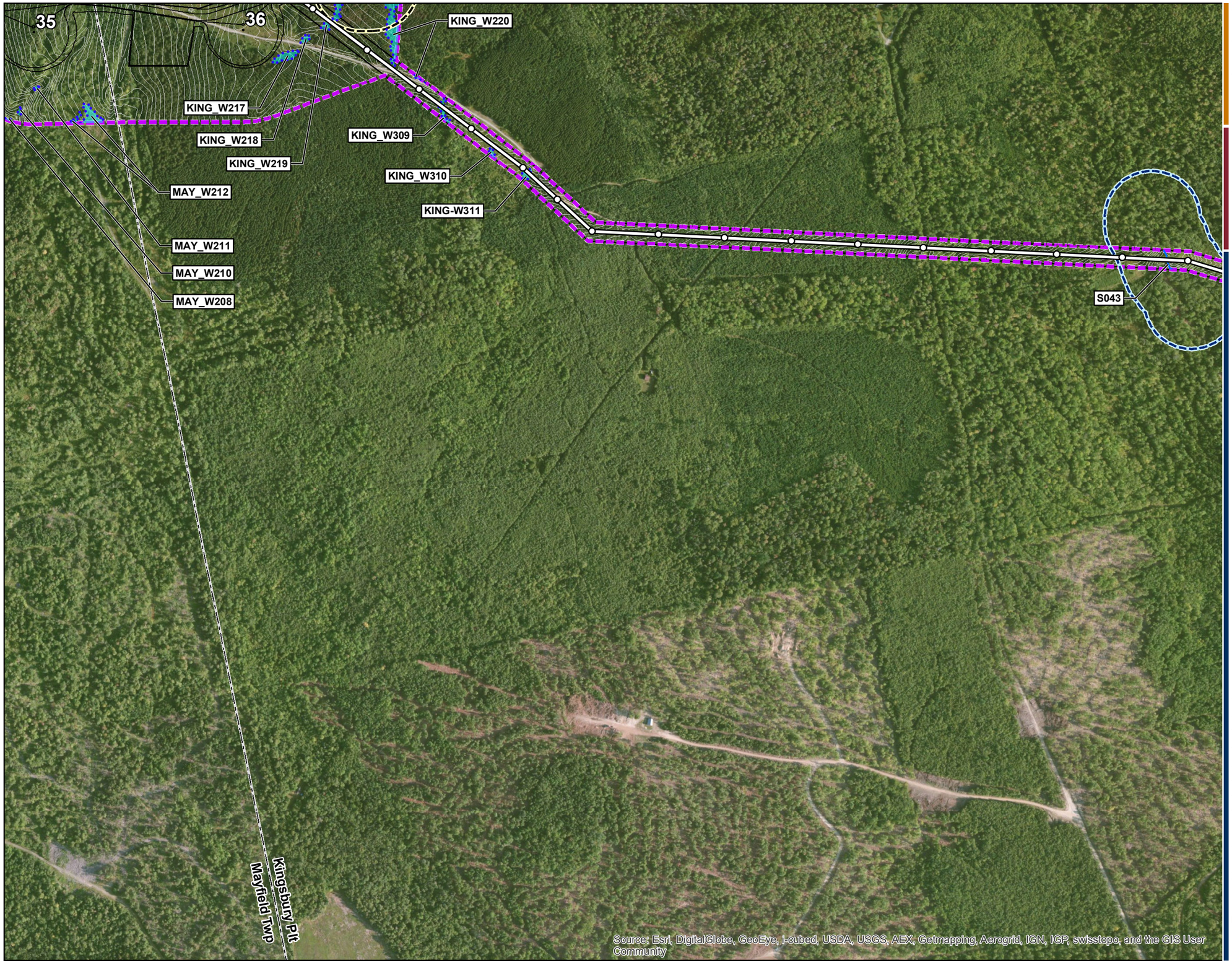


Title

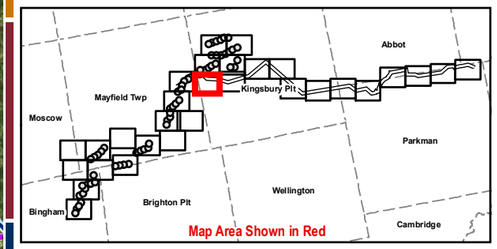
Delineated Natural Resource Map

Figure No.

19

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
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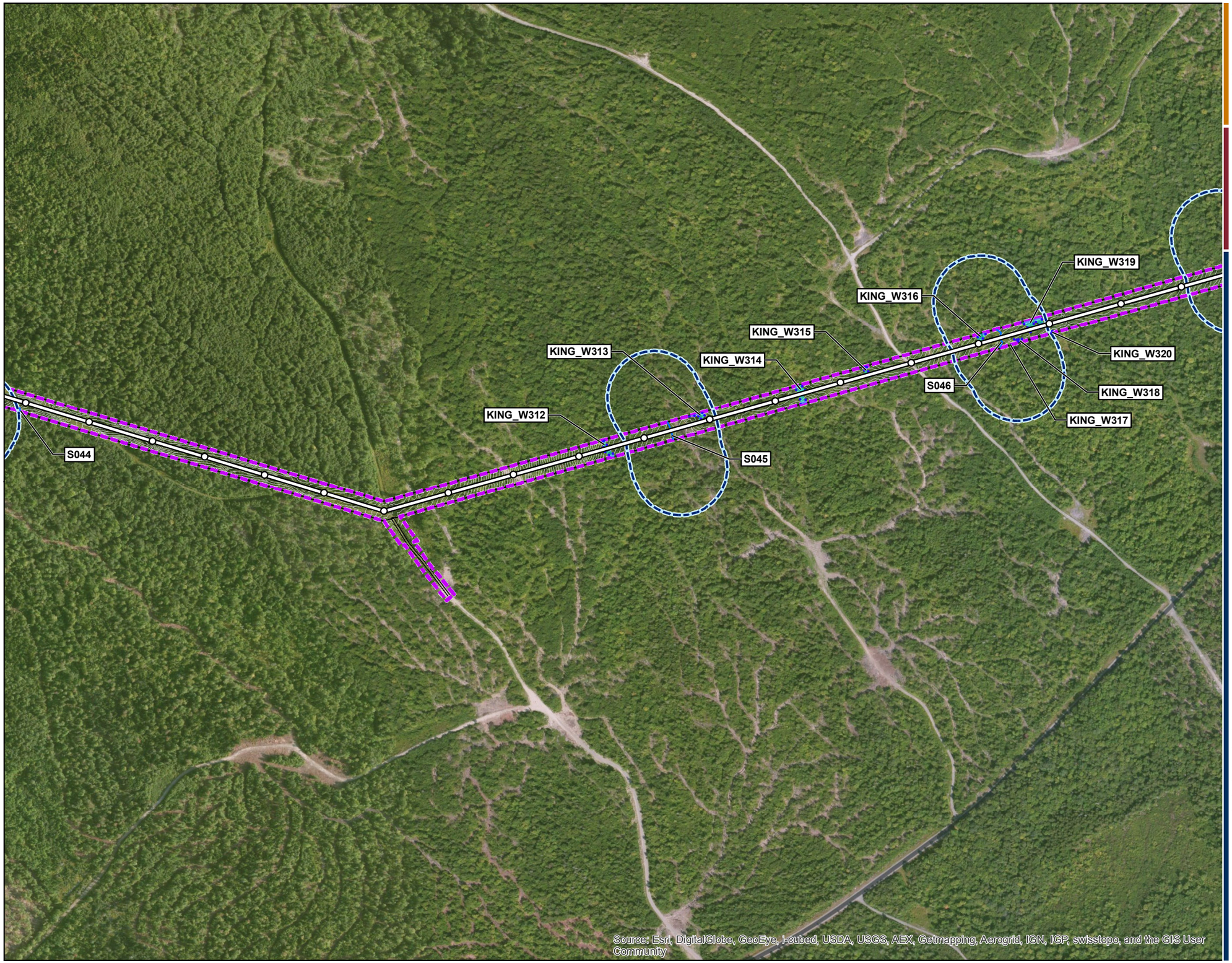


Title

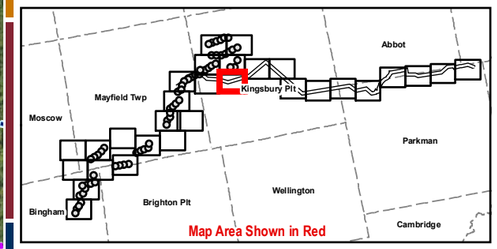
Delineated Natural Resource Map

Figure No.

20

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
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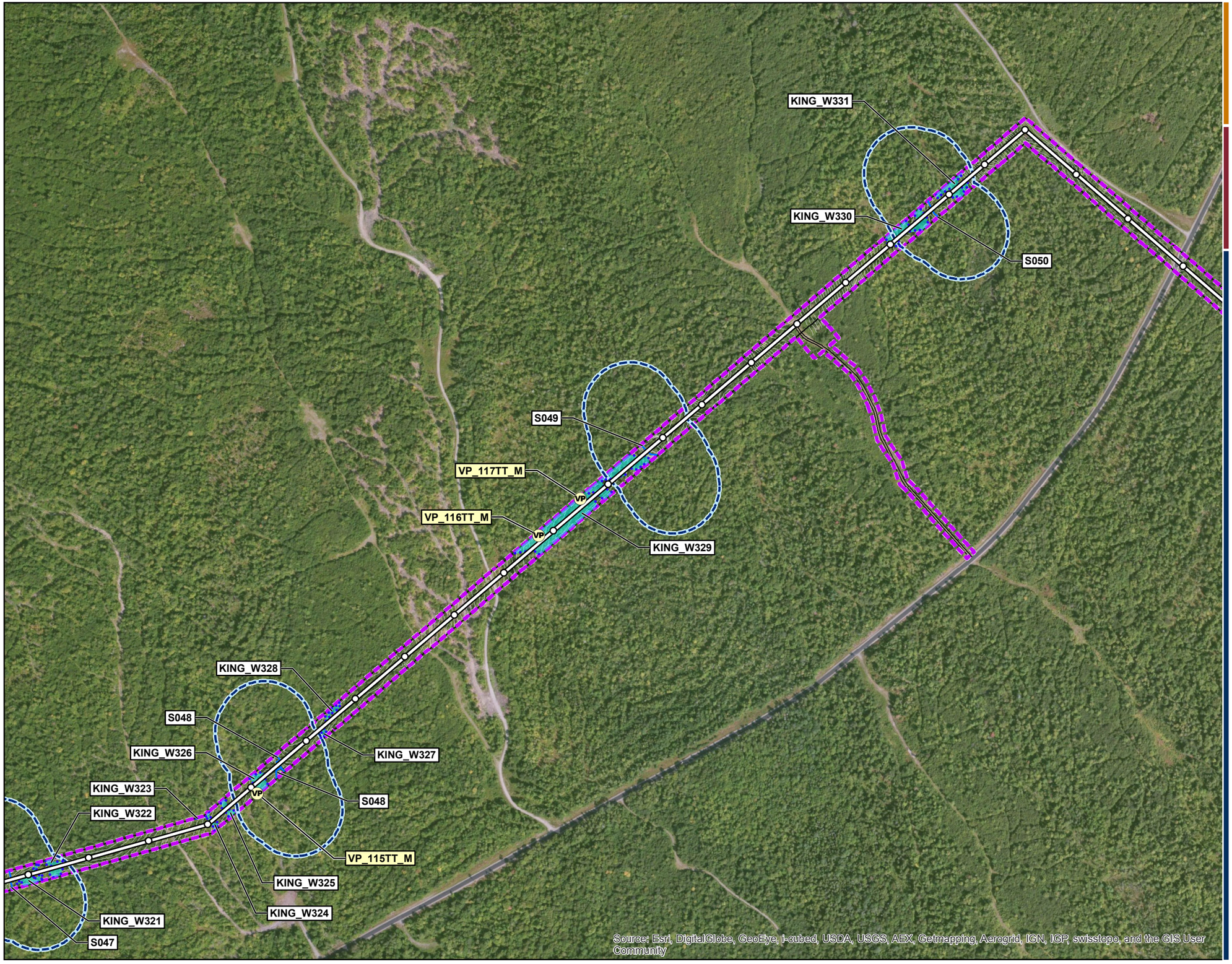


Title

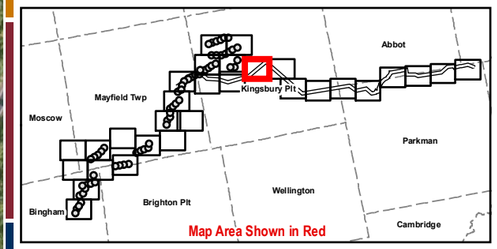
Delineated Natural Resource Map

Figure No.

21

Client/Project

Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
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- Vernal Pool 250' Habitat
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Figure No.

22

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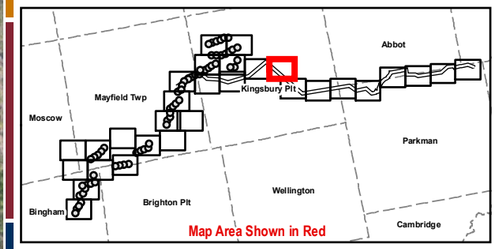
Bingham Wind Project



0 500

Feet

Legend

- Vernal Pool Identified by Stantec
- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
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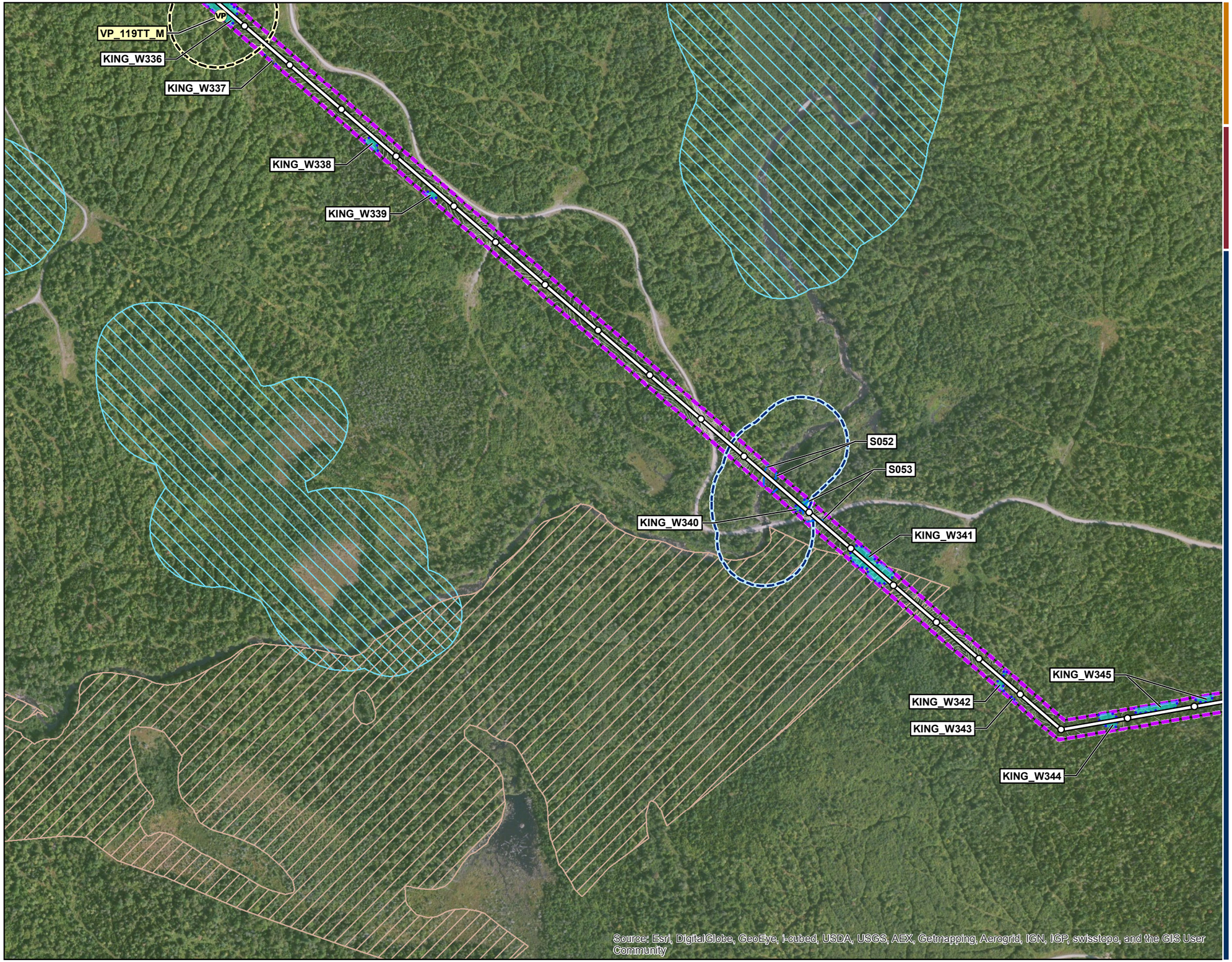


Title

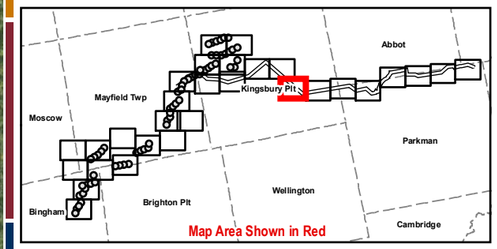
Delineated Natural Resource Map

Figure No.

23

Client/Project

Bingham Wind Project



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Feet

Legend

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- Significant Vernal Pool Identified by Stantec
- Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
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Figure No.

24

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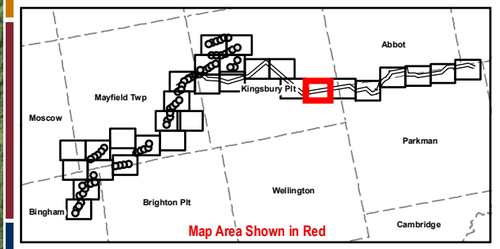
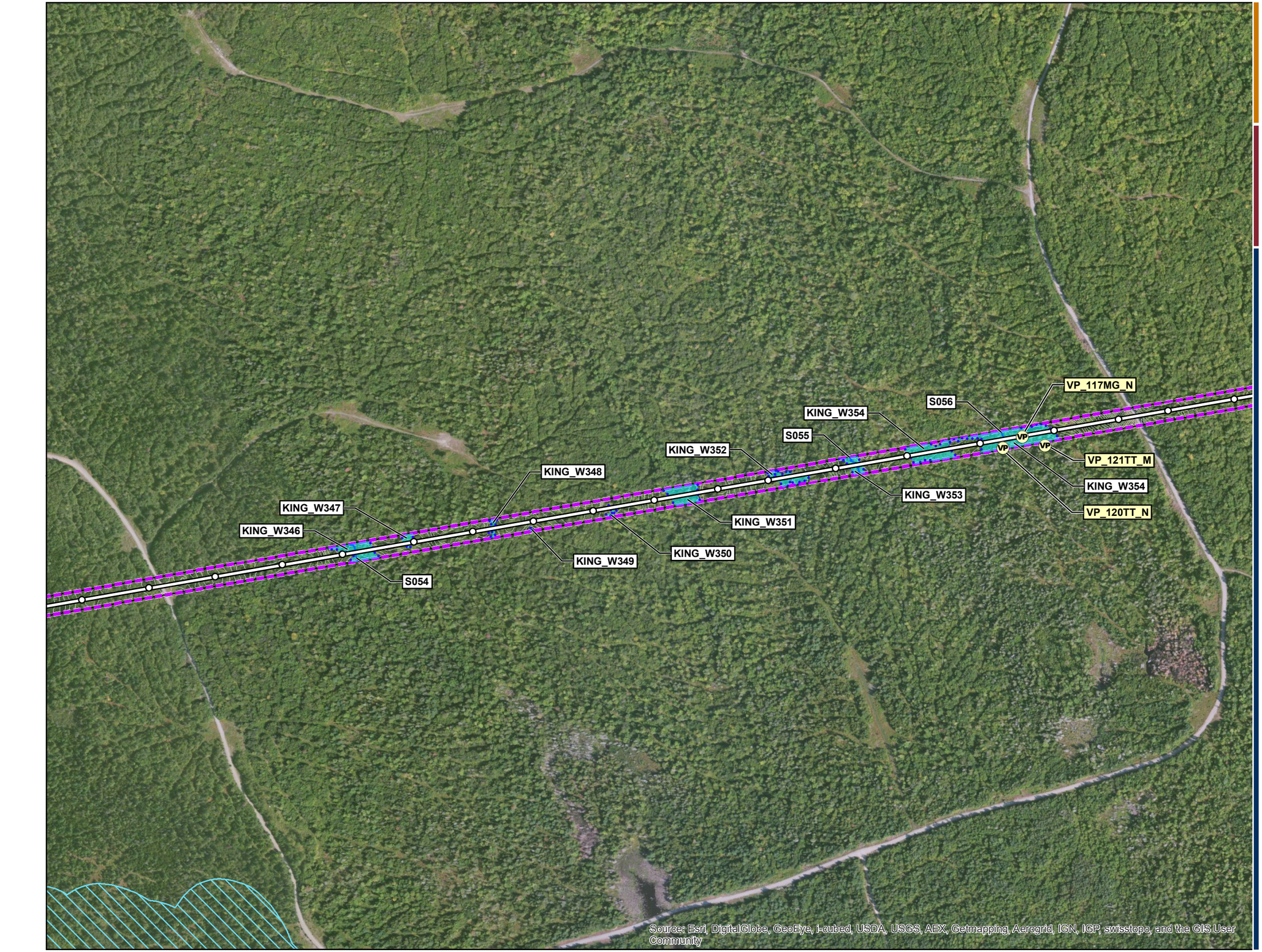


0 500

Feet



Legend

- VP — Vernal Pool Identified by Stantec
- SVP — Significant Vernal Pool Identified by Stantec
- PVP — Potential Vernal Pool Identified by Stantec
- Stream Identified by Stantec
- Wetland Identified by Stantec
- Vernal Pool 250' Habitat
- Significant Vernal Pool 250' Habitat
- Potential Significant Vernal Pool 250' Habitat
- Northern Bog Lemming 250' Habitat
- Northern Spring Salamander Stream 250' Habitat
- Reporting Limits
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat
- Utility Pole
- Site Plan
- Clearing Limits
- Electrical Generator Lead
- Plisga & Day Surveyed Township Boundary
- USGS Township Boundary
- 2' Contours

Notes

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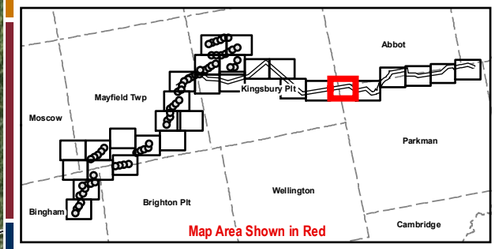
Abbot
Kingsbury Plt
Abbot
Parkman
S058
PARK_W357
KING_W355
VP_110SK_M
PARK_W358
PARK_W359
PARK_W360
PARK_W362
S059
S057
PARK_W356
PARK_W361
Parkman
Kingsbury Plt
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Title
Delineated Natural Resource Map

Figure No.
25

Client/Project
Bingham Wind Project



0 500
Feet

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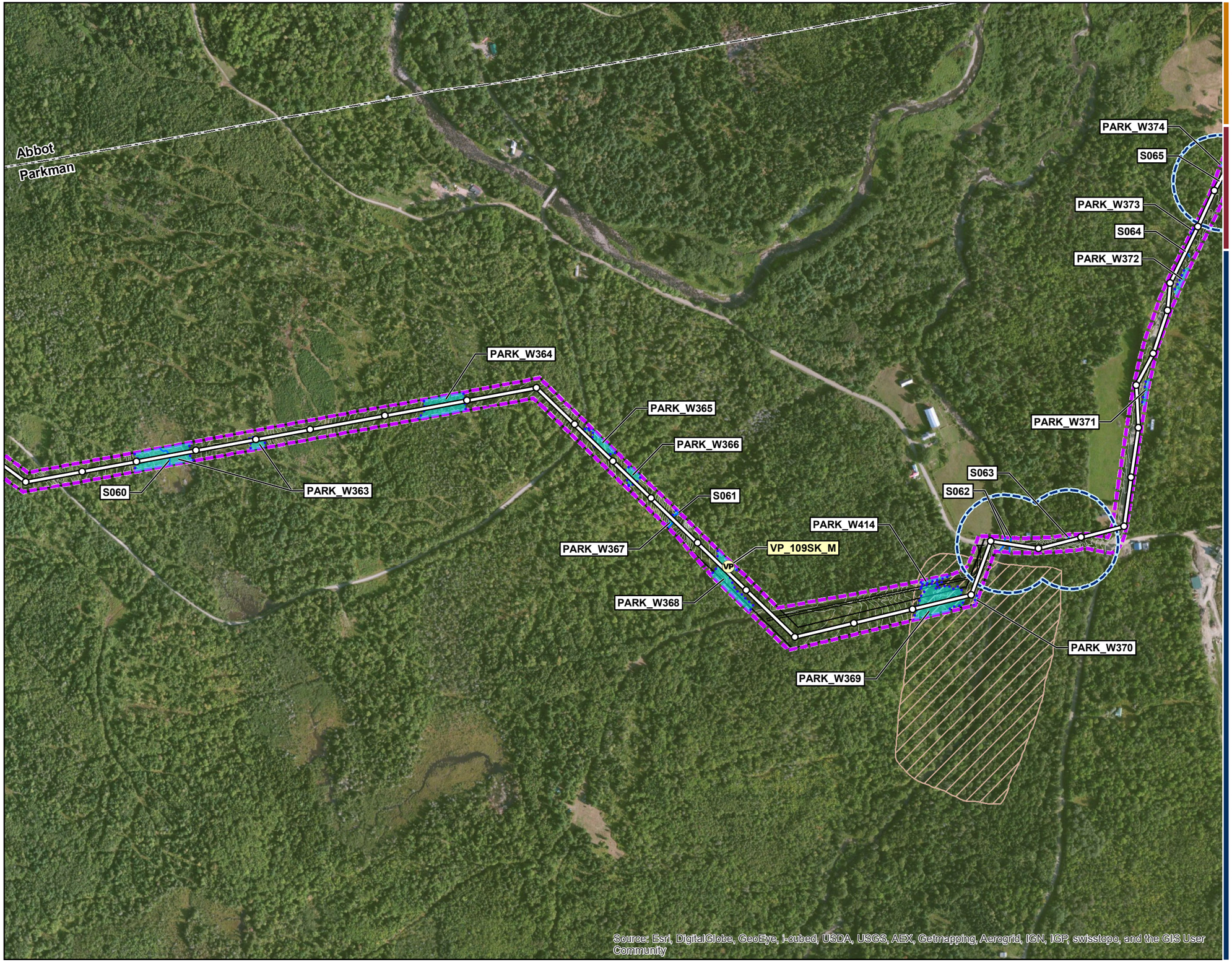


Title

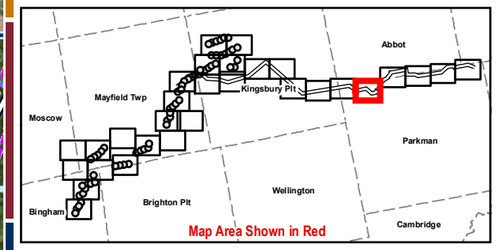
Delineated Natural Resource Map

Figure No.

26

Client/Project

Bingham Wind Project



0 500

Feet

Legend

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Title

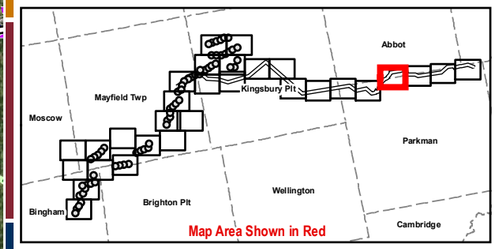
Delineated Natural Resource Map

Figure No.

27

Client/Project

Bingham Wind Project



0 500

Feet

Legend

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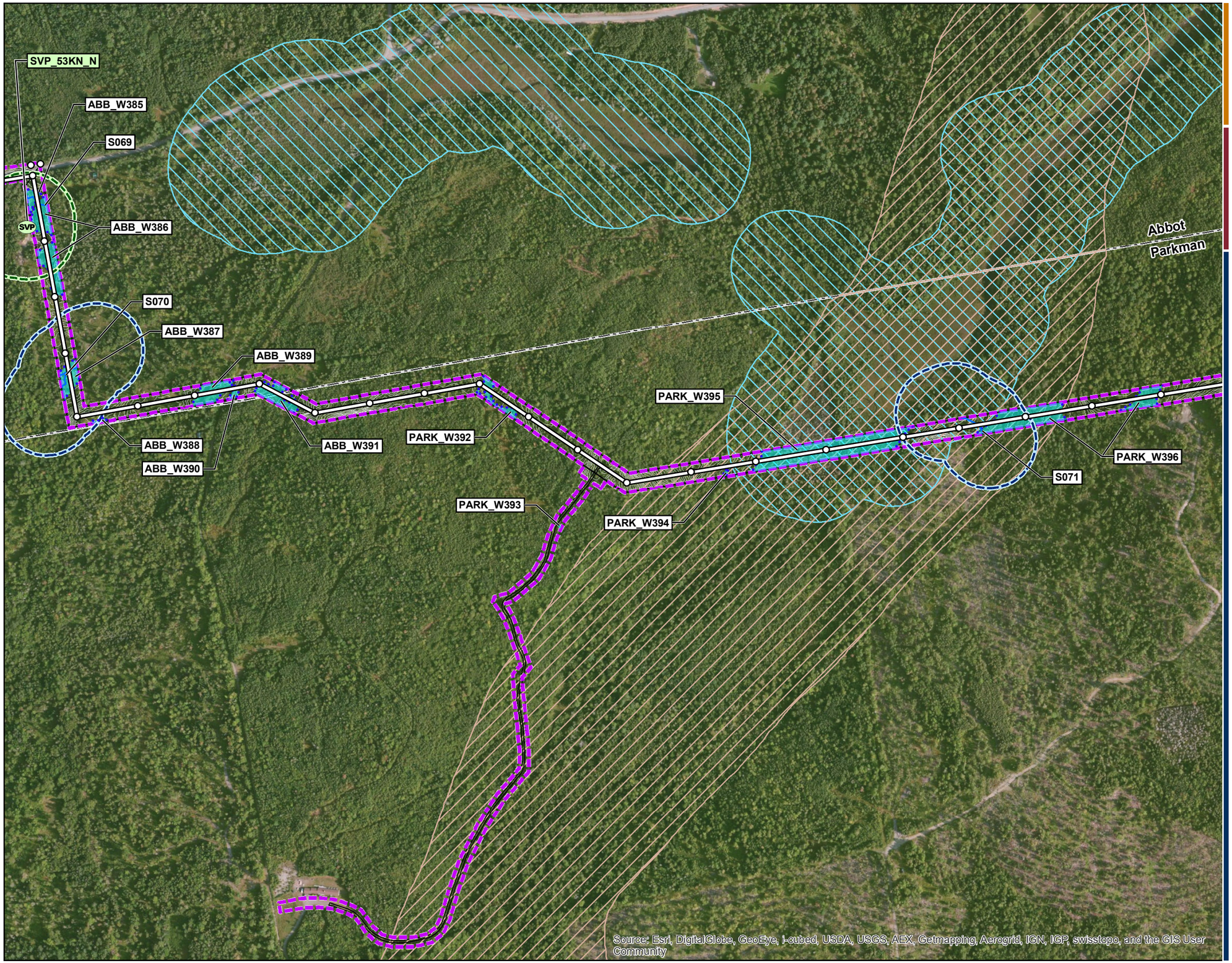


Title

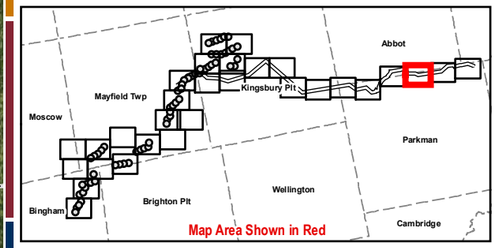
Delineated Natural Resource Map

Figure No.

28

Client/Project

Bingham Wind Project



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Feet

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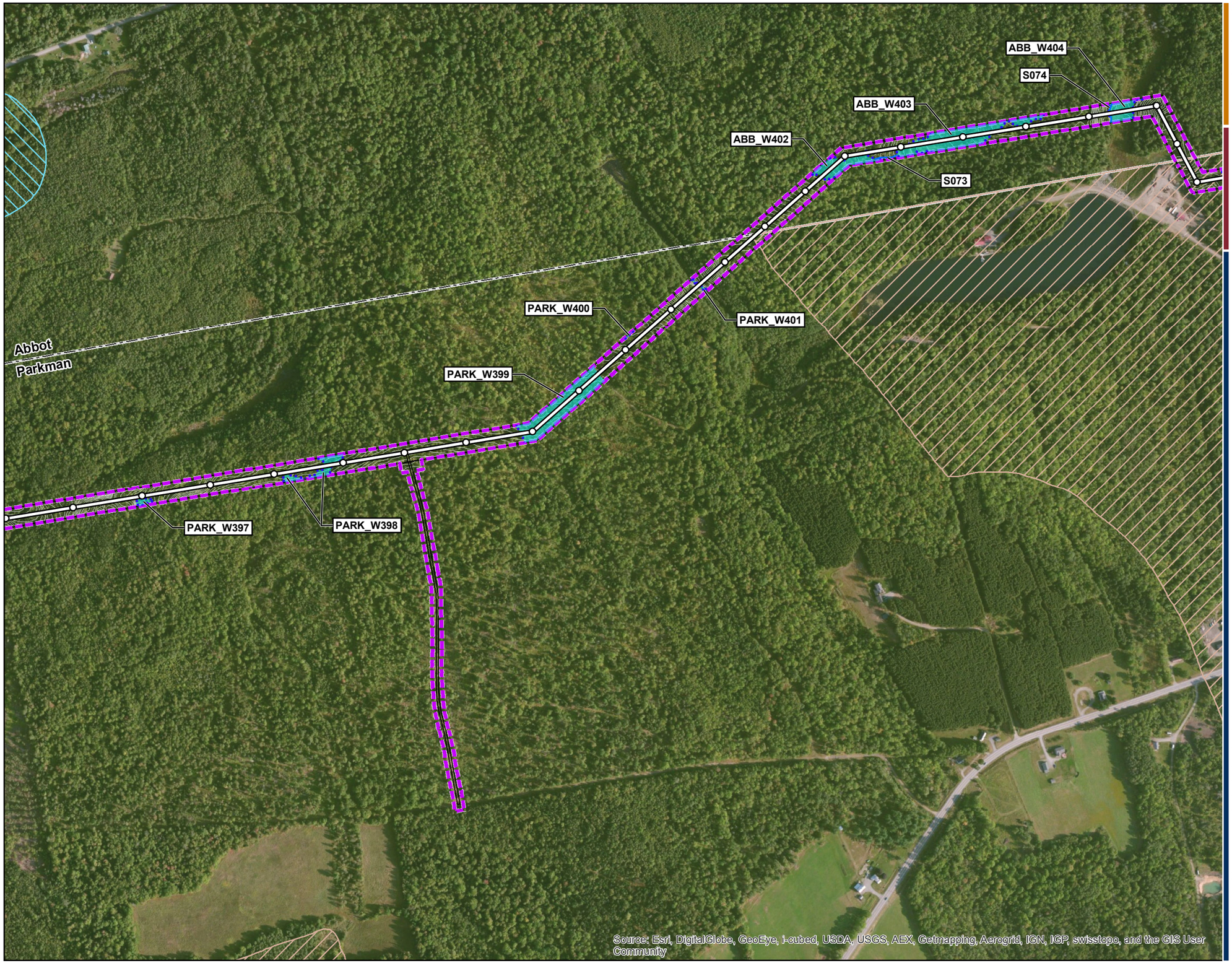


Title

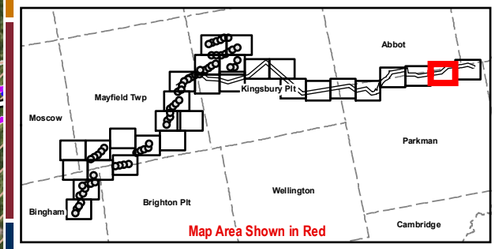
Delineated Natural Resource Map

Figure No.

29

Client/Project

Bingham Wind Project



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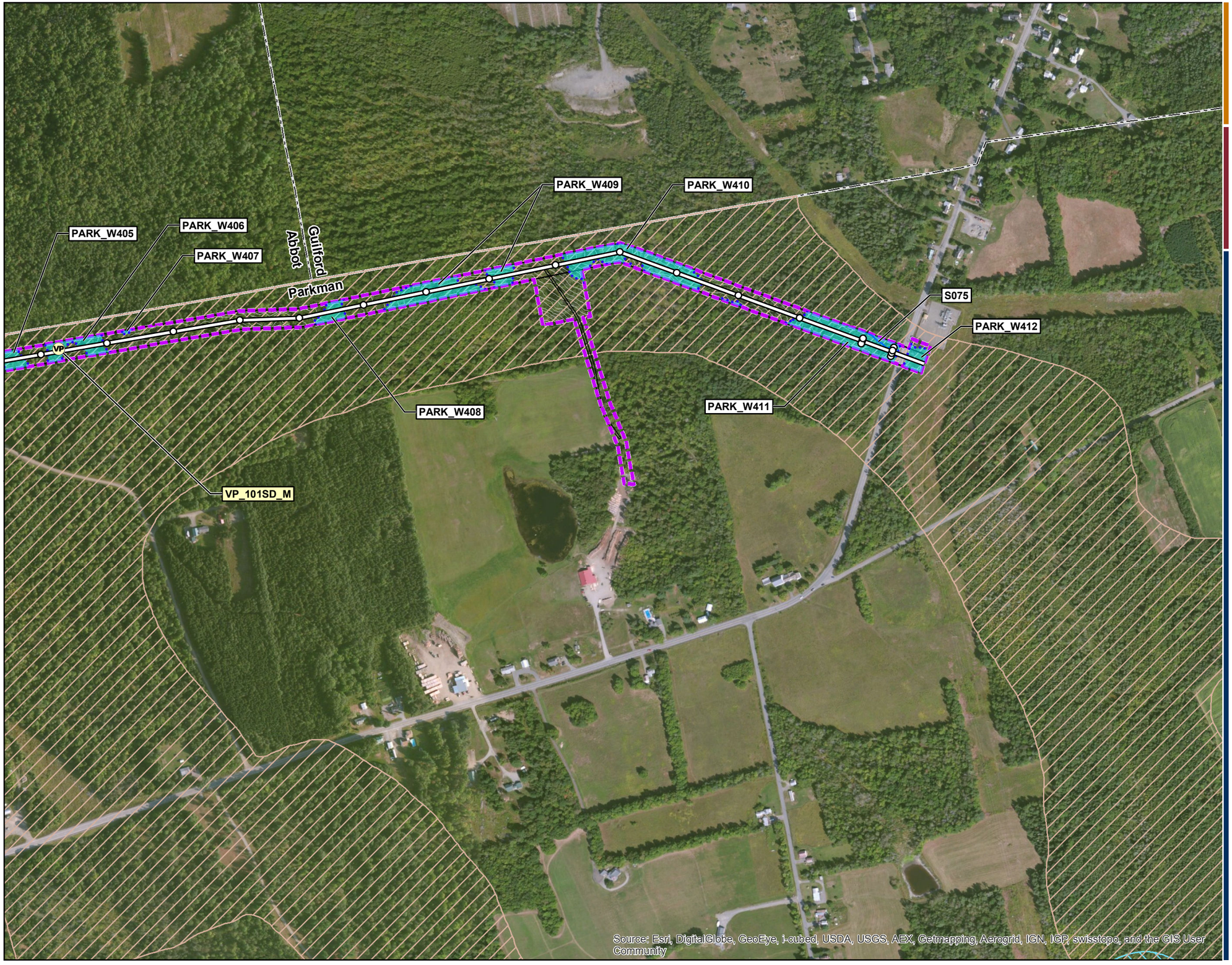


Title

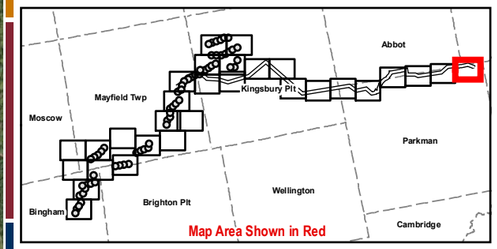
Delineated Natural Resource Map

Figure No.

30

Client/Project

Bingham Wind Project



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Appendix C
Wetland and Waterbody Resource Tables

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Bingham	1	BING_W001	D	D						7/19/2010; 8/27/2010
Bingham	1	BING_W002	D							7/20/2010
Bingham	1	BING_W003		D						7/20/2010
Bingham	1	BING_W004			D					7/20/2010
Bingham	1	BING_W005	D							8/5/2010
Bingham	1	BING_W006			D					8/5/2010
Bingham	1	BING_W007			D					8/5/2010
Bingham	1	BING_W008	D							8/5/2010
Bingham	1	BING_W009	D							11/16/2010
Bingham	1	BING_W010	D							8/5/2010, 11/16/2010
Bingham	1	BING_W011		D						8/5/2010
Bingham	1	BING_W012			D					8/5/2010
Bingham	2	BING_W013		D						7/21/2010
Bingham	2	BING_W014	D	D						7/22/2010, 8/23/2010, 10/27/2010, 12/14/2010
Bingham	2	BING_W015		D						7/22/2010
Bingham	2	BING_W016			D					7/22/2010
Bingham	2	BING_W017			D					7/22/2010
Bingham	2	BING_W018		D						8/5/2010
Bingham	2	BING_W019		D						7/23/2010
Bingham	2	BING_W020	D							8/5/2010
Bingham	2	BING_W021	D							8/5/2010
Bingham	2	BING_W022		D	D			VP_10DN_M		7/23/2010
Bingham	2	BING_W023	D							7/23/2010
Bingham	2	BING_W024	D							7/23/2010
Bingham	2	BING_W025		D						7/21/2010
Bingham	2	BING_W026		D						7/22/2010
Bingham	2	BING_W027		D						7/20/2010
Bingham	2	BING_W028	D	X						7/22/2010
Bingham	2	BING_W029		D	D			VP_75MJ_M		7/20/2010
Bingham	2	BING_W030	D							10/4/2012, 10/23/2012

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Bingham	2	BING_W031	D							10/4/2012, 10/23/2012
Bingham	2	BING_W032		D						7/21/2010; 10/4/2002, 10/23/2012, 11/7/2012
Bingham	2	BING_W033	D							10/4/2012, 10/23/2012, 11/8/2012
Bingham	2	BING_W034	D							10/4/2012, 10/23/2012, 11/8/2012
Bingham	2	BING_W035			D					7/21/2010; 10/3/2012, 10/4/2012, 10/23/2012, 11/7/2012
Bingham	2	BING_W036		D	X					7/22/2010
Bingham	2	BING_W037	D				S003	VP_10SD_M, VP_11SD_M, VP_12SD_N, VP_23SK_M, VP_25SK_M	R	7/21/2010; 11/6/2012
Bingham	3	BING_W038		D						7/22/2010
Bingham	3	BING_W039		D						8/9/2010
Bingham	3	BING_W040	D	D			S003			7/22/2010, 10/27/2010, 9/24/2012, 11/6/2012
Bingham	3	BING_W041		D						7/22/2010
Bingham	3	BING_W042		D	D					7/21/2010
Bingham	3 & 4	BING_W043		D						8/9/2010
Bingham	4	BING_W044		D						8/9/2010
Bingham	4	BING_W045	D							8/9/2010
Bingham	4	BING_W046	D							8/9/2010
Bingham	4	BING_W047	D							8/9/2010
Bingham	4	BING_W048			D					8/9/2010
Mayfield TWP	4	MAY_W049		D						8/9/2010

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Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Moscow/Bingham	4	MOS_W050		D	D			VP_05SK_M		8/17/2010, 9/24/2012, 9/25/2012
Moscow	4	MOS_W051		D						8/19/2010
Moscow/ Mayfield TWP	4	MOS_W052	D					VP_05SD_M		8/16/2010
Moscow	4	MOS_W053	D							8/19/2010
Moscow	5	MOS_W054		D						8/19/2010
Moscow	5	MOS_W055	D							8/19/2010
Moscow	5	MOS_W056	D							8/19/2010
Moscow	5	MOS_W057	D				S004		R	8/19/2010
Moscow	5	MOS_W058	D	D						8/19/2010
Moscow	5	MOS_W059	D		X					8/19/2010
Mayfield TWP	5	MAY_W060		D						8/20/2010
Mayfield TWP	5	MAY_W061	D		X					8/20/2010
Mayfield TWP	5	MAY_W062		D				VP_01AL_N		8/20/2010
Mayfield TWP	5 & 6	MAY_W063		D				VP_04SD_M, VP_07TT_M		8/10/2010
Mayfield TWP	5	MAY_W064		D						8/20/2010
Mayfield TWP	5	MAY_W065			D			VP_05MJ_M		8/20/2010
Mayfield TWP	5 & 6	MAY_W066		D				VP_03SD_M		8/20/2010
Mayfield TWP	3 & 6	MAY_W067	X	D						8/12/10; 8/16/10; 8/17/10
Mayfield TWP	6	MAY_W068		D						8/10/2010
Mayfield TWP	6	MAY_W069		D						8/10/2010
Mayfield TWP	6	MAY_W070	D							8/10/2010
Mayfield TWP	3	MAY_W071	D	D				VP_01SD_M, VP_07SK_M		8/10/2010
Mayfield TWP	3	MAY_W072			D					8/17/2010
Mayfield TWP	3	MAY_W073			D					8/17/2010
Mayfield TWP	6	MAY_W074		D						8/10/2010
Mayfield TWP	6	MAY_W075		D						8/10/2010, 11/29/2010, 11/30/2011

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Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Mayfield TWP	6	MAY_W076	X	D	X					8/10/2010, 8/13/2010, 11/30/2010, 12/1/2010, 12/2/2010, 12/3/2010; 9/26/2012, 9/27/2012
Mayfield TWP	6	MAY_W077	D	D						8/10/2010, 12/3/2010
Mayfield TWP	6	MAY_W078		D						8/11/2010
Mayfield TWP	6	MAY_W079			D					8/11/2010
Mayfield TWP	6	MAY_W080			D					8/11/2010
Mayfield TWP	6	MAY_W081			D					8/11/2010
Mayfield TWP	6	MAY_W082		D						8/11/2010; 10/4/2012
Mayfield TWP	6	MAY_W083	D					VP_12MJ_M		8/11/2010
Mayfield TWP	6	MAY_W084			D			VP_11MJ_M		8/11/2010
Mayfield TWP	6	MAY_W085			D					8/11/2010
Mayfield TWP	6	MAY_W086		D						8/11/2010
Mayfield TWP	6	MAY_W087	D	D						8/11/2010
Mayfield TWP	6	MAY_W088		D						8/13/2010; 10/4/2012
Mayfield TWP	6	MAY_W089			D					8/13/2010
Mayfield TWP	6	MAY_W090	D	X				SVP_07AL_N	H	8/13/2010, 9/25/2012
Mayfield TWP	6	MAY_W091	D	D	X		S006			9/25/2012, 9/26/2012
Mayfield TWP	3	MAY_W092			D					11/5/2012
Mayfield TWP	3	MAY_W093			D					11/5/2012
Mayfield TWP	3	MAY_W094	D					VP_09AL_M		8/25/2010
Mayfield TWP	3	MAY_W095	X	X	D	X		VP_08AL_M		
Mayfield TWP	3	MAY_W096	X	D		X				10/27/2010; 9/24/2010; 10/8/2012
Mayfield TWP	3	MAY_W097		D						8/25/2010
Mayfield TWP	3 & 7	MAY_W098	D	X						10/27/10 [8/25/10 for 01EBY]
Mayfield TWP	3	MAY_W099	D							8/25/2010; 10/8/2012
Mayfield TWP	7	MAY_W100		D						10/28/2010
Mayfield TWP	7	MAY_W101			D					10/28/2010
Mayfield TWP	7	MAY_W102			D					10/28/2010

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Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Mayfield TWP	7	MAY_W103	X	D	D					8/3/2012, 10/28/2010, 11/18/2010, 10/5/2012
Mayfield TWP	7	MAY_W104			D					10/28/2010
Mayfield TWP	7	MAY_W105		D				VP_21AL_M		10/28/10 [8/3/10 for 02EDA Notes]
Mayfield TWP	7	MAY_W106		D						11/8/2010
Mayfield TWP	7	MAY_W107		D						8/3/2010
Mayfield TWP	7	MAY_W108		D						11/8/2010
Mayfield TWP	7	MAY_W109			D					11/8/2010
Brighton PLT	7	BRIG_W110		D						8/3/2010
Mayfield TWP	7	MAY_W111	D							8/3/2010
Mayfield TWP	8	MAY_W112	X	D			S007	VP_01CF_N	H, R	5/25/2010; 9/3/2010; 10/1/2012
Mayfield TWP	8	MAY_W113		D						10/1/2012
Mayfield TWP	8	MAY_W114	D							10/1/2012
Mayfield TWP	8	MAY_W115		D				PVP_01DB_M		10/1/2012
Mayfield TWP	8	MAY_W116	D	X	X		S009		R	10/1/2012
Mayfield TWP	8	MAY_W117		X	D					10/1/2012
Mayfield TWP	8	MAY_W118	D				S010, S011		R	10/1/2012, 10/2/2012
Mayfield TWP	8	MAY_W119			D		S011		R	10/2/2012
Mayfield TWP	9	MAY_W120	D							10/2/2012
Mayfield TWP	9	MAY_W121	X		D					10/2/2012
Mayfield TWP	9	MAY_W122	D				S012		R	10/2/2012
Mayfield TWP	9	MAY_W123			D					10/2/2012
Mayfield TWP	9	MAY_W124			D					10/2/2012
Mayfield TWP	9	MAY_W125			D					10/2/2012
Mayfield TWP	9	MAY_W126			D					10/2/2012
Mayfield TWP	9	MAY_W127		X	X					10/2/2012
Mayfield TWP	9	MAY_W128	D				S013		R	10/2/2012
Mayfield TWP	9	MAY_W129	D				S014		R	10/2/2012
Mayfield TWP	9	MAY_W130	X	D	X					10/2/2012
Mayfield TWP	9	MAY_W131	X	D	X					10/2/2012

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Mayfield TWP	9	MAY_W132		X	D					10/2/2012
Mayfield TWP	9	MAY_W133			D					7/27/2010
Mayfield TWP	9	MAY_W134	D							7/27/2010
Mayfield TWP	9	MAY_W135			D					7/27/2010
Mayfield TWP	9	MAY_W136			D					7/27/2010
Mayfield TWP	9	MAY_W137	D	X			S019, S020		H, R	7/27/2010; 10/27/2010; 10/2/2012
Mayfield TWP	9	MAY_W138	D				S020		R	10/27/2010
Mayfield TWP	9	MAY_W139		D						11/12/2012
Mayfield TWP	9	MAY_W140	X	X	X					11/5/2012, 11/12/2012
Mayfield TWP	9	MAY_W141	D							11/5/2012
Mayfield TWP	9	MAY_W142			D					7/28/2010
Mayfield TWP	9	MAY_W143	D		D					7/28/2010
Mayfield TWP	9	MAY_W144			D					7/28/2010
Mayfield TWP	9	MAY_W145			D					7/28/2010
Mayfield TWP	9	MAY_W146			D					7/28/2010
Mayfield TWP	9	MAY_W147	D							11/19/2010
Mayfield TWP	9	MAY_W148			D					11/19/2010
Mayfield TWP	9	MAY_W149			D					7/28/2010
Mayfield TWP	9	MAY_W150		D						7/28/2010
Mayfield TWP	9	MAY_W151	X		D			VP_17MJ_N		
Mayfield TWP	9	MAY_W152			D					7/28/2010
Mayfield TWP	9	MAY_W153			D					7/28/2010
Mayfield TWP	9	MAY_W154	X	D						10/27/2010; 10/3/2012
Mayfield TWP	10	MAY_W155		D	D		S022		R	10/3/2012
Mayfield TWP	10	MAY_W156			D		S022		R	10/3/2012
Mayfield TWP	10	MAY_W157			D		S022		R	10/3/2012
Mayfield TWP	10	MAY_W158	D							10/3/2012
Mayfield TWP	10	MAY_W159	D							10/3/2012
Mayfield TWP	10	MAY_W160		D						10/3/2012
Mayfield TWP	10	MAY_W161			D		S024		R	8/6/2010; 10/4/2012

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Mayfield TWP	10	MAY_W162		D						8/6/2010
Mayfield TWP	10	MAY_W163		D						10/3/2012
Mayfield TWP	10	MAY_W164	D				S025		R	10/3/2012
Mayfield TWP	10	MAY_W165			D					10/3/2012
Mayfield TWP	10	MAY_W166		D						10/3/2012
Mayfield TWP	10	MAY_W167	D							10/3/2012
Mayfield TWP	11	MAY_W168	D	X						10/3/2012
Mayfield TWP	11	MAY_W169		D						10/3/2012
Mayfield TWP	11	MAY_W170	D		D		S026, S027		R	8/25/2010, 10/3/2012
Mayfield TWP	11	MAY_W171		D	X		S027		R	8/25/2010, 10/3/2012
Mayfield TWP	11	MAY_W172		D	X		S027		R	8/25/2010, 10/3/2012
Mayfield TWP	11	MAY_W173			D			VP_14AL_M		8/24/2010
Mayfield TWP	11	MAY_W174	D							8/24/2010
Mayfield TWP	11	MAY_W175		D			S028		R	8/24/2010
Mayfield TWP	13	MAY_W176			D		S027		R	8/25/2010, 10/3/2012
Mayfield TWP	12	MAY_W177	D							7/12/2010
Mayfield TWP	12	MAY_W178			D					7/12/2010
Mayfield TWP	12	MAY_W179	D							7/13/2010
Mayfield TWP	12	MAY_W180		D						7/13/2010
Mayfield TWP	12	MAY_W181	D							7/13/2010
Mayfield TWP	12	MAY_W182	D							7/13/2010
Mayfield TWP	12	MAY_W183			D					7/14/2010
Mayfield TWP	13	MAY_W184		D						7/16/2010
Mayfield TWP	13	MAY_W185	D		X					7/16/2011
Mayfield TWP	13	MAY_W186	D							7/19/2010
Mayfield TWP	13	MAY_W187	D	D						7/19/2010; 9/25/2012
Mayfield TWP	14	MAY_W188	D				S032		R	9/25/2012
Mayfield TWP	14	MAY_W189		D			S033, S034		R	9/22/2010; 9/25/2012
Mayfield TWP	14	MAY_W190			D					9/25/2012
Mayfield TWP	14	MAY_W191		D						9/22/2010

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Mayfield TWP	14	MAY_W192	D							9/22/2010; 9/26/2012
Mayfield TWP	14	MAY_W193	D							7/16/2010
Mayfield TWP	14	MAY_W194	D							7/16/2010
Mayfield TWP	14	MAY_W195	D							7/16/2010
Mayfield TWP	14	MAY_W196			D					7/15/2010
Mayfield TWP	14	MAY_W197			D					7/15/2010
Mayfield TWP	14	MAY_W198	D							7/15/2010; 7/16/2010
Mayfield TWP	14	MAY_W199	D							7/15/2010
Mayfield TWP	14	MAY_W200			D					7/15/2010
Mayfield TWP	14	MAY_W201	D							11/3/2010, 11/23/2010
Mayfield TWP	14	MAY_W202		D	D					7/15/2010
Mayfield TWP	14	MAY_W203			D					7/15/2010
Mayfield TWP	14	MAY_W204			D					7/15/2010
Mayfield TWP	14	MAY_W205	D							11/23/2010
Mayfield TWP	14	MAY_W206		D						11/23/2010
Mayfield TWP	14	MAY_W207	D							7/14/2010, 11/18/2010
Mayfield TWP	14	MAY_W208	D	X	X		S036		R	7/13/2010, 7/14/2010, 11/3/2010, 11/18/2010
Mayfield TWP	14	MAY_W209	D							7/14/2010
Mayfield TWP	19	MAY_W210			D					7/12/2010
Mayfield TWP	19	MAY_W211			D					7/12/2010
Mayfield TWP	19	MAY_W212			D					7/12/2010
Mayfield TWP/ Kingsbury PLT	15	KING_W213	D	D						11/4/2010, 11/23/2010
Kingsbury PLT	15	KING_W214		D						5/24/2011
Kingsbury PLT	15	KING_W215	D	D						11/10/2010, 5/24/2011
Kingsbury PLT	15	KING_W216		D						5/24/2011
Kingsbury PLT	19	KING_W217		D						5/24/2011
Kingsbury PLT	19	KING_W218			D					11/10/2010
Kingsbury PLT	19	KING_W219	D				S037		R	5/24/2011
Kingsbury PLT	15	KING_W220	D		D		S037	VP_04DN_N	R	11/10/2010, 5/24/2011, 5/25/2011
Kingsbury PLT	15	KING_W221	D							5/24/2011
Kingsbury PLT	15	KING_W222		D						5/25/2011
Kingsbury PLT	15	KING_W223		D						5/25/2011
Kingsbury PLT	15	KING_W224	D	D						5/25/2011
Kingsbury PLT	15	KING_W225		D						5/26/2011

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Kingsbury PLT	15	KING_W226	D	D	D					6/1/2011, 6/2/2011
Kingsbury PLT	15	KING_W227			D					6/1/2011
Kingsbury PLT	15	KING_W228			D					6/1/2011
Kingsbury PLT	15	KING_W229		D						6/6/2011
Kingsbury PLT	15	KING_W230		D						6/6/2011
Kingsbury PLT	15	KING_W231		D						6/6/2011
Kingsbury PLT	15	KING_W232			D					6/6/2011
Kingsbury PLT	15	KING_W233		D						6/6/2011
Kingsbury PLT	15	KING_W234		D						6/6/2011
Kingsbury PLT	15	KING_W235	D							6/6/2011
Kingsbury PLT	15	KING_W236		D	X					6/6/2011
Kingsbury PLT	15	KING_W237	D	D						6/6/2011
Kingsbury PLT	15	KING_W238			D					6/6/2011
Kingsbury PLT	15	KING_W239		D	D			VP_84TT_M		6/3/2011
Kingsbury PLT	15	KING_W240			D					6/7/2011
Kingsbury PLT	15	KING_W241			D					6/7/2011
Kingsbury PLT	15	KING_W242		D						6/7/2011
Kingsbury PLT	15	KING_W243	D							6/7/2011
Kingsbury PLT	15	KING_W244		D						6/7/2011
Kingsbury PLT	16	KING_W245	D				S038		R	6/20/2011
Kingsbury PLT	16	KING_W246			D		S038		R	6/20/2011
Kingsbury PLT	15	KING_W247	D	D			S039		R	6/2/2011
Kingsbury PLT	15	KING_W248			D					6/2/2011
Kingsbury PLT	15	KING_W249			D					6/2/2011
Kingsbury PLT	16	KING_W250	D	D	D					6/20/2011
Kingsbury PLT	16	KING_W251	D	D						6/20/2011
Kingsbury PLT	16	KING_W252	D				S040, S041	VP_41TT_M	R	6/7/2011, 6/21/2011
Kingsbury PLT	16	KING_W253			D					6/7/2011
Kingsbury PLT	16	KING_W254	D	X			S041		R	6/21/2011
Kingsbury PLT	16	KING_W255	D		D			VP_123TT_M		6/21/2011
Kingsbury PLT	16	KING_W256	D							6/21/2011
Kingsbury PLT	16	KING_W257			D					6/21/2011
Kingsbury PLT	16	KING_W258			D					6/21/2011
Kingsbury PLT	16	KING_W259			D					6/21/2011
Kingsbury PLT	16	KING_W260		D				VP_40TT_M		6/21/2011
Kingsbury PLT	16	KING_W261			D					6/21/2011

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Kingsbury PLT	16	KING_W262			D					6/22/2011
Kingsbury PLT	16	KING_W263			D					6/22/2011
Kingsbury PLT	16	KING_W264	D							6/22/2011
Kingsbury PLT	16	KING_W265	D							6/22/2011
Kingsbury PLT	16	KING_W266			D			VP_39TT_M		6/22/2011
Kingsbury PLT	16	KING_W267	D							6/22/2011
Kingsbury PLT	16	KING_W268			D					6/22/2011
Kingsbury PLT	16	KING_W269			D					6/22/2011
Kingsbury PLT	16	KING_W270	D							6/22/2011
Kingsbury PLT	16	KING_W271			D			VP_33MJ_N		6/22/2011
Kingsbury PLT	16	KING_W272			D					6/22/2011
Kingsbury PLT	17	KING_W273			D					6/22/2011
Kingsbury PLT	17	KING_W274	D							6/22/2011
Kingsbury PLT	17	KING_W275	D							6/22/2011
Kingsbury PLT	17	KING_W276		D						6/22/2011
Kingsbury PLT	17	KING_W277			D					6/22/2011
Kingsbury PLT	17	KING_W278			D					6/23/2011
Kingsbury PLT	17	KING_W279	D				S042		R	6/23/2011
Kingsbury PLT	17	KING_W280	D				S042		R	6/23/2011
Kingsbury PLT	17	KING_W281			D		S042		R	6/23/2011
Kingsbury PLT	17	KING_W282	X		D					6/23/2011
Kingsbury PLT	17	KING_W283			D					6/23/2011
Kingsbury PLT	17	KING_W284			D					6/23/2011
Kingsbury PLT	17	KING_W285			D					6/23/2011
Kingsbury PLT	16	KING_W286	D							6/8/2011
Kingsbury PLT	15	KING_W287			D					6/8/2011
Kingsbury PLT	15	KING_W288	D	D						6/8/2011
Kingsbury PLT	16	KING_W289			D			VP_49TT_M		6/8/2011
Kingsbury PLT	16	KING_W290			D					6/8/2011
Kingsbury PLT	16	KING_W291			D			VP_79TT_M		6/8/2011
Kingsbury PLT	17	KING_W292	D							6/14/2011
Kingsbury PLT	17	KING_W293		D						6/14/2011
Kingsbury PLT	17	KING_W294		D						6/14/2011
Kingsbury PLT	17	KING_W295			D					6/14/2011
Kingsbury PLT	17	KING_W296		D						6/14/2011
Kingsbury PLT	17	KING_W297	D	X	X			VP_59MJ_M, VP_ 58MJ_N, VP_60MJ_M, VP_61TT_M, VP_65TT_M, VP_ 63TT_M		6/14/2011
Kingsbury PLT	17	KING_W298	D							6/15/2011
Kingsbury PLT	17	KING_W299	D							6/16/2011
Kingsbury PLT	18	KING_W300			D					6/23/2011
Kingsbury PLT	18	KING_W301			D					6/29/2011
Kingsbury PLT	18	KING_W302	D					VP_57MJ_M		6/29/2011
Kingsbury PLT	18	KING_W303	D	D						6/27/2011, 6/28/2011

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Kingsbury PLT	18	KING_W304			D					6/30/2011
Kingsbury PLT	18	KING_W305			D					6/23/2011
Kingsbury PLT	18	KING_W306			D					6/30/2011
Kingsbury PLT	18	KING_W307		D						6/23/2011
Kingsbury PLT	18	KING_W308		D						6/23/2011
Kingsbury PLT	19	KING_W309	D	X						11/10/2010, 5/24/2011
Kingsbury PLT	19	KING_W310			D					11/10/2010
Kingsbury PLT	19	KING_W311			D					11/10/2010
Kingsbury PLT	20	KING_W312			D					11/10/2010
Kingsbury PLT	20	KING_W313		D						11/10/2010
Kingsbury PLT	20	KING_W314			D					11/10/2010
Kingsbury PLT	20	KING_W315		D						11/10/2010
Kingsbury PLT	20	KING_W316			D					11/10/2010
Kingsbury PLT	20	KING_W317			D					11/10/2010
Kingsbury PLT	20	KING_W318			D					11/10/2010
Kingsbury PLT	20	KING_W319	D							11/10/2010
Kingsbury PLT	20	KING_W320	D							11/10/2010
Kingsbury PLT	21	KING_W321	D							11/10/2010
Kingsbury PLT	21	KING_W322	D							11/10/2010
Kingsbury PLT	21	KING_W323		D						11/11/2010
Kingsbury PLT	21	KING_W324			D					11/11/2010
Kingsbury PLT	21	KING_W325			D					11/11/2010
Kingsbury PLT	21	KING_W326			D			VP_115TT_M		11/11/2010
Kingsbury PLT	21	KING_W327		D						11/11/2010
Kingsbury PLT	21	KING_W328		D						11/11/2010
Kingsbury PLT	21	KING_W329	D					VP_116TT_M, VP_117TT_M		11/11/2010
Kingsbury PLT	21	KING_W330	D							11/11/2010
Kingsbury PLT	21	KING_W331	D							11/11/2010
Kingsbury PLT	22	KING_W332	D					VP_118TT_M		11/11/2010
Kingsbury PLT	22	KING_W333	D							12/6/2010
Kingsbury PLT	22	KING_W334	D							5/4/2011
Kingsbury PLT	22	KING_W335	D	D						2/14/2013
Kingsbury PLT	22 & 23	KING_W336	D					VP_119TT_M		12/6/2010, 5/4/2011
Kingsbury PLT	23	KING_W337	D							12/7/2010

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Kingsbury PLT	23	KING_W338	D							12/7/2010
Kingsbury PLT	23	KING_W339	D							12/7/2010
Kingsbury PLT	23	KING_W340		D			S053		R	12/7/2010
Kingsbury PLT	23	KING_W341	D							12/7/2010
Kingsbury PLT	23	KING_W342	D							12/7/2010
Kingsbury PLT	23	KING_W343	D							12/7/2010
Kingsbury PLT	23	KING_W344		D						12/7/2010
Kingsbury PLT	23	KING_W345	D							12/7/2010
Kingsbury PLT	24	KING_W346	D				S054		R	12/13/2012
Kingsbury PLT	24	KING_W347	D							12/8/2010
Kingsbury PLT	24	KING_W348	D							12/8/2010
Kingsbury PLT	24	KING_W349		D						12/8/2010
Kingsbury PLT	24	KING_W350		D						12/8/2010
Kingsbury PLT	24	KING_W351	D							12/8/2010
Kingsbury PLT	24	KING_W352	D	X						12/8/2010, 5/5/2011
Kingsbury PLT	24	KING_W353	D				S055		R	12/8/2010; 12/13/2012
Kingsbury PLT	24	KING_W354	D				S056	VP_120TT_N, VP_117MG_N, VP_121TT_M	R	12/8/2010; 12/13/2012
Kingsbury PLT	25	KING_W355	D				S057		R	12/9/2010; 12/13/2012
Parkman	25	PARK_W356	D				S058, S059		R	12/17/2010; 12/13/2012
Parkman	25	PARK_W357	D							12/17/2010, 5/5/2011
Parkman	25	PARK_W358	X	D				VP_110SK_M		12/16/2010
Parkman	25	PARK_W359	X	D						12/16/2010
Parkman	25	PARK_W360	D							12/16/2010
Parkman	25	PARK_W361	D							12/16/2010
Parkman	25	PARK_W362		D						12/16/2010
Parkman	26	PARK_W363	D	X			S060		R	12/16/2010
Parkman	26	PARK_W364	D							12/16/2010
Parkman	26	PARK_W365		D						12/16/2010, 5/4?/2011
Parkman	26	PARK_W366	D							2/12/2013
Parkman	26	PARK_W367	D				S061		R	2/12/2013

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Parkman	26	PARK_W368	D					VP_109SK_M		2/12/2013
Parkman	26	PARK_W369	D						H	2/12/2013
Parkman	26	PARK_W414	D						H	2/12/2013
Parkman	26	PARK_W370	D				S062		F, H, R	2/12/2013
Parkman	26	PARK_W371	D							1/31/2013
Parkman	26	PARK_W372	D				S064		R	1/31/2013
Parkman	26	PARK_W373	D				S064		R	1/31/2013
Parkman	26	PARK_W374	D							1/30/2013
Parkman	27	PARK_W375	D							1/30/2013
Abbot	27	ABB_W376	D				S066			1/30/2013
Abbot	27	ABB_W377	D				S067			1/30/2013
Abbot	27	ABB_W378	D							1/30/2013
Abbot	27	ABB_W379		D						1/30/2013
Abbot	27	ABB_W413	D							3/13/2013
Abbot	27	ABB_W380	D							1/29/2013
Abbot	27	ABB_W381	D							1/29/2013
Abbot	27	ABB_W382	D							1/29/2013
Abbot	27	ABB_W383	D				S068			
Abbot	27	ABB_W384	D				S069		R	1/29/2013
Abbot	27	ABB_W385	D				S069	SVP_53KN_N	H, R	12/12/2012, 1/29/2013
Abbot	28	ABB_W386	D				S069		H, R	12/12/2012, 1/29/2013
Abbot	28	ABB_W387	D				S070		R	12/12/2012
Abbot	28	ABB_W388	D		X					12/12/2012
Abbot	28	ABB_W389	X	D						12/12/2012, 2/13/2013
Abbot	28	ABB_W390		D						12/12/2012
Abbot	28	ABB_W391	D							12/12/2012
Parkman	28	PARK_W392	D	D						12/12/2012
Parkman	28	PARK_W393	D							2/13/2013
Parkman	28	PARK_W394		D					H	12/12/2012
Parkman	28	PARK_W395	D			X			H	12/12/2012

Table C-1. Wetland Resources

Township	Map ID	Wetland ID	PFO[1]	PSS[1]	PEM[1]	PUB[1]	Associated Stream ID	Associated VP ID	Wetland of Special Significance[2]	Date
Parkman	28	PARK_W396	D				S071		H, R	12/12/2012
Parkman	29	PARK_W397		D						12/11/2012
Parkman	29	PARK_W398	D							12/11/2012
Parkman	29	PARK_W399	D							12/11/2012
Parkman	29	PARK_W400			D					12/11/2012
Parkman	29	PARK_W401		D						12/11/2012
Abbot	29	ABB_W402	D				S073		R	12/11/2012
Abbot	29	ABB_W403	D				S073		R	12/11/2012
Abbot	29	ABB_W404		D	X		S074		R	12/11/2012
Parkman	30	PARK_W405	D						H	12/11/2012; 2/7/2013
Parkman	30	PARK_W406	D					VP_101SD_M	H	12/11/2012
Parkman	30	PARK_W407			D				H	12/11/2012
Parkman	30	PARK_W408	D						H	11/8/2011, 12/11/2012
Parkman	30	PARK_W409	D						H	11/7/2011, 12/10/2012
Parkman	30	PARK_W410	D						H	11/7/2011
Parkman	30	PARK_W411	D				S075		H, R	11/7/2011, 12/10/2012
Parkman	30	PARK_W412	X		D				H	11/17/2011

[1] Cowardin, et al.; D = Dominant, x = Present

[2] Wetlands of Special Significance

S = Critically imperiled (S1) or imperiled (S2) community
C = Within 250' of a coastal wetland
E = >20,000 s.f. of emergent vegetation or open water
P = Peatlands
H = Significant Wildlife Habitat
G = Within 250' of a GPA great pond
F = Wetland subject to flooding
R = Within 25' of river, stream or brook

Table C-2. Stream Resources

Stream ID	Associated Wetland ID	NR Map Number	Flow Regime	USGS Blue Line	Channel Substrate	Average Bank Full Width (Ft.)	Additional Notes	Dates
S003	BING_W045	3	Intermittent	No	sand, gravel, cobble, boulder	4		11/6/2012
S004	MOS_W050	5	Intermittent	Yes	sand, gravel, cobble	4.5	Tributary of Gulf Stream	8/19/2010
S005	No associated wetland	5	Intermittent	No	sand, gravel, cobble	4		8/19/2010
S006	MAY_W085	6	Intermittent to Perennial	No	cobble, sand	1.25		9/25/2012, 9/26/2012
S007	MAY_W112	8	Perennial	Yes	muck, sand, gravel, cobble, bedrock	10.5	Tributary of Rift Brook	5/25/2010; 9/3/2010; 10/1/2012
S009	MAY_W116	8	Perennial	Yes	muck, sand, gravel, cobble	5.5		10/1/2012
S010	MAY_W118	8	Perennial	No	gravel	5		10/1/2012, 10/2/2012
S011	MAY_W118	8	Intermittent	No	gravel	3.5		10/2/2012
S012	MAY_W122	9	Intermittent	No	sand, gravel	1.5		10/2/2012
S013	MAY_W128	9	Intermittent	No	sand, gravel	1		10/2/2012
S014	MAY_W129	9	Perennial	No	sand, gravel, cobble	6.5	Potential northern spring salamander habitat.	10/2/2012
S015	No associated wetland	9	Intermittent	No	sand, gravel	1		10/2/2012
S016	No associated wetland	9	Intermittent	No	sand, gravel	1		10/2/2012
S019	MAY_W137	9	Intermittent	No	gravel, cobble, bedrock	4		10/2/2012
S020	MAY_W137	9	Intermittent	No	muck, silt, gravel, cobble	4		10/27/2010
S021	No associated wetland	9	Perennial	Yes	silt, cobble, rock	0.5-5	Documented northern spring slamander occurrence. Two-lined salamander present.	7/28/2010
S022	MAY_W155, MAY_W156, MAY_W157	10	Perennial	Yes	cobble, boulder	7.5	Potential northern spring salamander habitat.	10/3/2012
S023	No associated wetland	10	Perennial	Yes	sand, gravel, cobble, boulder, large flat pieces of slate	40	Bigelow Brook. Potential northern spring salamander habitat. Brook trout present.	10/4/2012
S024	MAY_W161	10	Perennial	No	gravel, cobble	8	Potential northern spring salamander habitat.	8/6/2010; 10/4/2012

Table C-2. Stream Resources

Stream ID	Associated Wetland ID	NR Map Number	Flow Regime	USGS Blue Line	Channel Substrate	Average Bank Full Width (Ft.)	Additional Notes	Dates
S025	MAY_W164	10	Perennial	Yes	woody debris, gravel, cobble, boulders	6.5	Potential northern spring salamander habitat. Tributary of Kingsbury Pond. Brook trout present.	10/3/2012
S026	MAY_W170	11	Intermittent	No	muck, gravel, cobble, boulder	4	Tributary of 89TT	10/3/2012
S027	MAY_W170, MAY_W171, MAY_W176	11	Perennial	Yes	gravel, cobble, boulder, bedrock	6	Potential northern spring salamander habitat. Fish observed. Tributary of Kingsbury Pond.	8/25/2010, 10/3/2012
S028	MAY_W175	11	Intermittent	No	gravel, cobble, boulder	4		8/24/2010
S029	No associated wetland	11	Intermittent	Yes	muck, cobble, boulder	3.5	Tributary of Kingsbury Pond	8/24/2010
S031	No associated wetland	13	Intermittent	No	cobble	5		9/22/2010; 9/25/2012
S032	MAY_W188	14	Intermittent	Yes	sand, cobble, bedrock	3.5	Headwater of Bigelow Brook	9/25/2012
S033	MAY_W189	14	Perennial	No	gravel, cobble, boulder	5	Headwater of Bigelow Brook	9/25/2012
S034	MAY_W189	14	Intermittent		sand, gravel, cobble	3.5		9/22/2010; 9/25/2012
S036	MAY_W208	14	Perennial	Yes	muck, gravel, cobble, bedrock	4.5		7/13/2010, 7/14/2010, 11/3/2010, 11/18/2010
S037	KING_W219, KING_W220	15	Intermittent	No	muck, cobble	3		5/24/2011
S038	KING_W245, KING_W246	16	Intermittent	No	silt, sand, gravel, cobble, boulder	4		6/20/2011
S039	KING_W247	15	Intermittent	No	sand, gravel, cobble	1		6/2/2011
S040	KING_W252	16	Intermittent	No	woody debris, sand, gravel, cobble	1.75		6/7/2011, 6/21/2011
S041	KING_W252, KING_W254	16	Perennial	Yes	gravel, cobble, boulder	10.5	Stream has potential habitat for northern spring salamander, although none documented during surveys. Tributary of Bog Brook.	6/21/2011

Table C-2. Stream Resources

Stream ID	Associated Wetland ID	NR Map Number	Flow Regime	USGS Blue Line	Channel Substrate	Average Bank Full Width (Ft.)	Additional Notes	Dates
S042	KING_W279, KING_W280, KING_W281	17	Intermittent	No	muck, cobble	3		6/23/2011
S043	No associated wetland	19	Perennial	No	gravel, cobble, boulder	4.5	Potential northern spring salamander habitat.	11/10/2010
S044	No associated wetland	20	Intermittent	Yes	gravel, cobble, boulder	4	Approximately 175 ft. upslope of the mapped USGS stream.	11/10/2010
S045	No associated wetland	20	Perennial	Yes	gravel, cobble, boulder	17.5	Bottle Brook. Potential northern spring salamander habitat.	11/10/2010
S046	No associated wetland	20	Perennial	No	sand, gravel, cobble, boulder	3	Potential northern spring salamander habitat.	11/10/2010
S047	No associated wetland	21	Perennial	No	gravel, cobble, boulder	2	Potential northern spring salamander habitat.	11/10/2010
S048	No associated wetland	21	Perennial	Yes	woody debris, gravel, cobble, boulder	6	Potential northern spring salamander habitat. Main stem and two side channels	11/11/2010; 12/12/2012
S049	No associated wetland	21	Perennial	Yes	gravel, cobble, boulder	6.5	Bear Brook. Potential northern spring salamander habitat.	11/11/2010; 12/12/2012
S050	No associated wetland	21	Perennial	Yes	woody debris, gravel, cobble, boulder	20	Potential northern spring salamander habitat. Main stem and side channel	11/11/2010; 12/12/2012
S051	No associated wetland	22	Perennial	Yes	gravel	4	Potential northern spring salamander habitat. Maine stem and side channel	12/6/2010; 12/12/2012
S052	No associated wetland	23	Perennial	Yes	gravel, cobble, boulder	40	Kingsbury Stream. Potential northern spring salamander habitat.	
S053	KING_W340	23	Intermittent	No	gravel, cobble	2	Tributary of Kingsbury Stream	12/7/2010; 12/13/2012
S054	KING_W346	24	Intermittent	Yes	sand, gravel	3.5	Cook Brook	12/8/2010; 12/13/2012

Table C-2. Stream Resources

Stream ID	Associated Wetland ID	NR Map Number	Flow Regime	USGS Blue Line	Channel Substrate	Average Bank Full Width (Ft.)	Additional Notes	Dates
S055	KING_W353	24	Intermittent	No	muck, sand, gravel	6		12/8/2010; 12/13/2012
S056	KING_W354	24	Perennial	No	sand, gravel, cobble	4		12/8/2010; 12/13/2012
S057	KING_W355	25	Perennial	Yes	muck, sand, gravel, cobble	4	Potential northern spring salamander habitat.	12/9/2010; 12/13/2012
S058	PARK_W356	25	Perennial	Yes	gravel, cobble, boulder	7.5	Potential northern spring salamander habitat.	12/17/2010; 12/13/2012
S059	PARK_W356	25	Intermittent	No	muck, gravel, cobble	2.5		12/17/2010; 12/13/2012
S060	PARK_W363	26	Perennial	Yes	muck	6		12/16/2010
S061	PARK_W367	26	Intermittent	No	muck, cobble, boulder	4.5		2/12/2013
S062	PARK_W370	26	Perennial	Yes	cobble, boulder	37.5	Carlton Stream	1/31/2013
S063	No associated wetland	26	Perennial	No	gravel, cobble, boulder	11		1/31/2013
S064	PARK_W372, PARK_W373	26	Intermittent	No	cobble, gravel	3.5		1/31/2013
S065	No associated wetland	26	Perennial	Yes	cobble, boulder	7	Tributary to Carlton Stream	1/30/2013
S066	ABB_W376	27	Perennial	Yes	cobble, boulder	8.5	Tributary to Kingsbury Stream	1/30/2013
S067	ABB_W377	27	Intermittent	No	cobble, boulder	4.5		
S068	ABB_W383	27	Intermittent	No	NR	4.5		1/29/2013
S069	ABB_W384, ABB_W385, ABB_W386	27 & 28	Perennial	Yes	muck, gravel, cobble	6	Gales Brook	12/12/2012, 1/29/2013
S070	ABB_W387	28	Perennial	No	gravel, cobble	5	Potential northern spring salamander habitat. Maine stem and side channel.	12/12/2012
S071	PARK_W396	28	Perennial	No	gravel, cobble, boulder, bedrock, some large flat slate pieces	11	Potential northern spring salamander habitat.	12/12/2012
S073	ABB_W402, ABB_W403	29	Intermittent	No	cobble, boulder	2.5		12/11/2012
S074	ABB_W404	29	Perennial	Yes	muck, gravel	3.5	Originates at dam and man-made pond.	12/11/2012
S075	PARK_W411	30	Perennial	Yes	muck, cobble, boulder	9		11/7/2011, 12/10/2012

Appendix D
US Army Corps of Engineers Delineation Data Forms

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Audie Arbo	Investigator #2:	Danielle Tetreau
Soil Unit:	Thorndike very rocky silt loam, 15-30% slopes	NWI Classification:	PFO/PSS
Landform:	NR	Local Relief:	
Slope (%):	NR	Latitude: 45.052386	Longitude: -69.793853 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☑, Soil ☐, or Hydrology ☑ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/20/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W001
Sample Point:	**Wetland**
Community ID:	Forested/Scrub-shrub
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Thorndike very rocky silt loam, 15-30% slopes — Series Drainage Class: Somewhat Exessively Drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	5" of Sphagnum
29+	--	1	--	--	--	--	--	--	Organics
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W001 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens (shallow root system)*	25	Y	FACU
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	25		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens (shallow root system)*	35	Y	FACU
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1	*Maianthemum canadense*	40	Y	FACU
2	*Alnus incana*	20	Y	FACW
3	*Osmunda cinnamomea*	15	N	FACW
4	*Carex trisperma*	10	N	OBL
5	*Picea mariana*	5	N	FACW
6	*Drosera rotundifolia*	3	N	OBL
7	*Carex echinata*	3	N	OBL
8	*Acer rubrum*	2	N	FAC
9	*Dryopteris cristata*	1	N	OBL
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	99		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Red spruce with shallow rooting dominanted wetland. Peat moss (*Sphagnum* spp.) throughout.

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	17	x 1 =	17
FACW spp.	40	x 2 =	80
FAC spp.	2	x 3 =	6
FACU spp.	100	x 4 =	400
UPL spp.	0	x 5 =	0
Total	159 (A)		503 (B)

Prevalence Index = B/A = ***3.164***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☑ Yes ☐ No Morphological Adaptations (Explain) *
- ☑ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	196500539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Audie Arbo	Investigator #2:	Danielle Tetreau
Soil Unit:	Thorndike very rocky silt loam, 15-30% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.052386	Longitude: -69.793853 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/20/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W001
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Thorndike very rocky silt loam, 15-30% slopes — Series Drainage Class: Somewhat Excessively Drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
3	0	1	--	--	--	--	--	--	--	--	Fibric O
0	1	2	7.5YR	3/1	100	--	--	--	--	--	Silt loam
1	1.5	3	10YR	7/2	100	--	--	--	--	--	Silt loam
1.5	3.5	4	7.5YR	5/8	100	--	--	--	--	--	Silt loam
3.5	6.5	5	10YR	6/8	100	--	--	--	--	--	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 9.5" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 9.5"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W001 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	70	Y	FACU
2	*Abies balsamea*	30	Y	FAC
3	*Acer rubrum*	10	N	FAC
4	*Betula alleghaniensis*	5	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	115		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens*	7	Y	FACU
2	*Abies balsamea*	3	Y	FAC
3	*Betula alleghaniensis*	2	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	12		

Herb Stratum (Plot size: 2 meter radius)

1	*Abies balsamea*	5	Y	FAC
2	*Picea rubens*	5	Y	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	10		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	55	x 3 =	165
FACU spp.	82	x 4 =	328
UPL spp.	0	x 5 =	0
Total	137 (A)		493 (B)

Prevalence Index = B/A = ***3.599***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Eric Doucette
Soil Unit:	Thorndike very rocky silt loam, 15-30% slopes	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.057750	Longitude: -69.786353 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/05/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W005
Sample Point:	**Wetland**
Community ID:	Forested Wetland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ■ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 3	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Thorndike very rocky silt loam, 15-30% slopes — Series Drainage Class: Somewhat excessively drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
36	--	1	--	--	--	--	--	--	--	--	Organics
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Greater than 36" of organics.

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W005 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Thuja occidentalis*	15	Y	FACW
2	*Picea rubens*	15	Y	FACU
3	*Betula alleghaniensis*	5	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Alnus incana*	15	Y	FACW
2	*Spiraea tomentosa*	5	N	FACW
3	*Nemopanthus mucronatus*	2	N	OBL
4	*Picea rubens*	2	N	FACU
5	*Acer rubrum*	2	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	26		

Herb Stratum (Plot size: 2 meter radius)

1	*Carex trisperma*	90	Y	OBL
2	*Osmunda cinnamomea*	20	N	FACW
3	*Oclemena acuminata*	10	N	FACU
4	*Rubus hispidus*	5	N	FACW
5	*Carex gynandra*	5	N	OBL
6	*Thuja occidentalis*	5	N	FACW
7	*Cornus canadensis*	2	N	FAC
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	137		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	97	x 1 =	97
FACW spp.	65	x 2 =	130
FAC spp.	9	x 3 =	27
FACU spp.	27	x 4 =	108
UPL spp.	0	x 5 =	0
Total	198 (A)		362 (B)

Prevalence Index = B/A = ***1.828***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Eric Doucette
Soil Unit:	Thorndike very rocky silt loam, 15-30% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.057750	Longitude: -69.786353 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/05/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W005
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Thorndike very rocky silt loam, 15-30% slopes — Series Drainage Class: Somewhat excessively drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	2" of duff
0	7	1	2.5YR	4/6	90	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	10% organic streaking
--	--	--	--	--	--	--	--	--	--	--	Refusal @7" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 7"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W005 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	20	Y	FACU
2	*Thuja occidentalis*	10	Y	FACW
3	*Abies balsamea*	5	N	FAC
4	*Betula papyrifera*	5	N	FACU
5	*Quercus rubra*	5	N	FACU
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Viburnum lantanoides*	50	Y	FACU
2	*Fagus grandifolia*	20	Y	FACU
3	*Acer pensylvanicum*	15	N	FACU
4	*Betula alleghaniensis*	10	N	FAC
5	*Picea rubens*	5	N	FACU
6	*Acer rubrum*	2	N	FAC
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	102		

Herb Stratum (Plot size: 2 meter radius)

1	*Acer rubrum*	5	Y	FAC
2	*Aralia nudicaulis*	2	Y	FACU
3	*Cornus canadensis*	1	N	FAC
4	*Clintonia borealis*	1	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	9		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	24	x 3 =	72
FACU spp.	122	x 4 =	488
UPL spp.	0	x 5 =	0
Total	156 (A)		580 (B)

Prevalence Index = B/A = ***3.718***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Eric Doucette	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam, 15-30% slopes	NWI Classification:	PEM
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.059330	Longitude: -69.788535 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/05/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W006
Sample Point:	**Wetland**
Community ID:	Wet Meadow
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation has been altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☑ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Thorndike very rocky silt loam, 15-30% slopes — Series Drainage Class: Somewhat excessively drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
7	0	1	--	--	--	--	--	--	--	--	Hemic/Sapric Organics
0	8	2	10YR	5/1	75	10YR	6/8	20	C	M	Clay loam w/ 5%
--	--	--	--	--	--	--	--	--	--	--	organic streaking
--	--	--	--	--	--	--	--	--	--	--	Refusal @15" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W006 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1	*Clematis virginiana*	50	Y	FAC
2	*Osmunda claytoniana*	40	Y	FAC
3	*Scirpus microcarpus*	30	N	OBL
4	*Dryopteris cristata*	10	N	OBL
5	*Carex brunnescens*	10	N	FACW
6	*Lycopus uniflorus*	5	N	OBL
7	*Carex projecta*	5	N	FACW
8	*Fragaria virginiana*	5	N	OBL
9	*Eutrochium maculatum*	5	N	OBL
10	*Doellingeria umbellata*	5	N	FACW
11	*Carex scoparia*	5	N	FACW
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	170		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Less than 10% cover of peat moss (*Sphagnum* spp.).

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	55	x 1 =	55
FACW spp.	25	x 2 =	50
FAC spp.	90	x 3 =	270
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	170 (A)		375 (B)

Prevalence Index = B/A = ***2.206***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Eric Doucette	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam, 15-30% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.059300	Longitude: -69.7885 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/05/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W006
Sample Point:	**Upland**
Community ID:	Post-harvest Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Vegetation has been altered by timber management activities. Much of duff & topsoil removed by equipment activity.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Thorndike very rocky silt loam, 15-30% slopes — Series Drainage Class: Somewhat excessively drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR 4/6	100	--	--	--	--	Sandy loam
--	--	--	--	--	--	--	--	--	Refusal @ 3" bgs
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 3"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W006 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer rubrum*	50	Y	FAC
2	*Acer pensylvanicum*	50	Y	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	100		

Herb Stratum (Plot size: 2 meter radius)

1	*Osmunda claytoniana*	60	Y	FAC
2	*Acer rubrum*	30	Y	FAC
3	*Oclemena acuminata*	5	N	FACU
4	*Doellingeria umbellata*	5	N	FACW
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	140	x 3 =	420
FACU spp.	55	x 4 =	220
UPL spp.	0	x 5 =	0
Total	200 (A)		650 (B)

Prevalence Index = B/A = ***3.250***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Audie Arbo	Investigator #2:	Danielle Tetreau
Soil Unit:	Plaisted very stony loam, 8-15% slopes	NWI Classification:	PSS
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.063993	Longitude: -69.784919 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/21/12
County:	Somerset
State:	Maine
Wetland ID:	BING_W013
Sample Point:	**Wetland**
Community ID:	Scrub-shrub
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ■ **No**

Remarks: Vegetation has been altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Plaisted very stony loam, 8-15% slopes — Series Drainage Class: Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
15	0	1	--	--	--	--	--	--	--	--	Sapric organics
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 15" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: bedrock Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Soil is a histic epipedon if not a histosol, but unable to reach the required 16" depth due to refusal.

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W013 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	20	Y	FACU
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens*	30	Y	FACU
2	*Larix laricina*	10	N	FACW
3	*Nemopanthus mucronatus*	10	N	OBL
4	*Abies balsamea*	1	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	51		

Herb Stratum (Plot size: 2 meter radius)

1	*Osmunda cinnamomea*	75	Y	FACW
2	*Carex trisperma*	50	Y	OBL
3	*Maianthemum trifolium*	50	Y	OBL
4	*Eriophorum angustifolium*	25	N	OBL
5	*Gaultheria hispidula*	20	N	FACW
6	*Betula alleghaniensis*	10	N	FAC
7	*Acer rubrum*	10	N	FAC
8	*Cornus canadensis*	5	N	FAC
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	245		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Peat moss (*Sphagnum* spp.) throughout.

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	135	x 1 =	135
FACW spp.	105	x 2 =	210
FAC spp.	26	x 3 =	78
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	316 (A)		623 (B)

Prevalence Index = B/A = ***1.972***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Audie Arbo	Investigator #2:	Danielle Tetreau
Soil Unit:	Plaisted very stony loam, 8-15% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.063993	Longitude: -69.784919 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/21/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W013
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Plaisted very stony loam, 8-15% slopes — Series Drainage Class: Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	1" of duff
0	1	1	10YR	3/2	100	--	--	--	--	--	Silt loam
1	8	2	10YR	4/4	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 8" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W013 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	40	Y	FACU
2	*Picea rubens*	5	N	FACU
3	*Acer rubrum*	2	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	47		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fagus grandifolia*	80	Y	FACU
2	*Acer pensylvanicum*	40	Y	FACU
3	*Picea rubens*	5	N	FACU
4	*Viburnum lantanoides*	2	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	127		

Herb Stratum (Plot size: 2 meter radius)

1	*Coptis trifolia*	15	Y	FACW
2	*Acer rubrum*	5	Y	FAC
3	*Oxalis montana*	2	N	FACU
4	*Abies balsamea*	2	N	FAC
5	*Trientalis borealis*	1	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	25		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	15	x 2 =	30
FAC spp.	10	x 3 =	30
FACU spp.	174	x 4 =	696
UPL spp.	0	x 5 =	0
Total	199 (A)		756 (B)

Prevalence Index = B/A = ***3.799***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Audie Arbo	Investigator #2:	Danielle Tetreau
Soil Unit:	Plaisted very stony loam, 8-15% slopes	NWI Classification:	PSS
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.063993	Longitude: -69.784919 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/21/12
County:	Somerset
State:	Maine
Wetland ID:	BING_W013
Sample Point:	**Wetland**
Community ID:	Scrub-shrub
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ■ **No**

Remarks: Vegetation has been altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Plaisted very stony loam, 8-15% slopes — Series Drainage Class: Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
15	0	1	--	--	--	--	--	--	--	--	Sapric organics
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 15" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: bedrock Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Soil is a histic epipedon if not a histosol, but unable to reach the required 16" depth due to refusal.

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W013 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	20	Y	FACU
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens*	30	Y	FACU
2	*Larix laricina*	10	N	FACW
3	*Nemopanthus mucronatus*	10	N	OBL
4	*Abies balsamea*	1	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	51		

Herb Stratum (Plot size: 2 meter radius)

1	*Osmunda cinnamomea*	75	Y	FACW
2	*Carex trisperma*	50	Y	OBL
3	*Maianthemum trifolium*	50	Y	OBL
4	*Eriophorum angustifolium*	25	N	OBL
5	*Gaultheria hispidula*	20	N	FACW
6	*Betula alleghaniensis*	10	N	FAC
7	*Acer rubrum*	10	N	FAC
8	*Cornus canadensis*	5	N	FAC
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	245		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Peat moss (*Sphagnum* spp.) throughout.

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	135	x 1 =	135
FACW spp.	105	x 2 =	210
FAC spp.	26	x 3 =	78
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	316 (A)		623 (B)

Prevalence Index = B/A = ***1.972***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Audie Arbo	Investigator #2:	Danielle Tetreau
Soil Unit:	Plaisted very stony loam, 8-15% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.063993	Longitude: -69.784919 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/21/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W013
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Plaisted very stony loam, 8-15% slopes — Series Drainage Class: Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	1" of duff
0	1	1	10YR	3/2	100	--	--	--	--	--	Silt loam
1	8	2	10YR	4/4	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 8" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W013 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	40	Y	FACU
2	*Picea rubens*	5	N	FACU
3	*Acer rubrum*	2	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	47		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fagus grandifolia*	80	Y	FACU
2	*Acer pensylvanicum*	40	Y	FACU
3	*Picea rubens*	5	N	FACU
4	*Viburnum lantanoides*	2	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	127		

Herb Stratum (Plot size: 2 meter radius)

1	*Coptis trifolia*	15	Y	FACW
2	*Acer rubrum*	5	Y	FAC
3	*Oxalis montana*	2	N	FACU
4	*Abies balsamea*	2	N	FAC
5	*Trientalis borealis*	1	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	25		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	15	x 2 =	30
FAC spp.	10	x 3 =	30
FACU spp.	174	x 4 =	696
UPL spp.	0	x 5 =	0
Total	199 (A)		756 (B)

Prevalence Index = B/A = ***3.799***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Danielle Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Dixmont very stony silt loam, 0-8% slopes	NWI Classification:	PSS
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.067506	Longitude: -69.783454 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/23/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W019
Sample Point:	**Wetland**
Community ID:	Scrub-shrub Wetland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Dixmont very stony silt loam, 0-8% slopes — Series Drainage Class: Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
4	0	1	--	--	--	--	--	--	--	--	Hemic organics
0	8	2	10YR	3/1	90	2.5Y	5/1	10	D	M	Silt loam (org. streaking)
8	12	3	Gley 1	5/10Y	95	2.5Y	6/4	5	C	M	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 16" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☑ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hardpan Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W019 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fraxinus nigra*	20	Y	FACW
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Alnus incana*	70	Y	FACW
2	*Picea rubens*	15	N	FACU
3	*Betula alleghaniensis*	5	N	FAC
4	*Abies balsamea*	5	N	FAC
5	*Spiraea alba*	2	N	FACW
6	*Acer pensylvanicum*	1	N	FACU
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	98		

Herb Stratum (Plot size: 2 meter radius)

1	*Osmunda cinnamomea*	85	Y	FACW
2	*Eutrochium maculatum*	40	Y	OBL
3	*Onoclea sensibilis*	35	N	FACW
4	*Chelone glabra*	20	N	OBL
5	*Impatiens capensis*	15	N	FACW
6	*Glyceria melicaria*	10	N	OBL
7	*Poa* sp.	7	N	NL
8	*Rubus pubescens*	5	N	FACW
9	*Galium mollugo*	5	N	NL
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	222		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	70	x 1 =	70
FACW spp.	232	x 2 =	464
FAC spp.	10	x 3 =	30
FACU spp.	16	x 4 =	64
UPL spp.	0	x 5 =	0
Total	328 (A)		628 (B)

Prevalence Index = B/A = ***1.915***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Danielle Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Dixmont very stony silt loam, 0-8% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.067506	Longitude: -69.783454 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/23/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W019
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Vegetation altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Dixmont very stony silt loam, 0-8% slopes — Series Drainage Class: Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox %	Redox Type	Redox Location	Texture (e.g. clay, sand, loam)
0	3	1	7.5YR	2.5/2	100	--	--	--	--	--	Fine sandy loam
3	3.25	2	7.5YR	6/2	100	--	--	--	--	--	Fine sandy loam
3.25	13.25	3	7.5YR	5/6	100	--	--	--	--	--	Fine sandy loam
13.25	19.25	4	7.5YR	5/8	100	--	--	--	--	--	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	w/ small coarse frags.
--	--	--	--	--	--	--	--	--	--	--	Refusal @19.25"
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hardpan Depth: 19.25"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W019 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Acer saccharum*	20	Y	FACU
2	*Acer rubrum*	20	Y	FAC
3	*Fraxinus nigra*	15	Y	FACW
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer rubrum*	70	Y	FAC
2	*Picea rubens*	15	Y	FACU
3	*Acer saccharum*	15	Y	FACU
4	*Betula populifolia*	10	N	FAC
5	*Abies balsamea*	10	N	FAC
6	*Corylus cornuta*	7	N	FACU
7	*Sorbus decora*	7	N	FACU
8	*Acer pensylvanicum*	5	N	FACU
9	*Alnus incana*	2	N	FACW
10	*Prunus serotina*	2	N	FACU
	Total Cover =	143		

Herb Stratum (Plot size: 2 meter radius)

1	*Dennstaedtia punctilobula*	90	Y	FACU
2	*Osmunda claytoniana*	15	N	FAC
3	*Coptis trifolia*	15	N	FACW
4	*Osmunda cinnamomea*	5	N	FACW
5	*Aralia nudicaulis*	2	N	FACU
6	*Cornus canadensis*	2	N	FAC
7	*Maianthemum canadense*	2	N	FACU
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	131		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: *Dennstaedtia puctilobula* is not included in the 2012 National Wetland Plant List for the Northcentral-Northeast Region. Based upon best professional judgment, this species has been assigned an indicator status of FACU for this plot.

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***42.9%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	37	x 2 =	74
FAC spp.	127	x 3 =	381
FACU spp.	165	x 4 =	660
UPL spp.	0	x 5 =	0
Total	329 (A)		1115 (B)

Prevalence Index = B/A = ***3.389***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Matt Arsenault
Soil Unit:	Dixmont very stony silt loam, 0-8% slopes	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.069165	Longitude: -69.780913 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/23/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W024
Sample Point:	**Wetland**
Community ID:	Forested wetland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☑ Yes ☐ No
Wetland Hydrology Present?	☑ Yes ☐ No	Is This Sampling Point Within A Wetland?	☑ **Yes** ☐ **No**

Remarks: Isolated standing water in topographic pits.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	<1	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:		(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Dixmont very stony silt loam, 0-8% slopes — Series Drainage Class: Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
10	0	1	--	--	--	--	--	--	--	--	Organics
0	3	2	10YR	5/1	95	10YR	4/6	5	C	M	Loamy sand
3	5	3	2.5Y	6/2	60	2.5Y	5/6	40	C	M	Loamy sand
5	10	4	2.5Y	4/3	90	7.5YR	4/6	10	C	M	Loamy sand
	--	--	--	--	--	--	--	--	--	--	Refusal @ 20" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 20"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W024 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Betula alleghaniensis*	15	Y	FAC
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	15		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Alnus incana*	50	Y	FACW
2	*Fraxinus nigra*	3	N	FACW
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	53		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria melicaria*	40	Y	OBL
2	*Dryopteris carthusiana*	25	Y	FACW
3	*Solidago rugosa*	20	N	FAC
4	*Impatiens capensis*	15	N	FACW
5	*Osmunda cinnamomea*	10	N	FACW
6	*Onoclea sensibilis*	5	N	FACW
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	115		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	40	x 1 =	40
FACW spp.	108	x 2 =	216
FAC spp.	35	x 3 =	105
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	183 (A)		361 (B)

Prevalence Index = B/A = ***1.973***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Matt Arsenault
Soil Unit:	Dixmont very stony silt loam, 0-8% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.069165	Longitude: -69.780913 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/23/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W024
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes ☑ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Dixmont very stony silt loam, 0-8% slopes — Series Drainage Class: Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	1" of duff
0	2	1	5YR	3/1	100	--	--	--	--	--	Silt loam
2	7	2	7.5YR	3/3	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 7" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 7"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W024 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	40	Y	FAC
2	*Acer saccharum*	30	Y	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	15	Y	FAC
2	*Acer rubrum*	10	Y	FAC
3	*Fagus grandifolia*	5	N	FACU
4	*Acer saccharum*	5	N	FACU
5	*Betula alleghaniensis*	2	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	37		

Herb Stratum (Plot size: 2 meter radius)

1	*Dennstaedtia punctilobula*	25	Y	FACU
2	*Pteridium aquilinum*	20	Y	FACU
3	*Cornus canadensis*	5	N	FAC
4	*Aralia nudicaulis*	2	N	FACU
5	*Maianthemum canadense*	1	N	FACU
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	53		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	72	x 3 =	216
FACU spp.	88	x 4 =	352
UPL spp.	0	x 5 =	0
Total	160 (A)		568 (B)

Prevalence Index = B/A = ***3.550***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Remarks: *Dennstaedtia punctilobula* is not included on the 2012 National Wetland Plant List for the Northcentral -Northeast Region. Based upon best professional judgment it has been assigned a FACU rating for this data plot.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Matt Arsenault
Soil Unit:	Dixmont very stony silt loam, 0-8% slopes	NWI Classification:	PSS/PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.071876	Longitude: -69.778494 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/22/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W028
Sample Point:	**Wetland**
Community ID:	Scrub-shrub/forested
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 15	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: w/in 12	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Dixmont very stony silt loam, 0-8% slopes — Series Drainage Class: Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
18	0	1	--	--	--	--	--	--	--	--	Organics
0	3	2	10YR	4/1	80	7.5YR	4/6	20	C	M	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 21" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 21"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W028 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	10	Y	FAC
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Alnus incana*	40	Y	FACW
2	*Abies balsamea*	5	N	FAC
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1	*Chelone glabra*	30	Y	OBL
2	*Glyceria melicaria*	20	Y	OBL
3	*Impatiens capensis*	15	Y	FACW
4	*Solidago rugosa*	2	N	FAC
5	*Glyceria striata*	2	N	OBL
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	69		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	52	x 1 =	52
FACW spp.	55	x 2 =	110
FAC spp.	17	x 3 =	51
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	124 (A)		213 (B)

Prevalence Index = B/A = ***1.718***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Matt Arsenault
Soil Unit:	Dixmont very stony silt loam, 0-8% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.071876	Longitude: -69.778494 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/22/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W028
Sample Point:	**Upland**
Community ID:	Wooded Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Dixmont very stony silt loam, 0-8% slopes — Series Drainage Class: Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
1	0	1	--	--	--	--	--	--	Organics
0	4	2	7.5YR	3/2	100	--	--	--	Silt loam
4	12	3	7.5YR	4/6	100	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	Refusal @ 13" bgs
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 13"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W028 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	50	Y	FAC
2	*Betula papyrifera*	10	N	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer rubrum*	15	Y	FAC
2	*Betula papyrifera*	10	Y	FACU
3	*Alnus incana*	5	N	FACW
4	*Abies balsamea*	5	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1	*Rubus idaeus*	15	Y	FACU
2	*Vaccinium angustifolium*	10	Y	FACU
3	*Cornus canadensis*	10	Y	FAC
4	*Pteridium aquilinum*	5	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	40		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	80	x 3 =	240
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	135 (A)		450 (B)

Prevalence Index = B/A = ***3.333***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Matt Arsenault
Soil Unit:	Dixmont very stony silt loam, 0-8% slopes	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.075851	Longitude: -69.770636 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☑, Soil ☐, or Hydrology ☑ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/21/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W037
Sample Point:	**Wetland**
Community ID:	Forested Wetland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 8	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Dixmont very stony silt loam, 0-8% slopes — Series Drainage Class: Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
3	0	1	--	--	--	--	--	--	--	--	Organics
0	1	2	7.5YR	3/1	100	--	--	--	--	--	Silt loam
1	7	3	10YR	5/2	95	7.5YR	4/6	5	C	M	Fine sandy loam
7	8	--	--	--	--	--	--	--	--	--	Rock
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 8"
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W037 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens (shallow root systems)*	30	Y	FACU
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens (shallow root systems)*	15	Y	FACU
2	*Abies balsamea*	10	Y	FAC
3	*Acer rubrum*	10	Y	FAC
4	*Viburnum lantanoides*	5	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1	*Carex gynandra*	20	Y	OBL
2	*Rubus idaeus*	15	Y	FACU
3	*Dryopteris intermedia*	10	N	FAC
4	*Osmunda claytoniana*	5	N	FAC
5	*Scirpus hattorianus*	5	N	OBL
6	*Cornus canadensis*	2	N	FAC
7	*Coptis trifolia*	1	N	FACW
8	*Gaultheria hispidula*	1	N	FACW
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	59		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Red spruce with shallow rooting dominated wetland. Peat moss (*Sphagnum spp.)* throughout wetland.

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	25	x 1 =	25
FACW spp.	2	x 2 =	4
FAC spp.	37	x 3 =	111
FACU spp.	65	x 4 =	260
UPL spp.	0	x 5 =	0
Total	129 (A)		400 (B)

Prevalence Index = B/A = ***3.101***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☑ Yes ☐ No Morphological Adaptations (Explain) *
- ☑ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Matt Arsenault
Soil Unit:	Dixmont very stony silt loam, 0-8% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.075851	Longitude: -69.770636 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/21/10
County:	Somerset
State:	Maine
Wetland ID:	BING_W037
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Bingham
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Dixmont very stony silt loam, 0-8% slopes — Series Drainage Class: Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	2" of duff
1	0	1	--	--	--	--	--	--	Organics
0	3	2	7.5YR	3/2	100	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	Refusal @ 4" bgs
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 4"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: BING_W037 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	70	Y	FACU
2	*Abies balsamea*	20	Y	FAC
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens*	60	Y	FACU
2	*Abies balsamea*	20	Y	FAC
3	*Acer rubrum*	10	N	FAC
4	*Acer pensylvanicum*	10	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	100		

Herb Stratum (Plot size: 2 meter radius)

1	*Cornus canadensis*	15	Y	FAC
2	*Dennstaedtia punctilobula*	10	Y	FACU
3	*Maianthemum canadense*	5	N	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: *Dennstaedtia punctilobula* is not included in the 2012 National Wetland Plant List for the Northcentral-Northeast Regions. Based upon best professional judgment this species was assigned a FACU indicator for this data plot.

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	65	x 3 =	195
FACU spp.	155	x 4 =	620
UPL spp.	0	x 5 =	0
Total	220 (A)		815 (B)

Prevalence Index = B/A = ***3.705***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Dixfield-Colonel-Lyman	NWI Classification:	PSS
Landform:	NR	Local Relief:	
Slope (%):	NR	Latitude: 45.156867	Longitude: -69.668024 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	05/25/11
County:	Piscataquis
State:	Maine
Wetland ID:	KING_W223
Sample Point:	**Wetland**
Community ID:	Scrub-shrub wetland
Section:	--
Township:	Kingsbury Plantation
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Area has been altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:		(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	0	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Dixfield-Colonel-Lyman — Series Drainage Class: Mod. well drained/Somewhat poorly drained/Somewhat excess. dr.

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
6	0	1	--	--	--	--	--	--	--	--	Organics
0	6	2	7.5YR	4/2	95	5YR	4/4	5	C	M	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 6" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 6"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: KING_W223 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	10	Y	FAC
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Alnus incana*	30	Y	FACW
2	*Abies balsamea*	10	N	FAC
3	*Spiraea alba*	10	N	FACW
4	*Acer rubrum*	2	N	FAC
5	*Nemopanthus mucronatus*	2	N	OBL
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	54		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria striata*	70	Y	OBL
2	*Solidago rugosa*	5	N	FAC
3	*Equisetum sylvaticum*	5	N	FACW
4	*Maianthemum canadense*	2	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	82		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	72	x 1 =	72
FACW spp.	45	x 2 =	90
FAC spp.	27	x 3 =	81
FACU spp.	2	x 4 =	8
UPL spp.	0	x 5 =	0
Total	146 (A)		251 (B)

Prevalence Index = B/A = ***1.719***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Dixfield-Colonel-Lyman	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.156867	Longitude: -69.668024 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☐Yes ☑No

Date:	05/25/11
County:	Piscataquis
State:	Maine
Wetland ID:	KING_W223
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Kingsbury Plantation
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Area has been altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Dixfield-Colonel-Lyman — Series Drainage Class: Mod. well drained/Somewhat poorly drained/Somewhat excess. dr.

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	1" of duff
1	0	1	--	--	--	--	--	--	--	--	Fibric organics
0	3	2	10YR	5/1	100	--	--	--	--	--	Silt loam
3	6	3	7.5YR	4/4	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal at 7" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 7"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: KING_W223 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	25	Y	FAC
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	25		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	25	Y	FAC
2	*Acer rubrum*	10	Y	FAC
3	*Betula populifolia*	5	N	FAC
4	*Picea rubens*	5	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1	*Clintonia borealis*	5	Y	FAC
2	*Erythronium americanum*	5	Y	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	10		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: *Erythronium americanum* is not included in the NWPL for the Northcentral-Northeast Region or surrounding regions. Based upon best professional judgment this species has been assigned a rating of FACU.

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	70	x 3 =	210
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	80 (A)		250 (B)

Prevalence Index = B/A = ***3.125***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Katelin Nickerson
Soil Unit:	Colonel-Brayton	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.168201	Longitude: -69.650271 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☐Yes ☑No

Date:	06/08/11
County:	Piscataquis
State:	Maine
Wetland ID:	KING_W286
Sample Point:	**Wetland**
Community ID:	Forested Wetalnd
Section:	--
Township:	Kingsbury Plantation
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Area has been altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 3	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name Colonel-Brayton — Series Drainage Class: Somewhat poorly drained/Poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
20	0	1	--	--	--	--	--	--	--	--	Fibric organics
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 20" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 20"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: KING_W286 Sample Point **Wetland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fraxinus nigra*	15	Y	FACW
2	*Picea rubens*	15	Y	FACU
3	*Acer rubrum*	15	Y	FAC
4	*Betula alleghaniensis*	5	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fraxinus nigra*	15	Y	FACW
2	*Acer rubrum*	15	Y	FAC
3	*Betula alleghaniensis*	10	Y	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria melicaria*	80	Y	OBL
2	*Impatiens capensis*	20	N	FACW
3	*Eutrochium maculatum*	15	N	OBL
4	*Solidago rugosa*	5	N	FAC
5	*Geum* sp.	5	N	NL
6	*Athyrium filix-femina*	5	N	FAC
7	*Onoclea sensibilis*	2	N	FACW
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	132		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***85.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	95	x 1 =	95
FACW spp.	52	x 2 =	104
FAC spp.	55	x 3 =	165
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	217 (A)		424 (B)

Prevalence Index = B/A = ***1.954***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Katelin Nickerson
Soil Unit:	Colonel-Brayton	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.168201	Longitude: -69.650271 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	06/08/11
County:	Piscataquis
State:	Maine
Wetland ID:	KING_W286
Sample Point:	**Upland**
Community ID:	Forested upland
Section:	--
Township:	Kingsbury Plantation
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Area has been altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name Colonel-Brayton — Series Drainage Class: Somewhat poorly drained/Poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	1" of duff
4	0	1	--	--	--	--	--	--	Organics
0	2	2	7.5YR 5/3	100	--	--	--	--	Silt loam
2	4	3	2.5Y 3/4	100	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	Refusal @ 8 " bgs
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: KING_W286 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	60	Y	FACU
2	*Acer saccharum*	10	N	FACU
3	*Betula papyrifera*	5	N	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fagus grandifolia*	40	Y	FACU
2	*Acer pensylvanicum*	40	Y	FACU
3	*Viburnum lantanoides*	20	N	FACU
4	*Acer saccharum*	5	N	FACU
5	*Abies balsamea*	1	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	106		

Herb Stratum (Plot size: 2 meter radius)

1	*Acer spicatum*	10	Y	FACU
2	*Clintonia borealis*	5	Y	FAC
3	*Coptis trifolia*	1	N	FACW
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	16		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***20.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	1	x 2 =	2
FAC spp.	5	x 3 =	15
FACU spp.	190	x 4 =	760
UPL spp.	0	x 5 =	0
Total	196 (A)		777 (B)

Prevalence Index = B/A = ***3.964***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Brayton-Peacham Assoc. Extremely stony	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.156999	Longitude: -69.610075 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	11/11/12
County:	Piscataquis
State:	Maine
Wetland ID:	KING_W329
Sample Point:	**Wetland**
Community ID:	Forested wetland
Section:	--
Township:	Kingsbury Plantation
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation is disturbed from timber harvest activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopgraphic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 1	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Brayton-Peacham Assoc. Extremely stony — Series Drainage Class: Poorly drained/Very poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
6	0	1	--	--	--	--	--	--	--	--	Organic
0	3	2	10YR	5/1	85	10YR	6/6	15	C	M	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 9" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 9"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: KING_W329 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	15	Y	FAC
2	*Acer rubrum*	15	Y	FAC
3	*Fraxinus nigra*	10	N	FACW
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Alnus incana*	20	Y	FACW
2	*Ilex verticillata*	20	Y	FACW
3	*Fraxinus nigra*	15	N	FACW
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria striata*	80	Y	OBL
2	*Osmunda cinnamomea*	10	N	FACW
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	80	x 1 =	80
FACW spp.	75	x 2 =	150
FAC spp.	30	x 3 =	90
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	185 (A)		320 (B)

Prevalence Index = B/A = ***1.730***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Katelin Nickerson
Soil Unit:	Brayton-Peacham Assoc. Extremely stony	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.156999	Longitude: -69.610075 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	11/11/10
County:	Piscataquis
State:	Maine
Wetland ID:	KING_W329
Sample Point:	**Upland**
Community ID:	Forested upland
Section:	--
Township:	Kingsbury Plantation
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☐ x No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Vegetation is disturbed from timber harvest activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑	No	Depth:	(in.)
Water Table Present?	☐ Yes ☑	No	Depth:	(in.)
Saturation Present?	☐ Yes ☑	No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name Brayton-Peacham Assoc. Extremely stony — Series Drainage Class: Poorly drained/Very poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	2" duff/organics
0	1	1	10YR	4/2	100	--	--	--	--	--	Silt loam
1	4	2	10YR	5/4	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 4" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 4"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: KING_W329 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	25	Y	FACU
2	*Acer saccharum*	20	Y	FACU
3	*Tsuga canadensis*	10	N	FACU
4	*Acer rubrum*	10	N	FAC
5	*Abies balsamea*	5	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fagus grandifolia*	25	Y	FACU
2	*Acer pensylvanicum*	15	Y	FACU
3	*Abies balsamea*	5	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1	*Pteridium aquilinum*	25	Y	FACU
2	*Coptis trifolia*	2	N	FACW
3	*Abies balsamea*	5	N	FAC
4	*Pyrola americana*	2	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	34		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	2	x 2 =	4
FAC spp.	27	x 3 =	81
FACU spp.	120	x 4 =	480
UPL spp.	0	x 5 =	0
Total	149 (A)		565 (B)

Prevalence Index = B/A = ***3.792***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Monarda-Telos Association, 1-8% slopes	NWI Classification:	PEM
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.097519	Longitude: -69.764281 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/11/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W049
Sample Point:	**Wetland**
Community ID:	Regenerating Forest
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☑ Yes ☐ No	Depth: w/in 12	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos Association, 1-8% slopes — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
4	0	1	--	--	--	--	--	--	--	--	Organics
0	6	2	7.5YR	5/1	90	5YR	4/6	10	C	M	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 10" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W049 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	10	Y	FAC
2	*Betula alleghaniensis*	2	N	FAC
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	12		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Betula alleghaniensis*	2	N	FAC
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	2		

Herb Stratum (Plot size: 2 meter radius)

1	*Scirpus cyperinus*	50	Y	OBL
2	*Carex trisperma*	20	Y	OBL
3	*Carex gynandra*	15	N	OBL
4	*Coptis trifolia*	5	N	FACW
5	*Betula alleghaniensis*	2	N	FAC
6	*Osmunda cinnamomea*	2	N	FACW
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	94		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	85	x 1 =	85
FACW spp.	7	x 2 =	14
FAC spp.	16	x 3 =	48
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	108 (A)		147 (B)

Prevalence Index = B/A = ***1.361***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Monarda-Telos Association, 1-8% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.097519	Longitude: -69.764281 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/11/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W049
Sample Point:	**Upland**
Community ID:	Regen. Forest Upland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Vegetation altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos Association, 1-8% slopes — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	2" of duff
0	2	1	5YR	4/4	100	--	--	--	--	--	Silt loam
2	8	2	10YR	6/3	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refulsat @ 8" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W049 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	50	Y	FAC
2	*Acer rubrum*	2	N	FAC
3	*Betula papyrifera*	2	N	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	54		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	60	Y	FAC
2	*Acer pensylvanicum*	10	N	FACU
3	*Acer rubrum*	5	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	75		

Herb Stratum (Plot size: 2 meter radius)

1	*Acer rubrum*	10	Y	FAC
2	*Parathelypteris noveboracensis*	5	Y	FAC
3	*Acer pensylvanicum*	2	N	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	17		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	132	x 3 =	396
FACU spp.	14	x 4 =	56
UPL spp.	0	x 5 =	0
Total	146 (A)		452 (B)

Prevalence Index = B/A = ***3.096***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Monarda-Telos	NWI Classification:	PSS
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.094079	Longitude: -69.782522 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/10/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W063
Sample Point:	**Wetland**
Community ID:	Scrub-shrub wetland
Section:	--
Township:	Mayfield Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Soil, vegetation, and hydrology previously altered by logging activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:		(in.)
Water Table Present?	☐ Yes ☑ No	Depth:		(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
6	0	1	--	--	--	--	--	--	--	--	Organic
0	12	2	10YR	5/1	80	10YR	5/6	20	C	M	Silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W063 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Thuja occidentalis*	30	Y	FACW
2	*Abies balsamea*	30	Y	FAC
3	*Salix bebbiana*	10	N	FACW
4	*Picea rubens*	10	N	FACU
5	*Spiraea alba*	5	N	FACW
6	*Betula populifolia*	5	N	FAC
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	90		

Herb Stratum (Plot size: 2 meter radius)

1	*Carex trisperma*	40	Y	OBL
2	*Glyceria canadensis*	10	N	OBL
3	*Scirpus cyperinus*	10	N	OBL
4	*Solidago rugosa*	3	N	FAC
5	*Eutrochium maculatum*	3	N	OBL
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	66		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	63	x 1 =	63
FACW spp.	45	x 2 =	90
FAC spp.	38	x 3 =	114
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	156 (A)		307 (B)

Prevalence Index = B/A = ***1.968***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Monarda-Telos	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.094079	Longitude: -69.782522 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/10/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W063
Sample Point:	**Upland**
Community ID:	Regenerating forest
Section:	--
Township:	Mayfield Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Soil and vegetation previously altered by logging activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑	No	Depth:	(in.)
Water Table Present?	☐ Yes ☑	No	Depth:	(in.)
Saturation Present?	☐ Yes ☑	No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	2" duff
0	1	1	10YR 4/4	100	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 1"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: verv stonv

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W063 Sample Point: Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens*	25	Y	FACU
2	*Abies balsamea*	15	Y	FAC
3	*Acer rubrum*	15	Y	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1	*Solidago rugosa*	25	Y	FAC
2	*Cornus canadensis*	10	Y	FAC
3	*Clintonia borealis*	10	Y	FAC
4	*Maianthemum canadense*	5	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	50		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	75	x 3 =	225
FACU spp.	30	x 4 =	120
UPL spp.	0	x 5 =	0
Total	105 (A)		345 (B)

Prevalence Index = B/A = ***3.286***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No — Dominance Test is > 50%
- ☐ Yes ☑ No — Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No — Morphological Adaptations (Explain) *
- ☐ Yes ☑ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Danielle Tetreau
Soil Unit:	Monarda-Burnham Association, 1-8% slopes	NWI Classification:	PSS/PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.089119	Longitude: -69.782755 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐ or Hydrology ☐ significantly disturbed? Are normal circumstances present? ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Date:	08/12/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W067
Sample Point:	**Wetland**
Community ID:	Scrub-shrub/Forested
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No

Wetland Hydrology Present? ☑ Yes ☐ No

Hydric Soils Present? ☑ Yes ☐ No

Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation has been altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:

- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 16	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Burnham Association, 1-8% slopes — Series Drainage Class: Poorly drained/Very poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
10	0	1	--	--	--	--	--	--	--	--	Organics
0	6	2	7.5YR	4/2	100	--	--	--	--	--	Loamy coarse sand
6	8	3	5YR	3/2	90	5YR	4/4	10	C	M	Loamy coarse sand
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 18" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 18"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W067 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Thuja occidentalis*	25	Y	FACW
2	*Picea rubens*	25	Y	FACU
3	*Abies balsamea*	15	Y	FAC
4	*Acer rubrum*	10	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	50	Y	FAC
2	*Thuja occidentalis*	30	Y	FACW
3	*Acer rubrum*	15	N	FAC
4	*Picea rubens*	15	N	FACU
5	*Nemopanthus mucronatus*	5	N	OBL
6	*Lonicera canadensis*	3	N	FACU
7	*Viburnum nudum*	3	N	FACU
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	121		

Herb Stratum (Plot size: 2 meter radius)

1	*Carex trisperma*	50	Y	OBL
2	*Rubus pubescens*	15	N	FACW
3	*Coptis trifolia*	5	N	FACW
4	*Cornus canadensis*	5	N	FAC
5	*Acer rubrum*	5	N	FAC
6	*Gaultheria hispidula*	1	N	FACW
7	*Thuja occidentalis*	1	N	FACW
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	82		

Woody Vine Stratum (Plot size: 10 meter radius)

1	--	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	55	x 1 =	55
FACW spp.	77	x 2 =	154
FAC spp.	100	x 3 =	300
FACU spp.	46	x 4 =	184
UPL spp.	0	x 5 =	0
Total	278 (A)		693 (B)

Prevalence Index = B/A = ***2.493***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	196500539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Danielle Tetreau
Soil Unit:	Monarda-Burnham Association, 1-8% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.089119	Longitude: -69.782755 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐ or Hydrology ☐ significantly disturbed?
Are Vegetation ☑, Soil ☐, or Hydrology ☑ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/12/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W067
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Burnham Association, 1-8% slopes — Series Drainage Class: Poorly drained/Very poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox %	Type	Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	1" of duff
0	2	1	10YR	2/1	100	--	--	--	--	--	Silt loam
2	6	2	7.5YR	4/6	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Sm. coarse frags.
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 6" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 6"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W067 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	40	Y	FACU
2	*Thuja occidentalis*	30	Y	FACW
3	*Acer rubrum*	15	N	FAC
4	*Betula papyrifera*	10	N	FACU
5	*Abies balsamea*	10	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	105		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens*	30	Y	FACU
2	*Abies balsamea*	30	Y	FAC
3	*Thuja occidentalis*	15	N	FACW
4	*Nemopanthus mucronatus*	10	N	OBL
5	*Acer pensylvanicum*	5	N	FACU
6	*Betula papyrifera*	2	N	FACU
7	*Acer rubrum*	2	N	FAC
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	94		

Herb Stratum (Plot size: 2 meter radius)

1	*Cornus canadensis*	35	Y	FAC
2	*Maianthemum canadense*	10	Y	FACU
3	*Dalibarda repens*	10	Y	FAC
4	*Coptis trifolia*	5	N	FACW
5	*Clintonia borealis*	5	N	FAC
6	*Acer rubrum*	2	N	FAC
7	*Thuja occidentalis*	2	N	FACW
8	*Trientalis borealis*	1	N	FACU
9	*Acer pensylvanicum*	1	N	FACU
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	71		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	10	x 1 =	10
FACW spp.	52	x 2 =	104
FAC spp.	109	x 3 =	327
FACU spp.	99	x 4 =	396
UPL spp.	0	x 5 =	0
Total	270 (A)		837 (B)

Prevalence Index = B/A = ***3.100***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Monarda-Telos assoc. 1-8 percent slopes	NWI Classification:	PEM
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.106200	Longitude: -69.7283 Datum: NR

Date:	10/02/12
County:	Somerset
State:	Maine
Wetland ID:	MAY_W124
Sample Point:	**Wetland**
Community ID:	Emergent wetland
Section:	--
Township:	Mayfield Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation☑ , Soil ☐, or Hydrology☐ significantly disturbed?
Are Vegetation☐ , Soil ☐, or Hydrology☐ naturally problematic?

Are normal circumstances present? ☑Yes ☐No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation has been altered by timber harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopgraphic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☐ No	Depth:		(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	10	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name Monarda-Telos assoc. 1-8 percent slopes — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
2	0	1	--	--	--	--	--	--	--	--	Organics
0	8	2	10YR	4/2	100	--	--	--	--	--	Silt loam
8	14	3	2.5Y	5/2	85	7.5YR	4/4	15	C	M	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 16" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W124 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	50	Y	FACU
2	*Betula alleghaniensis*	30	Y	FAC
3	*Fraxinus americana*	10	N	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fagus grandifolia*	15	Y	FACU
2	*Betula alleghaniensis*	15	Y	FAC
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria striata*	25	Y	OBL
2	*Glyceria melicaria*	25	Y	OBL
3	*Onoclea sensibilis*	15	Y	FACW
4	*Thelypteris palustris*	5	N	FACW
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***71.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	50	x 1 =	50
FACW spp.	20	x 2 =	40
FAC spp.	45	x 3 =	135
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	190 (A)		525 (B)

Prevalence Index = B/A = ***2.763***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Monarda-Telos Assoc. 1-8 percent slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.106200	Longitude: -69.7283 Datum: NR

Date:	10/02/12
County:	Somerset
State:	Maine
Wetland ID:	MAY_W124
Sample Point:	**Upland**
Community ID:	Forested upland
Section:	--
Township:	Mayfield Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation☐ , Soil ☐, or Hydrology☐ significantly disturbed?
Are Vegetation☐ , Soil ☐, or Hydrology☐ naturally problematic?

Are normal circumstances present? ☑Yes ☐No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopgraphic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name Monarda-Telos Assoc. 1-8 percent slopes — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	1" Organics/duff
0	7	1	10YR	4/3	100	--	--	--	--	--	Silt loam
7	12	2	10YR	3/3	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 12" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W124 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	50	Y	FACU
2	*Acer saccharum*	10	N	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fagus grandifolia*	40	Y	FACU
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1	*Fagus grandifolia*	5	Y	FACU
2	*Dryopteris intermedia*	5	Y	FAC
3	*Viburnum lantanoides*	5	Y	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	15		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***20.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	5	x 3 =	15
FACU spp.	110	x 4 =	440
UPL spp.	0	x 5 =	0
Total	115 (A)		455 (B)

Prevalence Index = B/A = ***3.957***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Danielle Tetreau	Investigator #2:	
Soil Unit:	Telos-Monarda-Monson association, 1 to 12 percent slopes	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.106500	Longitude: -69.7107 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation☐ , Soil ☐, or Hydrology☐ significantly disturbed?
Are Vegetation☐ , Soil ☐, or Hydrology☐ naturally problematic?

Are normal circumstances present? ☑Yes ☐No

Date:	07/27/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W137
Sample Point:	**Wetland**
Community ID:	Forested wetland
Section:	--
Township:	Mayfield Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:		(in.)
Water Table Present?	☐ Yes ☑ No	Depth:		(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name Telos-Monarda-Monson association, 1 to 12 percent slopes — Series Drainage Class: Somewhat poorly drained/Poorly drained/Somewhat excessively dr.

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
16	0	1	--	--	--	--	--	--	--	--	Hemic organics
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 16" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W137 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	15	Y	FACU
2	*Acer rubrum*	10	Y	FAC
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	25		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens*	50	Y	FACU
2	*Abies balsamea*	50	Y	FAC
3	*Alnus incana*	30	Y	FACW
4	*Acer rubrum*	5	N	FAC
5	*Viburnum nudum*	5	N	FACU
6	*Betula papyrifera*	5	N	FACU
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	145		

Herb Stratum (Plot size: 2 meter radius)

1	*Carex trisperma*	80	Y	OBL
2	*Betula alleghaniensis*	15	N	FAC
3	*Alnus incana*	10	N	FACW
4	*Cornus canadensis*	5	N	FAC
5	*Abies balsamea*	2	N	FAC
6	*Thuja occidentalis*	2	N	FACW
7	*Picea rubens*	2	N	FACU
8	*Acer rubrum*	2	N	FAC
9	*Nemopanthus mucronatus*	2	N	OBL
10	*Gaultheria hispidula*	2	N	FACW
11	*Drosera rotundifolia*	2	N	OBL
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	124		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	84	x 1 =	84
FACW spp.	44	x 2 =	88
FAC spp.	89	x 3 =	267
FACU spp.	77	x 4 =	308
UPL spp.	0	x 5 =	0
Total	294 (A)		747 (B)

Prevalence Index = B/A = ***2.541***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Danielle Tetreau	Investigator #2:	
Soil Unit:	Telos-Monarda-Monson assoc., 1 to 12 percent slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.106500	Longitude: -69.7107 Datum: NR

Date:	07/27/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W137
Sample Point:	**Upland**
Community ID:	Forested upland
Section:	--
Township:	Mayfield Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation☐ , Soil ☐, or Hydrology☐ significantly disturbed?
Are Vegetation☐ , Soil ☐, or Hydrology☐ naturally problematic?

Are normal circumstances present? ☑Yes ☐No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes ☑ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopgraphic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Telos-Monarda-Monson association, 1 to 12 percent slopes — Series Drainage Class: Somewhat poorly drained/Poorly drained/Somewhat excessively dr.

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
3	0	1	--	--	--	--	--	--	--	--	Fibric organics
0	3	2	10YR	3/2	100	--	--	--	--	--	Fine sandy loam
3	6	3	7.5YR	4/6	100	--	--	--	--	--	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 6" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 6"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W137 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	50	Y	FACU
2	*Abies balsamea*	50	Y	FAC
3	*Pinus strobus*	20	N	FACU
4	*Betula papyrifera*	20	N	FACU
5	*Acer rubrum*	10	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	150		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	20	Y	FAC
2	*Picea rubens*	20	Y	FACU
3	*Betula papyrifera*	10	Y	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	80	x 3 =	240
FACU spp.	120	x 4 =	480
UPL spp.	0	x 5 =	0
Total	200 (A)		720 (B)

Prevalence Index = B/A = ***3.600***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Danielle Tetreau	Investigator #2:	Tom Tetreau
Soil Unit:	Monson-Elliottsville-Ricker Complex, 4-25% slopes	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.102615	Longitude: -69.717166 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/28/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W145
Sample Point:	**Wetland**
Community ID:	Forested Wetland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Soil and Vegetation altered by timber harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Monson-Elliottsville-Ricker Complex, 4-25% slopes — Series Drainage Class: Somewhat excessively drained/Well drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
2	0	1	--	--	--	--	--	--	--	--	Organics
0	4	2	2.5YR	3/1	70	2.5YR	4/8	10	C	M	Silt loam
--	--	--	--	--	--	2.5YR	2.5/1	20	--	--	Organic streaking
4	7	3	2.5Y	4/2	90	2.5YR	4/8	10	C	M	Sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 9" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 9"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the depleted matrix would continue below the point of refusal and reach the depth of 6" required to meet the F3 indicator.

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W145 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Acer rubrum*	50	Y	FAC
2	*Betula alleghaniensis*	50	Y	FAC
3	*Fagus grandifolia*	20	N	FACU
4	*Fraxinus nigra*	5	N	FACW
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	125		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer rubrum*	25	Y	FAC
2	*Acer pensylvanicum*	10	Y	FACU
3	*Fagus grandifolia*	10	Y	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria melicaria*	90	Y	OBL
2	*Impatiens capensis*	75	Y	FACW
3	*Carex stipata*	40	N	OBL
4	*Glyceria striata*	25	N	OBL
5	*Carex gynandra*	20	N	OBL
6	*Solidago rugosa*	10	N	FAC
7	*Epilobium ciliatum*	5	N	FACW
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	265		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Peast moss (*Sphagnum* spp.) 90 percent cover.

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***71.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	175	x 1 =	175
FACW spp.	85	x 2 =	170
FAC spp.	135	x 3 =	405
FACU spp.	40	x 4 =	160
UPL spp.	0	x 5 =	0
Total	435 (A)		910 (B)

Prevalence Index = B/A = ***2.092***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Danielle Tetreau	Investigator #2:	Tom Tetreau
Soil Unit:	Monson-Elliottsville-Ricker Complex, 4-25% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.102615	Longitude: -69.717166 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/28/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W145
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Vegetation altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Monson-Elliottsville-Ricker Complex, 4-25% slopes — Series Drainage Class: Somewhat excessively drained/Well drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	1" of duff
0	4.5	1	10YR	2/1	100	--	--	--	--	--	Fine sandy loam
4.5	5	2	10YR	5/1	100	--	--	--	--	--	Loamy fine sand
5	15	3	10YR	3/3	99	10YR	4/2	1	D	M	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 15" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 15"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W145 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Acer saccharum*	25	Y	FACU
2	*Betula alleghaniensis*	15	Y	FAC
3	*Fagus grandifolia*	10	Y	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fagus grandifolia*	90	Y	FACU
2	*Acer pensylvanicum*	5	N	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	95		

Herb Stratum (Plot size: 2 meter radius)

1	*Dennstaedtia punctilobula*	15	Y	FACU
2	*Acer rubrum*	2	N	FAC
3	*Fagus grandifolia*	2	N	FACU
4	*Trientalis borealis*	1	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***20.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	3	x 3 =	9
FACU spp.	147	x 4 =	588
UPL spp.	0	x 5 =	0
Total	150 (A)		597 (B)

Prevalence Index = B/A = ***3.980***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Remarks: *Dennstaedtia punctilobula* is not included in the 2012 National Wetland Plant List of the Northcentral-Northeast Region. Based upon best professional judgment, this species was assigned an indicator status of FACU for this data plot.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Joe Jacques	Investigator #2:	
Soil Unit:	Monson-Elliottsville-Ricker Complex, 4-25% slopes	NWI Classification:	PEM
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.099382	Longitude: -69.721587 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/28/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_151
Sample Point:	**Wetland**
Community ID:	Wet Meadow
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ■ **No**

Remarks: Vegetation altered by timber harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☑ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Monson-Elliottsville-Ricker Complex, 4-25% slopes — Series Drainage Class: Somewhat excessively drained/Well drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	2/2	100	--	--	--	--	--	Silt loam
8	15	2	Gley 1	6/5GY	100	--	--	--	--	--	Silty clay loam
1	16	3	Gley 1	6/5GY	55	7.5YR	5/8	45	C	M	Silty clay loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 16"
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☑ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☑ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock/ledge Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_151 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria melicaria*	100	Y	OBL
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Bryoids present within wetland & data plot.

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	100 (A)		100 (B)

Prevalence Index = B/A = ***1.000***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Joe Jacques	Investigator #2:	
Soil Unit:	Monson-Elliottsville-Ricker Complex, 4-25% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.099382	Longitude: -69.721587 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/28/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_151
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes ☑ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Monson-Elliottsville-Ricker Complex, 4-25% slopes — Series Drainage Class: Somewhat excessively drained/Well drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	1" of duff
0	8	1	5YR	2.5/1	100	--	--	--	--	--	Silt loam
8	15	2	5YR	3/1	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @15" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 15"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_151 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	68	Y	FACU
2	*Acer saccharum*	8	N	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	76		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Fagus grandifolia*	40	Y	FACU
2	*Viburnum lantanoides*	15	Y	FACU
3	*Acer pensylvanicum*	12	N	FACU
4	*Picea rubens*	5	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	72		

Herb Stratum (Plot size: 2 meter radius)

1	*Oxalis montana*	35	Y	FACU
2	*Huperzia lucidula*	10	N	FAC
3	*Osmunda claytoniana*	5	N	FAC
4	*Betula alleghaniensis*	5	N	FAC
5	*Acer rubrum*	3	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	58		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	23	x 3 =	69
FACU spp.	183	x 4 =	732
UPL spp.	0	x 5 =	0
Total	206 (A)		801 (B)

Prevalence Index = B/A = ***3.888***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Teatreau	Investigator #2:	
Soil Unit:	Telos-Monarda-Monson	NWI Classification:	PFO
Landform:	NA	Local Relief:	NA
Slope (%):	NA	Latitude: 45.123688	Longitude: -69.678523 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/24/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W174
Sample Point:	**Wetland**
Community ID:	Forested Wetland
Section:	--
Township:	Mayfield Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation, soils, and hydrology altered by timber harvesting activites.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:		(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	6	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Telos-Monarda-Monson — Series Drainage Class: Somewhat poorly drained/Poorly drained/Somewhat excessively draine

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
20	0	1	--	--	--	--	--	--	--	--	Organic
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 20"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W174 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Thuja occidentalis*	15	Y	FACW
2	*Picea rubens*	10	Y	FACU
3	*Betula alleghaniensis*	5	N	FAC
4	*Abies balsamea*	5	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	15	Y	FAC
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1	*Carex trisperma*	90	Y	OBL
2	*Osmunda cinnamomea*	15	N	FACW
3	*Dryopteris cristata*	5	N	OBL
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	110		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	95	x 1 =	95
FACW spp.	30	x 2 =	60
FAC spp.	25	x 3 =	75
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	160 (A)		270 (B)

Prevalence Index = B/A = ***1.688***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Stantec

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Telos-Monarda-Monson	NWI Classification:	NA
Landform:		Local Relief:	NR
Slope (%):	NR	Latitude: 45.123688	Longitude: -69.678523 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☐ No

Are Vegetation ☑ , Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/24/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W174
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Mayfield Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Vegetation, soils, and hydrology altered by timber harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Telos-Monarda-Monson — Series Drainage Class: Somewhat poorly drained/Poorly drained/Somewhat excessively draine

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	3" duff
0	5	1	5YR	3/2	100	--	--	--	--	--	Loam
5	10	2	10YR	5/6	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W174 Sample Point: Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	20	Y	FAC
2	*Tsuga canadensis*	20	Y	FACU
3	*Acer saccharum*	10	N	FACU
4	*Betula alleghaniensis*	5	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	25	Y	FAC
2	*Acer rubrum*	10	Y	FAC
3	*Acer saccharum*	5	N	FACU
4	*Acer pensylvanicum*	3	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	43		

Herb Stratum (Plot size: 2 meter radius)

1	*Cornus canadensis*	20	Y	FAC
2	*Abies balsamea*	5	N	FAC
3	*Trientalis borealis*	1	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	26		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	86	x 3 =	258
FACU spp.	38	x 4 =	152
UPL spp.	0	x 5 =	0
Total	124 (A)		410 (B)

Prevalence Index = B/A = ***3.306***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No — Dominance Test is > 50%
- ☐ Yes ☑ No — Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No — Morphological Adaptations (Explain) *
- ☐ Yes ☑ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Danielle Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Telos-Chesuncook-Elliottsville Association, 3-15% slopes	NWI Classification:	PFO/PSS
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.137713	Longitude: -69.689076 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/19/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W187
Sample Point:	**Wetland**
Community ID:	Forested/scrub-shrub
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Telos-Chesuncook-Elliottsville Association, 3-15% slopes — Series Drainage Class: Somewhat poorly drained/Moderately well drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
10	0	1	--	--	--	--	--	--	--	--	Organics
0	3	2	2.5Y	3/2	100	--	--	--	--	--	Fine sandy loam
3	15	3	Gley 1	5/10Y	100	--	--	--	--	--	Fine sandy loam
15	16	4	Gley 1	5/10Y	NR	10YR	4/4	NR	C	M	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 26" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☑ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 26"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W187 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	30	Y	FACU
2	*Acer rubrum*	30	Y	FAC
3	*Betula alleghaniensis*	5	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	65		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Picea rubens*	30	Y	FACU
2	*Abies balsamea*	20	Y	FAC
3	*Betula alleghaniensis*	5	N	FAC
4	*Acer rubrum*	2	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	57		

Herb Stratum (Plot size: 2 meter radius)

1	*Carex trisperma*	70	Y	OBL
2	*Osmunda cinnamomea*	15	N	FACW
3	*Cornus canadensis*	10	N	FAC
4	*Gaultheria hispidula*	2	N	FACW
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	97		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Peat moss (*Sphagnum* spp.) 100% cover within plot.

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	70	x 1 =	70
FACW spp.	17	x 2 =	34
FAC spp.	72	x 3 =	216
FACU spp.	60	x 4 =	240
UPL spp.	0	x 5 =	0
Total	219 (A)		560 (B)

Prevalence Index = B/A = ***2.557***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Danielle Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Telos-Chesuncook-Elliottsville Association, 3-15% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.137713	Longitude: -69.689076 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/19/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W187
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes ☑ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Telos-Chesuncook-Elliottsville Association, 3-15% slopes — Series Drainage Class: Somewhat poorly drained/Moderately well drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
4	0	1	--	--	--	--	--	--	--	--	Fibric organics
0	3	2	5Y	6/1	100	--	--	--	--	--	Fine sandy loam
3	10	3	10YR	4/4	100	--	--	--	--	--	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 14" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Horizon 2 above is described as an E-horizon, and should not be characterized as depleted as a result of wetness.

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W187 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	50	Y	FACU
2	*Acer rubrum*	40	Y	FAC
3	*Betula alleghaniensis*	20	N	FAC
4	*Acer pensylvanicum*	10	N	FACU
5	*Picea rubens*	2	N	FACU
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	122		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Viburnum lantanoides*	15	Y	FACU
2	*Acer pensylvanicum*	15	Y	FACU
3	*Fagus grandifolia*	10	Y	FACU
4	*Picea rubens*	5	N	FACU
5	*Abies balsamea*	2	N	FAC
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	47		

Herb Stratum (Plot size: 2 meter radius)

1	*Oxalis montana*	30	Y	FACU
2	*Pteridium aquilinum*	10	N	FACU
3	*Maianthemum canadense*	7	N	FACU
4	*Dennstaedtia puntilobula*	7	N	FACU
5	*Cornus canadensis*	3	N	FAC
6	*Trillium undulatum*	2	N	FACU
7	*Trientalis borealis*	2	N	FAC
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	61		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	67	x 3 =	201
FACU spp.	163	x 4 =	652
UPL spp.	0	x 5 =	0
Total	230 (A)		853 (B)

Prevalence Index = B/A = ***3.709***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Remarks: *Dennstaedtia punctilobula* is not included in the 2012 National Wetland Plant List for the Northcentral-Northeast Region. Based upon best professional judgment this species has been assigned an indicator status of FACU for this data plot.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Matt Arsenault	Investigator #2:	
Soil Unit:	Telos-Chesuncook-Elliottsville Assoc., 3-15% slopes	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.142648	Longitude: -69.692849 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	09/25/12
County:	Somerset
State:	Maine
Wetland ID:	MAY_W188
Sample Point:	**Wetland**
Community ID:	Forested Wetland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☑ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Telos-Chesuncook-Elliottsville Association, 3-15% slopes — Series Drainage Class: Somewhat poorly drained/Moderately well drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
5	0	1	--	--	--	--	--	--	--	--	Organics
0	11	2	2.5Y	4/2	98	10YR	4/6	2	C	M	Fine sandy loam
11+	--	3	Gley 2	6/5PB	100	--	--	--	--	--	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 16" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☑ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W188 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Betula alleghaniensis*	40	Y	FAC
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Betula alleghaniensis*	40	Y	FAC
2	*Abies balsamea*	1	N	FAC
3	*Acer saccharum*	1	N	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	42		

Herb Stratum (Plot size: 2 meter radius)

1	*Osmunda claytoniana*	10	Y	FAC
2	*Rubus pubescens*	10	Y	FACW
3	*Glyceria melicaria*	10	Y	OBL
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	10	x 1 =	10
FACW spp.	10	x 2 =	20
FAC spp.	91	x 3 =	273
FACU spp.	1	x 4 =	4
UPL spp.	0	x 5 =	0
Total	112 (A)		307 (B)

Prevalence Index = B/A = ***2.741***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Matt Arsenault	Investigator #2:	
Soil Unit:	Telos-Chesuncook-Elliottsville Assoc., 3-15% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.142648	Longitude: -69.692849 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	09/25/12
County:	Somerset
State:	Maine
Wetland ID:	MAY_W188
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Telos-Chesuncook-Elliottsville Association, 3-15% slopes — Series Drainage Class: Somewhat poorly drained/Moderately well drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
2	0	1	--	--	--	--	--	--	--	--	Organics
0	2	2	10YR	3/2	100	--	--	--	--	--	Fine sandy loam
2	8	3	10YR	4/3	100	--	--	--	--	--	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 10" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W188 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Fagus grandifolia*	35	Y	FACU
2	*Betula alleghaniensis*	30	Y	FAC
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	65		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer saccharum*	60	Y	FACU
2	*Fagus grandifolia*	10	N	FACU
3	*Betula alleghaniensis*	10	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	80		

Herb Stratum (Plot size: 2 meter radius)

1	*Dryopteris intermedia*	3	N	FAC
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	3		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	43	x 3 =	129
FACU spp.	105	x 4 =	420
UPL spp.	0	x 5 =	0
Total	148 (A)		549 (B)

Prevalence Index = B/A = ***3.709***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☐Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Mike Glesner
Soil Unit:	Monarda-Telos Association, 1-8% slopes	NWI Classification:	PSS/PEM
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.149176	Longitude: -69.6816 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☑ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/15/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W202
Sample Point:	**Wetland**
Community ID:	Reg. Forest Wetland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Soil and vegetation altered by timber harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☑ B1 - Water Marks
- ☑ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 12	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos Association, 1-8% slopes — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR 2/2	100	--	--	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	--	Refusal @ 8" bgs
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☑ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Shallow mineral soil to refusal makes characterizing soil under a specific indicator difficult, but NRCS soil data indicates soils are poorly to somewhat poorly drained in this area.

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W202 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	4	Y	FAC
2	*Betula populifolia*	1	N	FAC
3	*Pinus banksiana*	1	N	FACU
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	6		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer rubrum*	10	Y	FAC
2	*Rubus idaeus*	5	Y	FACU
3	*Abies balsamea*	5	Y	FAC
4	*Betula alleghaniensis*	2	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	22		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria canadensis*	30	Y	OBL
2	*Rubus hispidus*	10	Y	FACW
3	*Carex gynandra*	2	N	OBL
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	42		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	#N/A
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	32	x 1 =	32
FACW spp.	10	x 2 =	20
FAC spp.	22	x 3 =	66
FACU spp.	6	x 4 =	24
UPL spp.	0	x 5 =	0
Total	70 (A)		142 (B)

Prevalence Index = B/A = ***2.029***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Mike Glessner
Soil Unit:	Monarda-Telos Association, 1-8% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.149176	Longitude: -69.6816 Datum: NR

Date:	07/15/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W202
Sample Point:	**Upland**
Community ID:	Regen. Forest Upland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Soil and vegetation altered by timber harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos Association, 1-8% slopes — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	3" of duff
0	1	1	10YR	3/2	100	--	--	--	--	--	Silt loam
1	3	2	2.5Y	6/2	100	--	--	--	--	--	V. fine sandy loam
3	12	3	2.5Y	5/2	90	10YR	5/6	8	C	M	Silt loam
--	--	--	--	--	--	2.5Y	5/2	2	D	M	Refusal @ 12" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W202 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	10	Y	FAC
2	*Picea rubens*	2	N	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	12		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer rubrum*	8	Y	FAC
2	*Abies balsamea*	5	Y	FAC
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	13		

Herb Stratum (Plot size: 2 meter radius)

1	*Aralia nudicaulis*	20	Y	FACU
2	*Cornus canadensis*	20	Y	FAC
3	*Maianthemum canadense*	4	N	FACU
4	*Dryopteris campyloptera*	3	N	FACU
5	*Oxalis montana*	2	N	FACU
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	49		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	43	x 3 =	129
FACU spp.	31	x 4 =	124
UPL spp.	0	x 5 =	0
Total	74 (A)		253 (B)

Prevalence Index = B/A = ***3.419***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Mike Glessner	Investigator #2:	Tom Tetreau
Soil Unit:	Monarda-Telos Association, 1-8% slopes	NWI Classification:	PSS
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.152000	Longitude: -69.674871 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/13/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W208
Sample Point:	**Wetland**
Community ID:	Regen. Forest Wetland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Vegetation altered by timber harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☑ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☑ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 12	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos Association, 1-8% slopes — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
8	0	1	--	--	--	--	--	--	--	--	Sapric Organics
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 8" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☐

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Although refusal was reached before mineral soil under the organic horizon could be reached, soil has been assumed to meet the histic epipedon indicator based upon depth of the organic horizon.

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W208 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Betula populifolia*	35	Y	FAC
2	*Abies balsamea*	4	N	FAC
3	*Betula alleghaniensis*	2	N	FAC
4	*Acer rubrum*	2	N	FAC
5	*Picea rubens*	2	N	FACU
6	*Picea mariana*	2	N	FACW
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	47		

Herb Stratum (Plot size: 2 meter radius)

1	*Oclemena acuminata*	60	Y	FACU
2	*Carex gynandra*	12	N	OBL
3	*Osmunda claytoniana*	10	N	FAC
4	*Scirpus cyperinus*	5	N	OBL
5	*Onoclea sensibilis*	4	N	FACW
6	*Osmunda regalis*	2	N	OBL
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	93		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: Vegetation has been altered by timber management activates and based upon soils and hydrology, vegetation was considered problem hydrophyic vegetation.

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	19	x 1 =	19
FACW spp.	6	x 2 =	12
FAC spp.	53	x 3 =	159
FACU spp.	62	x 4 =	248
UPL spp.	0	x 5 =	0
Total	140 (A)		438 (B)

Prevalence Index = B/A = ***3.129***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☑ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Mike Glessner	Investigator #2:	Tom Tetreau
Soil Unit:	Monarda-Telos Association, 1-8% slopes	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.152000	Longitude: -69.674871 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/13/10
County:	Somerset
State:	Maine
Wetland ID:	MAY_W208
Sample Point:	**Upland**
Community ID:	Regen. Forest Upland
Section:	--
Township:	Mayfield TWP
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Vegetation altered by timber management activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos Association, 1-8% slopes — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
3	0	1	--	--	--	--	--	--	--	--	Fiblic O & duff
0	1	2	10YR	2/1	100	--	--	--	--	--	Silt loam
1	4	3	10YR	6/2	80	--	--	--	--	--	Loamy find sand w/
--	--	--	--	--	--	--	--	--	--	--	organic streaking
4	12	4	10YR	5/6	80	--	--	--	--	--	Sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 12" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: Check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MAY_W208 Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Picea rubens*	6	Y	FACU
2	*Acer rubrum*	4	Y	FAC
3	*Abies balsamea*	2	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	12		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	75	Y	FAC
2	*Picea rubens*	10	N	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	85		

Herb Stratum (Plot size: 2 meter radius)

1	*Clintonia borealis*	3	Y	FAC
2	*Cornus canadensis*	2	Y	FAC
3	Medeola virginiana	2	Y	FACU
4	*Maianthemum canadense*	1	N	FACU
5	*Aralia nudicaulis*	1	N	FACU
6	*Abies balsamea*	1	N	FAC
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	10		

Woody Vine Stratum (Plot size: 10 meter radius)

1	--	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	87	x 3 =	261
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	107 (A)		341 (B)

Prevalence Index = B/A = ***3.187***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Medeola virginiana is not included in the 2012 National Wetland Plant List for the Northcentral-Northeast region. Based upon best professional judgment this species has been assigned a wetland indicator status of FACU for this data plot.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Dixfield-Colonel-Marlow	NWI Classification:	PSS
Landform:	NA	Local Relief:	NA
Slope (%):	NA	Latitude: 45.083702	Longitude: -69.791495 Datum: NA

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/17/10
County:	Somerset
State:	Maine
Wetland ID:	MOS_W050
Sample Point:	**Wetland**
Community ID:	Scrub-shrub
Section:	--
Township:	Moscow
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Area altered by timber harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:		(in.)
Water Table Present?	☐ Yes ☑ No	Depth:		(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Dixfield-Colonel-Marlow
Series Drainage Class: Mod. Well drained/Somewhat poorly drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
12	0	1	--	--	--	--	--	--	--	--	Organic
0	2	2	10YR	2/1	100	--	--	--	--	--	Silt loam
2	6	3	5Y	4/1	98	5Y	6/6	2	C	M	Sandy loam
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 18" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hard pan Depth: 18"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MOS_W050 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	Thuja occidentalis	55	Y	FACW
2	Abies balsamea	15	N	FAC
3	Picea rubens	15	N	FACU
4	Spiraea alba	10	N	OBL
5	Ilex mucronata	10	N	FACW
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	105		

Herb Stratum (Plot size: 2 meter radius)

1	*Carex trisperma*	90	Y	OBL
2	*Cornus canadensis*	5	N	FAC
3	*Dryopteris cristata*	5	N	OBL
4	*Lycopus* sp.	5	N	OBL
5	*Coptis trifolia*	2	N	FACW
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	107		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	110	x 1 =	110
FACW spp.	67	x 2 =	134
FAC spp.	20	x 3 =	60
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	212 (A)		364 (B)

Prevalence Index = B/A = ***1.717***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Thomas Tetreau	Investigator #2:	Audie Arbo
Soil Unit:	Dixfield-Colonel-Marlow	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.083702	Longitude: -69.791495 Datum: NR

Date:	08/17/10
County:	Somerset
State:	Maine
Wetland ID:	MOS_W050
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Moscow
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation☐ , Soil ☐, or Hydrology☐ significantly disturbed?
Are Vegetation☐ , Soil ☐, or Hydrology☐ naturally problematic?

Are normal circumstances present? ☑Yes ☐No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)	
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)	**Wetland Hydrology Present?** ☐ Yes ☑ No
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)	

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

Remarks:

SOILS

Map Unit Name: Dixfield-Colonel-Marlow — Series Drainage Class: Mod. Well drained/Somewhat poorly drained/Well drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	4" duff
0	1	1	10YR	2/2	100	--	--	--	--	--	Loam
1	2	2	10YR	5/2	100	--	--	--	--	--	Fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rocky till Depth: 2" — **Hydric Soil Present?** ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MOS_W050 Sample Point: Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Pinus banksiana*	3	N	FACU
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	3		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Thuja occidentalis*	25	Y	FACW
2	*Abies balsamea*	20	Y	FAC
3	*Picea rubens*	15	Y	FACU
4	*Pinus strobus*	5	N	FACU
5	*Larix laricina*	3	N	FACW
6	*Betula populifolia*	1	N	FAC
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	69		

Herb Stratum (Plot size: 2 meter radius)

1	*Cornus canadensis*	40	Y	FAC
2	*Maianthemum canadense*	30	Y	FACU
3	*Linnaea borealis*	30	Y	FAC
4	*Gaultheria hispidula*	5	N	FACW
5	*Dryopteris cristata*	2	N	OBL
6	*Rubus hispidus*	2	N	FACW
7	*Clintonia borealis*	2	N	FAC
8	*Solidago rugosa*	1	N	FAC
9	*Solidago canadensis*	1	N	FACU
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	113		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	2	x 1 =	2
FACW spp.	35	x 2 =	70
FAC spp.	94	x 3 =	282
FACU spp.	54	x 4 =	216
UPL spp.	0	x 5 =	0
Total	185 (A)		570 (B)

Prevalence Index = B/A = ***3.081***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Katelin Nickerson	Investigator #2:	
Soil Unit:	Monarda-Telos	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.092680	Longitude: -69.794475 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation☐ , Soil ☐, or Hydrology☐ significantly disturbed?
Are Vegetation☐ , Soil ☐, or Hydrology☐ naturally problematic?

Are normal circumstances present? ☑Yes ☐No

Date:	08/19/10
County:	Somerset
State:	Maine
Wetland ID:	MOS_W058
Sample Point:	**Wetland**
Community ID:	Forested
Section:	--
Township:	Moscow
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:		(in.)
Water Table Present?	☐ Yes ☑ No	Depth:		(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Monarda-Telos — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
20	0	1	--	--	--	--	--	--	--	--	Organic
0	6	2	Gley 1	5/10Y	100	--	--	--	--	--	silt loam with 5% coars
--	--	--	--	--	--	--	--	--	--	--	fragments
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MOS_W058 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Betula alleghaniensis*	50	Y	FAC
2	*Thuja occidentalis*	15	Y	FACW
3	*Abies balsamea*	10	N	FAC
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Thuja occidentalis*	25	Y	FACW
2	*Fraxinus nigra*	20	Y	FACW
3	*Acer spicatum*	5	N	FACU
4	*Abies balsamea*	5	N	FAC
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1	*Glyceria melicaria*	30	Y	OBL
2	*Galium tinctorium*	20	Y	OBL
3	*Chelone glabra*	10	N	OBL
4	*Linnaea borealis*	10	N	FAC
5	*Chrysosplenium americanum*	5	N	OBL
6	*Ribes lacustre*	5	N	FACW
7	*Acer rubrum*	2	N	FAC
8	*Lonicera canadensis*	2	N	FACU
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	84		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	80	x 2 =	160
FAC spp.	35	x 3 =	105
FACU spp.	22	x 4 =	88
UPL spp.	0	x 5 =	0
Total	197 (A)		413 (B)

Prevalence Index = B/A = ***2.096***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Monarda-Telos	NWI Classification:	NA
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.092680	Longitude: -69.794475 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation☐ , Soil ☐, or Hydrology☐ significantly disturbed? Are normal circumstances present? ☑Yes ☐No

Are Vegetation☐ , Soil ☐, or Hydrology☐ naturally problematic?

Date:	08/19/10
County:	Somerset
State:	Maine
Wetland ID:	MOS_W058
Sample Point:	**Upland**
Community ID:	Forested Upland
Section:	--
Township:	Moscow
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name Monarda-Telos — Series Drainage Class: Poorly drained/Somewhat poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--	--	2.5" duff
0	7	1	5YR	2.5/1	50	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 7"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: MOS_W058 Sample Point: Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Thuja occidentalis*	60	Y	FACW
2	*Picea rubens*	20	Y	FACU
3	*Abies balsamea*	10	N	FAC
4	*Acer saccharum*	5	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	95		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Abies balsamea*	30	Y	FAC
2	*Acer pensylvanicum*	1	N	FACU
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	31		

Herb Stratum (Plot size: 2 meter radius)

1	*Acer rubrum*	8	Y	FAC
2	*Oxalis montana*	5	Y	FACU
3	*Trientalis borealis*	2	N	FAC
4	*Aralia nudicaulis*	2	N	FACU
5	*Viburnum lantanoides*	1	N	FACU
6	*Abies balsamea*	1	N	FAC
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	19		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	60	x 2 =	120
FAC spp.	51	x 3 =	153
FACU spp.	34	x 4 =	136
UPL spp.	0	x 5 =	0
Total	145 (A)		409 (B)

Prevalence Index = B/A = ***2.821***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Howland-Monarda Assoc. Gently sloping, very stony.	NWI Classification:	PFO
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.156372	Longitude: -69.422069 Datum: NR

Date:	12/11/12
County:	Piscataquis
State:	Maine
Wetland ID:	PARK_W399
Sample Point:	**Wetland**
Community ID:	Forested wetland
Section:	--
Township:	Parkman
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐ , Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:		(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	4	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name Howland-Monarda assoc. Gently sloping, very stony. Series Drainage Class: Moderately well drained/Poorly drained

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
8	0	1	--	--	--	--	--	--	--	--	Organics
--	--	--	--	--	--	--	--	--	--	--	Refusal @ 8" bgs
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☐

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: refusal Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Based upon depth of organic material, presumed to meet Indicator A2 despite refusal before reaching mineral horizon.

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: PARK_W399 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Abies balsamea*	15	Y	FAC
2	*Betula alleghaniensis*	10	Y	FAC
3	*Populus tremuloides*	10	Y	FACU
4	*Fraxinus nigra*	5	N	FACW
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer rubrum*	15	Y	FAC
2	*Abies balsamea*	10	Y	FAC
3	*Fraxinus nigra*	5	N	FACW
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1	*Calamagrostis canadensis*	40	Y	OBL
2	*Onoclea sensibilis*	40	Y	FACW
3	*Juncus effusus*	5	N	OBL
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	85		

Woody Vine Stratum (Plot size: 10 meter radius)

1	None	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***85.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	45	x 1 =	45
FACW spp.	50	x 2 =	100
FAC spp.	50	x 3 =	150
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	155 (A)		335 (B)

Prevalence Index = B/A = ***2.161***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northcentral and Northeast Region

Project/Site:	Bingham Wind Project	Stantec Project #:	195600539
Applicants:	Blue Sky West, LLC and Blue Sky West II, LLC		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Howland-Monarda Assoc. Gently sloping, very stony.	NWI Classification:	N/A
Landform:	NR	Local Relief:	NR
Slope (%):	NR	Latitude: 45.156372	Longitude: -69.422069 Datum: NR

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation☐ , Soil ☐, or Hydrology☐ significantly disturbed?
Are Vegetation☐ , Soil ☐, or Hydrology☐ naturally problematic?

Are normal circumstances present? ☑Yes ☐No

Date:	12/11/12
County:	Piscataquis
State:	Maine
Wetland ID:	PARK_W399
Sample Point:	**Upland**
Community ID:	Forested upland
Section:	--
Township:	Parkman
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 -Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC - Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Howland-Monarda Assoc. Gently sloping, very stony. Series Drainage Class: Moderately well drained/Poorly drained

Taxonomy (Subgroup): Field Observations Confirm Mapped Type? ☑ Yes ☐ No

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
4	0	1	--	--	--	--	--	--	Organics
0	4	2	10YR	3/3	100	--	--	--	Silt loam
4	10	3	10YR	4/3	100	--	--	--	Silt loam
--	--	--	--	--	--	--	--	--	Refusal @ 14" bgs
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators: check here if indicators are not present ☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1- Sandy Mucky Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6- Stripped Matrix
- ☐ S7- Dark Surface (**LRR R, MLRA 149B**)
- ☐ S8 - Polyvalue Below Surface (**LRR, MLRA 149B**)
- ☐ S9 - Thin Dark Surface (**LRR R, MLRA 149B**)
- ☐ F1 - Loamy Mucky Mineral (**LRR K, L**)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck
- ☐ A16 - Coast Prairie Redox
- ☐ S3 - 5 cm Mucky Peat or Peat (**LRR K, L, R**)
- ☐ S7- Dark Surface (**LRR K, L**)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MRLA 144a, 145, 149b**)
- ☐ F21 - Red parent Material
- ☐ TF12 - Very Shallow dark Surface
- ☐ Other (Explain)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: dense till Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Project/Site: Bingham Wind Project Wetland ID: PARK_W399 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1	*Acer rubrum*	35	Y	FAC
2	*Abies balsamea*	25	Y	FAC
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1	*Acer rubrum*	20	Y	FAC
2	*Abies balsamea*	15	Y	FAC
3	*Fagus grandifolia*	15	Y	FACU
4	*Populus tremuloides*	10	N	FACU
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1	*Dennstaedtia punctilobula*	15	Y	FACU
2	*Abies balsamea*	10	Y	FAC
3	*Osmunda cinnamomea*	5	N	FACW
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
10	--	--	--	--
11	--	--	--	--
12	--	--	--	--
13	--	--	--	--
14	--	--	--	--
15	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1	--	--	--	--
2	--	--	--	--
3	--	--	--	--
5	--	--	--	--
4	--	--	--	--
	Total Cover =	0		

Remarks: This area is disturbed from timber harvest activities.

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***71.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	105	x 3 =	315
FACU spp.	40	x 4 =	160
UPL spp.	0	x 5 =	0
Total	150 (A)		485 (B)

Prevalence Index = B/A = ***3.233***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) 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. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Appendix E
Vernal Pool Summary Table

Vernal Pool ID	Natural Resource Map Number	Associated Wetland ID	Vernal Pool	Significant Vernal Pool	Corps Regulated Vernal Pool	Number of Egg Masses					
						Wood Frog		Spotted Salamander		Blue Spotted Salamander	
						Visit 1	Visit 2	Visit 1	Visit 2	Visit 1	Visit 2
SVP_07AL_N	6	MAY_W090		X	X	0	0	0	19	0	0
SVP_50KN_N	8	26TTJ, 11TTL		X	X	0	14	17	46	0	0
SVP_108SK_N	8	26TTJ, 11TTL		X	X	42	2	3	78	0	0
SVP_53KN_N	28	ABB_W385		X	X	17	0	54	54	0	0
VP_10DN_M	2	BING_W022			X	10	NS	11	NS	0	NS
VP_75MJ_M	2	BING_W029			X	4	NS	3	NS	0	NS
VP_10SD_M	2	BING_W037			X	11	NS	1	NS	0	NS
VP_11SD_M	2	BING_W037			X	1	NS	7	NS	0	NS
VP_12SD_N	2	BING_W037	X		X	0	0	1	2	0	0
VP_23SK_M	2	BING_W037			X	0	NS	2	NS	0	NS
VP_25SK_M	2	BING_W037			X	20	NS	4	NS	0	NS
VP_05SD_M	4	MOS_W052			X	16	2	0	0	0	0
VP_05SK_M	4	MOS_W050			X	0	NS	4	NS	0	NS
VP_01AL_N	5	MAY_W062	X		X	7	2	2	3		0
VP_04SD_M	5	MAY_W063			X	18	NS	3	NS	0	NS
VP_07TT_M	5	MAY_W063			X	43	NS	5	NS	0	NS
VP_05MJ_M	5	MAY_W065			X	17	NS	0	NS	0	NS
VP_03SD_M	6	MAY_W066			X	3	NS	0	NS	0	NS

Those vernal pools that occur outside of the project area but have critical habitat that overlaps with the reporting area are shaded in gray.

Vernal Pool ID	Natural Resource Map Number	Associated Wetland ID	Vernal Pool	Significant Vernal Pool	Corps Regulated Vernal Pool	Number of Egg Masses					
						Wood Frog		Spotted Salamander		Blue Spotted Salamander	
						Visit 1	Visit 2	Visit 1	Visit 2	Visit 1	Visit 2
VP_01SD_M	3	MAY_W071			X	1	NS	8	NS	0	NS
VP_07SK_M	3	MAY_W071			X	0	NS	11	NS	0	NS
VP_12MJ_M	6	MAY_W083			X	3	NS	0	NS	0	NS
VP_11MJ_M	6	MAY_W084			X	3	NS	0	NS	0	NS
VP_09AL_M	3	MAY_W094			X	21	NS	33	NS	0	NS
VP_08AL_M	3	MAY_W095			X	44	NS	65	NS	0	NS
VP_21AL_M	7	MAY_W105			X	7	NS	0	NS	0	NS
VP_01CF_N	8	MAY_W112	X		X	0	NS	3	NS	0	NS
PVP_01DB_M	8	MAY_W115				NS	NS	NS	NS	NS	NS
VP_17MJ_N	9	MAY_W151	X		X	7	0	0	0	0	0
PSVP_01CF_N	10	20CFT				NS	NS	NS	NS	NS	NS
PSVP_03CF_N	10	No associated wetland				NS	NS	NS	NS	NS	NS
PSVP_04CF_N	10	20AAW, 20CFW				NS	NS	NS	NS	NS	NS
VP_14AL_M	11	MAY_W173			X	6	NS	10	NS	0	NS
VP_04DN_N	15	KING_W220	X		X	14	0	1	10	0	0
VP_08DN_M	13	MAY_W185			X	1	NS	63	NS	0	NS
VP_84TT_M	15	KING_W239			X	9	NS	2	NS	0	NS
VP_41TT_M	16	KING_W252			X	2	NS	2	NS	0	NS

Those vernal pools that occur outside of the project area but have critical habitat that overlaps with the reporting area are shaded in gray.

Vernal Pool ID	Natural Resource Map Number	Associated Wetland ID	Vernal Pool	Significant Vernal Pool	Corps Regulated Vernal Pool	Number of Egg Masses					
						Wood Frog		Spotted Salamander		Blue Spotted Salamander	
						Visit 1	Visit 2	Visit 1	Visit 2	Visit 1	Visit 2
VP_123TT_M	16	KING_W255			X	2	NS	0	NS	0	NS
VP_40TT_M	16	KING_W260			X	15	NS	7	NS	0	NS
VP_39TT_M	16	KING_W266			X	10	NS	2	NS	0	NS
VP_33MJ_N	16	KING_W271	X		X	6	0	1	5	0	0
VP_49TT_M	16	KING_W289			X	9	NS	0	NS	0	NS
VP_79TT_M	16	KING_W291			X	0	NS	19	NS	0	NS
VP_59MJ_M	17	KING_W297			X	4	NS	0	NS	0	NS
VP_ 58MJ_N	17	KING_W297	X		X	4	0	0	0	0	0
VP_60MJ_M	17	KING_W297			X	2	NS	2	NS	0	NS
VP_61TT_M	17	KING_W297			X	2	NS	5	NS	0	NS
VP_65TT_M	17	KING_W297			X	2	NS	0	NS	0	NS
VP_ 63TT_M	17	KING_W297			X	4	NS	2	NS	0	NS
VP_57MJ_M	18	KING_W302			X	8	NS	0	NS	0	NS
VP_52MJ_M	18	23TTU, 02DTF			X	59	NS	24	NS	0	NS
VP_59TT_M	18	23TTV, 02DTG			X	14	NS	6	NS	0	NS
VP_115TT_M	21	KING_W326			X	8	NS	0	NS	0	NS
VP_116TT_M	21	KING_W329			X	14	NS	3	NS	0	NS
VP_117TT_M	21	KING_W329			X	5	NS	1	NS	0	NS
VP_118TT_M	22	KING_W332			X	1	NS	0	NS	0	NS

Those vernal pools that occur outside of the project area but have critical habitat that overlaps with the reporting area are shaded in gray.

Vernal Pool ID	Natural Resource Map Number	Associated Wetland ID	Vernal Pool	Significant Vernal Pool	Corps Regulated Vernal Pool	Number of Egg Masses					
						Wood Frog		Spotted Salamander		Blue Spotted Salamander	
						Visit 1	Visit 2	Visit 1	Visit 2	Visit 1	Visit 2
VP_119TT_M	23	KING_W336			X	51	NS	34	NS	0	NS
VP_120TT_N	24	KING_W354	X		X	0	0	8	8	0	0
VP_117MG_N	24	KING_W354	X		X	0	0	1	3	0	0
VP_121TT_M	24	KING_W354			X	12	NS	0	NS	0	NS
VP_110SK_M	25	PARK_W358			X	0	NS	2	NS	0	NS
VP_109SK_M	26	PARK_W368			X	2	NS	2	NS	2	NS
VP_101SD_M	30	PARK_W406			X	1	NS	12	NS	0	NS

Those vernal pools that occur outside of the project area but have critical habitat that overlaps with the reporting area are shaded in gray.

Appendix F
Maine Department of Inland Fisheries and Wildlife
Vernal Pool Data Forms

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: PSVP04CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

Pool is located approximately 250 feet north of Route 16.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): 10/4/2012, 11/6/2012

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Aquatic vegetation growing in pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☒ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☒ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: _____

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◯ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog															
Spotted Salamander															
Blue-spotted Salamander															
Fairy Shrimp [3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

◯ SVP ◉ Potential SVP ◯ Non Significant VP ◯ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool identified outside of amphibian breeding period.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: Potential Vernal Pool, PSVP_ 04CF_N.
October 4, 2012. Stantec Consulting.

Photo 2: Potential Vernal Pool, PSVP_ 04CF_N.
November 15, 2012. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: PSVP03CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

Pool is located approximately 300 feet north of Route 16.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): 10/4/2012, 11/6/2012

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ◉ Floodplain depression
- ○ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☒ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ◉ Unknown

Explain:

Drift lines and matted vegetation indicate hydrologic connection to Bigelow Brook during high flow events.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 8 ○ m ◉ ft Length: 8 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Connected to Bigelow Brook at high flow events.

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: _____

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◯ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog															
Spotted Salamander															
Blue-spotted Salamander															
Fairy Shrimp [3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

◯ SVP ◉ Potential SVP ◯ Non Significant VP ◯ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool identified outside of amphibian breeding period.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1 Potential Vernal Pool, PSVP_03CF_N.
October 4, 2012, Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: PSVP01CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

Pool located approximately 80 feet north of Route 16.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): 10/3/2012, 11/6/2012

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (•) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [X] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake/Pond
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain overflow / oxbow
- [ ] Headwater seepage
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: (•) Natural ( ) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- (•) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Sparse terrestrial vegetation, aquatic invertebrates present

■ Maximum depth at survey: (•) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ( ) m (•) ft Length: 100 ( ) m (•) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- (•) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [X] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ( ) No inlet or outlet
- ( ) Intermittent inlet or outlet
- (•) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: _____

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◯ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog															
Spotted Salamander															
Blue-spotted Salamander															
Fairy Shrimp [3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

◯ SVP ◉ Potential SVP ◯ Non Significant VP ◯ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool identified outside of amphibian breeding period.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: Potential Vernal Pool, PSVP_01CF_N.
November 6, 2012, Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP108SK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Steve Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield

Brief site directions to the pool (using mapped landmarks):

Pool is located in a wetland east of an unnamed logging road that runs north from route 16 approximately 3 miles southwest of Mayfield corner and .6 miles northeast of S. Warren Road. Wetland can be seen from route 16.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☒ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Some areas of debris (slash) piled on the southern edge of the pool, depression appears natural - deep organic.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep organic accumulation, wetland graminoids and shrubs.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 100 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 05/04/2011, 05/16/2011

b. Indicator abundance criteria

■ Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 25% 1st vis. see box e

■ For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	42	2		3	3		M	M		0	1000s		3	3	
Spotted Salamander	0	78		-	3		-	M		-	0		-	3	
Blue-spotted Salamander	-	-		-	-		-	-		-	-		-	-	
Fairy Shrimp[3]	-	-		-	-										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

■ Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

◉ SVP ○ Potential SVP ○ Non Significant VP ○ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

At second visit the entire pool was surveyed for egg masses, many disintegrated WF egg masses were observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: SVP_108SK_N.
May 4, 2011. Stantec Consulting.

Photo 2: SVP_108SK_N.
May 16, 2011. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP53KN_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Katelin Nickerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ○ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Abbot

Brief site directions to the pool (using mapped landmarks):

Take Gales Road approximately 2.25 miles west from Route 6. Pool is located approximately 300 feet south from the road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Trail adjacent to wetland has impounded water.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Mucky bottom and algae present throughout pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 10 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/18/2011, 5/23/2011

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	17	0		3	3		H	H		Yes	Yes		3	3	
Spotted Salamander	54	54		3	3		M	A		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		—	—		—	—	
Fairy Shrimp[3]	—	—													

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

(•) SVP ( ) Potential SVP ( ) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: SVP_53KN_N.
May 18, 2011. Stantec Consulting.

Photo 2: SVP_53KN_N.
May 23, 2011. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP50KN_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Katelin Nickerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

From Route 16 east, take next left after Townline Road and travel approximately 400' towards Coburn Ridge. Pool is approximately 100' to the east.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep organic muck lacking vegetation in pool center.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 60 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/16/2011, 5/23/2011

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	14		-	3		-	H		N	X		-	3	
Spotted Salamander	17	46		3	3		M	A		N	N		-	-	
Blue-spotted Salamander	0	0		-	-		-	-		N	N		-	-	
Fairy Shrimp[3]	0	0		-	-										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

(•) SVP ( ) Potential SVP ( ) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: SVP_50KN_N.
May 16, 2011. Stantec Consulting.

Photo 2: SVP_50KN_N.
May 23, 2011. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP07AL_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Steve Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

From Route 16 east take gravel road marked with small cemetery sign on right. Pool is located aproximately1000' from Route 16, just off the west side of the gravel road across from the cemetery.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (•) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [x] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake/Pond
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain overflow / oxbow
- [ ] Headwater seepage
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: (•) Natural ( ) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (•) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Pool was dry on 8/13/10 during wetland delineations. Willow shrubs and ferns growing in pool.

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) (•) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 110 ( ) m (•) ft Length: 250 ( ) m (•) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- (•) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [x] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [x] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (•) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/19/2010, 5/13/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? ~75%
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		—	—		—	—		No	Yes		—	3	
Spotted Salamander	0	19		—	3		—	M		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Fairy Shrimp[3]	—	—		—	—										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

◉ SVP ○ Potential SVP ○ Non Significant VP ○ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Large number of chorusing adult wood frogs on 4/19/2010.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: SVP_07AL_N.
April 19, 2010. Stantec Consulting.

Photo 2: SVP_07AL_N.
April 19, 2010. Stantec Consulting.

Photo 3: SVP_07AL_N.
August 13, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP07TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

From Route 16 east take first gravel road after Townline Road. Continue 2500'. Pool is adjacent to the east side of the road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Excavated roadside ditch within a larger jurisdictional wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Terrestrial vegetation growing throughout the pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 5 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Water flows slightly through pool/ditch from road run-off

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/12/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	43			3			F			No			—		
Spotted Salamander	5			3			F			No			—		
Blue-spotted Salamander	0			—			—			—			—		
Fairy Shrimp[3]	—			—											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP ( ) Non Significant VP (•) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_07TT_M.
April 12, 2010. Stantec Consulting

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP04DN_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Dan Nein

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Kingsbury Plantation

Brief site directions to the pool (using mapped landmarks):

Located approximately 400' north from the middle of the ATV trail that connects Mountain Road and Hayden Pond Road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool is located within a red pine/spruce plantation.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Wet site graminoids growing throughout pool. Max. depth 24 inches, but average depth only 12 inches.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ◉ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: Green frog adult observed

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/4/2010, 5/13/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	18	0		3	3		A/H	H		No	Yes		—	3	
Spotted Salamander	1	1		3	3		M	A		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Fairy Shrimp[3]	—	—		—	—										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_04DN_N.
May 4, 2010. Stantec Consulting.

Photo 2: VP_04DN_N.
May 13, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP01CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

Pool is located approximately 175 feet north of Route 16.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☒ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep organic bottom. Connected to stream at high water.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/25/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)			Tadpoles/Larvae	
	#	Confidence Level[1]	Egg Mass Maturity[2]	Observed	Confidence Level[1]
Wood Frog	0			No	
Spotted Salamander	3	3	A	No	
Blue-spotted Salamander	0			No	
Fairy Shrimp[3]					

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification* P	H	S	CL**	SPECIES	Method of Verification* P	H	S	CL**
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

No second visit performed. First visit occurred near the end of the amphibian breeding season.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_01CF_N.
May 25, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP01AL_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Steve Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

From Route 16 East turn right onto T-Road (across from Townline road). Pool is approximately 350' south from route 16, just off the west side of T-Road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (•) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [x] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake/Pond
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain overflow / oxbow
- [ ] Headwater seepage
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural (•) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Slightly impacted by slash/twitch trail on one side of the pool.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (•) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Leaf litter and wet site graminoids compose the bottom of the pool.

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (•) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ( ) m (•) ft Length: 38 ( ) m (•) ft

■ Predominate substrate in order of increasing hydroperiod:

- (•) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [x] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (•) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/19/2010, 5/12/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae				
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]	
Wood Frog	7	2		3	3		M	H		Yes	No		3	—
Spotted Salamander	2	3		3	3		F	M		No	No		—	—
Blue-spotted Salamander	0	0		—	—		—	—		No	No		—	—
Fairy Shrimp[3]	—	—		—	—									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_01AL_N.
April 19, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP17MJ_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Michael Johnson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

Pool is located approximately 2100' south of Route 16 and is accessed by the trail leading to the existing Met tower clearing.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (•) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [x] Emergent marsh
- [ ] Wet meadow
- [ ] Lake/Pond
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain overflow / oxbow
- [ ] Headwater seepage
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: (•) Natural ( ) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (•) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Shallow water and wet site graminoids growing throughout the pool.

■ Maximum depth at survey: (•) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ( ) m (•) ft Length: 35 ( ) m (•) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- (•) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (•) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/14/2010, 5/12/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	7	0		3	—		F	H		No	No		—	—	
Spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Fairy Shrimp[3]	—	—		—	—										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

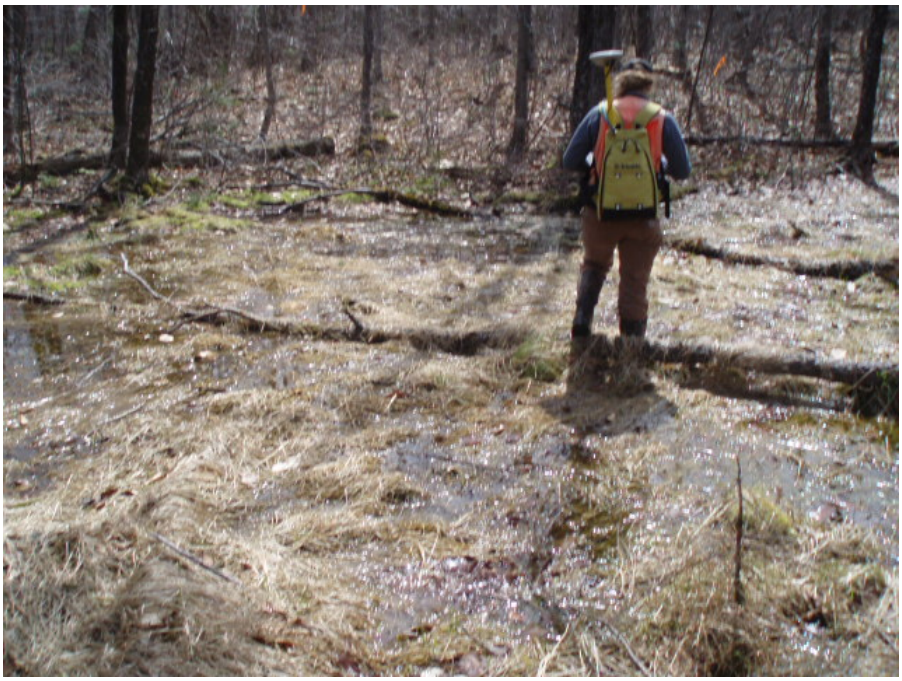

Photo 1: VP_17MJ_N
April 14, 2010. Stantec Consulting.

Photo 2: VP_17MJ_N
May 12, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP12SD_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Shane Duigan

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Brighton

Brief site directions to the pool (using mapped landmarks):

From Route 16 east, take T Road to intersection with Lake Road. Pool is located approximately 2,700' to the southeast.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 8 ○ m ◉ ft Length: 8 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/11/2010, 5/13/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		-	-		-	-		-	-		-	-	
Spotted Salamander	1	2		3	3		M	M		0	0		-	-	
Blue-spotted Salamander	0	0		-	-		-	-		-	-		-	-	
Fairy Shrimp[3]	-	-		-	-										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_12SD_N.
May 11, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP09AL_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Steve Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

From Route 16 East turn right onto T-Road (across from Townline Road). Travel 1.5 miles to pool just off the north side of the road in a large wetland complex.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Man-Made roadside ditch within a jurisdictional wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep water with little vegetation. Collects water from the road throughout the year.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 107 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ◉ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/20/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	44			3			F			No			—		
Spotted Salamander	65			3			F			No			—		
Blue-spotted Salamander	0			—			—			No			—		
Fairy Shrimp[3]	—			—											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP ( ) Non Significant VP (•) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_09AL_M.
April 20, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP08DN_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Dan Nein

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

Approximately 1.5 miles E of the intersection of Routes 16 and 151 turn N onto an unnamed gravel road. Continue N on gravel road for ~2 miles. Vernal pool is on left before road takes a sharp right and intersection with 2nd gravel road

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☒ Other: Roadside borrow pit

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Excavated roadside borrow pit within a larger jurisdictional wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Terrestrial vegetation present in pool.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ◉ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): No inlet, but a temporary outlet.

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/5/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	1			3			A/H			Yes			3		
Spotted Salamander	66			3			F			No			—		
Blue-spotted Salamander	0			—			—			No			—		
Fairy Shrimp[3]	—			—											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP ( ) Non Significant VP (•) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_08DN_M.
May 5, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP08AL_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Steve Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Mayfield Township

Brief site directions to the pool (using mapped landmarks):

Pool is located approximately 5,000 feet south of Route 16 and 2,000 feet east of Withee Pond.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Roadside ditch create within existing wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep water, sparse vegetation growing throughout pool. Bare mineral bottom.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: _____ ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ◉ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/20/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	21			3			M			No					
Spotted Salamander	33			3			F			No					
Blue-spotted Salamander	0									No					
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP ( ) Non Significant VP (•) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_08AL_M
April 20, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP58TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Kingsbury Plantation

Brief site directions to the pool (using mapped landmarks):

From Route 16 in Kingsbury Plantation, take unnamed logging road north. Turn left at top of slope onto winter logging road. Pool is located at the end of the winter road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Excavated area adjacent to winter logging road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Terrestrial vegetation growing throughout. Shallow water depth.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/21/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	3	-		3	-		M	-		0	-		-	-	
Spotted Salamander	2	-		3	-		F	-		0	-		-	-	
Blue-spotted Salamander	0	-		-	-		-	-		-	-		-	-	
Fairy Shrimp[3]	-	-		-	-										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP ( ) Non Significant VP (•) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Cluster with VP52MJ_M.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_58TT_M.
April 21, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP58MJ_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Michael Johnson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Kingsbury Plantation

Brief site directions to the pool (using mapped landmarks):

Take Foss Pond Road from Route 16. Turn left towards Hilton Ponds and continue until stream crossing just south of Hilton Ponds. Pool is approximately 1800' south from where the stream crosses under the road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Terrestrial wetland vegetation growing throughout the pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/22/2010, 5/12/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	4	0		3	—		M	H		No	Yes		—	3	
Spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Fairy Shrimp[3]	—	—		—	—										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_58MJ_N.
April 22, 2010. Stantec Consulting.

Photo 2: VP_58MJ_N.
May 12, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP52MJ_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Michael Johnson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Kingsbury Plantation

Brief site directions to the pool (using mapped landmarks):

From Route 16 in Kingsbury Plantation, take unnamed logging road north. Turn left at top of slope onto winter logging road. Pool is located at the end of the winter road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): 6/28/2011

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Excavated area adjacent to winter logging road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep water. Pool still filled with water during wetland delineations on 6/28/2011.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 250 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/21/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)			Tadpoles/Larvae		
	#	Confidence Level[1]	Egg Mass Maturity[2]	Observed	Confidence Level[1]	
Wood Frog	59	3	M	0	-	-
Spotted Salamander	24	3	F	0	-	-
Blue-spotted Salamander	0	3	-	-	-	-
Fairy Shrimp[3]	-	-				

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP ( ) Non Significant VP (•) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool cluster with VP58TT_M.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_52MJ_M.
April 21, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP33MJ_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Michael Johnson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Kingsbury Plantation

Brief site directions to the pool (using mapped landmarks):

Take Foss Pond Road from Route 16. Turn left towards Hilton Ponds. Continue on gravel road until approximately 500' before the four-way intersection with Mountain Road. Pool is approximately 350' to the north.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (•) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [x] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake/Pond
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain overflow / oxbow
- [ ] Headwater seepage
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: (•) Natural ( ) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (•) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Terrestrial wetland vegetation growing throughout pool. Shallow water over leaf litter.

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (•) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ( ) m (•) ft Length: 30 ( ) m (•) ft

■ Predominate substrate in order of increasing hydroperiod:

- (•) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [x] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (•) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/20/2010, 5/11/2010

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	6	0		3	3		M	H		No	Yes		—	3	
Spotted Salamander	1	5		3	3		F	M		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Fairy Shrimp[3]	—	—		—	—										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_33MJ_N.
April 20, 2010. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP120TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Kingsbury Plantation

Brief site directions to the pool (using mapped landmarks):

Take 2500 road approximately 5 miles south from Route 16. Pool is located approximately 750 feet west off 2500 road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Mucky bottom and aquatic plants throughout pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☒ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/5/2011, 5/17/2011

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		—	—		—	—		No	No		—	—	
Spotted Salamander	8	8		3	3		M	M		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		—	—		—	—	
Fairy Shrimp[3]	—	—		—	—										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_120TT_N.
May 5, 2011. Stantec Consulting.

Photo 2: VP_120TT_N.
May 17, 2011. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP119TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Kingsbury Plantation

Brief site directions to the pool (using mapped landmarks):

Take 2500 Road south from Route 16 for approximately 1.75 miles. Pool is located approximately 350 feet west off the road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Skidder road crossing PFO.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Mucky bottom with some aquatic vegetation growing in the center.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☒ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/4/2011

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)			Tadpoles/Larvae		
	#	Confidence Level[1]	Egg Mass Maturity[2]	Observed	Confidence Level[1]	
Wood Frog	51	3	M	No		
Spotted Salamander	34	3	M	No		
Blue-spotted Salamander	0			No		
Fairy Shrimp[3]	0					

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP ( ) Non Significant VP (•) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_119TT_M.
May 4, 2011. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP117MG_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Mike Glessner

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Kingsbury Plantation

Brief site directions to the pool (using mapped landmarks):

Take 2500 road approximately 5 miles south from Route 16. Pool is located approximately 750 feet west off 2500 road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep organic bottom and aquatic plants present.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☒ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/5/2011, 5/17/2011

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		—	—		—	—		No	No		—	—	
Spotted Salamander	1	3		3	3		M	A		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Fairy Shrimp[3]	—	—		—	—										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_117MG_N.
May 5, 2011. Stantec Consulting.

Photo 2: VP_117MG_N.
May 17, 2011. Stantec Consulting.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP100SD_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Shane Duigan

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Dale Knapp

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Bingham Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Abbot

Brief site directions to the pool (using mapped landmarks):

Pool is located approximately 1500 feet west of the pond at the end of Davis Road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow water and leaf litter bottom.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 8 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/18/2011, 5/23/2011

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		—	—		—	—		No	No		—	—	
Spotted Salamander	1	1		3	3		F	M		No	No		—	—	
Blue-spotted Salamander	0	0		—	—		—	—		No	No		—	—	
Fairy Shrimp[3]	—	—		—	—										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
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For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_100SD_N.
May 18, 2011. Stantec Consulting.

Photo 2: VP_100SD_N.
May 23, 2011. Stantec Consulting.

Appendix G
Representative Site Photographs

Photo 1. Recent timber harvesting typical located south of Route 16. Moscow. Stantec Consulting. April 27, 2010.

Photo 2. Recent timber harvesting typical located south of Route 16. Mayfield Plantation. Stantec Consulting. April 27, 2010.

Photo 3. Recent timber harvesting typical located south of Route 16. Bingham. Stantec Consulting. July 21, 2010.

Photo 4. Second-growth forest regeneration near the southern end of Johnson Mountain. Bingham. Stantec Consulting. May 7, 2010.

Photo 5. Tree plantation.
Moscow. Stantec Consulting. April 27, 2010.

Photo 6. Upland birch-maple-ash forest located north of Route 16.
Mayfield Township. Stantec Consulting. July 27, 2010.

Photo 7. Regenerating beech-birch-maple forest on Johnson Mountain. Bingham. Stantec Consulting. July 22, 2010.

Photo 8. Regenerating forest on Johnson Mountain. Bingham. Stantec Consulting. July 23, 2010.

Photo 9: Upland spruce bald on Johnson Mountain.
Bingham. Stantec Consulting. July 20, 2010.

Photo 10:. Forested wetland BING_W005.
Bingham. Stantec Consulting. August 5, 2010.

Photo 11: Forested wetland BING_W047.
Bingham. Stantec Consulting. August 9, 2010.

Photo 12: Forested wetland KING_W224.
Kingsbury Plantation. Stantec Consulting. May 25, 2011.

Photo 13: Forested wetland KING_W280.
Kingsbury Plantation. Stantec Consulting. June 23, 2011.

Photo 14: Forested wetland PARK_W395 dominated by northern white cedar.
Parkman. Stantec Consulting. December 12, 2012.

Photo 15: Formerly forested wetland BING_W041 in scrub-shrub stage of regeneration. Bingham. Stantec Consulting. July 22, 2010.

Photo 16:. Formerly forested wetland KING_W239 in scrub-shrub stage of regeneration. Kingsbury Plantation. Stantec Consulting. June 3, 2011.

Photo 17: Naturally-occurring scrub-shrub wetland MAY_W154. Mayfield Township. Stantec Consulting. October 3, 2012.

Photo 18: Naturally-occurring scrub-shrub wetland ABB_W404. Abbot. Stantec Consulting. December 11, 2012.

Photo 19: Formerly forested wetland BING_W006 in wet meadow stage of regeneration. Bingham. Stantec Consulting. August 5, 2010.

Photo 20: Formerly forested wetland BING_W042 in wet meadow stage of regeneration. Bingham. Stantec Consulting. July 21, 2010.

Photo 21: Naturally-occurring emergent wetland KING_W220 and vernal pool VP_04DN_N. Kingsbury Plantation. Stantec Consulting. May 25, 2011.

Photo 22: Open water ditch within wetland MAY_W095 and vernal pool VP_08AL_M. Mayfield Township. Stantec Consulting. April 20, 2010.

Photo 23: Open water area, beaver impoundment, in wetland PARK_W395. Parkman. Stantec Consulting. December 12, 2012.

Photo 24: Intermittent stream S004, Tributary to Gulf Stream. Moscow. Stantec Consulting. August 19, 2010.

Photo 25: Stream S003.
Bingham. Stantec Consulting. November 6, 2012.

Photo 26: Perennial stream S027.
Mayfield Township. Stantec Consulting. October 3, 2012.

Photo 27: Perennial stream S041.
Kingsbury Plantation. Stantec Consulting. June 21, 2011.

Photo 28: Intermittent stream S044 along electrical generator lead corridor.
Kingsbury Plantation. Stantec Consulting. November 10, 2010.

Photo 29: Intermittent stream S059 along electrical generator lead corridor. Kingsbury Plantation and Parkman. Stantec Consulting. December 17, 2010.

Photo 30: Kingsbury Stream, perennial stream S052. Kingsbury Plantation, Maine. Stantec Consulting. May 19, 2010.

Photo 31: Perennial stream S063.
Parkman, Maine. Stantec Consulting. January 31, 2013.

Photo 32: Significant Vernal Pool SVP_07AL_N.
Mayfield Township. Stantec Consulting. April 19, 2010.

Photo 33: Vernal pool VP_58MJ_N.
Kingsbury Plantation. Stantec Consulting. April 22, 2010.

Photo 34: Vernal pool VP_84TT_M.
Kingsbury Plantation. Stantec Consulting. April 12, 2010.

Photo 35: Vernal pool VP_115TT_M.
Kingsbury Plantation. Stantec Consulting. May 4, 2011.