



**PATRIOT RENEWABLES**  
Canton Mountain Wind, LLC

## **Attachment 7-1 Resource Survey Report**



# Canton Mountain Wind Project

Canton and Dixfield,  
Oxford County, Maine

## RESOURCE SURVEY REPORT



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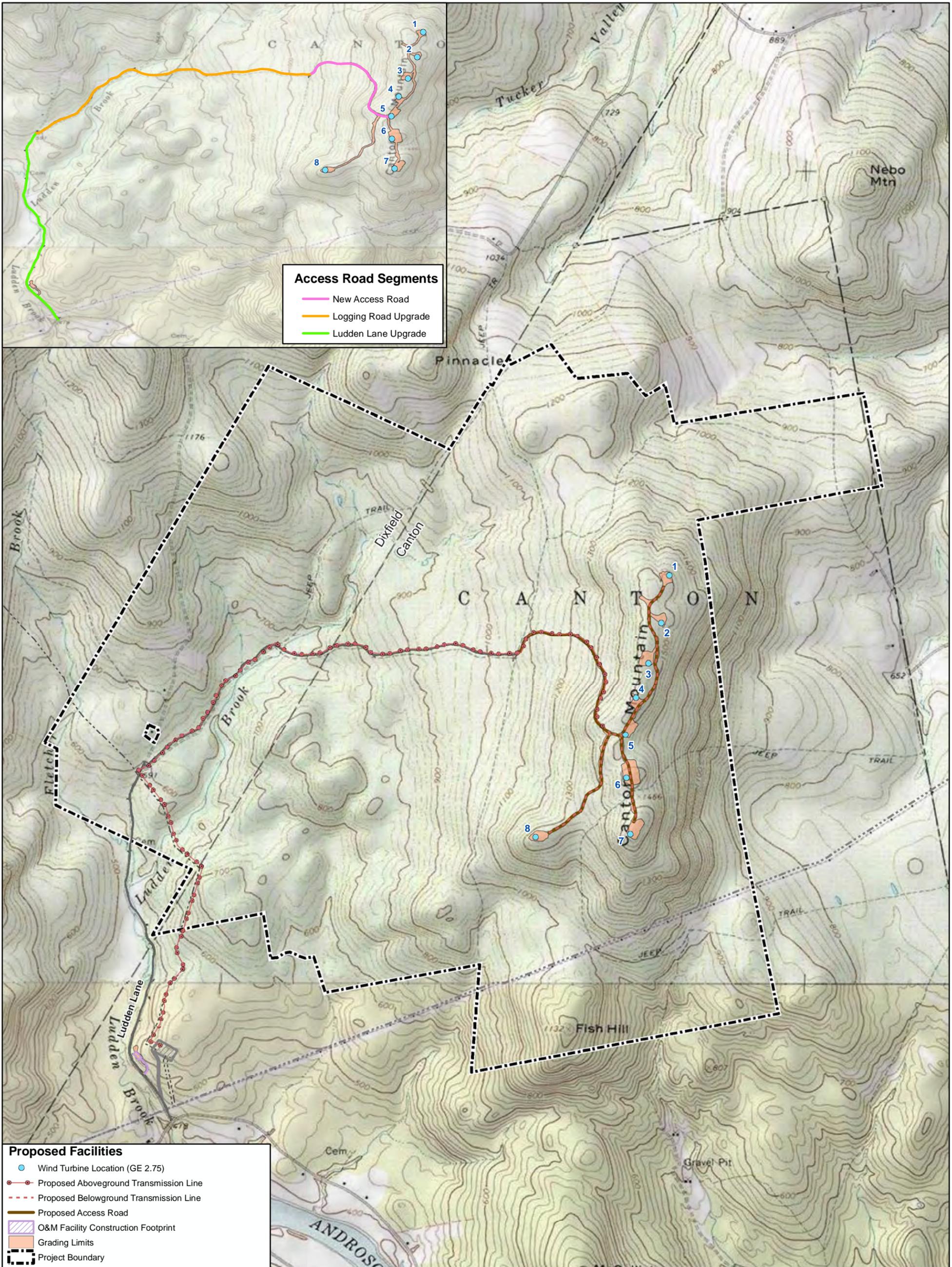
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## 1.0 INTRODUCTION

Canton Mountain Wind, LLC (CMW), which shares common ownership with the wind development company Patriot Renewables, LLC (Patriot), proposes to develop an approximately 22-megawatt (MW) Canton Mountain Wind Project (Project), a wind energy generation facility located in Canton and Dixfield, Oxford County, Maine. The Project includes upgrading approximately 3 miles of existing public and private roads and construction of approximately 2 miles of new access road extending to and along the Canton Mountain ridgeline. Eight General Electric (GE) wind turbines (seven model GE 2.75-103 turbines and one model GE 2.75-100 turbine) and associated electrical collection infrastructure will be installed along the ridgeline of Canton Mountain. The Project also includes approximately 2.24 miles of roadside electric generator lead line, approximately 0.65 miles of which will run below grade along Ludden Lane down from the ridgeline, with an additional 1.59 miles of aboveground transmission line mounted on poles to the intersection with an existing electric transmission line right-of-way, where it will run parallel to the existing pole line for an additional 1.10 miles, to the Ludden Land Substation. The Project will also include an approximately 2,500-square-foot operations and maintenance (O&M) building with an approximately 2,050-square-foot parking lot.

Tetra Tech EC, Inc. (Tetra Tech) was contracted by CMW to implement resource field surveys including field delineations of state and federal jurisdictional wetlands and waterbodies, in-season (amphibian breeding) vernal pool surveys, and habitat-specific northern spring salamander (NSS) and Roaring Brook mayfly (RBM) surveys. These surveys were performed to support a design and layout of project facilities that avoids and minimizes impacts to protected resources and to support preparation of regulatory permit applications. Surveys were performed in consultation with Maine regulatory agencies and in accordance with approved field survey protocols. For the purpose of this report, the Project area has been divided into two sections organized generally from south to north and then west to east along the proposed Project (Figure 1-1). The **Access Road** survey area starts at the existing intersection of Canton Mountain Road and Ludden Lane at the southern extent of the Project and extends to the Canton Mountain ridgeline. The **Ridgeline** survey area intersects the Access Road survey area and runs along the ridge of Canton Mountain, trending generally in a north-south direction. The Ridgeline survey area includes both the proposed crane road that will be used during construction and the proposed turbine foundations. The **Transmission Line** survey area starts south of the Ludden Lane Substation and extends north along the existing Saddleback Ridge Wind Project's electric transmission right-of-way to its intersection with Ludden Lane.

This report includes a description of survey methods employed for each resource type, the field survey limits and timing of surveys, a synopsis of regulatory jurisdictions and authorities that oversee protection of each resource and a summary of survey results. Appendices A through G at the end of this report provide representative field survey data forms, photographic documentation of field surveyed resources, and summaries and maps of resources surveyed as they occur geographically from south to north along the Project. This report does not include resource impact assessments. Section 7 of the Site Location of Development Act (Site Location) permit application and Sections 8 and 9 of the Natural Resources Protection Act (NRPA) permit application provide detailed resource impact assessments and describe the process of impact avoidance and minimization employed by CMW during the development of the least impact Project design.



**Figure 1-1  
Project Site Location**  
Canton Mountain Wind Project  
Canton and Dixfield, Maine



- Proposed Facilities**
- Wind Turbine Location (GE 2.75)
  - Proposed Aboveground Transmission Line
  - - - Proposed Belowground Transmission Line
  - Proposed Access Road
  - O&M Facility Construction Footprint
  - Grading Limits
  - Project Boundary

- Existing Facilities**
- Existing Access Road
  - - - Existing Aboveground Transmission Line
  - - - - - 115kV Electric Transmission Line (CMP 229 Line)
  - Ludden Lane Substation

SOURCE: Mount Blue, Dixfield, East Dixfield, & Canton USGS Quadrangles  
0 0.25 0.5 Miles



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## 2.0 REGULATIONS AND REGULATORY AUTHORITIES

The following sections describe the regulations and regulatory authorities applicable to the resources field surveyed for the CMW Project.

### 2.1 Wetlands

The Maine Department of Environmental Protection (Maine DEP) and the U.S. Army Corps of Engineers (USACE) regulate impacts to wetlands and waterbodies in Maine. Maine's NRPA, MRSA 38 §§ 480A-480FF, establishes the state regulatory jurisdiction over impacts to wetlands, waterbodies, vernal pools, and significant wildlife habitats (among others) in Maine and is implemented by the Maine DEP. NRPA (MRSA 38 §480-B. Definitions) defines "freshwater wetlands" as:

*Freshwater swamps, marshes, bogs and similar areas that are inundated or saturated by surface or groundwater at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils; and not considered part of a great pond, coastal wetland, river, stream or brook.*

The USACE regulates wetlands and other waters of the United States pursuant to the Clean Water Act (CWA). The CWA definition of wetlands (33 Code of Federal Regulations PART § 328.3 Definitions) is similar to Maine's NRPA and is provided below:

*The term wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

### 2.2 Waterbodies

The Maine DEP regulates waterbodies based on criteria specified in the NRPA (38 MRSA § 480.B. Definitions). Below is the NRPA definition for regulated waterbodies defined as a river, stream, or brook:

*A river, stream or brook means a channel between defined banks. A channel is created by the action of surface water and has 2 or more of the following characteristics.*

- A. It is depicted as a solid or broken blue line on the most recent edition of the U.S. Geological Survey 7.5-minute series topographic map or, if that is not available, a 15-minute series topographic map.*
- B. It contains or is known to contain flowing water continuously for a period of at least 6 months of the year in most years.*
- C. The channel bed is primarily composed of mineral material such as sand and gravel, parent material or bedrock that has been deposited or scoured by water.*
- D. The channel contains aquatic animals such as fish, aquatic insects or mollusks in the water or, if no surface water is present, within the stream bed.*
- E. The channel contains aquatic vegetation and is essentially devoid of upland vegetation.*

*"River, stream or brook" does not mean a ditch or other drainage way constructed, or constructed and maintained, solely for the purpose of draining storm water or a grassy swale.*

Several classes of waterbodies are subject to federal jurisdiction pursuant to the CWA including Traditional Navigable Waters (TNW), non-navigable tributaries to TNWs that are relatively permanent (typically flow year-round or have continuous flow at least seasonally [e.g., typically three months]), and wetlands that directly abut relatively permanent waters (USACE RGL 07-01).

### 2.3 Vernal Pools

Chapter 335 of the NRPA establishes the state regulatory authority for certain vernal pools as significant wildlife habitat. Only vernal pools meeting both physical and biological criteria are regulated by the Maine DEP pursuant to Chapter 335. The NRPA definition of a vernal pool is as follows:

*A vernal pool, also referred to as a seasonal forest pool, is 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 permanent inlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamander (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubbranchipus sp.*), as well as valuable habitat for other plants and wildlife including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition.*

In order for a vernal pool to be classified as significant, some obligate species (wood frogs, blue spotted salamanders, spotted salamanders, or fairy shrimp) must not only be present, but must be present in certain numbers, as defined in the NRPA, Chapter 335(9):

- *Presence of fairy shrimp in any life stage;*
- *10 or more blue spotted salamander egg masses;*
- *20 or more spotted salamander egg masses;*
- *40 or more wood frog egg masses;*
- *Presence of a state-listed endangered or threatened species that commonly requires a vernal pool to complete a critical portion of its life-history, including: Blanding's turtle (*Emydoidea blandingii*), spotted turtle (*Clemmys guttata*), or ringed boghaunter dragonfly (*Williamsonia lintneri*); or,*
- *Presence of any of the following rare species: ribbon snake (*Thamnophis sauritus*), wood turtle (*Clemmys insculpta*), swamp darner dragonfly (*Epiaeschna heros*), or comet darner dragonfly (*Anax longipes*).*

Field determinations for potential significant vernal pools (PSVPs) can only be made in the spring during NRPA-specified "identification periods," which define the approximate optimal timing for identifying egg masses for obligate pool breeding amphibians (typically two weeks following peak breeding activity). If following breeding season surveys, a pool is determined to meet the SVP criteria, then data forms and photo documentation must be submitted to the Maine Department of Inland Fisheries and Wildlife (Maine DIFW) for formal designation of the pool as significant wildlife habitat.

Once a vernal pool is deemed significant wildlife habitat by the Maine DIFW, the area within 250 feet of the spring high water line of the vernal pool is also regulated by Maine DEP as Critical Terrestrial Habitat (CTH). Activities that take place in, on, or over a significant wildlife habitat (including the SVP and CTH) require a permit issued pursuant to the NRPA and must comply with Chapter 335 Standards.

However, Chapter 305, the NRPA Permit-by-Rule Standards (Section 19) defines activities that occur in, on or over significant vernal pools habitats that may be permitted using Permit-by-Rule Standards, summarized below:

## 19. Activities in, on or over significant vernal pool habitat

### A. Applicability

(1) This section applies to activities in, on, or over a significant vernal pool habitat or a potential significant vernal pool habitat. Significant vernal pool habitat consists of a vernal pool depression and the portion of the critical terrestrial habitat within a 250 foot radius of the spring or fall high water mark of the depression.

(2) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of a permit issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Stormwater Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Section 480-A to BB.

Additionally, since the Project will require a Site Location of Development Act (Site Law) permit, pursuant to Chapter 375, vernal pools that are ecologically significant on a landscape scale can also be regulated by Maine DEP pursuant to the “no adverse effects on wildlife provisions” of the Site Law. Under some circumstances, setbacks beyond 250 feet from a SVP may be required by Maine DEP from these high functioning vernal pools if PBR standards cannot be met.

### B. Submissions. The following items must be submitted with the notification, unless otherwise provided below.

(1) Photographs of the area that will be affected by the activity proposed.

(2) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the town in which the activity took place.

(3) A scaled plan or drawing of the area affected, including but not limited to the following information:

(a) The entire property on which the activity will take place, including property lines, the vernal pool depression and remaining surrounding significant vernal pool habitat within 250 feet of the spring or fall high water mark of the depression, and the boundaries and location of other protected natural resources such as streams and other wetlands;

(b) Proposed activity and existing development on which the activity will take place, including buildings, parking areas, roads, fill areas, landscaped areas, etc.; and

(c) Any site constraints limiting development beyond the significant vernal pool habitat, such as steep slopes. It is not necessary to have the plan formally prepared. However, it must be legible and drawn to a scale that allows a clear representation of distances and measurements on the plan.

### C. Standards. The following measures must be taken during construction and maintenance of the activity.

(1) No disturbance within the vernal pool depression.

(2) Except for activities in existing developed areas, maintain a minimum of 75% of the critical terrestrial habitat as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris.

(3) Maintain or restore forest corridors connecting wetlands and significant vernal pools.

(4) Minimize forest floor disturbance.

(5) Maintain native understory vegetation and downed woody debris.

In determining whether the standard in Section 19(C)(2) has been met, the DEP considers only that portion of the critical terrestrial habitat within the significant vernal pool habitat, which is the area within a 250 foot radius of the spring or fall high water mark of the vernal pool depression.

(6) Take the following measures to prevent erosion of soil or fill material from disturbed areas:

(a) Staked hay bales or silt fence must be properly installed at the edge of disturbed areas between the activity and the vernal pool depression before the activity begins;

(b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;

(c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;

(d) All disturbed soils must be permanently stabilized; and

(e) Within 30 days of final stabilization of the site, any silt fence must be removed.

(7) An activity of a type that would qualify for a permit by rule under one of the other sections of this chapter listed below, notwithstanding any restriction concerning significant wildlife habitat that may be in that section, must also meet the requirements of that section.

The USACE regulates vernal pools in Maine through its General Permit (GP, effective October 12, 2010 and expiring on October 12, 2015). The Maine GP includes the following vernal pool definition:

*A vernal pool, also referred to as a seasonal forest pool, is a 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 permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus sp.*), as well as valuable habitat for other plants and wildlife,*

including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this 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. The Corps may determine during a Category 2 review that a waterbody should not be regulated as a VP based on available evidence. For the purposes of this GP, the VP Management Areas are the: Vernal Pool Depression (includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression), Vernal Pool Envelope (area within 100 feet of the VP Depression's edge) and Critical Terrestrial Habitat (area within 100-750 FT of the Vernal Pool Depression's edge). [\*Note: Critical Terrestrial Habitat is defined as 100 -750 feet on page 243 of the document "Science and Conservation of Vernal Pools in Northeastern North America," Calhoun and deMaynadier, 2008, which is referenced in Appendix E, page 3, Paragraph 10(b).]

Primary differences between state and federal vernal pool regulations are that the NRPA requires that vernal pools be naturally occurring and not the result of anthropogenic activity and have minimum levels of biological productivity (i.e., numbers of egg masses by specific species) documented during an identification period specified in the NRPA regulations. The USACE can regulate a pool based on evidence that it may provide primary breeding habitat for certain target species listed in the GP. The NRPA also has provisions for discounting a pool's significance based on permanent hydrology, while the federal definition uses the term "may dry out in the summer" leaving this criterion open for discretion on the part of the USACE project reviewer. In general, federal regulators have more discretion in the regulation of vernal pool resources during the permit application review process.

## **2.4 Northern Spring Salamander and Roaring Brook Mayfly**

Based on consultations with regulatory agencies early in the development process, it was determined that habitat assessment surveys for the northern spring salamander (*Gyrinophilus p. porphyriticus*) and Roaring Brook mayfly (*Epeorus frisoni*) would be appropriate for the Project. Both of these species occur in aquatic habitats and are typically found in well-oxygenated, high-elevation mountain streams. Regulatory jurisdictions for both of these species include the Chapter 375, No Adverse Effects Standards of the Site Law, and for the state-endangered Roaring Brook mayfly only, the NRPA and Maine Endangered Species Act.

10. Significant wildlife habitat. "Significant wildlife habitat" means:

A. The following areas to the extent that they have been mapped by the Department of Inland Fisheries and Wildlife or are within any other protected natural resource: habitat, as defined by the Department of Inland Fisheries and Wildlife, for species appearing on the official state or federal list of endangered or threatened animal species; high and moderate value deer wintering areas and travel corridors as defined by the Department of Inland Fisheries and Wildlife; seabird nesting islands as defined by the Department of Inland Fisheries and Wildlife; and critical spawning and nursery areas for Atlantic salmon as defined by the Department of Marine Resources; and [2009, c. 561, §37 (AMD).]

The NSS does not appear on either the state or federal lists of endangered or threatened animal species in Maine. However, this species is designated as a special concern species in Maine. Habitat assessments were performed for this species at the request of the Maine DIFW.

### **3.0 SURVEY METHODS**

The following sections describe the field survey methods employed by field scientists in the identification, field location, and documentation of the following resources in the vicinity of the Canton Mountain Wind Project: wetlands and waterbodies, vernal pools, and aquatic habitats supporting NSS and Roaring Brook mayfly.

#### **3.1 Wetlands and Waterbody Delineations**

Wetland and waterbody field surveys for the Project were conducted during the summer and fall of 2010. Following a review of background information, including United States Geological Survey (USGS) topographic maps, Natural Resources Conservation Service medium-intensity soils mapping, and high-resolution aerial photography, field survey limits were established for proposed facilities by qualified wetland scientists. Engineers then prepared preliminary designs and established proposed Project work limits. In some cases, a number of alternatives for proposed facilities were identified and field surveyed.

Field surveys were initiated with a walkover inspection of the area to identify topographic, drainage, and vegetation features that would indicate potential wetland and/or waterbody occurrences. Wetland vegetation and soil sampling plots (data plots) were established within distinct plant communities and evaluated using methods defined in the USACE's Wetlands Delineation Manual (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region* (October 2009).

Wetlands and waterbodies were further evaluated to characterize the hydrologic connections to adjacent upland, wetlands, and other waters of the United States in proximity to the resources investigated. Photographs were taken of all surveyed resources. Determinations regarding Maine DEP jurisdictional streams and Wetlands of Special Significance (WSS) were also made in the field during these surveys. In total, 58 wetlands and 19 streams were documented within the proposed Project work limits. Appendix A provides a tabular summary of all wetlands and waterbody resources as they occur along the Project, generally from south to north. Appendix B contains representative wetland photographs; Appendix C contains representative wetlands data forms; Appendix D contains a complete photo log of all streams traversed by the Project; and Appendix E contains a vernal pool survey summary, data forms, and photo documentation. Numerous non-jurisdictional surface and sub-grade drainages were also field delineated and survey located and are shown on Project design drawings as non-jurisdictional features.

##### ***Wetlands***

Field surveys were performed by loading electronic shapefiles of survey limits into survey grade Global Positioning System (GPS) units. Field teams navigated a number of transects covering the entire project survey limits using GPS technology. When resources were encountered having the required three factors that constitute a state and federal jurisdictional wetland (i.e., dominance of hydrophytic vegetation, hydric soils, and indicators of hydrology at or near the surface), the wetland boundary was flagged, a wetland field ID was assigned and labeled on flags, wetland field data forms were completed for all wetland resources and wetland/upland data form pairs were prepared for a subset of the resources surveyed. All delineated wetlands were photographed, and the boundary of the wetlands was survey located using mapping-grade GPS equipment.

##### ***Waterbodies***

Waterbodies were field surveyed in accordance with state and federal regulations described in Section 2.2. Stream data forms were completed to support field determinations using Maine DEP stream criteria B through E, including a determination as to whether or not the resource appears to be a river,

stream or brook and not a non-jurisdictional drainage. At the federal level, several classes of waterbodies are subject to jurisdiction pursuant to the CWA, including traditional navigable waters (TNW) and non-navigable tributaries to TNW that are relatively permanent (i.e., typically flow year-round or have continuous flow at least seasonally [e.g., typically three months]) (USACE RGL 07-01). Ephemeral drainages that are not relatively permanent based on USACE definitions are typically not jurisdictional by Maine DEP or the USACE; however, these resources were survey located using GPS during field surveys and are shown on project drawings to support the engineering design.

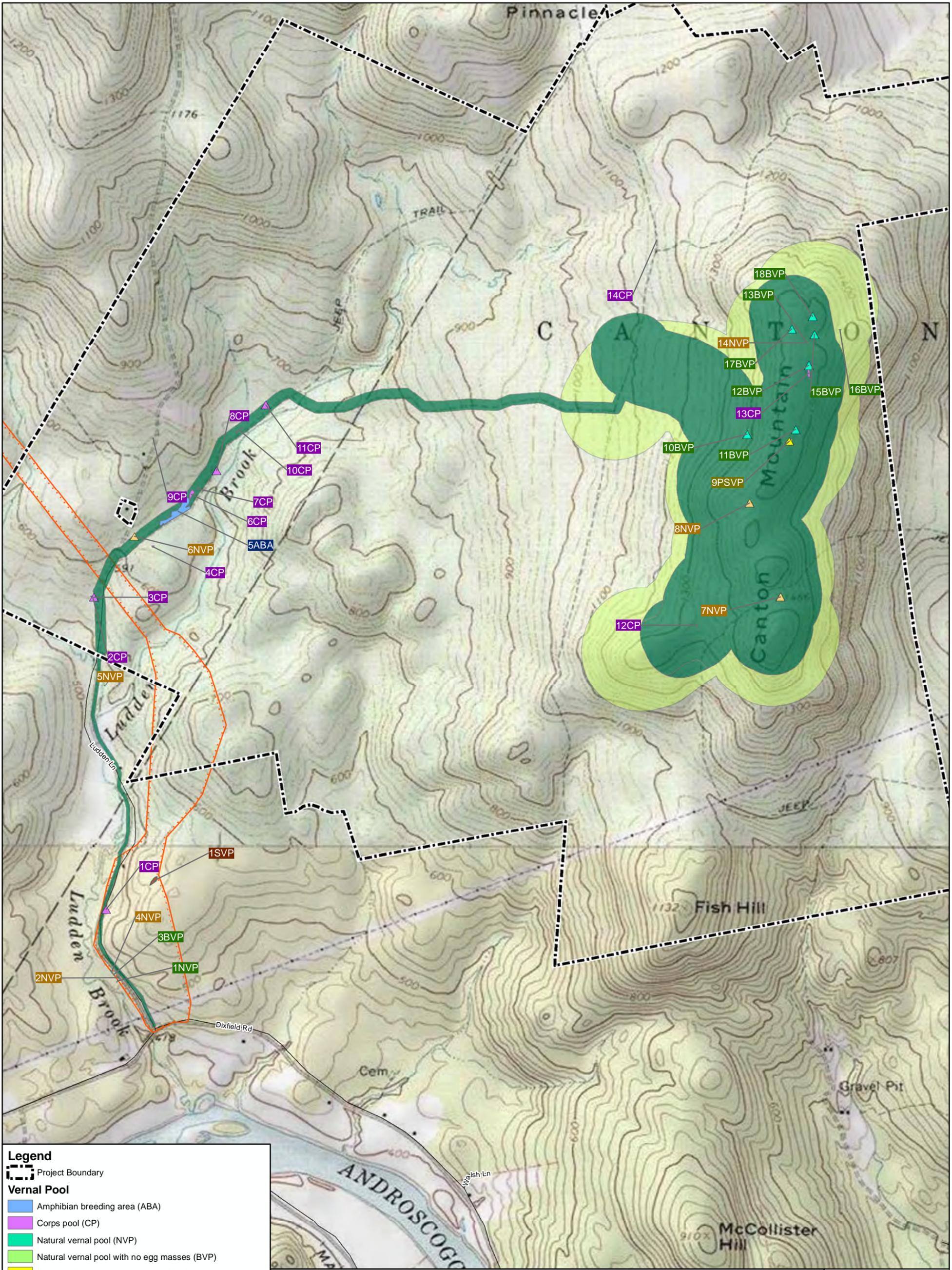
### **3.2 Vernal Pool Surveys**

Vernal pool surveys were performed between April 15<sup>th</sup> and 19<sup>th</sup> and May 6<sup>th</sup> and 7<sup>th</sup> in 2010 and between April 30<sup>th</sup> and May 4<sup>th</sup> with the second visit on May 23<sup>rd</sup> in 2011. Field survey limits were established based on a minimum 500-foot offset from the outer limits of the proposed project work limits (Figure 3-1) along the access road and 750-feet from the work limits on the ridgeline. Field surveys were conducted in both 2010 and 2011 due to changes in the project design that occurred following 2010 breeding season surveys. Both 2010 and 2011 vernal pool surveys were performed during the optimal identification period for egg mass counts (generally one to two weeks following the start of peak chorusing activity of pool-breeding amphibians) for both survey years. Although the NRPA Significant Wildlife Habitat (Chapter 335) regulations identify the recommended identification period for egg mass counts in central Maine as April 25 to May 10, as previously indicated surveys for CMW commenced on April 15<sup>th</sup> due to a warmer than normal spring in 2010, and commenced on April 30<sup>th</sup> in 2011 due to a colder than normal spring.

Tetra Tech understands that the appropriate timing of vernal pool surveys is critical to ensure the integrity of the survey results. To ensure optimal timing of surveys, biologists continually monitored the status of amphibian breeding through the Maine Association of Wetland Scientists' (MAWS) vernal pool monitoring website and the Maine Amphibian Monitoring Program email distributions in the weeks leading up to field mobilizations. Biologists also performed reconnaissance in the Project vicinity and monitored the status of wood frog (*Rana sylvatica*) chorusing. Mobilizations for the first round of surveys were conducted approximately two weeks following reports of full wood frog chorusing in accordance with Chapter 335 of the NRPA. In addition, due to unusual biological conditions in 2010 (not only an unusually warm spring but also a brief cold snap following peak chorusing), Tetra Tech visited many of the pools a second and third time (to ensure peak timing for spotted and blue-spotted salamander egg mass counts). In addition, the timing of high elevation and low elevation surveys were staggered with the expectation that higher elevation pools would experience melt and peak breeding later than lower elevation pools.

#### **3.2.1 Documenting Vernal Pools**

Vernal pool surveys were formed in accordance with the MAWS' Vernal Pool Technical Committee (VPTC) *Interim Vernal Pool Field Survey Protocol* in an effort to standardize collection of vernal pool field data and agency reporting. Tetra Tech employed this field survey protocol during 2010 and 2011 vernal pool surveys. Prior to mobilizing field crews, Tetra Tech held training sessions to ensure all biologists performing field surveys understood the field survey protocol and how it was to be implemented in the field with specific attention to the field conditions on the CMW Project. In addition, Tetra Tech specified the content and format of all required resource documentation, including GPS data collection to sub-meter accuracy, photographic documentation, and completion of MAWS vernal pool survey field data forms.



**Legend**

- Project Boundary
- Vernal Pool**
- Amphibian breeding area (ABA)
- Corps pool (CP)
- Natural vernal pool (NVP)
- Natural vernal pool with no egg masses (BVP)
- Potential Significant vernal pool (PSVP)
- Significant Vernal Pool (SVP)\*
- 2010 Vernal Pool Survey Limits
- 2011 Vernal Pool Survey Limits
- SRW Vernal Pool Survey Limits

\*SVP surveyed and classified by MDIFW in 2009.  
 SOURCE: Mount Blue, Dixfield, East Dixfield, & Canton USGS Quadrangles



**Figure 3-1  
 Vernal Pool Survey Limits and Results**

**Canton Mountain Wind Project  
 Canton and Dixfield, Maine**

December 2011



When a potential vernal pool (PVP) was encountered, a complete count of egg masses identified to species level was performed. In addition, PVPs were investigated for the presence of wood frog tadpoles, and fairy shrimp and level of egg maturation were recorded. Dip nets were used when necessary to sample PVPs. The egg mass counts and other descriptive information were recorded in field books and on data forms.

Pool descriptive data included the presence of observed inlets or outlets (and assessments to whether or not these are permanently flowing); whether the pool was natural, natural but modified by human activity, or formed as the result of human activities (e.g., tire ruts in a woods roads); and whether or not the pool supports a population of predatory fish. In addition, the field survey protocol advises that pools be further characterized with respect to size, depth, predominant substrate, origin, hydro-period and adjacent habitat conditions. When a pool was deemed significant, the edge of spring high-water (at the time of survey) was field located with GPS to establish the limits of the NRPA-regulated Critical Terrestrial Habitat (CTH). Field survey forms were also completed for each resource. In 2010, the MAWS Vernal Pool Data Collection Form was used and in 2011 the Maine DIFW's data form was used. Detailed vernal pool summary data, including a Vernal Pool Survey Results Summary Table, vernal pool data collection forms, and photographic documentation are provided in Appendix E.

### **3.2.2 Classifying Vernal Pools**

The science and regulation of vernal pools in Maine has been an evolving process since 2007 when the significant vernal pool regulations were originally adopted as part of the NRPA. The MAWS Vernal Pool Technical Committee took the lead in facilitating a process where scientists and regulators are working collaboratively to refine the systems used for classifying and regulating vernal pools in Maine. Part of the challenge involves similar but different regulations for the protection of vernal pools at the state and federal levels. Therefore, a system for classifying and naming Maine regulated vernal pools vs. federally regulated vernal pools was necessary. The following sections describe these naming conventions.

**Potential Significant Vernal Pool (PSVP):** Pool meets Maine NRPA physical characteristics and definition of vernal pool and has met at least one of the biological criteria. The data forms and photographic documentation for these pools are submitted to the Maine DIFW for formal classification as a significant vernal pool. Prior to the Maine DIFW making its determination of significance, the pool is deemed a PSVP.

**Natural Vernal Pool (NVP):** Pool meets Maine NRPA definition of a vernal pool but did not meet biological criteria based on breeding season field surveys. These pools may be regulated by the USACE based on an assessment of biological activity.

**Barren Vernal Pool (BVP):** Pool meets NRPA physical definition for vernal pools but was observed devoid of biological indicators during all field observations performed during the optimal egg mass identification period. These pools may be regulated by the USACE based on an assessment of the potential for biological activity.

**Corps Pool (CP):** Pool does not meet NRPA definition of a vernal pool due to determination that the depression is man-made or formed as the result of a man-made (non-natural) alteration of the land. Although these resources are called "pools" CP features include

roadside ditches and tire ruts filled with water at the time of surveys and observed with egg masses.

Amphibian Breeding Areas (ABA): ABAs include features that may provide habitat for target breeding amphibians but do not meet the NRPA or Maine GP definitions for vernal pools. This can be due to the pool having a permanently flowing inlet or outlet or being observed to support a population of predatory fish. ABA's also often have permanent hydrology and would include features like beaver ponds and fish ponds that support amphibian breeding but are not likely to support viable populations of the obligate species identified in the NRPA's SVP definition.

### **3.3 Northern Spring Salamander and Roaring Brook Mayfly Surveys**

Field surveys for the Northern Spring Salamander (NSS) (*Gyrinophilus p. porphyriticus*), a Maine species of special concern, and the state-endangered Roaring Brook mayfly (*Epeorus frisoni*), were performed within the Project area on August 11, 12 and 26, 2010. The following sections describe the methods employed for these surveys.

#### **3.3.1 Northern Spring Salamander Habitat Assessments**

The NSS investigation included a background data review and subsequent field surveys. Specific methods employed during the field portion of the surveys followed the same protocol employed by Tetra Tech for other Maine wind projects based on protocols developed and recommended by the Maine DIFW (MDIFW 2009b). The following sections outline the methods used during both the background review and field survey for NSS for the Project.

Potential locations of suitable habitat for NSS within the Project area were evaluated by conducting a desktop review of U.S. Geological Survey (USGS) 7.5-minute series topographic maps and GIS-generated maps highlighting elevation and hydrology of the Project area. In addition, field surveyed stream data collected during summer 2010 field surveys were also reviewed to identify streams containing potential NSS habitat within the survey area. This information was compiled to generate a list of seven streams that were investigated for suitable habitat and the presence of NSS during the subsequent field reconnaissance survey.

Field biologists then conducted field surveys of the seven streams identified as containing potential NSS habitat. Surveys of these streams were conducted in sections of appropriate stream habitat located within 500 feet of the proposed Project facilities. The NSS sampling was conducted on August 11, 12 and 26, 2010 during normal low and stable flow periods to ensure that all areas of the wetted channel were consistently part of the habitat and not just during times of high flow. The following describes the specific methods that were used for sampling for NSS:

- Amphibian Biologist Dawn Morgan from the University of Maine worked with Biologists Rodney Kelshaw and Richard Jordan to identify candidate streams for NSS surveys and to perform many of the stream surveys;
- Stream searches involved two biologists walking along or within a stream, moving upstream, and looking under stones and large rocks along the margin of the stream or in shallow areas within the stream itself. Although larger, flatter, partially submerged rocks are preferred by adult NSS, biologists searched a wide array of rock sizes ranging from approximately six to 24 inches in diameter in attempt to identify larval individuals;

- Streams were not surveyed during high flow events because many suitable cover objects could be inaccessible and stream visibility is reduced;
- Timed-searches of no less than 30 minutes (two-person crew) were performed per section/site; and,
- All NSS were documented through photography and completion of a Rare Animal Survey Form. At the request of Maine DIFW, other species of amphibians and reptiles observed during the NSS surveys were also documented.

For all streams where NSS were observed, data that were recorded on the field sheet including survey start and end time, waterbody name, stream habitat description (substrate, flow regime, and approximate slope), and upland habitat description (forest types, dominant species, and visual estimation of canopy cover). The location of each spring salamander observed and/or captured was recorded using mapping-grade GPS.

### **3.3.2 Roaring Brook Mayfly Habitat Assessments**

The Roaring Brook mayfly (RBM) is a Maine endangered species and historically was only known to occur at Roaring Brook in Baxter State Park, Maine (Swartz et al. 2004). However, recent surveys have identified occurrences within a few streams located throughout New England (Siebenmann, personal communication 2009), including sites located in the western mountains of Maine. Life history information collected thus far for this species indicates that the RBM inhabits undisturbed, high elevation headwater streams along the northern section of the Appalachian Mountain Range. These streams are associated with cold water (less than 15° Celsius [C]) that retains significant flow throughout the year (Siebenmann, personal communication 2009).

The limited life history data available demonstrate that RBM inhabit cold, unvegetated, high elevation streams with moderate to fast flow (Siebenmann and Swartz, 2009). Streambed substrates comprised of a cobble/gravel/sand mixture with little to no organic substrates are considered suitable habitat for RBM. Riparian vegetation and surrounding habitat is typically undisturbed, mixed forest stands with a semi-open to closed canopy. Stream selection criteria used are outlined in the Recommended Survey Protocol for the Roaring Brook Mayfly (*Epeorus frisoni*) (Siebenmann and Swartz, 2009) and are as follows.

- USGS 7.5 minute series topographic maps and GIS-generated maps highlighting elevation and hydrology were screened for the presence of perennial headwater streams draining off a ridgeline at or above 1000 feet elevation.
- Streams lacking appropriate elevation were generally considered low priority or eliminated as potential survey areas because these sites typically lack fast flowing, colder water typically associated with RBM habitat.
- For surveys related to evaluating or avoiding specific project impacts, all potentially suitable sites were surveyed.
- Potential survey sites were identified during desk-top topographic map investigation and field verified for the presence of the following key habitat characteristics:
  - relatively undisturbed mixed forest: evidence of land use impact to the stream bed, riparian zone, and surrounding landscape is absent or minimal; hardwood trees represent the dominant stand composition;
  - closed or only semi-open riparian canopy cover: stream channel is fairly narrow with heavy shading;
  - high gradient stream with coarse substrates: tumbling streams with moderate to fast flow with steps of small pools and riffles/runs; substrate composed primarily of medium to large cobble and boulders, with gravel/sand mix in pools and slower flows;

- stream channel wetted year-round: water must be present even in mid-late summer; depths vary between pools and riffles/runs, which can be shallow during the dry season;
- minimal aquatic vegetation: aquatic vegetation is typically absent, but some aquatic moss may coat rocks; and
- cold water temperatures: water temperature remains consistently cold throughout the summer.

## 4.0 SURVEY RESULTS

### 4.1 Wetland and Waterbody Delineation

Results of the wetlands and waterbody survey are summarized in Table 4-1 and are provided in tabular format by project segment in Appendix A. Resource identification numbers (plan IDs) that appear in the summary tables correspond to the resource labels that appear on the resource delineation maps included as Appendix G. The field IDs provided in Appendix A correspond with identification numbers used in the field, on field data forms, and on photo documentation. The following is an overview of the wetland and waterbody field surveys results for the Project from south to north as they occur along the Project area (Table 4-1):

- **Access Road:** 45 wetlands and 18 waterbodies (12 intermittent and 6 perennial) were delineated in the access road survey area. All 18 waterbodies are Maine DEP and USACE-regulated. 15 of the wetlands are classified as WSS due to adjacency to Maine DEP-regulated streams.
- **Ridgeline:** 12 wetlands and 1 perennial stream were identified along the ridgeline portion of the Project. Two of the wetlands were classified as WSS, one due to adjacency with a Maine DEP-regulated stream and the other due to being located within 250 feet of a PSVP.
- **Transmission Line:** 18 wetlands and 3 waterbodies (2 intermittent and 1 Perennial) were delineated along the transmission line right-of-way. Six of the wetlands were classified as WSS, five due to adjacency with a Maine DEP-regulated stream and the other one due to being located within 250 feet of a SVP.

**Table 4-1 Wetland and Waterbody Survey Results for Canton Mountain Wind Project**

Project Segment	Wetlands <sup>1</sup>				Waterbodies <sup>3</sup>	
	PFO	PSS	PEM	WSS <sup>2</sup>	Intermittent	Perennial
Access Road	19	6	20	15	12	6
Ridgeline	3	4	5	2	0	1
Transmission Line	11	1	6	4	2	1
<b>Totals</b>	<b>33</b>	<b>11</b>	<b>31</b>	<b>21</b>	<b>14</b>	<b>8</b>

1. Cowardin Wetland Types: PFO=Palustrine forested wetland; PSS=Palustrine scrub-shrub wetland; PEM=Palustrine emergent wetland. Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31, USFWS, Office of Biological Services, Washington, D.C.
2. WSS=Wetlands of Special Significance: wetlands within 25 feet of a Maine DEP-regulated stream, containing significant wildlife habitat, or containing greater than 20,000 square feet of open water or emergent marsh vegetation.
3. Waterbody classifications:  
Intermittent = flows more than 3 months but less than 6 months of the year  
Perennial = flows more than 6 months of the year

### 4.2 Vernal Pool Survey Results

Vernal pool surveys were conducted during peak amphibian breeding observation periods for vernal pool obligate species during the springs of 2010 and 2011. Nineteen vernal pools meeting the Maine DEP's definition were located in the Project vicinity during these surveys. Of these 19 pools only two met the biological criteria for regulation pursuant to the NRPA. In addition, 13 Corps pools and 2 ABA were survey located and are shown on Figure 3-1 and the resource survey maps in Appendix G. Photo documentation for Corps pools and the ABA can be found in Appendix Ed.

Table 4-2 provides a summary of the vernal pool field survey results. The following provides an overview of the vernal pool survey results by project facilities:

- **Access Road:** Four NVPs and two BVPs were identified along the access road survey area portion of the Project. One ABA and 10 Corps pools were also identified along the access road, many of these in saturated roadside ditches or tire ruts.
- **Ridgeline:** Three NVPs, eight BVPs, and one PSVP were identified along the ridgeline survey area portion of the Project. Three Corp pools were identified along the ridgeline portion of the project.
- **Transmission Line:** One ABA and one SVP were identified along the transmission line portion of the Project. Data forms for these resources were submitted to the Maine DIFW in 2010 as part of the permitting process for the SRW Project.

As a result, the Maine DIFW confirmed that the SVP meets the NRPA significance criteria. It was also determined that the adjacent transmission line could be built maintaining a minimum 100 foot separation distance between the proposed transmission line right-of-way and the spring high water line of the adjacent SVP and that a minimum of 75 percent of the adjacent critical terrestrial habitat (located within 250 feet of the SVP spring high water line) would remain intact following construction. Therefore, the transmission line could be built in compliance with Maine DEP’s Permit-by-Rule (Chapter 305) Standards, Section 19, for *Activates in, on or over significant vernal pool habitat*.

Because CMW proposed to construct the portion of the Project transmission line that parallels the Saddleback Ridge transmission line within the same right-of-way and no additional alteration of adjacent terrestrial habitat is proposed, CMW also proposed to construct its electric transmission line in compliance with Maine DEP’s, Chapter 305, Section 19, Standards.

**Table 4-2 Canton Mountain Wind Project Vernal Pool Survey Results**

Project Segment	Vernal Pool Classification and Occurrence Summary <sup>1</sup>			
	NVP	BVP	PSVP/SVP	ABA/Corps Pools
Access Road	4	2	0	1 ABA/10 CP
Ridgeline	3	8	1	3 CP
Transmission Line	0	0	1	1 ABA
<b>Totals</b>	7	10	2	15

1. Natural Vernal Pool (NVP) = Pool meets Maine NRPA definition of a vernal pool but did not meet egg mass count or rare, threatened or endangered (RTE) species criteria for a determination as a significant vernal pool.  
 Barren Vernal Pool (BVP) = Pool meets Maine NRPA definition of a vernal pool but exhibited no evidence of amphibian breeding activity and no egg masses were observed even after two visits.  
 Potentially Significant Vernal Pool (PSVP) = Pool meets Maine NRPA definition of a vernal pool and has met at least one of the egg mass count or RTE criteria for a determination as significant wildlife habitat, but has not yet been reviewed and confirmed by the Maine DIFW.  
 Significant Vernal Pool (SVP) = Pool meets Maine NRPA definition of a vernal pool and has met at least one of the egg mass count or RTE criteria for a determination as significant wildlife habitat, and has been reviewed and confirmed by the Maine DIFW as meeting the NRPA criteria for a SVP.  
 Amphibian Breeding Area (ABA) = Water resource does not meet the NRPA or Corps PGP definition of vernal pool. Resource is a federally regulated water of the U.S. and was observed to support amphibian breeding due to presence of egg masses during amphibian breeding season surveys. ABA’s are often resources such as ponds that have permanent hydrology.  
 Corps Pool (CP) = Do not meet the NRPA definition of vernal pool but are inundated areas (often road side ditches, skidder ruts, or borrow areas filled with water) that are observed with egg masses during breeding season surveys.

### 4.3 Northern Spring Salamander Survey Results

Five adult NSS were identified during the summer 2010 surveys. Three NSS were identified in Ludden Brook, one was located in Fletcher Brook just upstream from the confluence of Fletcher Brook and Ludden Brook, and one was located in an unnamed perennial stream on the southern end of the Canton Mountain ridgeline (see Figure 4-1). As requested by Maine DIFW, Maine Rare Animal Reporting Forms were filled out for the five NSS observed and are included in Appendix F.

#### Ludden Brook

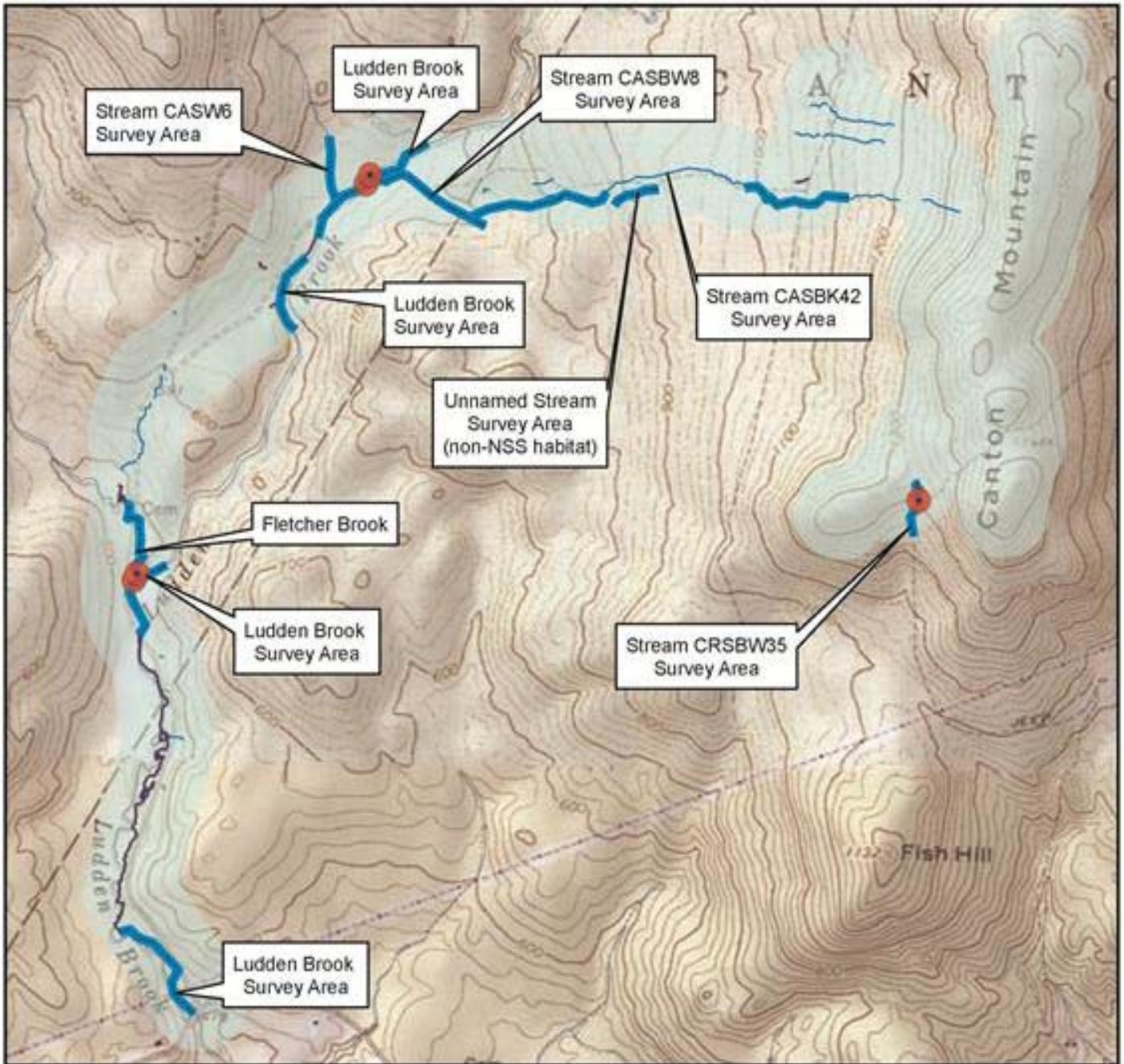
Three adult NSS were found in Ludden Brook. Two were located just upstream from Ludden Brook's confluence with an unnamed perennial tributary (Stream ID CASBW8), on the east side of Ludden Lane, and just south of the northernmost Ludden Lane crossing of Ludden Brook. A third NSS was located in Ludden Brook south of Dunn Cemetery adjacent to Ludden Lane and just downstream from the confluence of Ludden Brook and Fletcher Brook. In total, four timed surveys for NSS were completed within suitable NSS habitats within Ludden Brook. Each of these were ½ hour surveys conducted by a team of two biologists. Representative photographs of two of the NSS are provided below, the third individual escaped prior to being photographed but was positively identified by two biologists.

Ludden Brook begins off-site to the north, extends along the existing access road, typically flowing within 500 feet of the road, for approximately 2.5 miles. It then extends off-site to the south under Dixfield Road, ultimately flowing into the Androscoggin River. Ludden Brook meanders back and forth across the existing gravel road and proposed access road several times. The brook drops approximately 400 feet in elevation from approximately 800 feet at the northern survey limit to 400 feet near Dixfield Road. Along this stretch the stream characteristics widely vary, as does the associated NSS habitat suitability. The entire stream stretch within the project survey area was investigated for suitable habitat for NSS. Those sections of the stream that appeared to provide suitable habitat were surveyed for NSS following the protocol described in Section 3.1.



Photo 1. Facing upstream at confluence of Ludden Brook and perennial tributary (field ID CASBW8) at habitat type from which two NSS were observed (8/12/2010).

Photo 2. Adult NSS found within Ludden Brook (8/12/2010).



**LEGEND**

-  Found northern spring salamander
-  Field surveyed stream
-  Perennial stream
-  Intermittent stream
-  MOGIS mapped stream
-  Salamander survey limits

**CANTON MOUNTAIN WIND PROJECT,  
CANTON AND DIXFIELD,  
OXFORD COUNTY, MAINE**

**Figure 4-1. Northern Spring Salamander Survey Limits and Results**



Photo 3. Habitat in Ludden Brook from which a NSS was observed (8/12/2010).



Photo 4. Adult NSS located in Ludden Brook (8/12/2010).

### **Fletcher Brook**

One adult NSS was found in Fletcher Brook approximately 25 feet upstream of the confluence of Ludden and Fletcher Brooks. Approximately 0.9 miles north of the Ludden Lane and Dixfield Road intersection is the confluence of Fletcher and Ludden Brooks. This point is situated east of Ludden Lane (see Figure 4.1). Fletcher Brook originates approximately 2.5 miles northeast of the Project area in the vicinity of Brown Mountain in Dixfield and flows southeasterly to the confluence with Ludden Brook. Most of Fletcher Brook within the survey area contains slow-moving water and the substrate is sand and gravel with few boulders or other coarse debris that NSS could use for concealment. Only the initial 250 feet upstream from Ludden Brook appears to provide potential NSS habitat (and was the only area surveyed). This reach is similar to several stretches of Ludden Brook in that it contains a single, defined channel with an average width of approximately 20 feet, boulder/cobble/bedrock substrate, pool/riffle complex, fast flowing water, and forest cover adjacent to the stream.



Photo 5. Habitat area in Fletcher Brook near where an adult NSS was located (8/13/2010).



Photo 6. Adult NSS found within Fletcher Brook (8/13/2010).

**Unnamed Stream (Field ID: CRSBW35)**

One adult NSS was located within a stream given the project identification number CRSBW35. CRSBW35 is an unnamed perennial stream that is not depicted on the USGS topographic map. It is located on the Canton Mountain ridgeline in the southern portion of the project site. The narrow stream emerges from the ground as a side slope seep, starting as a drainage feature in a shallow swale. As the flow gathers additional input from groundwater discharge and overland flow, banks form, and the drainage feature forms a stream. Upon first glance, this feature would appear to be an intermittent or ephemeral channel. However, this stream was confirmed to be flowing even during the driest part of July 2010.



Photo 7. Facing downstream at CRSBW35 near where an adult NSS was located (8/26/2010).



Photo 8. Facing upstream at CRSBW35 to habitat where an adult NSS was located (8/26/2010).



Photo 9. Adult NSS found within CRSBW35 (8/26/2010)

The stream flows generally to the south. The average width is approximately 2 to 4 feet and even though the gradient is somewhat steep, the stream flow is marginal and slow, with several shallow (2-6") debris-filled pools where organics accumulate behind roots and stones. The substrate is a complex of bedrock and sandy materials with a surface of cobbles. Approximately 150 feet south of where the NSS was located, the stream becomes steeper, and in many places is scoured to bedrock. Biologists followed the stream downslope approximately 500 feet from where the NSS was observed, and no larger streams or NSS habitats were observed.

#### **Unnamed Stream (Field ID: CASBK42)**

This stream channel is intermittent and was determined to not provide suitable NSS habitat. This is an unnamed, intermittent stream that begins as a drain on the western slope of Canton Mountain at an elevation of approximately 1,360 feet. It extends westerly, down slope, where it eventually drains into another perennial tributary to Ludden Brook (CASBW8). This stream is located in both the ridgeline of project area and the access road survey area where it flows along the eastern side of the existing gravel access road. The stream is approximately 3 feet wide and the substrate is dominated by cobbles and boulders interspersed with coarse sand and gravel (including sediment deposits from the adjacent road).

#### **Unnamed Stream (Field ID: CASBW8)**

No NSS were observed within this stream. This is an unnamed perennial stream that is depicted on the USGS map. It begins outside of the survey area to the northeast and flows westerly onto the site and into Ludden Brook approximately 0.95 miles upstream of the Ludden and Fletcher Brook confluence. The stream makeup varies through its stretch though the survey area, but the average stream width is approximately 10 to 20 feet. Within the survey area, the substrate is dominated by cobbles and boulders interspersed with coarse sand and gravel. Near Ludden Brook, and where the stream runs proximal and parallel with Ludden Lane, the water is fast flowing and there are also overhanging roots and undercut banks. Two biologists performed a site investigation of the suitable NSS habitats in this stream, but located no NSS.

#### **Other Salamander Species Observed**

Pursuant to a request from Maine DIFW, Maine Amphibian & Reptile Atlas site cards were completed for other species found during the NSS surveys (Appendix F).

#### **4.4 Roaring Brook Mayfly Survey Results**

Field biologists did not conduct specific surveys for RBM because of the lack of suitable habitat at the proper elevations. Desktop analyses for streams with suitable RBM habitat revealed no USGS mapped streams above 1,000 feet in elevation on 7.5 minute series topographic maps. Summer 2010 wetland and stream surveys identified only one perennial stream above 1,000 feet elevation. This stream is narrow (approximately 3 foot wide) with slow and shallow flow. There were some cobbles and boulders intermixed with a substrate of bedrock, pockets of sandy material and in most areas it was sand mixed with organic material. The stream has several shallow (2-6") debris-filled pools where organics accumulate behind roots and stones. The small, pooled areas are typically comprised of leaf litter substrate left in place (i.e. unwashed) from the previous season. Being slow-moving, shallow, interspersed with settling pools, this stream did not conform to typical RBM habitat requirements and no RBM surveys were conducted. It should also be noted anecdotally that an NSS survey was conducted a within the stream and no flat-headed mayflies nor other members of the order *Ephemeroptera* were observed.

## 5.0 CONCLUSIONS

Based on 2010 and 2011 field surveys, 75 state and federal jurisdictional wetlands and 22 waterbodies were identified within the Project survey area. Of these 75 wetlands, portions of 19 wetland resources were classified as WSS pursuant to NRPA criteria due being located within 25 feet of an NRPA regulated river, stream, or brook. Portions of two wetlands were classified as WSS due to adjacency to a PSVP or SVP. Of the 22 waterbodies documented in the project area, 8 were perennial and 14 were intermittent.

Amphibian breeding season vernal pool surveys were conducted in the Project vicinity during the springs of 2010 and 2011. Vernal pool surveys identified 6 pool resources in the vicinity of the access road survey area, 12 pool resources in the vicinity of the ridgeline, and one vernal pool within the transmission line survey area that meet the Maine DEP's physical definition for vernal pools. Of these 19 resources, 10 pools were observed during amphibian breeding season with no egg masses (BVPs) after two, and in some cases three, field visits; and 7 pools had some biological activity but not enough to meet Maine DEP's criteria as a PSVP. One pool (plan ID 9PSVP field ID CR\_SVP\_BA506) located along the ridgeline met the Maine DEP's biological criteria for classification as a PSVP. However, there is some debate whether this resource is a natural feature in the landscape because it appears to be at least partially associated with historic quarrying. The field data form for this resource has not been submitted to the Maine DIFW for review as of the date of this report; therefore, classification as a significant vernal pool has not been confirmed. In addition, one SVP is located outside of the proposed Project work limits and east of the proposed transmission line that runs between the Ludden Lane substation and Ludden Lane (see Map 1, Appendix G). Data forms for this SVP were submitted to the Maine DIFW as part of the regulatory permitting for the Saddleback Ridge Wind project in 2010. As a result, the Maine DIFW confirmed that this SVP meets the NRPA significance criteria. It was also determined that the adjacent transmission line could be built maintaining a minimum 100 foot separation distance between the transmission line right-of-way and the spring high water line of the SVP and that a minimum of 75 percent of the adjacent critical terrestrial habitat would remain intact following construction. Therefore, the transmission line could be built in compliance with Maine DEP's Permit-by-Rule standards (Chapter 305), Section 19, for *Activates in, on or over significant vernal pool habitat*. Because the CMW transmission line would be built entirely within the previously approved transmission line right-of-way, and no additional alteration of habitat is proposed, the CMW project is also expected to meet the Maine DEP's Chapter 305, Section 19, Permit-by-Rule Standards.

One ABA was identified within the access road survey limits in association with a beaver dammed section of Ludden Brook and other ABA was identified in the transmission line survey limits as egg masses found in skidder ruts. An additional 13 Corps pools were also identified during breeding season surveys.

Northern spring salamander (NSS) field surveys were conducted on August 11, 12 and 26, 2010. A total of five NSS were observed in three of seven streams evaluated within the Project survey area: Ludden Brook, Fletcher Brook and an unnamed stream near the southern end of the ridgeline survey area (Figure 4-1). The Project survey area was also assessed for streams with Roaring Brook mayfly (RBM) habitat. Approved survey protocols specified that field surveys for this species could be relegated to perennial streams above 1,000 feet in elevation. The Project survey area had only one perennial stream located above 1,000 feet, but this stream was determined not to provide suitable habitat for the RBM, therefore, detailed substrate sampling for this species was not warranted.

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## APPENDIX A

### WETLANDS AND WATERBODY FIELD SURVEY RESULTS SUMMARY

**APPENDIX A**  
**Canton Mountain Wind Project**  
**Wetland and Waterbody Delineation Summary**

Resource Identification		Wetlands <sup>1</sup>				Streams					Notes <sup>6</sup>
Plan ID	Field ID	PFO	PSS	PEM	WSS <sup>2</sup>	Type <sup>3</sup>	Width	Depth	MDEP <sup>4</sup>	NJD <sup>5</sup>	
<b>Access Road Resources</b>											
AW1	CAWBK2	D		X							Forested wetland dominated by red maple and American elm. Small emergent area of wetland in utility ROW. ATV trail through this area. Micro-topography drains wetland to the south into upland drainage CADBK1.
AW2	CAWBK4		X	D							Emergent wetland in utility ROW with small scrub-shrub component.
AW3	CAWBK6			X							Palustrine unconsolidated bottom wetland (no vegetation present) in oxbow stream channel. Contains a small emergent component along Ludden Brook. Two potential vernal pools were identified within this wetland as CAPVPBK7 and CAPVPBK8.
AW4	CAWBK11			D							Small emergent wetland with a forested overstory (outside of wetland) adjacent to Ludden Lane.
AW5	CAWBK12	D	X	X	R						Wetland complex associated with floodplain of Ludden Brook.
AS6 Ludden Brook	CASBK13					P	120	7-12	S		This feature is a portion of Ludden Brook. Current and past beaver activity was found in many areas of the brook south of where it crosses Ludden Lane. Stream was completely over its banks in many places.
AW7	CAWBK14	D									Forested wetland dominated by yellow birch and red maple near intersection of Ludden Lane and a secondary gravel road.
AW8	CAWBK15	D		X							Small spring (CASPRINGBK65) discharging water on steep sideslope flowing to ditch along Ludden Lane.
AS9 Trib to Ludden Brook	CASBK22					I	36	0-6	X		Mineral scoured channel flowing from the survey boundary (east of Ludden Lane) to a culvert that crosses Ludden Lane where the stream enters Ludden Brook.
AW10	CAWBK17	X		D							Small sideslope seep draining to ditch along Ludden Lane.
AW11	CAWBK19			D							Emergent wetland near residence. Soil profile shows evidence of historic wetland fill.
AW12	CAWBK20	X	D		R						Shrub/forested wetland at toe of slope along Ludden Lane. Wetland drains to ditch and culvert and into CASBK18 on east side of Ludden Lane.

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**APPENDIX A**  
**Canton Mountain Wind Project**  
**Wetland and Waterbody Delineation Summary**

Resource Identification		Wetlands <sup>1</sup>				Streams					Notes <sup>6</sup>
Plan ID	Field ID	PFO	PSS	PEM	WSS <sup>2</sup>	Type <sup>3</sup>	Width	Depth	MDEP <sup>4</sup>	NJD <sup>5</sup>	
AS13 Trib to Fletcher Brook	CASBK18					I	48	0-6	X		Small intermittent stream flowing from culvert and into Fletcher Brook near the confluence of Fletcher and Ludden Brook. Stream is draining wetland (CAWBK20) on west side of Ludden Lane.
AW14	CAWBK21	D									Forested wetland at base of slope along Ludden Lane. Wetland shows signs of historic impacts. There are old spoil piles evident at the intersection of Ludden Lane and a secondary gravel road.
AW15	CAWBK27		D								Wetland in naturalized borrow pit at the intersection of Ludden Lane and a secondary gravel road.
AW16	CAWBK24		D								Scrub-shrub wetland dominated by witch-hazel and speckled alder located on small terrace upslope (E) of Ludden Lane and cemetery. Wetland is surrounded by old skidder trails.
AS17 Trib to Fletcher Brook	CASBK23					P	72	7-12	X		Small tributary of Fletcher Brook located to the west of the cemetery.
AW18	CAWBK28	X	X	D	R						Floodplain wetland complex to the west of cemetery dominated by cinnamon and sensitive fern.
AS19	CASBJ4					I	48	13-24	X		Intermittent stream beginning at road culvert. Stream shows signs of erosion from road bed. An old outhouse was found in stream near intersection of gravel roads. Stream drains to wetland CAWBK28.
AW20	CAWBJ3			D							Emergent wetland at confluence of several old skid trails. Large cedar trees and evidence of water discharge from side-slope indicate that this area was wet prior to skid impacts.
AW21	CAWBW20			D							A PEM wetland that is located in an old borrow pit along the access road. It has naturalized and had many breeding indicator species egg masses during 2009 spring vernal pool survey (Mapped as CA_CP18_BA).
AW22	CAWBJ6			D							Cut over area at the confluence of several old skid trails. Several drainages entering in from old ruts of trails outside of wetland.
AW23	CAWBK32		X	D							Predominately emergent wetland along Ludden Lane dominated by fringed sedge and cinnamon fern. Berm and ditch through wetland along road.
AW24	CAWBW3	D	X		R						A seepage wetland with evidence of saturation and an abundance of water marks. CA_3NVP_BA is located in the middle of this wetland.

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AW25	CAWBW4	D			R						Wetland that has been flooded due to beaver activity. The beaver dam appears to have been breached recently (Summer 2010).
AW26	CAWBW9	D		X							Forested wetland with evidence of old skid ruts through the southern end of the wetland.
AW27	CAWBB1	X		D	R						Predominately emergent wetland along gravel road. Areas of wetland (PFO) previously flooded due to beaver activity. Was connected to wetland CAWBW4 at spring high over top of road bed. Evidence of wetland previously being used as an old "log landing" area. Decaying piles of slash and woody debris were found within wetland near road.
AS28	CASBW5					P	48	0-6"	X		Channel flows east from beaver flowage and eventually enters Ludden Brook.
AS29	CASBW6					P	600"	0-24"	X		Portion of Ludden Brook.
AW30	CAWBW10		D								Shrub-dominated wetland located near the access road with dominant vegetation of meadowsweet and speckled alder.
AS31	CASBB3					I	60	0-6	X		Stream channel flowing generally SE toward wetland CAWBB1. Surface flow appears to become diffuse and goes underground at large boulder in wetland.
AW32	CAWBW11	X		D	R						Mostly emergent wetland with red maple, green ash, sensitive fern, cinnamon fern, and tussock sedge as dominate vegetation.
AW33	CAWBB4	D		X							PFO wetland along gravel road. Wetland appears to have been ditched with boulders and spoil being placed along road. Also was logged at one point and emergent portion of wetland is confined to an old skid trail.
AW34	CAWBW13			D	R						A wetland with yellow birch, arrow-wood viburnum, hemlock, and lurid sedge. The wetland drains a large forested wetland at the top of a nearby terrace and eventually drains into Ludden Brook.
AS35	CASBW7					I	24"	0-6"	X		A small tributary to Ludden Brook.
AW36	CAWBW14	D									A large wetland that extends past the survey area and that is dominated by black ash, yellow birch, balsam fir, and sensitive fern.

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AS37 Trib to Ludden Brook	CASBW8					P	120"	0-6"	X		Large perennial tributary to Ludden Brook on the north side of the access road.
AW38	CAWBW2	D									A small forested wetland at the beginning of a fork in the access road with a stream on the eastern side (not within 25').
AW39	CAWBK34		D	X	R						Shrub/emergent wetland with a forested overstory (outside of wetland boundary).
AW40	CAWBW16	X		D							A wetland with black ash, yellow birch, balsam fir, red maple, and cinnamon fern. Wetland flows toward a roadside ditch.
AW41	CAWBK35			D	R						Emergent wetland in an old oxbow of stream.
AW42	CAWBK36			D	R						Emergent wetland in forested floodplain of stream.
AW43	CAWBK37	D	X								Forested wetland dominated by balsam fir and yellow birch. Evidence of old skid trail through wetland.
AW44	CAWBW18	D									A large wetland that extends outside the survey area with black ash, red maple, yellow birch, speckled alder, sensitive fern and cinnamon fern.
AW45	CAWBK39	D	X		R						Floodplain wetland complex dominated by red maple and yellow birch.
AS46	CASBK38					I	24	0-6	X		Intermittent, narrow mineral-scoured channel associated with wetland CAWBK39.
AW47	CAWBK57	D									Forested wetland adjacent to old skid trail. Sheet flow appears to be exiting wetland and flowing into ditch down old skid trail.
AS48	CASBK41					I	48	0-6	X		Intermittent gravel/cobble stream channel.
AS49	CASBK42					I	60	0-6	X		Intermittent gravel/cobble stream channel.

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Plan ID	Field ID	PFO	PSS	PEM	WSS <sup>2</sup>	Type <sup>3</sup>	Width	Depth	MDEP <sup>4</sup>	NJD <sup>5</sup>	
AW50	CAWBK54			D							Shrub wetland with a forested over story in adjacent upland.
AS51	CASBK46					I	42	0-6	X		Intermittent gravel/cobble stream channel.
AW52	CAWBK47		D		R						Shrub wetland dominated by red maple adjacent to gravel road and containing stream CASBK46.
AW53	CAWBK51	D	X								This area has significant surface flow. Timber harvesting in the recent past has caused hydrology to be altered with skid trails bisecting flow in wetland.
AW54	CAWBK49	D	X								Forested and shrub wetland dominated by white ash and speckled alder.
AW55	CRWBW22			D							A wetland located on an old skidder road with evidence of soil compaction.
AW56	CRWBB7			D	R						Small floodplain of stream CRSBW21. Stream is adjacent to gravel road and wetland appears to have a horizon in the soil profile of deposited material from road. Wetland dominated by fringed sedge.
AW57	CRWBB6			D	R						Small floodplain of stream CASBK42. Wetland has little vegetation, mostly leaves with a few herbs.
AS58	CRSBW23					P	36"	0-6"	X		Stream flows westerly from ditch along access road. Has a mineral-scoured bottom, and amphibians and invertebrates were found within the channel.
AW59	CRWBW27	X		D							The wetland appears to be impacted by forestry activity due to the compaction of the soils along with upland plant species growing in little pockets of the wetland.
AS60	CRSBK58					I	36		X		Intermittent gravel/cobble stream channel. Receives underground flow from CRWBK59.
AS61	CRSBB8					I	36	0-6	X	X	Headwater of stream begins as an upland drainage in old skidder rut. Stream appears to be very "flashy" showing signs of heavy flow at various times of year. On downslope (W) side of gravel road there is a small section of diffuse sheet flow from culvert with no channel. Channel begins again further downslope with deep eroded gullies.

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Resource Identification		Wetlands <sup>1</sup>				Streams					Notes <sup>6</sup>
Plan ID	Field ID	PFO	PSS	PEM	WSS <sup>2</sup>	Type <sup>3</sup>	Width	Depth	MDEP <sup>4</sup>	NJD <sup>5</sup>	
S62	CRSBW28					I	36 - 60"	7-12"	X		A westerly flowing intermittent stream with presence of invertebrates and an organic material substrate.
AW63	CRWBK59	D	X								Forested wetland near project boundary. Possibly a historic (50+ years) woods road.
AW64	CRWBK63	D									Forested wetland bisected by an old skid trail, dominated by red maple.
Ridgeline Resources											
RW65	CRWBW36		D								Wetland shows evidence of impacts from recent skidder activity. A saddle at the base of seepage area is a collection point for water flow. Deep organic soils (histosols) found throughout wetland.
RW66	CRWBB12			D	R						Emergent wetland with a closed shrub canopy (outside of wetland). Wetland also encompasses stream CRSBW35. Part of wetland contained previously mapped "amphibian breeding area" (ABA) CR_1CP_BA. This area had been freshly skidded through at time of survey due to active logging taking place in the area.
RS67	CRSBK35					P	60"	0-6"	X		A southerly flowing stream with a cobble/gravel substrate and evidence of frogs and invertebrates. Stream is associated with CRDBW34 and wetland CRWBB12. Stream seems to have a small watershed, however presence of flowing water in August (no substantial rainfall prior to survey for several weeks), and a confirmed sighting of a Northern Spring Salamander indicates that the stream is perennial.
RW68	CRWBJ1		X	D							A kettle-hole depression on the ridgeline in the saddle of several hemlock dominant slopes.
RW69	CRWBW32			D							This wetland is located in a forested depression with no trees and surrounded by upland tree species that overhang the wetland area. During the spring of 2010 this wetland was flooded.
RW70	CRWBJ3			D	SVP						An emergent wetland/shallow ephemeral pond. Previously flagged as Significant Vernal Pool CR_11SVP_BA.
RW71	CRWBW40			D							A wetland within a forested area with shallow ponding. Vegetation includes sphagnum moss, balsam fir, cinnamon fern, and yellow birch.

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Plan ID	Field ID	PFO	PSS	PEM	WSS <sup>2</sup>	Type <sup>3</sup>	Width	Depth	MDEP <sup>4</sup>	NJD <sup>5</sup>	
RW72	CRWBB14		D								Small wetland pocket in narrow ravine amongst large bedrock outcrops. Wetland was sparsely vegetated with hobblebush and contained deep organics throughout.
RW73	CRWBJ4		D								Shrub-dominated kettle-hole bog on the ridge top. Soils are saturated to the surface and there is 10 inches of fibrous sphagnum on top of peat/muck.
RW74	CRWBW41	D									An emergent wetland with red maple, balsam fir, hemlock, yellow birch, and cinnamon fern. The wetland extends outside the survey area boundary and is located downslope from wetland CRWBJ4.
RW75	CRWBJ6	D									Wetland was located on an old skid trail with compacted soils. It is a small low-value isolated wetland depression in a probable relic skid trail.
RW76	CRWBB17	X	D								Small scrub-shrub wetland on side-slope.
RW77	CRWBB15	D									Small forested wetland that contains vernal pool CR_3VP_BA419. An area of the wetland is being impacted by an ATV trail.
Transmission Line Resources											
TW1	CAWBK2/W0	X		D							PEM-PFO wetland located slightly south of the existing transmission line and north of Canton Point Road. Wetland is dominated by yellow birch and red maple in the overstory in the plot. Yellow birch, eastern hemlock and balsam fir were identified in the sapling/shrub stratum. The understory is dominated by cinnamon fern with some New York fern, lady fern, sensitive fern and dwarf red raspberry. In the transmission line, the dominant vegetation is woolgrass, rough-stemmed goldenrod and sedges.
TW2	AFA & AFB-W1/W1	D		X							Primarily PFO wetland area with small section of PEM near easternmost edge of study corridor. Wetland overstory is dominated by red maple and yellow birch. The sapling/shrub stratum contains green ash, yellow birch and striped maple. The herb stratum includes cinnamon fern, sensitive fern and Canada mayflower.
TW3	CAWBK11/W1A	D									Forested wetland area with surface drainage running to culvert under Ludden Road.
TW4	AFA & AFB-W2/W2	D									Forested wetland area with surface drainage running to ditch alongside Ludden Road. The tree stratum is dominated by yellow birch with some balsam fir and American hophornbeam. Sapling and shrub stratum

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Plan ID	Field ID	PFO	PSS	PEM	WSS <sup>2</sup>	Type <sup>3</sup>	Width	Depth	MDEP <sup>4</sup>	NJD <sup>5</sup>	
											contains red maple and yellow birch. The herb stratum is dominated by nodding sedge, panicled aster and New York fern.
TW5	AFAW3/W3	D									Small forested wetland area with red maple and eastern hemlock dominating the overstory. Eastern hemlock dominates the sparse sapling/shrub stratum. Marsh fern, two-seeded sedge, sallow sedge and cinnamon fern occur in the herb stratum.
TW6	CAWBK12/W7	D	X								PFO /PSS wetland, disturbed by previous logging activities with a long-disused road bed in places. There was a ponded area near the road. The wetland consists of a series of wetland "fingers" extending to the south and east of the main wetland body. Wetland contains no tree stratum in the plot. The sapling/shrub layer is dominated by speckled alder. The herb layer is dominated by northern mannagrass with a some sensitive fern and rough stemmed goldenrod.
TW7	CAWBK14/W6	D									PFO bounded by Ludden Road to the west and a private driveway to the south. Overstory contains red maple and eastern hemlock. Shrub layer has yellow birch, and balsam fir. Cinnamon fern and royal fern are most common in the herb stratum.
TW8	AFA-W4/W4	D			H						Entirely PFO, the east side of wetland 4 has been disturbed by previous logging operations. Wetland has been previously identified as WSS because it contains a svp. Overstory is dominated by green ash, red maple, yellow birch and eastern hemlock. The sapling stratum only contains eastern hemlock. The herb stratum is dominated by cinnamon fern.
TW9	CAWBK15/W5A	D									Forested depressional wetland area east of Ludden Road.
TW10	AFA & AFB-W5/W5	X		D							Primarily PEM wetland with small section of PFO to west. Area is disturbed by previous logging operations. The sparse overstory contains yellow birch and green ash. Shrub stratum contains red maple. The herb layer is dominated by shallow sedge and nodding sedge.
TS11	S-1					I	1'-4'+/-	0"-6"	X	X	Stream flows in a southerly direction within the area of Wetland 8. No water present at time of survey. Channel is discontinuous/braided.

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Plan ID	Field ID	PFO	PSS	PEM	WSS <sup>2</sup>	Type <sup>3</sup>	Width	Depth	MDEP <sup>4</sup>	NJD <sup>5</sup>		
TW12	AFA & AFB-W8/W8	X		D	R							PEM/PFO wetland. PEM areas have been disturbed by logging activity. Wetland area contains a vernal pool not deemed to be significant. Wetland body contains a Maine DEP jurisdictional stream (S-1) channel which outlets from the southwestern end. It also has 2 drainages entering the wetland from the northern side. The western drainage comes from wetland also labeled as W8. The vegetation sampling plot is located in this northwestern branch. In the plot, the overstory consists of red maple and yellow birch. Shrub/sapling layer has yellow birch and eastern hemlock. Herb stratum contains northern bugleweed, turtlehead, violet and sallow sedge.
TS13	S-2					I	1'-2'	0"-6"	X	X		Stream flows in a westerly direction and drains to Wetland 8.
TW14	AFA-W9/W9			D								Small PEM wetland, disturbed by logging operations. No trees grow in overstory. The sparse sapling/shrub stratum contains red maple and gray birch. The most common species in the herb stratum are hayscented fern, interrupted fern, sensitive fern and woolgrass.
TW15	AFA & AFB-W10/W10	D										PFO wetland with overstory consisting of red maple and eastern hemlock. Sapling stratum has green ash and red maple. Herb layer contains mostly northern bugleweed with sensitive fern, New York fern, marsh pennywort and dwarf red raspberry.
TW16	AFA & AFB-W12/W12	D		X	R							Wetland is more than 75% PFO. Overstory is dominated by northern white cedar, red maple and yellow birch. Shrub layer has green ash, speckled alder and hobblebush. Northern mannagrass, cinnamon fern, wood horsetail and northern bugleweed make up the herb stratum. There are cattails out of plot, but not large enough an area to be WSS.
TW17	AFA-W11/W11			D								PFO wetland on a concave sideslope where past logging activity has intercepted the seasonal water table. Overstory consists of green ash, red maple and hemlock. Sapling/shrub stratum has hemlock, red maple and yellow birch. Herb layer contains interrupted fern, sensitive fern and northern mannagrass.
TS18	S-3					P	15'-30'	13"-24"	X	X		Named "Ludden Brook". Flows westerly. Presence of fish species observed at time of survey.

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TW19	AFA-W13/W13	D			R						PFO wetland that contains skidder ruts. Overstory has yellow birch, green ash and red maple. Sapling/shrub stratum contains balsam fir, eastern hemlock and striped maple. Herb layer has New York fern, starflower and Canada mayflower.
TW20	AFA-W14/W14	X		D							Approximately 70% of the wetland is PEM due to past disturbance. There were no trees in the plot. Shrub layer consists of steeplebush. Woolgrass, sallow sedge and soft rush are dominant in the herb stratum.
TW21	AFA-W16/W16		D								PSS wetland with no tree stratum. The sapling/shrub stratum consists of steeplebush. The herb stratum has shallow sedge, pointed broom sedge and bugleweed.

1 Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31, U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C.:

PFO=Palustrine (freshwater) forested wetland PSS=Palustrine shrub-scrub wetland PEM=Palustrine emergent wetland.

D = Dominant Wetland Type; X = Present.

2 Wetlands of Special Significance Designations:

R = within 25 feet of MDEP jurisdictional river, stream, or brook.

3 P = Perennial, flows more than 6 month of the year and likely year round:

I = Intermittent, flows more than 3 months of the year but less than 6 months

E = Ephemeral, flows less than 3 months of the year.

4 S = Northern Spring Salamander Habitat.

5 NJD = Non-jurisdictional drainage.

6 References to specific wetlands and streams use the Field ID, which can be found in the second column of the Resource Identification column in this Appendix.

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APPENDIX B

REPRESENTATIVE WETLANDS PHOTOGRAPHS

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Wetland Delineation Survey



**Photo No.:** 1  
**Plan ID:** AW5  
**Field ID:** CAWBK12  
**Date:** August 3, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
Wetland was classified as PFO1/ PSS1/ PEM. Wetland has been influenced by beaver activity. Photo was taken at the southern tip of the wetland looking at the floodplain.



**Photo No.:** 2  
**Plan ID:** AW5  
**Field ID:** CAWBK12  
**Date:** August 3, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
Wetland was classified as PFO1/ PSS1/ PEM. Wetland has been influenced by beaver activity. Photo is looking in west.



**Photo No.:** 3  
**Plan ID:** AW5  
**Field ID:** CAWBK12  
**Date:** August 3, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
Wetland was classified as PFO1/ PSS1/ PEM. Wetland has been influenced by beaver activity. Photo of the beaver Dam.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Wetland Delineation Survey



**Photo No.:** 1  
**Plan ID:** AW8  
**Field ID:** CAWBK15  
**Date:** August 3, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
Wetland is located near a spring (mapped separately as CA) on a sideslope with a narrow swale spillway. Classification of this wetland is PFO4/PEM1. Photo looking east.



**Photo No.:** 2  
**Plan ID:** AW8  
**Field ID:** CAWBK15  
**Date:** August 3, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
Wetland is located near a spring (mapped separately as CA) on a sideslope with a narrow swale spillway. Classification of this wetland is PFO4/PEM1. Photo looking east.



**Photo No.:** 1  
**Plan ID:** AW10  
**Field ID:** CAWBK17  
**Date:** August 4, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
FO1/PEM1 wetland located on a narrow sideslope seep. Photo taken looking west.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Wetland Delineation Survey



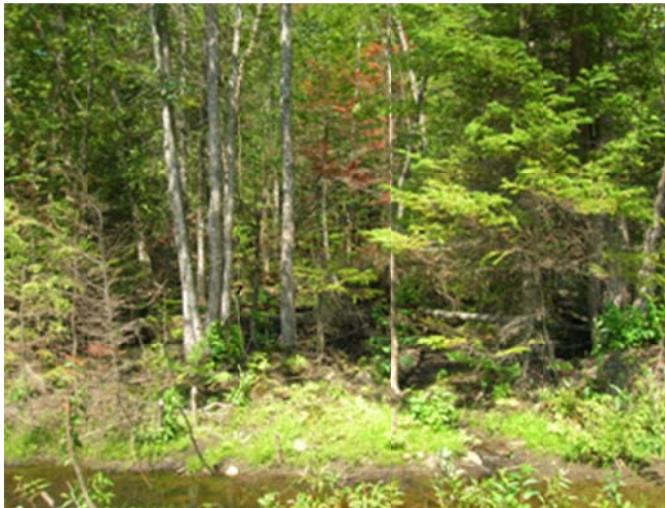
**Photo No.:** 1  
**Plan ID:** AW12  
**Field ID:** CAWBK20  
**Date:** August 4, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
PSS1/PF01 wetland located on the western side of Ludden Lane and the photo was taken looking west.



**Photo No.:** 1  
**Plan ID:** AW27  
**Field ID:** CAWBB1  
**Date:** August 10, 2010  
**Photographer:** Dave Brenneman

**Comments:**  
PFO1/4 / PEM2 wetland, photo was taken in the middle of the wetland looking east. This wetland several small upland islands.



**Photo No.:** 2  
**Plan ID:** AW27  
**Field ID:** CAWBB1  
**Date:** August 10, 2010  
**Photographer:** Dave Brenneman

**Comments:**  
PFO1/4 / PEM2 wetland, photo was taken in the middle of the wetland looking south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Wetland Delineation Survey



**Photo No.:** 1  
**Plan ID:** AW30  
**Field ID:** CAWBW10  
**Date:** August 10, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:**  
A PSS1E wetland. Photo was taken looking north.



**Photo No.:** 2  
**Plan ID:** AW30  
**Field ID:** CAWBW10  
**Date:** August 10, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:**  
A PSS1E wetland. Photo was taken looking south.



**Photo No.:** 1  
**Plan ID:** AW32  
**Field ID:** CAWBW11  
**Date:** August 10, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:**  
A PEM1E with a small component of PFO1E wetland. Photo was taken looking southeast.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Wetland Delineation Survey



**Photo No.:** 2  
**Plan ID:** AW32  
**Field ID:** CAWBW11  
**Date:** August 10, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:**  
A PEM1E with a small component of PFO1E wetland with a small component of PFO1E. Photo was taken looking northeast.



**Photo No.:** 1  
**Plan ID:** AW36  
**Field ID:** CAWBW14  
**Date:** August 10, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:**  
A PFO1 wetland. Photo was taken looking north.



**Photo No.:** 2  
**Plan ID:** AW36  
**Field ID:** CAWBW14  
**Date:** August 10, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:**  
A PFO1. Photo was taken looking south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Wetland Delineation Survey



**Photo No.:** 1  
**Plan ID:** AW40  
**Field ID:** CAWBW16  
**Date:** August 11, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:**  
A PEM2 / PFO1E wetland that teardrops toward the roadside ditch. Photo is looking northeast.



**Photo No.:** 2  
**Plan ID:** AW40  
**Field ID:** CAWBW16  
**Date:** August 11, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:**  
A PEM2 / PFO1E wetland that teardrops toward the roadside ditch. Photo is looking northeast



**Photo No.:** 1  
**Plan ID:** AW50  
**Field ID:** CAWBK54  
**Date:** August 11, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
A PEM1 wetland located in a narrow swale with few trees growing within the wetland. Photo is looking east.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Wetland Delineation Survey



**Photo No.:** 2  
**Plan ID:** AW50  
**Field ID:** CAWBK54  
**Date:** August 11, 2010  
**Photographer:** Rodney Kelshaw

**Comments:**  
A PEM1 wetland located in a narrow swale with few trees growing within the wetland. Photo is looking east.



**Photo No.:** 1  
**Plan ID:** AW56  
**Field ID:** CRWBB7  
**Date:** August 11, 2010  
**Photographer:** David Brenneman

**Comments:**  
A PEM2 wetland adjacent to the stream CRSBW21. Photo was taken looking south



**Photo No.:** 2  
**Plan ID:** AW56  
**Field ID:** CRWBB7  
**Date:** August 11, 2010  
**Photographer:** David Brenneman

**Comments:**  
A PEM2 wetland adjacent to the stream CRSBW21. Photo was taken looking north.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Wetland Delineation Survey



**Photo No.:** 1  
**Plan ID:** RW77  
**Field ID:** CRWBB15  
**Date:** August 11, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking north.



**Photo No.:** 2  
**Plan ID:** RW77  
**Field ID:** CRWBB15  
**Date:** August 11, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking south.

APPENDIX C  
REPRESENTATIVE WETLANDS DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CANTON MTN City/County: CANTON / OXFORD Sampling Date: 8/3/10
Applicant/Owner: PATRIOT RENEWABLES State: ME Sampling Point: WET
Investigator(s): R. KELSHAW, D. BRENNEMAN Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): CONCAVE
Slope (%): 2 Lat: E 393518.37A Long: N 4927806.79 Datum: UTM NAD 1983 N
Soil Map Unit Name: NWI classification: PFO1, PJS1, PEM

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: CAWBK12
Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

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

Field Observations:
Surface Water Present? Yes X No Depth (inches): 24" + (VARIES THROUGHOUT)
Water Table Present? Yes No Depth (inches):
Saturation Present? Yes No Depth (inches):
Wetland Hydrology Present? Yes X No

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

Remarks:
STREAM (LUDDEN BROOK) OVER TOP OF BANKS DUE TO BEAVER ACTIVITY. SEVERAL DAMS SEEN, ALSO, SLIDES AND FRESH BITE MARKS ON TREES.
OLD & NEW

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' R )	Absolute % Cover	Dominant Species?	Indicator Status
1. ACE RLB	75	X	FAC
2.			
3.			
4.			
5.			
6.			
7.			
75 = Total Cover <sup>37.5</sup> / <sub>15</sub>			
Sapling/Shrub Stratum (Plot size: 15' R )	Absolute % Cover	Dominant Species?	Indicator Status
1. ACE RLB	20	X	FAC
2. CLM AME	10	X	FACW
3. ILE VER	5		
4.			
5.			
6.			
7.			
35 = Total Cover <sup>17.5</sup> / <sub>7</sub>			
Herb Stratum (Plot size: 5' R )	Absolute % Cover	Dominant Species?	Indicator Status
1. CAR INTINTH	50	X	FACW
2. ONO SEN	40	X	FACW
3. CAR CRI	20		
4. OLY CAN	10		
5. IMP CAP	10		
6. CAR SCO	5		
7. BDE CYL (FALSE NETTLE)	5		
8. THA PDL (TALL MEADOW RUE)	5		
9. GAL ODR	5		
10. AST UMB (FLAT TOP DASTER)	T		
11. GLY GRA	T		
12. SPI CAT	T		
POL SAG (TEAR THUMB) T			
REB HIS T			
150 = Total Cover <sup>75</sup> / <sub>36</sub>			
Woody Vine Stratum (Plot size: )	Absolute % Cover	Dominant Species?	Indicator Status
1. NONE OBSERVED			
2.			
3.			
4.			
= Total Cover			

**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 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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: (Include photo numbers here or on a separate sheet.)

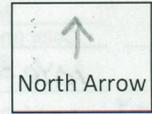
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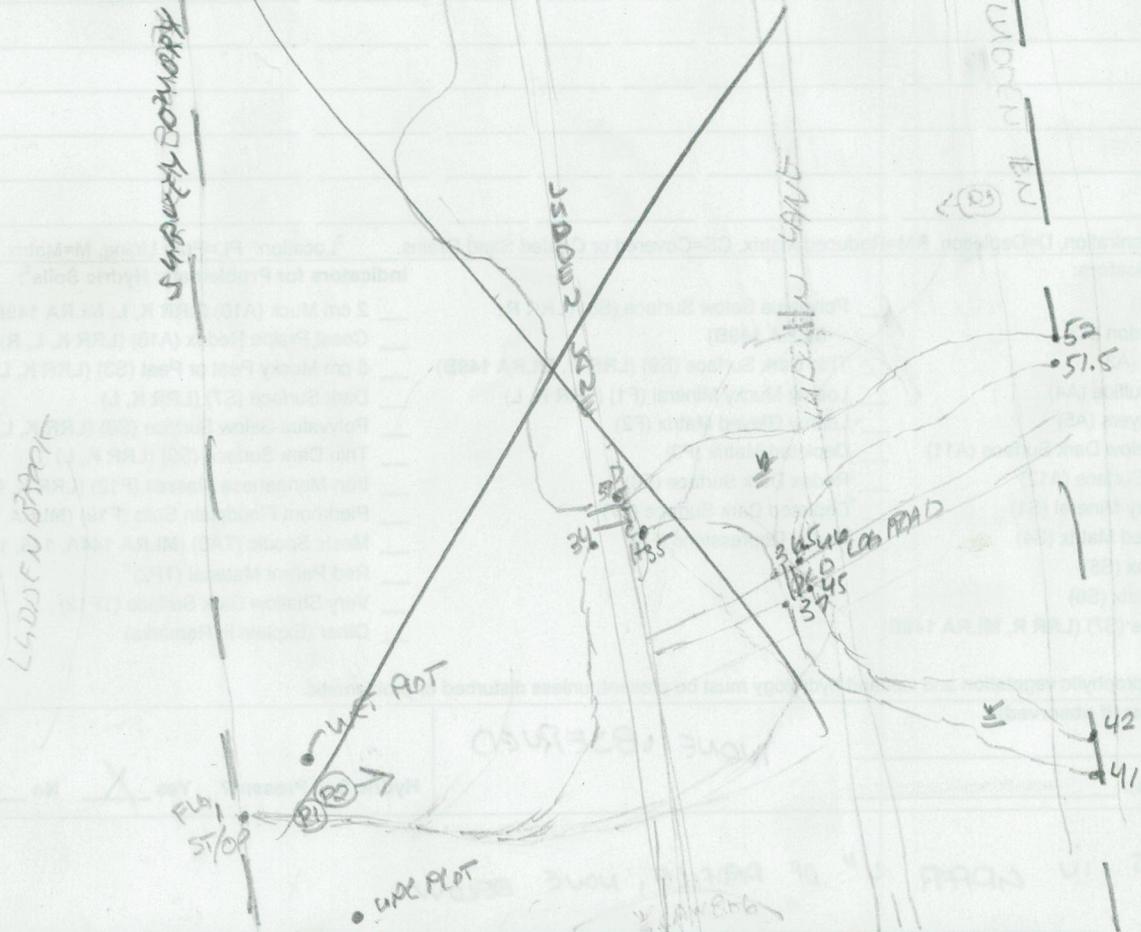
Wetland ID: CAW8K12

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



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**WOSS (check all that apply/or write UNK for unknown):**

- contains an S1 or S2 Community (identify: \_\_\_\_\_) NOT KNOWN
- contains SWH (identify type: \_\_\_\_\_) NOT KNOWN
- within 250 feet of a coastal wetland
- within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- within FEMA floodzone (MOST LIKELY; NEEDS VERIFICATION)
- is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- within 25 feet of a river, stream or brook





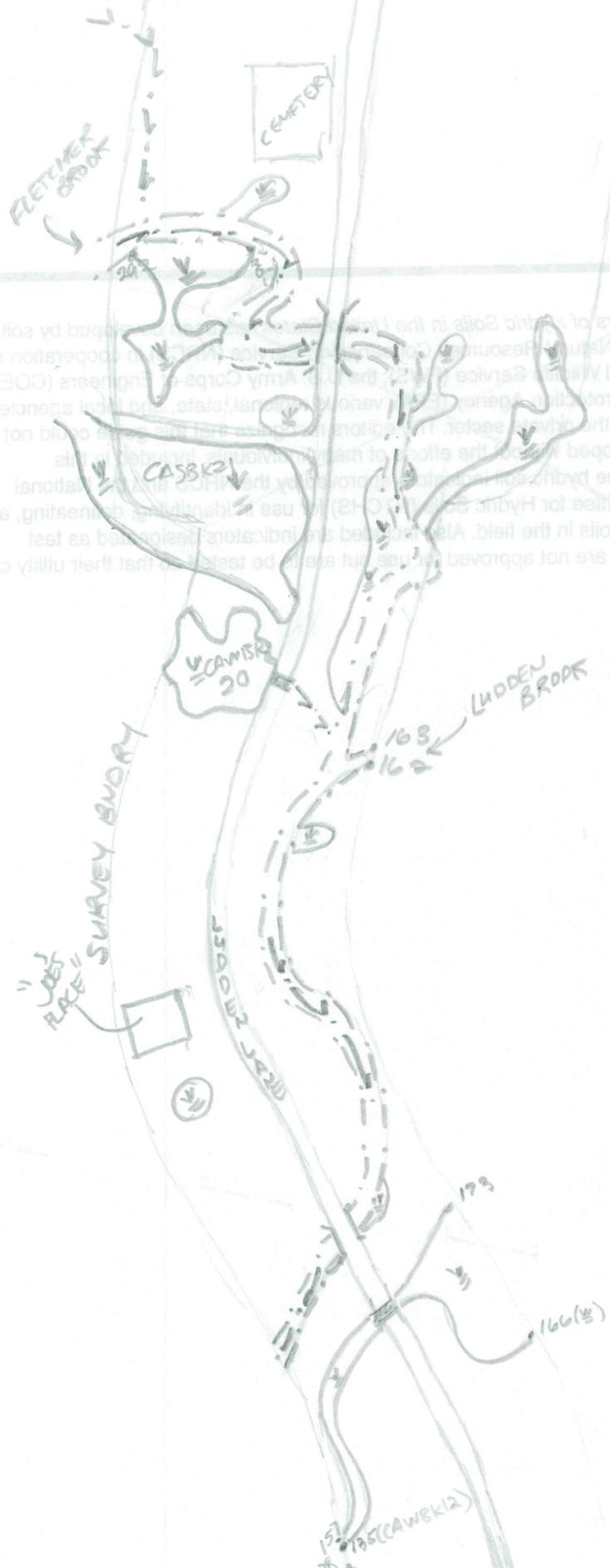
8/3/2016 LAWSON, J.  
CASBKI'S

CANTON MTN  
DELINEATION  
SKETCH  
(Pgs 2)  
DRE

Foreword

Field indicators of the soils in the...  
scientists of the Natural Resources...  
the U.S. Fish and Wildlife Service...  
Environmental Protection Agency...  
universities; and the...  
have been developed...  
publication are the...  
Technical Committee for...  
varying hydro soils in the field...  
indicators, which are not approved...  
be determined.

- - - = TDS STREAM
- = BNDRY
- = CULVERT



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: CANTON MTN City/County: CANTON/OXFORD Sampling Date: 8/3/2010
Applicant/Owner: Investigator(s): K. KESHAU, D. BRENNEMAN Section, Township, Range:
Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): CONVEX
Slope (%): 0 Lat: E 393519.43 Long: N 4927792.48 Datum: UTM Meters
Soil Map Unit Name: N/A NWI classification: N/A

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

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No [X]
Hydric Soil Present? Yes No [X]
Wetland Hydrology Present? Yes No [X]
Is the Sampled Area within a Wetland? Yes No [X]
If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators: NONE OBSERVED
Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)
Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6)
High Water Table (A2) Aquatic Fauna (B13) Drainage Patterns (B10)
Saturation (A3) Marl Deposits (B15) Moss Trim Lines (B16)
Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8)
Drift Deposits (B3) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1)
Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes No [X] Depth (inches):
Water Table Present? Yes No [X] Depth (inches):
Saturation Present? (includes capillary fringe) Yes No [X] Depth (inches):
Wetland Hydrology Present? Yes No [X]

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>ACE RUB</u>	<u>90</u>	<u>X</u>	<u>FAC</u>
2. <u>TSU CAN</u>	<u>25</u>	<u>X</u>	<u>FACU</u>
3. <u>PN STR</u>	<u>5</u>		<u>FACU</u>
4. _____			
5. _____			
6. _____			
7. _____			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>ABI BAL</u>	<u>10</u>	<u>X</u>	<u>FAC</u>
2. <u>COR COR</u>	<u>5</u>	<u>X</u>	<u>FACU</u>
3. <u>FAG GRA</u>	<u>5</u>	<u>X</u>	<u>FACU</u>
4. _____			
5. _____			
6. _____			
7. _____			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>OSM CIN</u>	<u>25</u>	<u>X</u>	<u>FACW</u>
2. <u>ANT FIB-FEM</u>	<u>20</u>	<u>X</u>	<u>FAC</u>
3. <u>QUERUB</u>	<u>20</u>	<u>X</u>	<u>FACU</u>
4. <u>CAREX JP</u> (NEED ID)	<u>15</u>		
5. <u>MAI CAN</u>	<u>10</u>		<u>FAC</u>
6. <u>TRI BOR</u>	<u>5</u>		<u>FAC</u>
7. <u>VIB PCB</u>	<u>5</u>		<u>FACU</u>
8. <u>ACERUB</u>	<u>T</u>		<u>FAC</u>
9. <u>VIB DEN</u>	<u>T</u>		<u>FAC</u>
10. <u>ACE DEN</u>	<u>T</u>		<u>FACU</u>
11. <u>AST INF</u>	<u>T</u>		
12. _____			

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOLE OBS</u>			
2. _____			
3. _____			
4. _____			

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>1</u>	x 1 = <u>1</u>
FACW species <u>25</u>	x 2 = <u>50</u>
FAC species <u>120</u>	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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 X

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

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
1-0	5YR 3/3	10	—	—	—	—	—	FIBRIC
0-7	10YR 5/6	90	7.5YR 5/8	10	C <sub>4</sub>	M	FSL	
7-9	10YR 2/1	100	—	—	D	—	FSL	
9-12	2.5Y 6/3	—	7.5YR 5/6	—	C	M	FSL	
12-20 <sup>+</sup>	2.5Y 6/4	90	7.5YR 5/8	20	C	M	FSL	

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

Hydric Soil Indicators:

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

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

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

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

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

Restrictive Layer (if observed):

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

NONE OBS

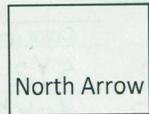
Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

SKETCH

Wetland ID:

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



SEE ATTACHED SHEET FOR SKETCH

**WOSS (check all that apply/or write UNK for unknown):**

- contains an S1 or S2 Community (identify: \_\_\_\_\_)
- contains SWH (identify type: \_\_\_\_\_)
- within 250 feet of a coastal wetland
- within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- within FEMA floodzone
- is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- within 25 feet of a river, stream or brook

N/A

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

Project/Site: Canton Mt. City/County: Canton/Oxford Sampling Date: 8-5-10  
 Applicant/Owner: Patriot Renewables State: ME Sampling Point: Wet  
 Investigator(s): R. Kelsaw, S. Allen Section, Township, Range:         
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: E 393580 Long: 492899.27 Datum: W83m Meters  
 Soil Map Unit Name: N/A NWI classification: PFO1

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

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

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

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches):       

Water Table Present? Yes  No  Depth (inches):       

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

Wetland Hydrology Present? Yes  No

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

Remarks:

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. ACE Rub	40	X	FAC
2. TSU Can	20	X	FACU
3. Abi bal	17	X	FAC
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

77 = Total Cover

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. ACE RUB	15	X	FAC
2. TSU Can	12	X	FACU
3. Bet All	8	X	FAC
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

35 = Total Cover

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Osm Cir	50	X	FACW
2. Ono Sen	35	X	FACW
3. Rub Pub	15	_____	_____
4. luc Uni	13	_____	_____
5. Cop gro	13	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

126 = Total Cover

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

\_\_\_\_ Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

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

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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 \_\_\_\_\_

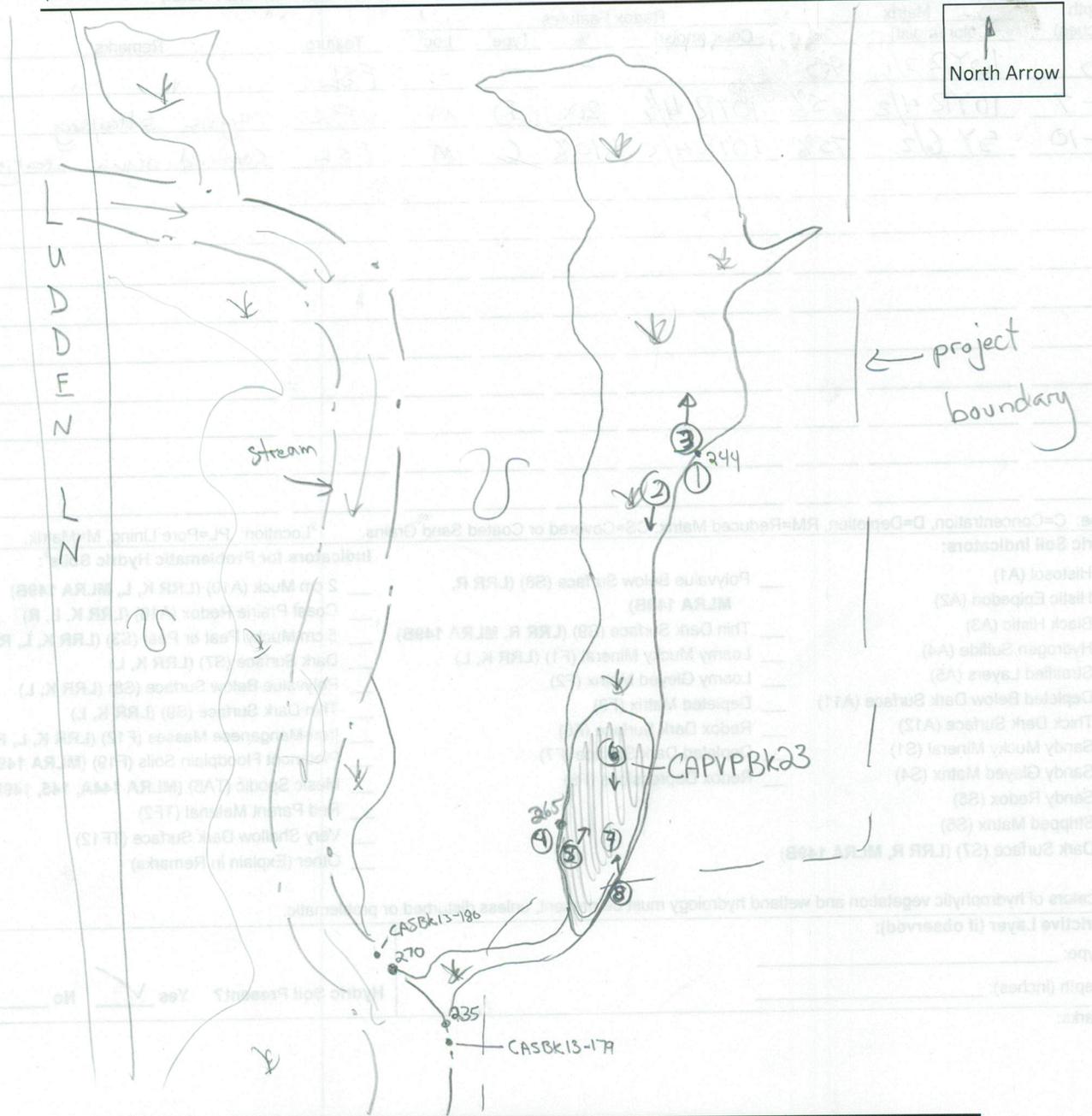
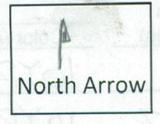
Remarks: (Include photo numbers here or on a separate sheet.)



EMETERY

SKETCH  
(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)

Wetland ID: CAWBK12(2)W



**WOSS (check all that apply/or write UNK for unknown):**

- UNK contains an S1 or S2 Community (identify: \_\_\_\_\_)
- UNK contains SWH (identify type: \_\_\_\_\_)
- UNK within 250 feet of a coastal wetland
- UNK within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- UNK contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- UNK within FEMA floodzone
- UNK is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- UNK within 25 feet of a river, stream or brook

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

Project/Site: Canton Mountain City/County: Canton/Oxford Sampling Date: 8-5-10  
 Applicant/Owner: Patriot Renewables State: ME Sampling Point: Upland  
 Investigator(s): R. Kelso S. Allen Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None  
 Slope (%): 20% Lat: E 393608.7 Long: N 4928986.3 Datum: UTM meters  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) <u>upland plot</u>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Microtopographic Relief (D4)
	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks:  
None observed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsu Can</u>	<u>85</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>ACE Rub</u>	<u>15</u>		
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

100 = Total Cover

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsu Can</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

15 = Total Cover

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>upland moss</u>	<u>10%</u>		
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

\_\_\_\_\_ = Total Cover

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			

\_\_\_\_\_ = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____ x 1 = _____	
FACW species _____ x 2 = _____	
FAC species _____ x 3 = _____	
FACU species _____ x 4 = _____	
UPL species _____ x 5 = _____	
Column Totals: _____ (A) _____ (B)	

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is  $\leq 3.0^1$

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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: (Include photo numbers here or on a separate sheet.)



SKETCH

Wetland ID: CAWBK12(2)

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)

See wetland sketch CAWBK12

North Arrow

Data taken in upland plot

**WOSS (check all that apply/or write UNK for unknown):**

- UNK contains an S1 or S2 Community (identify: \_\_\_\_\_)
- UNK contains SWH (identify type: \_\_\_\_\_)
- UNK within 250 feet of a coastal wetland
- UNK within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- UNK contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- UNK within FEMA floodzone
- UNK is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- UNK within 25 feet of a river, stream or brook

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Canton Mountain City/County: Canton/Oxford Sampling Date: 2010-8-3
Applicant/Owner: Patriot Renewables State: ME Sampling Point: W
Investigator(s): RK, DB, JB Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave
Slope (%): >10% Lat: E 393621.918 Long: N 4928233.431 Datum: UTM meters
Soil Map Unit Name: N/A NWI classification: PFO1/PEM1

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes [X] No
Hydric Soil Present? Yes [X] No
Wetland Hydrology Present? Yes [X] No
Is the Sampled Area within a Wetland? Yes [X] No
Remarks: (Explain alternative procedures here or in a separate report.)
Spring on sideslope w/ narrow swale spillway

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)
[X] Surface Water (A1) [X] Water-Stained Leaves (B9)
[X] High Water Table (A2) [X] Drainage Patterns (B10)
[X] Saturation (A3) [X] Dry-Season Water Table (C2)
Secondary Indicators (minimum of two required)
[X] Surface Soil Cracks (B6)
[X] Moss Trim Lines (B16)
[X] Crayfish Burrows (C8)
[X] Stunted or Stressed Plants (D1)
[X] Shallow Aquitard (D3)
[X] Microtopographic Relief (D4)
[X] FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes [X] No Depth (inches): 0"
Water Table Present? Yes [X] No Depth (inches): 0"
Saturation Present? Yes [X] No Depth (inches): 0"
Wetland Hydrology Present? Yes [X] No

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. /			
2. /			
3. /			
4. /			
5. /			
6. /			
7. /			
_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. /			
2. /			
3. /			
4. /			
5. /			
6. /			
7. /			
_____ = Total Cover			
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dry sp</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
2. <u>Gly obt</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
3. <u>Car cri</u>	<u>18</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
4. <u>Ast panicul</u>	<u>7</u>		
5. <u>Rub pub</u>	<u>5</u>		
6. <u>Bet all</u>	<u>5</u>		<u>FAC</u>
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
<u>80</u> = Total Cover			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. /			
2. /			
3. /			
4. /			
_____ = Total Cover			

**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 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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: (Include photo numbers here or on a separate sheet.)

emergent (herb+forb dominated) swale on forested sideslope ± 30' x 3'w  
 Modified plot to fit wetland  
 -no tree stratum  
 -no shrub stratum  
 -elongate herb stratum

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
2-0	7.5YR2.5/1	100					O: fibric	free H <sub>2</sub> O @ +2"
0-4	7.5YR2.5/1	100					mucky st sil	"
4-10 <sup>+</sup>	10YR4/4	85	7.5YR4/6	15	C	M	st sil	pit full of H <sub>2</sub> O cannot tell colors

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

Hydric Soil Indicators:

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

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

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

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

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

Restrictive Layer (if observed):

Type: N/O  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

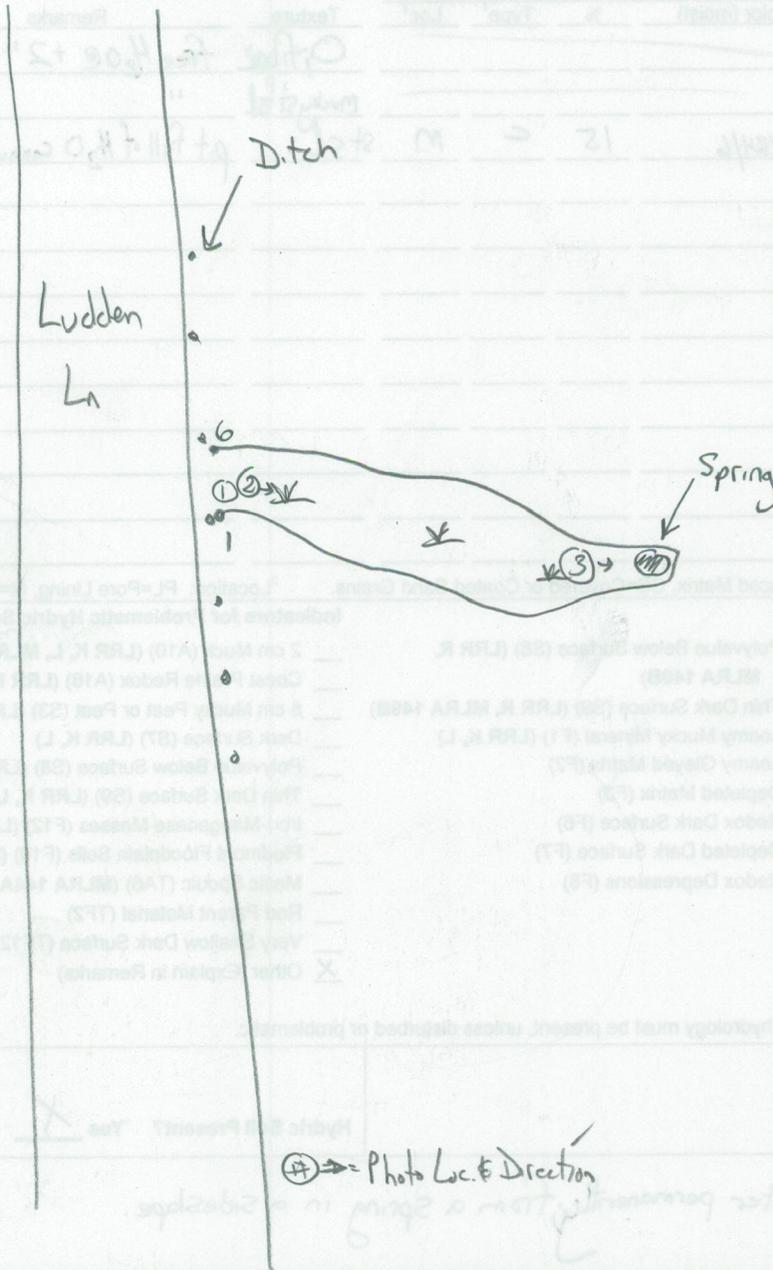
Remarks:

OTHER - Oxygenated flowing water permanently from a spring in a sideslope.

SKETCH

Wetland ID: CAWBK15

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



**WOSS (check all that apply/or write UNK for unknown):**

- contains an S1 or S2 Community (identify: \_\_\_\_\_)
- contains SWH (identify type: \_\_\_\_\_)
- within 250 feet of a coastal wetland
- within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- within FEMA floodzone
- is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- within 25 feet of a river, stream or brook

None Observed

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Canton Mountain City/County: Canton/Oxford Sampling Date: 2010-8-4
Applicant/Owner: Patriot Renewables State: ME Sampling Point: W
Investigator(s): RK, DB, JB Section, Township, Range:
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave
Slope (%): ~10% Lat: E 393670.47 Long: N 4928390.6 Datum: UTM meters
Soil Map Unit Name: N/A NWI classification: PFO1/PEM1

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes [X] No
Hydric Soil Present? Yes [X] No
Wetland Hydrology Present? Yes [X] No
Is the Sampled Area within a Wetland? Yes [X] No
If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one is required; check all that apply):
[X] Saturation (A3)
Secondary Indicators (minimum of two required):
[X] Surface Soil Cracks (B6)
[X] Drainage Patterns (B10)

Field Observations:
Surface Water Present? Yes No [X] Depth (inches):
Water Table Present? Yes No Depth (inches):
Saturation Present? Yes No Depth (inches):
Wetland Hydrology Present? Yes [X] No

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

Remarks:

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: _____)					
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Gly obt</u>	<u>28</u>	<input checked="" type="checkbox"/>	<u>OBL</u>		
2. <u>Osm cin</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
3. <u>Ono sen</u>	<u>4</u>	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>40%</u> = Total Cover				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Woody Vine Stratum</b> (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____	

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

*narrow side slope seep that is in a forested landscape however no trees growing in wetland, branches overhanging from upland*

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>			
2-0	7.5YR2.5/1	100	<hr/>				fabric		
0-2	7.5YR2.5/1	100	<hr/>				mucky sil	fri	
2-8	2.5Y3/1	70	5Y7/1	10YR4/6	25/5	D/C	M	stlfs	fri, mass H <sub>2</sub> Oe 5"
8-15 <sup>+</sup>	10YR4/3	60	2.5Y3.6/3	7.5YR4/2	30/10	D/C	M	stlfs	" "

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

Hydric Soil Indicators:

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

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

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

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

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

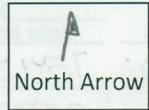
Restrictive Layer (if observed):

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



Ludden Ln  
→

Connect to roadside ditch  
↙

← project boundary

**WOSS (check all that apply/or write UNK for unknown):**

- contains an S1 or S2 Community (identify: \_\_\_\_\_)
- contains SWH (identify type: \_\_\_\_\_)
- within 250 feet of a coastal wetland
- within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- within FEMA floodzone
- is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- within 25 feet of a river, stream or brook

None Observed

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Canton Mountain City/County: Canton/Oxford Sampling Date: 2010-8-4
Applicant/Owner: Patriot Renewables State: ME Sampling Point: W
Investigator(s): RK, DB, JB Section, Township, Range:
Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): Concave
Slope (%): ~8% Lat: E 393487.06 Long: 4928830 Datum: UTM METERS
Soil Map Unit Name: N/A NWI classification: PSS1/PFO1

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No
Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Table with columns: Wetland Hydrology Indicators, Primary Indicators, Secondary Indicators. Includes checkboxes for Surface Water, High Water Table, Saturation, etc.

Field Observations: Surface Water Present? Yes X No Depth (inches): .5"
Water Table Present? Yes X No Depth (inches): +0"
Saturation Present? Yes X No Depth (inches): 0"
Wetland Hydrology Present? Yes X No

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ace rub</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Abi bal</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Bet all</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'r</u>)</b>				
1. <u>Aln inc</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Bet all</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Ace rub</u>	<u>5</u>	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'r</u>)</b>				
1. <u>Cal can</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Imp cap</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Ono sen</u>	<u>15</u>	_____	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

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

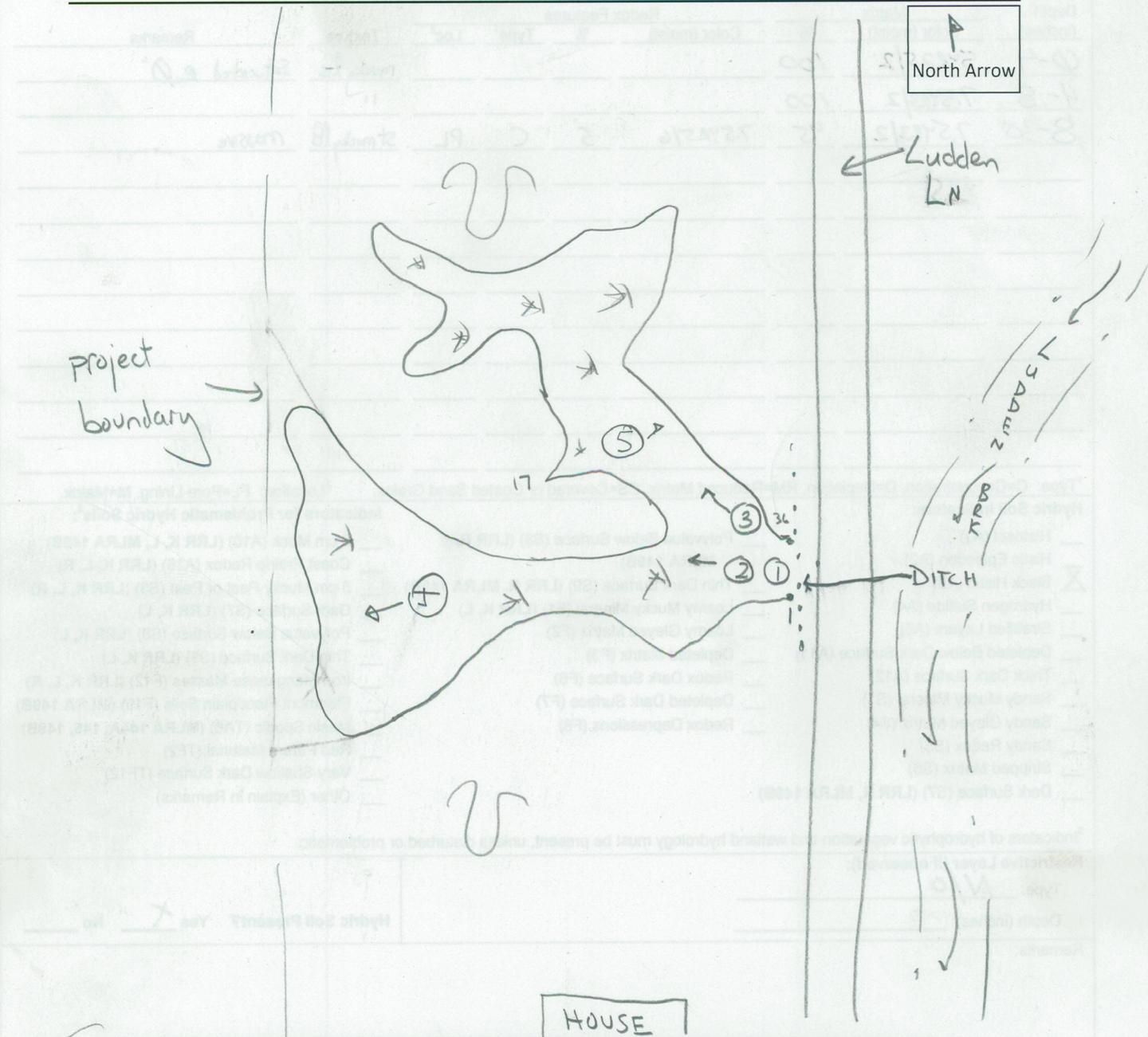
Remarks: (Include photo numbers here or on a separate sheet.)



SKETCH

Wetland ID: CAWBK20

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



**WOSS (check all that apply/or write UNK for unknown):**

- contains an S1 or S2 Community (identify: \_\_\_\_\_)
- contains SWH (identify type: \_\_\_\_\_)
- within 250 feet of a coastal wetland
- within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- within FEMA floodzone
- is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- within 25 feet of a river, stream or brook

None Observed

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Canton Mountain Wind City/County: Canton / Oxford Sampling Date: 8/9/2010
Applicant/Owner: Patriot Renewables (Consultant/Client: Tetra Tech EC) State: Maine Sampling Point: WET
Investigator(s): D. BRENNEMAN Section, Township, Range: - Canton, ME - DIXFIELD, ME
Landform (hillslope, terrace, etc.): TOE OF SLOPE Local relief (concave, convex, none): CONCAVE
Slope (%): 1-10% Lat: SEE GPS DATA Long: Datum: UTM M 19N NAD 1983
Soil Map Unit Name: NWI classification: PFO 1/4, PEM2

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

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes [X] No
Hydic Soil Present? Yes [X] No
Wetland Hydrology Present? Yes [X] No
Is the Sampled Area within a Wetland? Yes [X] No
If yes, optional Wetland Site ID: CAW581
Remarks: (Explain alternative procedures here or in a separate report.)
EMERGENT AREA ALONG ROAD SHOWS EVIDENCE OF BEING USED AS A "LOGGING LANDING" AREA, OLD PILES OF SLASH IN

HYDROLOGY

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

Field Observations:
Surface Water Present? Yes [X] No Depth (inches): 6"
Water Table Present? Yes [X] No Depth (inches): 6"
Saturation Present? (includes capillary fringe) Yes [X] No Depth (inches): 0
Wetland Hydrology Present? Yes [X] No

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

Remarks:

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. <u>NONE OBS</u>	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>SAL BEB</u>	<u>5</u>	<u>X</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ = Total Cover			
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>SCI CYP</u>	<u>50</u>	<u>X</u>	<u>FACW</u>
2. <u>CAP LUR</u>	<u>80</u>	<u>X</u>	<u>OBL</u>
3. <u>JUN EFF</u>	<u>25</u>	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
<u>155</u> = Total Cover			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NONE OBS</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
_____ = Total Cover			

**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 (A/B)

---

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

---

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

\_\_\_\_\_ Dominance Test is >50%

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

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

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

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

---

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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: (Include photo numbers here or on a separate sheet.)





WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Canton Mountain Wind City/County: Canton / Oxford Sampling Date: 8.10.10  
Applicant/Owner: Patriot Renewables (Consultant/Client: Tetra Tech EC) State: Maine Sampling Point: ✓  
Investigator(s): H5W Section, Township, Range: - Canton, ME -  
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none  
Slope (%): 0-11 Lat: 394017.10 E Long: 4929815.15 N Datum: UTM, M 19N NAD 83  
Soil Map Unit Name: \_\_\_\_\_ NWI classification: PSSIE

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	If yes, optional Wetland Site ID: <u>CAWBW 10</u>
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
no v data plot recorded

HYDROLOGY

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

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

Remarks:  
Yes

VEGETATION – Use scientific names of plants.

Sampling Point:                     

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Sapling/Shrub Stratum (Plot size: <u>05</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>aln rug</u>	<u>100</u>	<u>y</u>	<u>Facwt</u>
2. <u>spi lat</u>	<u>25</u>	<u>y</u>	<u>Fac+</u>
3. <u>rub ida</u>	<u>20</u>	<u>y</u>	<u>Fac-</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Herb Stratum (Plot size: <u>5</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>sol rug</u>	<u>20</u>	<u>y</u>	<u>Fac</u>
2. <u>the nov</u>	<u>10</u>	<u>y</u>	<u>Fac</u>
3. <u>ath fil-fem</u>	<u>10</u>	<u>y</u>	<u>Fac</u>
4. <u>ono sen</u>	<u>50</u>	<u>y</u>	<u>Facw</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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: (Include photo numbers here or on a separate sheet.)

**SOIL**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 3/2	95					fsi	oxidized rhizospheres
	10YR 4/6	5	10YR 4/6	5	C	M	fsi	
5-15	5Y 2.5/2	80					fsi	
			7.5 4/4	20	C	M	fsi	
15-20	2.5Y 4/1	90	2.5Y 6/2	10	D	M	S	

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

**Hydric Soil Indicators:**

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

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

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

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

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

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): N/A

Hydric Soil Present? Yes  No

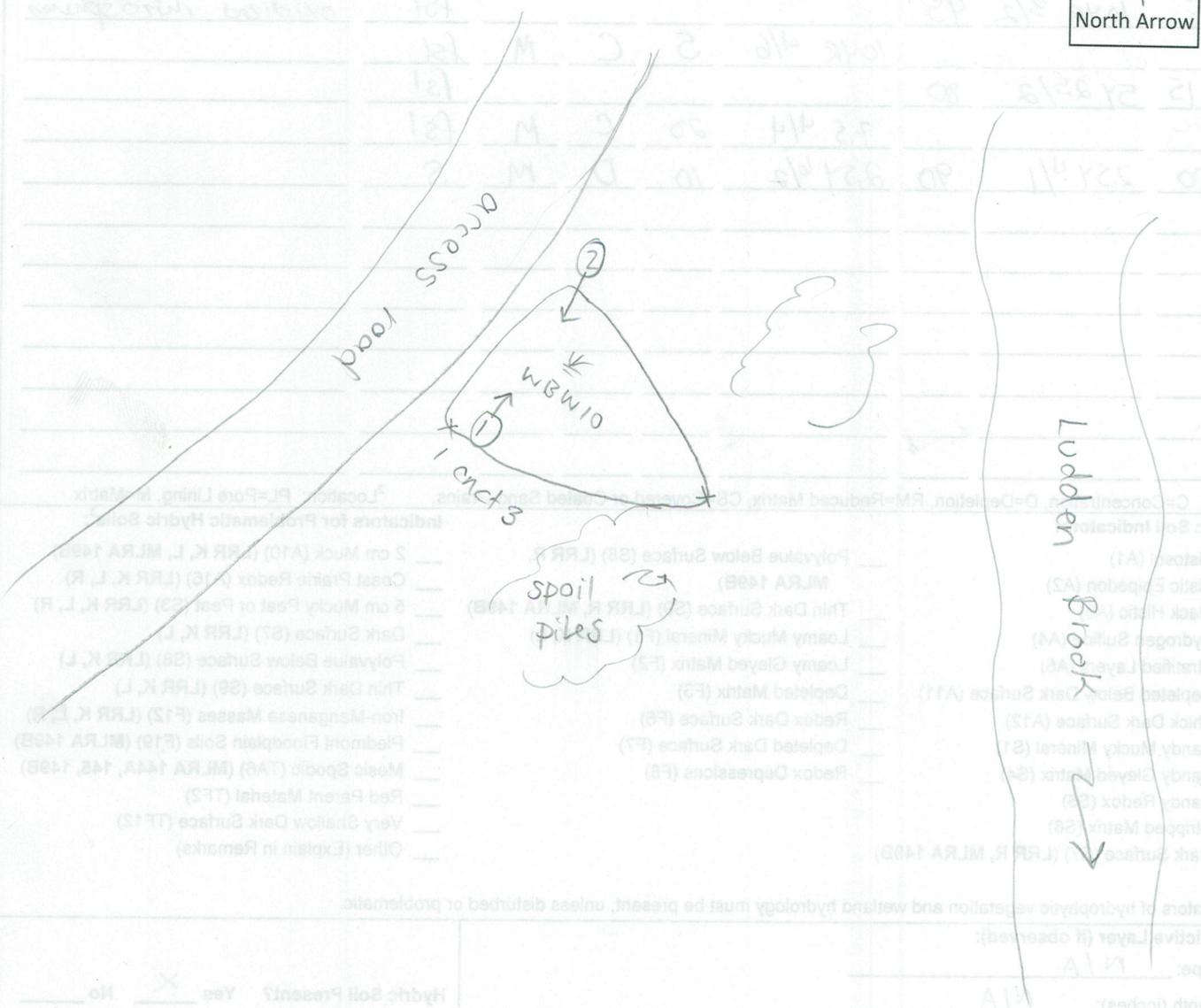
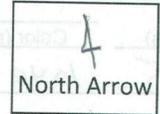
**Remarks:**

Soils meet VIII.A. in the Field Ind. for Identifying Hydric Soils in New Eng.

SKETCH

Wetland ID: CAWBW10

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



**WOSS (check all that apply/or write UNK for unknown):**

UNK contains an S1 or S2 Community (identify: \_\_\_\_\_)

UNK contains SWH (identify type: \_\_\_\_\_)

NO within 250 feet of a coastal wetland

NO within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.

NO contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.

UNK within FEMA floodzone

NO is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance

NO within 25 feet of a river, stream or brook

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Canton Mountain Wind City/County: Canton / Oxford Sampling Date: 8.10.10
Applicant/Owner: Patriot Renewables (Consultant/Client: Tetra Tech EC) State: Maine Sampling Point:
Investigator(s): HSW Section, Township, Range: - Canton, ME -
Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): none - basin
Slope (%): 0-11% Lat: 394105.25 E Long: 4929973.40 N Datum: UTM, M 19N NAD83
Soil Map Unit Name: NWI classification: PEM1E (Some PFORE)

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

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Table with 2 columns: Hydrophytic Vegetation Present?, Hydric Soil Present?, Wetland Hydrology Present? and Is the Sampled Area within a Wetland? Yes [X] No. Includes optional Wetland Site ID: CAWBW 11.

Remarks: (Explain alternative procedures here or in a separate report.)
drains towards Ludden Brook.
no v data plot recorded

HYDROLOGY

Table with 2 columns: Wetland Hydrology Indicators (Primary and Secondary) and Secondary Indicators (minimum of two required). Includes items like Surface Water (A1), Saturation (A3), Water Stained Leaves (B9), etc.

Field Observations:
Surface Water Present? Yes No [X] Depth (inches):
Water Table Present? Yes [X] No Depth (inches): to surface
Saturation Present? Yes [X] No Depth (inches): to surface
Wetland Hydrology Present? Yes [X] No

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 12

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>ace rub</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

Sapling/Shrub Stratum (Plot size: <u>15</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>ace rub</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2. <u>fru pen</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

Herb Stratum (Plot size: <u>5</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>ono sen</u>	<u>100</u>	<u>Y</u>	<u>facw</u>
2. <u>imp cap</u>	<u>10</u>	<u>Y</u>	<u>facw</u>
3. <u>osm cin</u>	<u>10</u>	<u>Y</u>	<u>facw</u>
4. <u>cer str</u>	<u>5</u>	<u>Y</u>	<u>obl</u>
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. <u>N/A</u>			
4. _____			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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: (Include photo numbers here or on a separate sheet.)

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	2.5Y 3/1	100					Silo	
0-10	2.5Y 3/1	93	10YR 4/4	5	C	M	Silo	
<del>10-12</del>			10YR 6/1	2	D	M		
10-15	10YR 4/1	90						
			7.5Y 4/6	5	C	M	Sil <del>ty</del>	
			10YR 5/2	5	D	m	Sil	
15-18	2.5YR 5/1	90	7.5YR 5/3	5	C	M	Sil	
			2.5Y 6/2	5	D	M	Sil	

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

Hydric Soil Indicators:

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

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

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

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

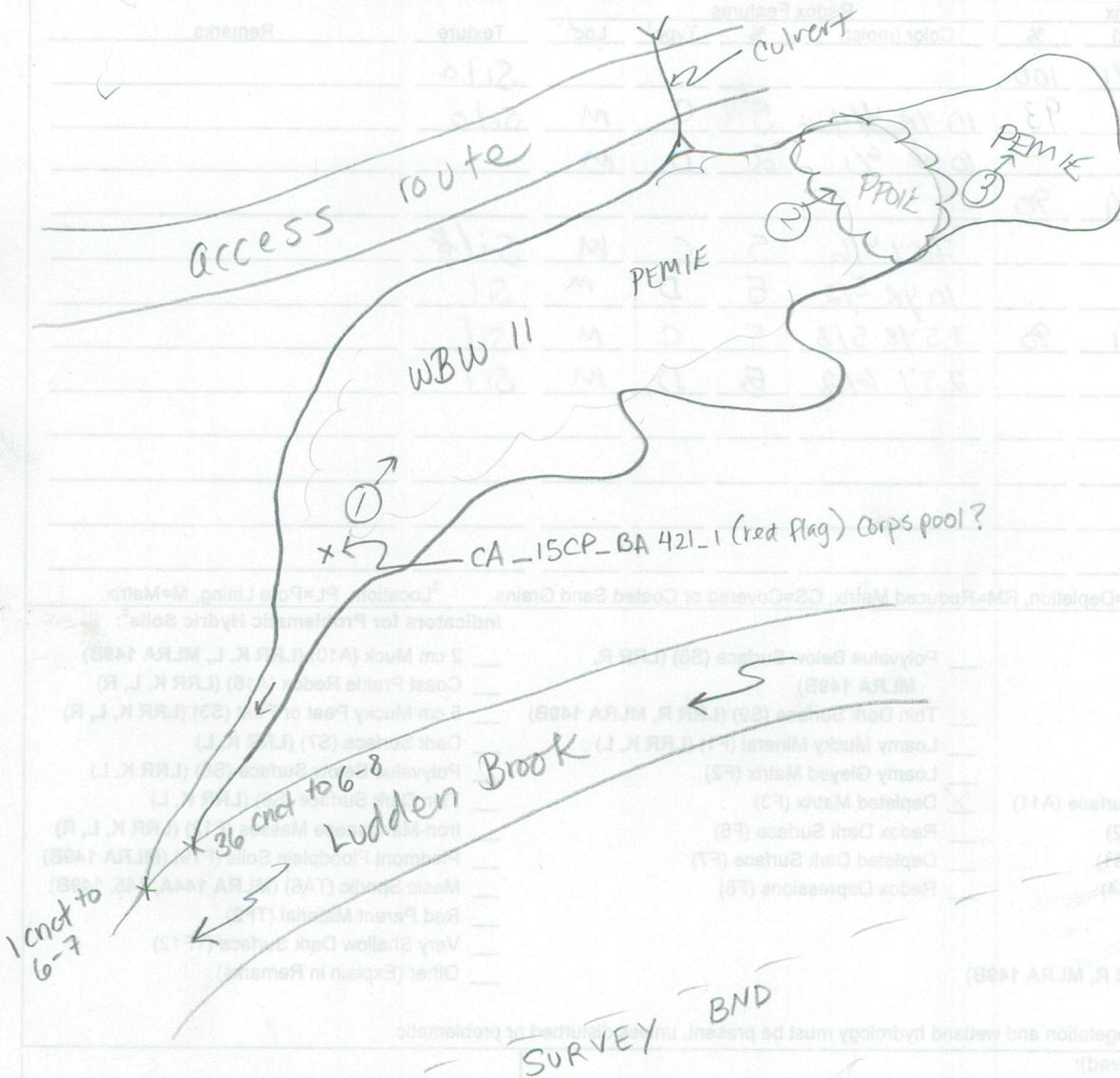
Restrictive Layer (if observed):

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



**WOSS (check all that apply/or write UNK for unknown):**

- UNK contains an S1 or S2 Community (identify: \_\_\_\_\_)
- UNK contains SWH (identify type: \_\_\_\_\_)
- NO within 250 feet of a coastal wetland
- UNK within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- UNK contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- UNK within FEMA floodzone
- NO is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- YES within 25 feet of a river, stream or brook

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Canton Mountain Wind City/County: Canton / Oxford Sampling Date: 8/10/10
Applicant/Owner: Patriot Renewables (Consultant/Client: Tetra Tech EC) State: Maine Sampling Point: WET
Investigator(s): D. BRENNEMAN Section, Township, Range: - Canton, ME -
Landform (hillslope, terrace, etc.): GRADUA SCOPE Local relief (concave, convex, none): CONCAVE
Slope (%): 5 Lat: (m XH) Long: Datum: PEO1
Soil Map Unit Name: NWI classification:

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

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Table with 2 columns: Hydrophytic Vegetation Present?, Hydric Soil Present?, Wetland Hydrology Present? and Is the Sampled Area within a Wetland? Yes [X] No

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Table with 2 columns: Wetland Hydrology Indicators (Primary and Secondary) and their corresponding checkboxes.

Field Observations: Surface Water Present? Yes No [X] Depth (inches):
Water Table Present? Yes No [X] Depth (inches):
Saturation Present? Yes No [X] Depth (inches):
Wetland Hydrology Present? Yes [X] No

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>FRA NIG</u>	<u>20</u>	<u>X</u>	<u>FACW</u>
2. <u>BET ALL</u>	<u>20</u>	<u>X</u>	
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

Sapling/Shrub Stratum (Plot size: <u>15</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>BET ALL</u>	<u>25</u>	<u>X</u>	<u>FACW</u>
2. <u>*ACE SPI (MTN MAPLE)</u>	<u>25</u>	<u>X</u>	<u>FACU</u>
3. <u>ABI BAL</u>	<u>15</u>	<u>X</u>	<u>FAC</u>
4. <u>FRA NIG</u>	<u>10</u>		
5. _____			
6. _____			
7. _____			

Herb Stratum (Plot size: <u>5</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>OND SEN.</u>	<u>10</u>	<u>X</u>	<u>FACW</u>
2. <u>RUB PUB</u>	<u>10</u>	<u>X</u>	
3. <u>(JACK-IN-THE-BOX)</u>	<u>5</u>	<u>X</u>	
4. <u>FRA NIGU</u>	<u>5</u>	<u>X</u>	
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NONE OBS</u>			
2. _____			
3. _____			
4. _____			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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 X No \_\_\_\_\_

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

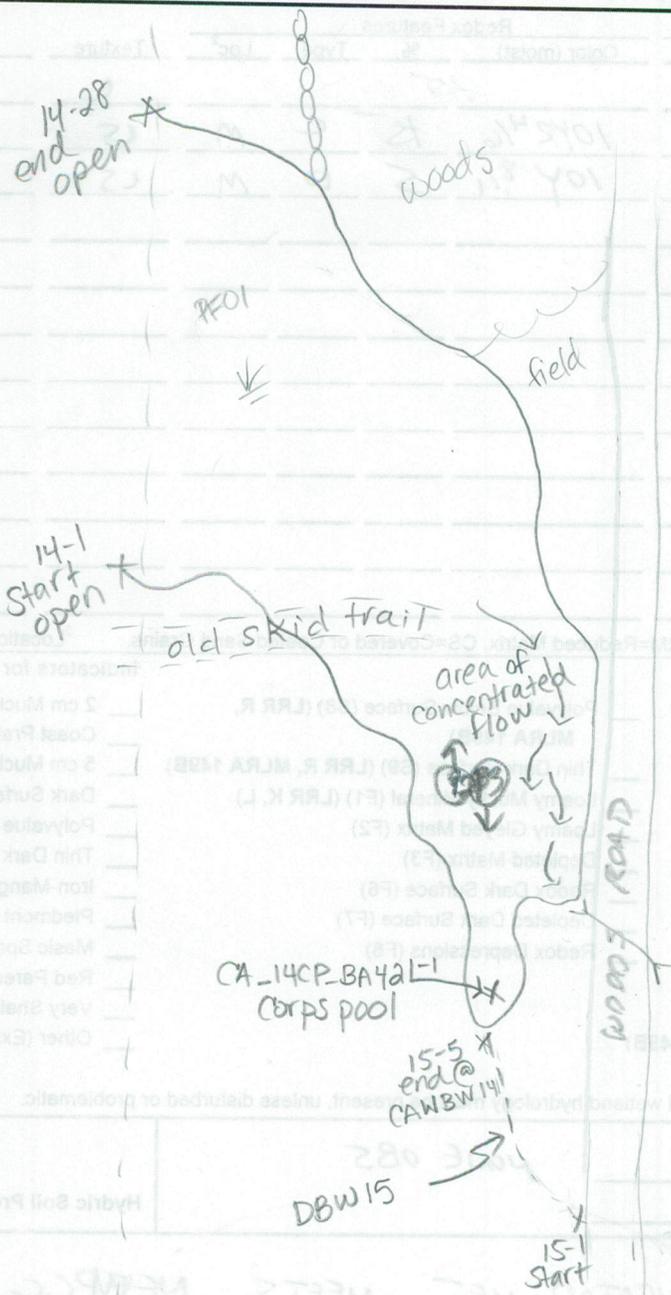
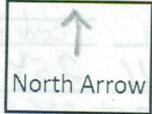
\* MORPHOLOGICAL ADAPTATION - SHALLOW ROOTS, RAISED ROOTS



SKETCH

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)

Wetland ID: CAWBW14



**WOSS (check all that apply/or write UNK for unknown):**

- UNK contains an S1 or S2 Community (identify: \_\_\_\_\_)
- UNK contains SWH (identify type: \_\_\_\_\_)
- NO within 250 feet of a coastal wetland
- UNK within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- NO contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- UNK within FEMA floodzone
- NO is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- MAYBE within 25 feet of a river, stream or brook

POSSIBLY w/ IN 25' OF BROOK ON SE SIDE OF WOODS ROAD

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

Project/Site: Canton Mountain Wind City/County: Canton / Oxford Sampling Date: 8/11/10  
Applicant/Owner: Patriot Renewables (Consultant/Client: Tetra Tech EC) State: Maine Sampling Point: WET  
Investigator(s): \_\_\_\_\_ Section, Township, Range: - Canton, ME -  
Landform (hillslope, terrace, etc.): SLOPE Local relief (concave, convex, none): CONVEX  
Slope (%): 5 Lat: 49 30 186.49 N Long: 39 45 10.92 E Datum: UTM, M 1983 NAD83  
Soil Map Unit Name: \_\_\_\_\_ NWI classification: PEM2, PFD1E

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

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	If yes, optional Wetland Site ID: <u>CAWBW16</u>
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
(A) FLAG NE @ 1/2 (UP-SLOPE)  
(B) FAC NE @ 1/2 (UP-SLOPE)  
(C) FAC NE @ 1/2 (UP-SLOPE)  
no T data plot recorded

**HYDROLOGY**

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

**Field Observations:**  
Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): SURFACE  
(includes capillary fringe)

Wetland Hydrology Present? Yes  No \_\_\_\_\_

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

**VEGETATION** – Use scientific names of plants.

**Tree Stratum** (Plot size: 301 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>FRA NIG</u>	<u>15</u>	<u>X</u>	<u>FACW</u>
2. <u>BET ALL</u>	<u>10</u>	<u>X</u>	<u>FACW</u>
3. <u>ABI BAL</u>	<u>10</u>	<u>X</u>	<u>FAC</u>
4. <u>ACE RUB</u>	<u>10</u>	<u>X</u>	<u>FAC</u>
5. <u>FAGI GRA*</u>	<u>5</u>		
6. _____			
7. _____			

**Sapling/Shrub Stratum** (Plot size: 15' )

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>FRA NIG</u>	<u>15</u>	<u>X</u>	<u>FACW</u>
2. <u>ACE RUB</u>	<u>5</u>	<u>X</u>	<u>FAC</u>
3. <u>BET ALL</u>	<u>5</u>	<u>X</u>	<u>FACW</u>
4. <u>BFAGI GRA*</u>	<u>5</u>	<u>X</u>	<u>FACU*</u>
5. _____			
6. _____			
7. _____			

**Herb Stratum** (Plot size: 5' )

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>OSN CIN</u>	<u>60</u>	<u>X</u>	<u>FACW</u>
2. <u>ONO SEN</u>	<u>10</u>		
3. <u>LUB PUB</u>	<u>10</u>		
4. <u>IMP CAP</u>	<u>10</u>		
5. <u>CAR CRI</u>	<u>5</u>		
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

**Woody Vine Stratum** (Plot size: \_\_\_\_\_ )

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOVE OBS</u>			
2. _____			
3. _____			
4. _____			
_____			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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 X No \_\_\_\_\_

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

\* HAS MORPHOLOGICAL ADAPTATION - RAISED ROOTS

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-1-0								FIBRIC
0-14	10YR 3/1	85	10YR 5/2	5	D	M	fsk	
			5YR 4/6	10	C	PL	fsk	
14-21	5Y 5/2	80	5YR 4/6	20	C	M	fsk	

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

Hydric Soil Indicators:

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

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

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

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

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

Restrictive Layer (if observed):

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

NONE OBS IN PM

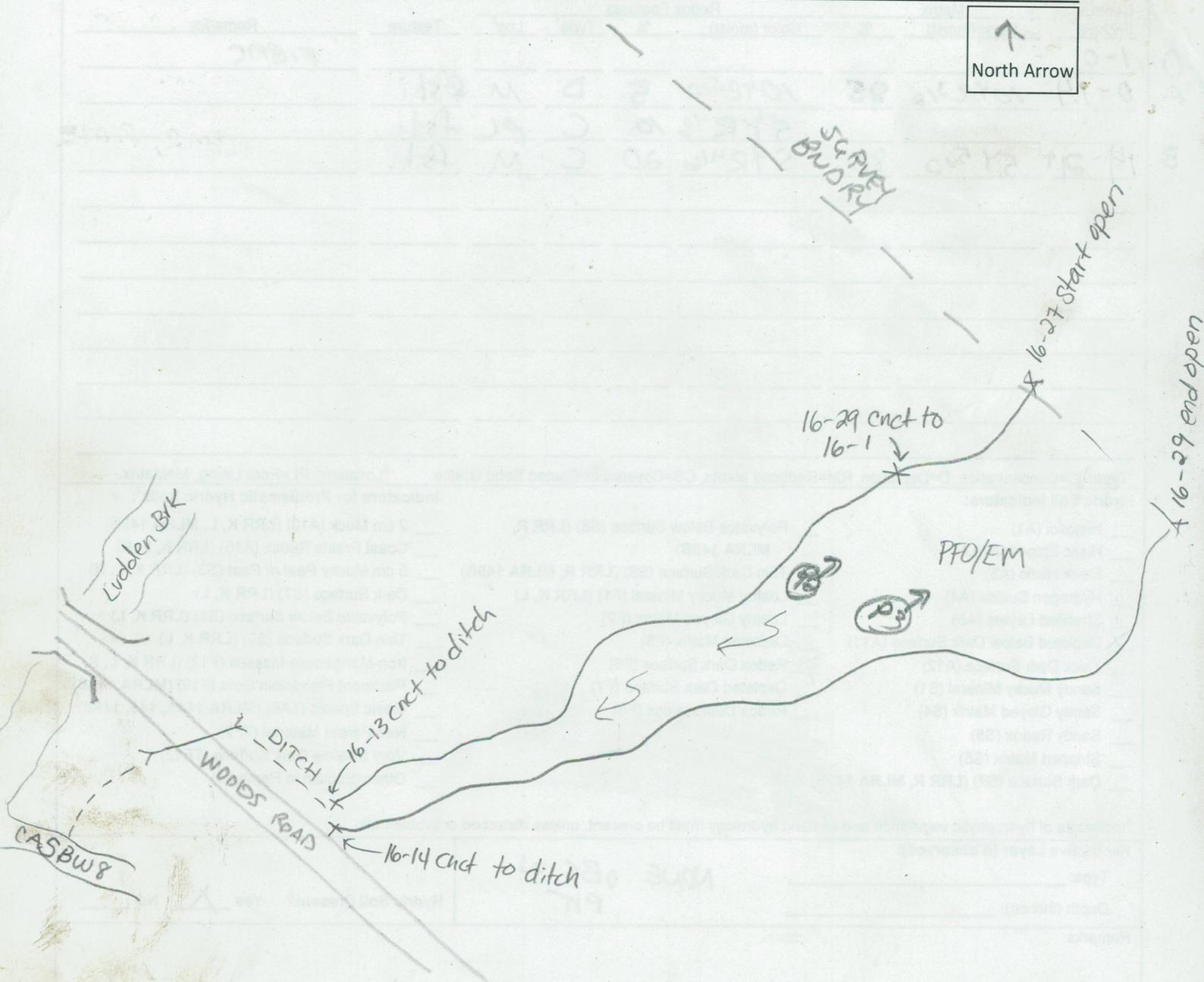
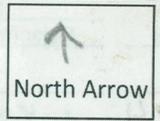
Hydric Soil Present? Yes  No \_\_\_\_\_

Remarks:

SKETCH

Wetland ID: CAWBW16

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



**WOSS (check all that apply/or write UNK for unknown):**

- UNK contains an S1 or S2 Community (identify: \_\_\_\_\_)
- UNK contains SWH (identify type: \_\_\_\_\_)
- NO within 250 feet of a coastal wetland
- UNK within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- UNK contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- UNK within FEMA floodzone
- UNK is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- UNK within 25 feet of a river, stream or brook

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Canton Mountain Wind City/County: Canton / Oxford Sampling Date: 2010-8-11  
 Applicant/Owner: Patriot Renewables (Consultant/Client: Tetra Tech EC) State: Maine Sampling Point: W  
 Investigator(s): RK JB Section, Township, Range: - Canton, ME -  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave  
 Slope (%): 50% Lat: E 395072.50 Long: N 4930162.83 Datum: UTM Meters  
 Soil Map Unit Name: N/A NWI classification: PEM1\*

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

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 \* narrow swales & small areas w/ few trees growing in wetland - located w/in forested landscape. Forest overstory overhangs from upland

**HYDROLOGY**

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

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): 5"  
 Wetland Hydrology Present? Yes  No

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

Remarks:

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>*modified</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Bet all</u>	<u>35</u>	<u>✓</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>35</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>**modified</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fra nig</u>	<u>8</u>	<u>✓</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>8</u> = Total Cover			
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ono sen</u>	<u>30</u>	<u>✓</u>	<u>FACW</u>
2. <u>Dry int</u>	<u>2</u>	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
<u>32</u> = Total Cover			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
_____ = Total Cover			

**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 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) 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: (Include photo numbers here or on a separate sheet.)



SKETCH

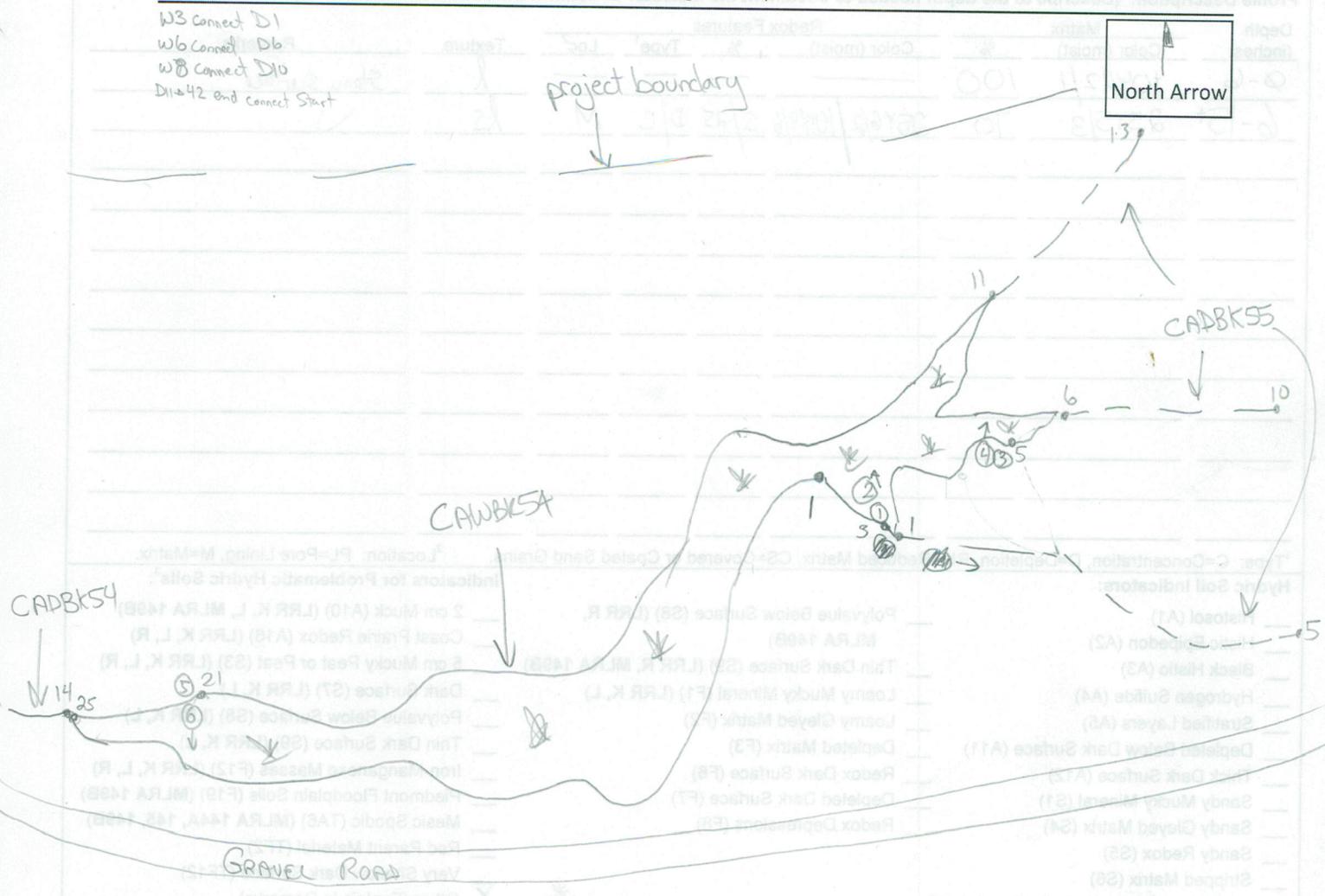
Wetland ID: CAWBK54

(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)

W3 Connect D1  
 W6 Connect D6  
 W8 Connect D10  
 D1+42 end Connect Start

project boundary

North Arrow



**WOSS (check all that apply/or write UNK for unknown):**

- contains an S1 or S2 Community (identify: \_\_\_\_\_)
- contains SWH (identify type: \_\_\_\_\_)
- within 250 feet of a coastal wetland
- within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- within FEMA floodzone
- is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- within 25 feet of a river, stream or brook

none observed

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Canton Mountain Wind City/County: Canton / Oxford Sampling Date: 8/11/2010
Applicant/Owner: Patriot Renewables (Consultant/Client: Tetra Tech EC) State: Maine Sampling Point: WET
Investigator(s): D. BRENNEMAN Section, Township, Range: - Canton, ME -
Landform (hillslope, terrace, etc.): TERRACE - SMALL FLOODPLAIN Local relief (concave, convex, none):
Slope (%): 2 Lat: SEE GPS DATA Long: Datum: UTM M 19N NAD1983
Soil Map Unit Name: NWI classification: PEM 2

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: CRW887
Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

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

Field Observations:
Surface Water Present? Yes No X Depth (inches):
Water Table Present? Yes X No Depth (inches): 12
Saturation Present? Yes X No Depth (inches): 10
Wetland Hydrology Present? Yes X No

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: <u>  *</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Sapling/Shrub Stratum (Plot size: <u>  *</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>WU ME</u>	<u>5</u>	<u>X</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Herb Stratum (Plot size: <u>  5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>QRCRI</u>	<u>100</u>	<u>X</u>	<u>FACW</u>
2. <u>SG</u>	<u>5</u>	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOVE OBS</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

**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   (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

\_\_\_ Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

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

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

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

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

**Definitions of Vegetation Strata:**

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

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

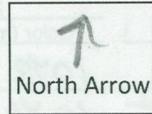
**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

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

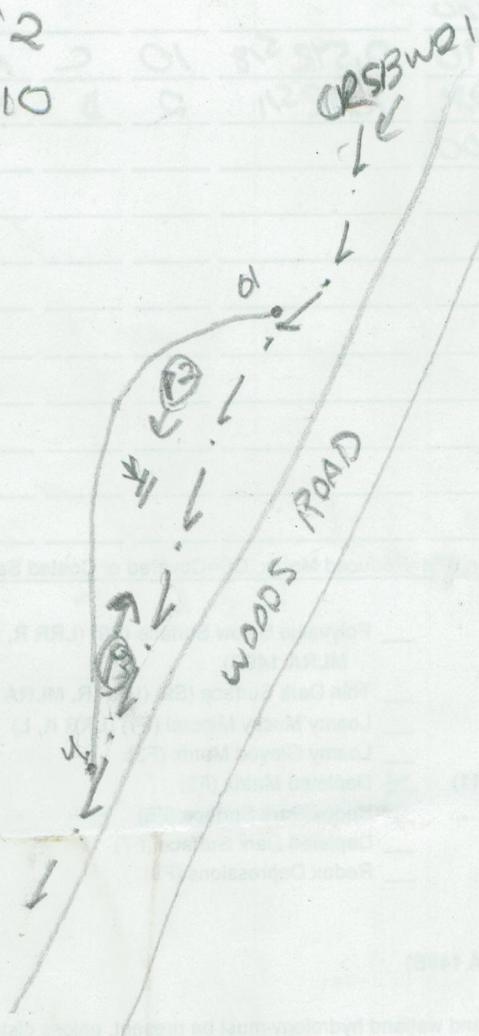
ALTERED PLOT SIZE TO FIT



(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



CNCT 01 TO CRS BW21-12  
CNCT 4 TO CRS BW21-10



**WOSS (check all that apply/or write UNK for unknown):**

UNK OR NOT OBS

- contains an S1 or S2 Community (identify: \_\_\_\_\_)
- contains SWH (identify type: \_\_\_\_\_)
- within 250 feet of a coastal wetland
- within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- within FEMA floodzone
- is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- within 25 feet of a river, stream or brook

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Canton Mountain Wind City/County: Canton / Oxford Sampling Date: 11/15/2010  
 Applicant/Owner: Patriot Renewables (Consultant/Client: Tetra Tech EC) State: Maine Sampling Point: WET  
 Investigator(s): D. BRENNEMAN, S. ALLEN Section, Township, Range: - Canton, ME -  
 Landform (hillslope, terrace, etc.): NARROW Ravine Local relief (concave, convex, none): CONCAVE  
 Slope (%): 2 Lat: 39.6595.99 Long: 49.30474.03 Datum: UTM NAD 1983  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: DFD1/4E

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

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	If yes, optional Wetland Site ID: <u>CRWB315</u>
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks: (Explain alternative procedures here or in a separate report.)

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes  No \_\_\_\_\_ Depth (inches): 18"

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

Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): SURFACE

(includes capillary fringe)

Wetland Hydrology Present? Yes  No \_\_\_\_\_

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: <u>* </u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>FR. ALU</u>	<u>5</u>	<u>X</u>	<u>FAC</u>
2. <u>ACE RUB</u>	<u>5</u>	<u>X</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**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 (A/B)

Sapling/Shrub Stratum (Plot size: 15') = Total Cover

1. <u>PIC RUB**</u>	<u>15</u>	_____	<u>FACU</u>
2. <u>VIB ALN</u>	<u>5</u>	<u>X</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)  
 Prevalence Index = B/A = \_\_\_\_\_

Herb Stratum (Plot size: 5') = Total Cover

1. <u>ODM CLA</u>	<u>2</u>	<u>X</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: 30') = Total Cover

1. <u>NONE OBSERVED</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

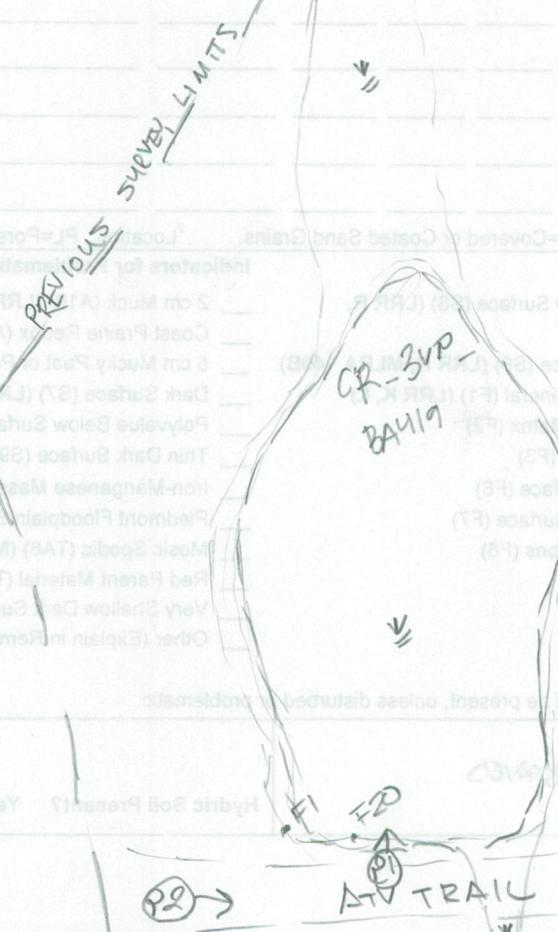
**Definitions of Vegetation Strata:**  
**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, 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: (Include photo numbers here or on a separate sheet.)  
\* ALTERED PLOT SHAPE TO FIT  $\neq$  BUDRY  
- MOST OF  $\neq$  AREA IS SPARSELY VEGETATED AND CONTAINS STANDING H<sub>2</sub>O  
\*\* SHALLOW ROOTS (MORPHOLOGICAL ADAPTATION)



(include: North Arrow, Photo # and Location/Direction, Landmarks, Flag locations)



**WOSS (check all that apply/or write UNK for unknown):**

- UNK** contains an S1 or S2 Community (identify: \_\_\_\_\_)
- UNK** contains SWH (identify type: \_\_\_\_\_)
- NO** within 250 feet of a coastal wetland
- NO** within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. § 465-A.
- NO** contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless result of an artificial ponds or impoundment.
- NO** within FEMA floodzone
- NO** is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance
- NO** within 25 feet of a river, stream or brook

APPENDIX D

WATERBODY PHOTO DOCUMENTATION

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables, LLC  
**Project:** Canton Mountain Wind Project – 2010 Resource Surveys



**Photo No.:** 1  
**Plan ID:** AS6  
**Waterbody:** CASBK13  
**Date:** August 3, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** A southerly flowing perennial stream that has an average width of 6 feet and an average bank width of 10 feet.



**Photo No.:** 2  
**Plan ID:** AS9  
**Waterbody:** CASBK22  
**Date:** August 5, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Intermittent stream that has an average width of 1.5 feet and an average bank width of 3 feet. Stream flows through wetland CAWBK12 in a westerly direction. Photo is looking west.



**Photo No.:** 3  
**Plan ID:** AS13  
**Waterbody:** CASBK18  
**Date:** August 5, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Intermittent stream with average stream width of 2 feet and an average bank width of 4 feet. Photo is looking downstream.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables, LLC  
**Project:** Canton Mountain Wind Project – 2010 Resource Surveys



**Photo No.:** 4  
**Plan ID:** AS17  
**Waterbody:** CASBK23  
**Date:** August 5, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Perennial stream flowing southwest. Average width is 4 to 5 feet with an average bandwidth of 6 to 8 feet. Bank substrate is silt/clay with organic material. Photo is looking east.



**Photo No.:** 5  
**Plan ID:** AS19  
**Waterbody:** CASBJ4  
**Date:** August 6, 2010  
**Photographer:** Richard Jordan

**Comments:** Intermittent stream is associated with wetland CAWBK28. There is evidence of upstream erosion. The stream crosses under two access roads and flows in a southerly direction. Photo depicts where the stream becomes steep.



**Photo No.:** 6  
**Plan ID:** AS28  
**Waterbody:** CASBW5  
**Date:** August 9, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:** Easterly flowing perennial stream that has an average width of 4 feet. Photo taken looking west.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables, LLC  
**Project:** Canton Mountain Wind Project – 2010 Resource Surveys



**Photo No.:** 7  
**Plan ID:** AS28  
**Waterbody:** CASBW5  
**Date:** August 9, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:** Easterly flowing perennial stream that has an average width of 4 feet. Photo taken looking east.



**Photo No.:** 8  
**Plan ID:** AS29  
**Waterbody:** CASBW6  
**Date:** August 9, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:** Westerly flowing perennial stream with an average stream width of 30 feet and an average bank width of 50 feet. Photo was taken looking south.



**Photo No.:** 9  
**Plan ID:** AS31  
**Waterbody:** CASBB3  
**Date:** August 10, 2010  
**Photographer:** David Brenneman

**Comments:** Intermittent stream with small pools of water but was not flowing during the 8/10/2010 visit. Stream appears to go underground and diffuses out into the associated wetland CAWBB1. Photo looking upstream to the north.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables, LLC  
**Project:** Canton Mountain Wind Project – 2010 Resource Surveys



**Photo No.:** 10  
**Plan ID:** AS35  
**Waterbody:** CASBW7  
**Date:** August 9, 2010  
**Photographer:** Heather Storlazzi Ward  
**Comments:** Southerly flowing intermittent stream with a bank width of 2 feet and a depth of 6 inches. Stream at the road culvert. Photo taken looking north.



**Photo No.:** 11  
**Plan ID:** AS37  
**Waterbody:** CASBW8  
**Date:** August 10, 2010  
**Photographer:** Heather Storlazzi Ward  
**Comments:** Westerly flowing perennial stream with an average width of 3-4 feet and an average bank width of 8-10 feet. This feature is a tributary to Ludden Brook with moss covered cobblestone and exposed bedrock. Photo was taken looking downstream.



**Photo No.:** 12  
**Plan ID:** AS46  
**Waterbody:** CASBK38  
**Date:** August 9, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Intermittent stream with a total width of 2 feet. Photo is looking north.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables, LLC  
**Project:** Canton Mountain Wind Project – 2010 Resource Surveys



**Photo No.:** 13  
**Plan ID:** AS48  
**Waterbody:** CASBK41  
**Date:** August 9, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Westerly flowing intermittent stream that has an average width of 3 feet with an average bank width of 4 feet. Photo was taken looking east.



**Photo No.:** 14  
**Plan ID:** AS49  
**Waterbody:** CASBK42  
**Date:** August 9, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Westerly flowing intermittent stream with an average width of 3 feet and an average bank width of 5 feet. Photo was taken looking west.



**Photo No.:** 15  
**Plan ID:** AS51  
**Waterbody:** CASBK46  
**Date:** August 10, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Westerly flowing intermittent stream with an average width of 3 feet and an average bank width of 3.5 feet. Stream connects to CADBK45 downslope. Photo is looking east.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables, LLC  
**Project:** Canton Mountain Wind Project – 2010 Resource Surveys



**Photo No.:** 16  
**Plan ID:** AS58  
**Waterbody:** CRSBW23  
**Date:** August 11, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:** A perennial stream that was an average width of 2 feet and an average bank width of 3 feet. Photo is looking upstream.



**Photo No.:** 17  
**Plan ID:** AS59  
**Waterbody:** CRSBW23  
**Date:** August 11, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:** A perennial stream that was an average width of 2 feet and an average bank width of 3 feet. Photo is looking upstream.



**Photo No.:** 18  
**Plan ID:** AS60  
**Waterbody:** CRSBK58  
**Date:** August 12, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** A westerly flowing intermittent stream with an average width of 2 feet and an average bank width of 3 feet. Stream begins abruptly from a hill slope and extends offsite west of the gravel road. Photo is looking east.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables, LLC  
**Project:** Canton Mountain Wind Project – 2010 Resource Surveys



**Photo No.:** 19  
**Plan ID:** AS61  
**Waterbody:** CRSBB8  
**Date:** August 12, 2010  
**Photographer:** David Brenneman

**Comments:** Well-defined rocky channel on hillside. Photo facing west (down-slope) at stream channel.



**Photo No.:** 20  
**Plan ID:** AS62  
**Waterbody:** CRSBW28  
**Date:** August 12, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:** A westerly flowing intermittent stream that has an average bank width of 3-5 feet. Photo taken looking west.



**Photo No.:** 21  
**Plan ID:** RS67  
**Waterbody:** CRSBK35  
**Date:** August 13, 2010  
**Photographer:** Heather Storlazzi Ward

**Comments:** A southerly flowing perennial stream that has an average width of 1–2 feet with a bank width of 5 feet. Photo was taken looking north.

APPENDIX E

VERNAL POOL SURVEY RESULTS,  
PHOTGRAPHIC DOCUMENTATION, AND  
DATA FORMS

**APPENDIX E**  
**Canton Mountain Wind Project**  
**2010 and 2011 Vernal Pool Survey Summary**

Resource Identification		Survey Year	Associated Wetland	Approx. Size (feet)	Pool Type <sup>2</sup>	Natural or Unnatural	MDEP SVP Criteria Met	Egg Masses <sup>3</sup>		Presence		Notes
Plan ID	Field IDs <sup>1</sup>							SS	WF	Tadpoles	Fairy Shrimp	
<b>ACCESS ROAD VERNAL POOL RESOURCES</b>												
1BVP	CA_34BVP_BA504 CA_34BVP_BA523	2011	CAWBK6	15x35	BVP	N	No	0	0	No	No	Shallow pool in oxbow of Ludden Brook –no egg masses.
2NVP	CA_33NVP_BA504 CA_33NVP_BA523	2011	CAWBK6	20x75	NVP	N	No	1	0	No	No	Shallow pool in oxbow of Ludden Brook-some egg masses not significant.
3BVP	CA_32BVP_BA504 CA_32BVP_BA523	2011	CAWBK6	10x35	BVP	N	No	0	0	No	No	Shallow pool in oxbow of Ludden Brook – no egg masses.
4NVP	CA_31NVP_BA504 CA_31NVP_BA523	2011	CAWBK6	15x50	NVP	N	No	2	0	No	No	Shallow pool in oxbow of Ludden Brook – some egg masses, not significant.
5NVP	CA_35NVP_BA504 CA_35NVP_BA523	2011	CAWBK12	15x200	NVP	N	No	1	0	No	No	Shallow pool in PFO wetland. Unlikely to support breeding activity. Lone egg mass was ¼ out of water at 1 <sup>st</sup> survey and was gone at 2 <sup>nd</sup> survey.
6NVP	CA_3NVP_BA415 CA_3NVP_BA506	2010		40x50	NVP	N	No	17	0	No	No	Flooded pit and mound mixed PFO/PSS wetland adjacent to gravel access road. Evidence of skidder ruts and road fill in and around pool.
<b>RIDGELINE VERNAL POOL RESOURCES</b>												
7NVP	CR_2NVP_BA418 CR_2NVP_BA506	2010		150x300	NVP	N	No	17	5	No	No	Natural vernal pool in sphagnum bog within forested wetland on ridgeline.
8NVP	CR_1NVP_BA418 CR_1NVP_BA506	2010		50x200	NVP	N	No	17	0	No	No	Natural vernal pool in forested wetland in low elevation area on ridgeline.
9PSVP	CR_11SVP_BA421 CR_11SVP_BA506	2010		60x80	SVP	N	Yes	145	57	Yes	No	Large potentially partially quarried significant vernal pool near northeast ridge of Canton Mountain.
10BVP	CR_13BVP_BA506	2010		5x6	BVP	N	No	0	0	No	No	Small and shallow natural puddle in forest.
11BVP	CR_10BVP_BA506	2010		8x12	BVP	N	No	0	0	No	No	Small natural puddle – DRY ON 5/06/2010
12BVP	CR_8BVP_BA421 CR_8BVP_BA507	2010		15x30	BVP	N	No	0	0	No	No	Small and shallow natural puddle in forest.

**APPENDIX E**

**Canton Mountain Wind Project  
2010 and 2011 Vernal Pool Survey Summary**

Resource Identification		Survey Year	Associated Wetland	Approx. Size (feet)	Pool Type <sup>2</sup>	Natural or Unnatural	MDEP SVP Criteria Met	Egg Masses <sup>3</sup>		Presence		Notes
Plan ID	Field IDs <sup>1</sup>							SS	WF	Tadpoles	Fairy Shrimp	
13BVP	CR_6BVP_BA421	2010	CRWBJ4	20X30	BVP	N	No	0	0	No	No	Small and shallow natural puddle in forest.
14NVP	CR_7NVP_BA421 CR_7NVP_BA507	2010		20x30	NVP	N	No			No	No	Natural vernal pool located as ponded portion of wetland near outlet of large kettle-hole bog on top of Canton Mountain;
15BVP	CR_4BVP_BA419 CR_4BVP_BA507	2010		100x220	BVP	N	No	0	0	No	No	Small and shallow natural puddle in forest.
16BVP	CR_14BVP_BA504 CR_14BVP_BA523	2011		5x20	BVP	N	No	0	0	No	No	Very shallow pool in forested wetland. Drainage enters pool from the northwest where wetland becomes flat, creating pool.
17BVP	CR_5BVP_BA421 CR_5BVP_BA507	2010		15x35	BVP	N	No	0	0	No	No	Small and shallow natural puddle in forest.
18BVP	CR_3BVP_BA419 CR_3BVP_BA507	2010		10x100	BVP	N	No	0	0	No	No	Small and shallow natural puddle in forest.
<b>TRANSMISSION LINE VERNAL POOL RESOURCES</b>												
1 SVP	RT-9SVP-FA0421	2010	SRW_TW6	70x120	SVP	N	Yes	41	0	No	No	Large pool with 41 spotted egg masses observed during breeding season. Located east of proposed transmission corridor. Deemed significant by Maine DIFW.
2 ABA	RT-2ABA-FA0419	2010		8x3.5	ABA	U	No	0	4	No	No	Four wood frog egg masses found in skidder ruts.

<sup>1</sup> Two field IDs represent vernal pools field surveyed for egg masses on two dates during the survey year in order to capture peak breeding activity for both salamanders and wood frogs – the last three digits in the ID represent the survey month and day.

<sup>2</sup> **BVP** Pool meets Maine Natural Resources Protection Act (NRPA) definition of a vernal pool but no evidence of indicator species (egg masses, spermatophores, RTE, etc.).

**NVP** Pool meets Maine NRPA definition of a vernal pool but did not meet egg mass count or RTE criteria for a determination as a significant vernal pool.

**PSVP** Pool meets Maine NRPA definition of a vernal pool and meets egg mass count or RTE criteria for a determination as a significant vernal pool, potential is used when significance has not yet been confirmed by the Maine Department of Inland Fisheries and Wildlife.

<sup>3</sup> **SS** = Spotted Salamander, **WF** = Wood Frog, **BS** = Blue spotted salamander.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 1BVP  
**Vernal Pool:** CA\_34\_BVP\_BA504  
CA\_34\_BVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Natural depression in rocky oxbow of Ludden Brook. No egg masses were present at time of survey. Facing north. Needs a revisit (was revised on 05.23.11).



**Photo No.:** 2  
**Plan ID:** 1BVP  
**Vernal Pool:** CA\_34\_BVP\_BA504  
CA\_34\_BVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Looking east.



**Photo No.:** 3  
**Plan ID:** 1BVP  
**Vernal Pool:** CA\_34\_BVP\_BA504  
CA\_34\_BVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Looking south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 1BVP

**Vernal Pool:** CA\_34\_BVP\_BA504  
CA\_34\_BVP\_BA523

**Date:** May 4, 2011

**Photographer:** David Brenneman

**Comments:** Looking west.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 2NVP  
**Vernal Pool:** CA\_33NVP\_BA504  
CA\_33NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** Lauren Leclerc

**Comments:** Natural vernal pool in rocky oxbow of Ludden Brook containing one spotted salamander egg mass. Facing northeast. Needs a revisit (was revised on 11.23.11).



**Photo No.:** 2  
**Plan ID:** 2NVP  
**Vernal Pool:** CA\_33NVP\_BA504  
CA\_33NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** Lauren Leclerc

**Comments:** Looking east at pool.



**Photo No.:** 3  
**Plan ID:** 2NVP  
**Vernal Pool:** CA\_33NVP\_BA504  
CA\_33NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** Lauren Leclerc

**Comments:** Looking southwest.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 2NVP

**Vernal Pool:** CA\_33NVP\_BA504  
CA\_33NVP\_BA523

**Date:** May 4, 2011

**Photographer:** Lauren Leclerc

**Comments:** Looking west.



**Photo No.:** 5

**Plan ID:** 2NVP

**Vernal Pool:** CA\_33NVP\_BA504  
CA\_33NVP\_BA523

**Date:** May 4, 2011

**Photographer:** David Brenneman

**Comments:** Spotted salamander egg mass.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 3BVP  
**Vernal Pool:** CA\_32\_BVP\_BA504  
CA\_32\_BVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Natural vernal pool in rocky oxbow of Ludden Brook. No egg masses were present at time of survey. Facing southeast. Needs a revisit (was revised on 11.23.11).



**Photo No.:** 2  
**Plan ID:** 3BVP  
**Vernal Pool:** CA\_32\_BVP\_BA504  
CA\_32\_BVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Looking southwest.



**Photo No.:** 3  
**Plan ID:** 3BVP  
**Vernal Pool:** CA\_32\_BVP\_BA504  
CA\_32\_BVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Looking north.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 3BVP

**Vernal Pool:** CA\_32\_BVP\_BA504  
CA\_32\_BVP\_BA523

**Date:** May 4, 2011

**Photographer:** David Brenneman

**Comments:** Looking northeast.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 4NVP  
**Vernal Pool:** CA\_31NVP\_BA504  
CA\_31NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Natural vernal pool in rocky oxbow of Ludden Brook containing two spotted salamander egg masses. Looking southeast. Needs a revisit (was revised on 11.23.11).



**Photo No.:** 2  
**Plan ID:** 4NVP  
**Vernal Pool:** CA\_31NVP\_BA504  
CA\_31NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Looking east.



**Photo No.:** 3  
**Plan ID:** 4NVP  
**Vernal Pool:** CA\_31NVP\_BA504  
CA\_31NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman

**Comments:** Looking north.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4  
**Plan ID:** 4NVP  
**Vernal Pool:** CA\_31NVP\_BA504  
CA\_31NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman  
**Comments:** Looking southwest.



**Photo No.:** 5  
**Plan ID:** 4NVP  
**Vernal Pool:** CA\_31NVP\_BA504  
CA\_31NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** David Brenneman  
**Comments:** Spotted salamander egg mass.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 5NVP  
**Vernal Pool:** CA\_35NVP\_BA504  
CA\_35NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** Lauren Leclerc

**Comments:** Natural pool in forested wetland containing one spotted salamander egg mass. Possible historic stream channel filled in with soil and leaf litter. Looking northeast. Needs a revisit (was revisited on 11.23.11).



**Photo No.:** 2  
**Plan ID:** 5NVP  
**Vernal Pool:** CA\_35NVP\_BA504  
CA\_35NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** Lauren Leclerc

**Comments:** Looking east.



**Photo No.:** 3  
**Plan ID:** 5NVP  
**Vernal Pool:** CA\_35NVP\_BA504  
CA\_35NVP\_BA523  
**Date:** May 4, 2011  
**Photographer:** Lauren Leclerc

**Comments:** Looking southwest.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 5NVP

**Vernal Pool:** CA\_35NVP\_BA504  
CA\_35NVP\_BA523

**Date:** May 4, 2011

**Photographer:** Lauren Leclerc

**Comments:** Looking west.



**Photo No.:** 5

**Plan ID:** 5NVP

**Vernal Pool:** CA\_35NVP\_BA504  
CA\_35NVP\_BA523

**Date:** May 4, 2011

**Photographer:** Lauren Leclerc

**Comments:** Spotted salamander egg mass.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 6NVP  
**Vernal Pool:** CA\_3NVP\_BA415  
CA\_3NVP\_BA506  
**Date:** April 15, 2010  
**Photographer:** David Brenneman

**Comments:** Looking east at natural vernal pool. No wood frog egg masses found at time of survey. Fourteen spotted salamander egg masses found. Should have a revisit (was revised on 5.06.10).



**Photo No.:** 2  
**Plan ID:** 6NVP  
**Vernal Pool:** CA\_3NVP\_BA415  
CA\_3NVP\_BA506  
**Date:** April 15, 2010  
**Photographer:** David Brenneman

**Comments:** Looking south.



**Photo No.:** 3  
**Plan ID:** 6NVP  
**Vernal Pool:** CA\_3NVP\_BA415  
CA\_3NVP\_BA506  
**Date:** April 15, 2010  
**Photographer:** David Brenneman

**Comments:** Looking west.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 6NVP

**Vernal Pool:** CA\_3NVP\_BA415  
CA\_3NVP\_BA506

**Date:** April 15, 2010

**Photographer:** David Brenneman

**Comments:** Spotted salamander egg mass  
in pool.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 7NVP  
**Vernal Pool:** CR\_2NVP\_BA418  
CR\_2NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward

**Comments:** Looking northeast at natural vernal pool containing five wood frog egg masses and four spotted salamander egg masses.



**Photo No.:** 2  
**Plan ID:** 7NVP  
**Vernal Pool:** CR\_2NVP\_BA418  
CR\_2NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward

**Comments:** Looking northwest.



**Photo No.:** 3  
**Plan ID:** 7NVP  
**Vernal Pool:** CR\_2NVP\_BA418  
CR\_2NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward

**Comments:** Looking southeast.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4  
**Plan ID:** 7NVP  
**Vernal Pool:** CR\_2NVP\_BA418  
CR\_2NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Looking southwest.



**Photo No.:** 5  
**Plan ID:** 7NVP  
**Vernal Pool:** CR\_2NVP\_BA418  
CR\_2NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Spotted salamander egg mass.



**Photo No.:** 6  
**Plan ID:** 7NVP  
**Vernal Pool:** CR\_2NVP\_BA418  
CR\_2NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Wood frog egg mass.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1

**Plan ID:** 8NVP

**Vernal Pool:** CR\_1NVP\_BA418  
CR\_1NVP\_BA506

**Date:** April 18, 2010

**Photographer:** Heather Storlazzi-Ward

**Comments:** Looking east at natural vernal pool with spotted salamander egg masses.



**Photo No.:** 2

**Plan ID:** 8NVP

**Vernal Pool:** CR\_1NVP\_BA418  
CR\_1NVP\_BA506

**Date:** April 18, 2010

**Photographer:** Heather Storlazzi-Ward

**Comments:** Looking north.



**Photo No.:** 3

**Plan ID:** 8NVP

**Vernal Pool:** CR\_1NVP\_BA418  
CR\_1NVP\_BA506

**Date:** April 18, 2010

**Photographer:** Heather Storlazzi-Ward

**Comments:** Looking south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4  
**Plan ID:** 8NVP  
**Vernal Pool:** CR\_1NVP\_BA418  
CR\_1NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Looking west.



**Photo No.:** 5  
**Plan ID:** 8NVP  
**Vernal Pool:** CR\_1NVP\_BA418  
CR\_1NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Spotted salamander egg mass.



**Photo No.:** 6  
**Plan ID:** 8NVP  
**Vernal Pool:** CR\_1NVP\_BA418  
CR\_1NVP\_BA506  
**Date:** April 18, 2010  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Spotted salamander egg mass.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Appears to be a natural depression in the landscape that has been enhanced. Pool found in historic quarry area (with apparent cut stone) at ridge top. Significant numbers of wood frog egg masses found. Raptor survey crew said that pool was iced over 1 week prior. Needs further visit for spotted salamanders. Photo facing north.



**Photo No.:** 2  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing east.



**Photo No.:** 3  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Granite slabs found around pool.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Isolated depression adjacent to pool appears to be connected at high water (see notes and sketch, GPS center point flag 7 taken here).



**Photo No.:** 5  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing north.



**Photo No.:** 6  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 7  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Spotted salamander egg mass.



**Photo No.:** 8  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing west at pool.



**Photo No.:** 9  
**Plan ID:** 9PSVP  
**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Wood frog adult found in pool.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 10

**Plan ID:** 9PSVP

**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506

**Date:** April 21, 2010

**Photographer:** Rodney Kelshaw

**Comments:** Wood frog egg masses.



**Photo No.:** 11

**Plan ID:** 9PSVP

**Vernal Pool:** CR\_11SVP\_BA421  
CR\_11SVP\_BA506

**Date:** April 21, 2010

**Photographer:** Rodney Kelshaw

**Comments:** Old road adjacent to pool.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 10 BVP  
**Vernal Pool:** CR\_13BVP\_BA421  
CR\_13BVP\_BA506

**Date:** April 21, 2010

**Photographer:** David Brenneman

**Comments:** Facing east at small natural pool. Small drainage exiting pool.



**Photo No.:** 2  
**Plan ID:** 10 BVP  
**Vernal Pool:** CR\_13BVP\_BA421  
CR\_13BVP\_BA506

**Date:** April 21, 2010

**Photographer:** David Brenneman

**Comments:** Facing north.



**Photo No.:** 3  
**Plan ID:** 10 BVP  
**Vernal Pool:** CR\_13BVP\_BA421  
CR\_13BVP\_BA506

**Date:** April 21, 2010

**Photographer:** David Brenneman

**Comments:** Facing south.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 10 BVP

**Vernal Pool:** CR\_13BVP\_BA421  
CR\_13BVP\_BA506

**Date:** April 21, 2010

**Photographer:** David Brenneman

**Comments:** Facing west at pool.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 11BVP  
**Vernal Pool:** CR\_10BVP\_BA421  
CR\_10BVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Small natural feature on ridge plateau. Narrow drainage from CR\_11VP\_BA421. No egg masses found. Photo facing east.



**Photo No.:** 2  
**Plan ID:** 11BVP  
**Vernal Pool:** CR\_10BVP\_BA421  
CR\_10BVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing north.



**Photo No.:** 3  
**Plan ID:** 11BVP  
**Vernal Pool:** CR\_10BVP\_BA421  
CR\_10BVP\_BA506  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 11BVP

**Vernal Pool:** CR\_10BVP\_BA421  
CR\_10BVP\_BA506

**Date:** April 21, 2010

**Photographer:** Rodney Kelshaw

**Comments:** Facing west at pool.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 12BVP  
**Vernal Pool:** CR\_8BVP\_BA421  
CR\_8BVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing east at pool complex. Natural feature lacking vegetation. No egg masses present at time of survey.



**Photo No.:** 2  
**Plan ID:** 12BVP  
**Vernal Pool:** CR\_8BVP\_BA421  
CR\_8BVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing north.



**Photo No.:** 3  
**Plan ID:** 12BVP  
**Vernal Pool:** CR\_8BVP\_BA421  
CR\_8BVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 12BVP

**Vernal Pool:** CR\_8BVP\_BA421  
CR\_8BVP\_BA507

**Date:** April 21, 2010

**Photographer:** Rodney Kelshaw

**Comments:** Facing west.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 13BVP  
**Vernal Pool:** CR\_6VP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing south.



**Photo No.:** 2  
**Plan ID:** 13BVP  
**Vernal Pool:** CR\_6VP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing south.



**Photo No.:** 3  
**Plan ID:** 13BVP  
**Vernal Pool:** CR\_6VP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 14NVP  
**Vernal Pool:** CR\_7NVP\_BA421  
CR\_7NVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Kettle bog on top of ridge. Pools “ringing” outer boundary of bog with raised sphagnum mound in center. Photo facing east. No egg masses found in bog at time of survey.



**Photo No.:** 2  
**Plan ID:** 14NVP  
**Vernal Pool:** CR\_7NVP\_BA421  
CR\_7NVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing north.



**Photo No.:** 3  
**Plan ID:** 14NVP  
**Vernal Pool:** CR\_7NVP\_BA421  
CR\_7NVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Facing south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 14NVP

**Vernal Pool:** CR\_7NVP\_BA421  
CR\_7NVP\_BA507

**Date:** April 21, 2010

**Photographer:** Rodney Kelshaw

**Comments:** Looking west at bog.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 15BVP  
**Vernal Pool:** CR\_4BVP\_BA419  
CR\_4BVP\_BA507  
**Date:** April 19, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Looking east at natural pool complex. No egg masses found.



**Photo No.:** 2  
**Plan ID:** 15BVP  
**Vernal Pool:** CR\_4BVP\_BA419  
CR\_4BVP\_BA507  
**Date:** April 19, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Looking north at pool complex.



**Photo No.:** 3  
**Plan ID:** 15BVP  
**Vernal Pool:** CR\_4BVP\_BA419  
CR\_4BVP\_BA507  
**Date:** April 19, 2010  
**Photographer:** Rodney Kelshaw

**Comments:** Looking south.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 15BVP

**Vernal Pool:** CR\_4BVP\_BA419  
CR\_4BVP\_BA507

**Date:** April 19, 2010

**Photographer:** Rodney Kelshaw

**Comments:** Looking west.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 16BVP  
**Vernal Pool:** CR\_14BVP\_BA504  
CR\_14BVP\_BA523  
**Date:** May 4, 2010  
**Photographer:** Lauren Leclerc

**Comments:** Small pool in natural drainage swale. No egg masses were present at time of survey. Looking north. Needs a revisit (revised on 05.23.10).



**Photo No.:** 2  
**Plan ID:** 16BVP  
**Vernal Pool:** CR\_14BVP\_BA504  
CR\_14BVP\_BA523  
**Date:** May 4, 2010  
**Photographer:** Lauren Leclerc

**Comments:** Looking east.



**Photo No.:** 3  
**Plan ID:** 16BVP  
**Vernal Pool:** CR\_14BVP\_BA504  
CR\_14BVP\_BA523  
**Date:** May 4, 2010  
**Photographer:** Lauren Leclerc

**Comments:** Looking south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 16BVP

**Vernal Pool:** CR\_14BVP\_BA504  
CR\_14BVP\_BA523

**Date:** May 4, 2010

**Photographer:** Lauren Leclerc

**Comments:** Looking west.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 17BVP  
**Vernal Pool:** CR\_5BVP\_BA421  
CR\_5BVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Looking north at shallow natural pool. No egg masses present.



**Photo No.:** 2  
**Plan ID:** 17BVP  
**Vernal Pool:** CR\_5BVP\_BA421  
CR\_5BVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Looking south.



**Photo No.:** 3  
**Plan ID:** 17BVP  
**Vernal Pool:** CR\_5BVP\_BA421  
CR\_5BVP\_BA507  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Looking west.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 1  
**Plan ID:** 18BVP  
**Vernal Pool:** CR\_3BVP\_BA419  
CR\_3BVP\_BA507  
**Date:** April 19, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking east at natural vernal pool lacking egg masses.



**Photo No.:** 2  
**Plan ID:** 18BVP  
**Vernal Pool:** CR\_3BVP\_BA419  
CR\_3BVP\_BA507  
**Date:** April 19, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking north.



**Photo No.:** 3  
**Plan ID:** 18BVP  
**Vernal Pool:** CR\_3BVP\_BA419  
CR\_3BVP\_BA507  
**Date:** April 19, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking south.

## PHOTOGRAPHIC RECORD

**Company:** Patriot Renewables

**Project:** Canton Mountain Wind Project – Spring 2010 and 2011 Vernal Pool Surveys



**Photo No.:** 4

**Plan ID:** 18BVP

**Vernal Pool:** CR\_3BVP\_BA419  
CR\_3BVP\_BA507

**Date:** April 19, 2010

**Photographer:** David Brenneman

**Comments:** Looking west.



INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: CA-34NP-BAS04 MDIFW Pool ID: \_\_\_\_\_

CA-348NP-BAS23

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Lauren Leclerc, David Brenneman
b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other Kathleen Miller
b. Contact and credentials previously provided? No (submit Addendum 1) Yes
c. Project Name: Canton Mountain Wind

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: Linwood + Roxanne Worster Phone: (207) 897-5572
Street Address: 387 Chesterville Rd City: Chesterville State: ME Zip: 04938
c. Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Canton

Brief site directions to the pool (using mapped landmarks):

Drive north on Ludden lane approx 750 feet from Canton Point rd
The VP is approx. 30' to the west of Ludden lane adjacent to the river!

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: 393614.828 Latitude/Northing: 4927704.523

Check Datum: NAD27 NAD83 / WGS84 Coordinate system: UTM

- 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**

**1 BVP**

- Choose the best descriptor for the landscape setting:
  - Isolated depression
  - Floodplain depression
  - Pool associated with larger wetland complex
  - Other: rock oxbow

- Check all wetland types that best apply to this pool:
 

<input type="checkbox"/> Forested swamp	<input type="checkbox"/> Wet meadow	<input type="checkbox"/> Slow stream
<input type="checkbox"/> Shrub swamp	<input type="checkbox"/> Lake/Pond	<input checked="" type="checkbox"/> Floodplain overflow / oxbow
<input type="checkbox"/> Peatland (fen or bog)	<input type="checkbox"/> Abandoned beaver flowage	<input type="checkbox"/> Headwater seepage
<input checked="" type="checkbox"/> Emergent marsh	<input type="checkbox"/> Active beaver flowage	<input type="checkbox"/> 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 area of river oxbow, immediately adjacent to current river location.

**ii. Pool Hydrology**

- Select the pool's estimated hydroperiod AND provide rationale for opinion.
 

<input type="checkbox"/> Permanent	<input type="checkbox"/> Semi-permanent (drying partially in all years and completely in drought years)	<input checked="" type="checkbox"/> Ephemeral (drying out completely in most years)	<input type="checkbox"/> Unknown
------------------------------------	--	--	----------------------------------

Explain:

Shallow depth & emergent vegetation (grasses) & moss species growing in 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: 15 m  ft Length: 35 m  ft

- Predominate substrate in order of increasing hydroperiod:
 

<input checked="" type="checkbox"/> <sup>Rocks</sup> Mineral soil (bare, leaf-litter bottom, or upland mosses present)	<input type="checkbox"/> Organic matter (peat/muck) shallow or restricted to deepest portion
<input type="checkbox"/> Mineral soil (sphagnum moss present)	<input type="checkbox"/> Organic matter (peat/muck) deep and widespread

- Pool vegetation indicators in order of increasing hydroperiod (check all that apply):
 

<input checked="" type="checkbox"/> Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)	<input type="checkbox"/> Wet site ferns (e.g. royal fern, marsh fern)
<input type="checkbox"/> Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)	<input type="checkbox"/> Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
<input type="checkbox"/> Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)	<input checked="" type="checkbox"/> Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
<input type="checkbox"/> Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)	<input type="checkbox"/> Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
<input type="checkbox"/> Sphagnum moss (anchored or suspended)	<input type="checkbox"/> Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
	<input type="checkbox"/> No vegetation in pool

■ Faunal indicators (check all that apply): None observed

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
- Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Intermittent <sup>inlet</sup> or <sup>outlet</sup>
- Other or Unknown (explain): Inlet: upslope, rocky oxbow Outlet: drainage to river

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5-4-2011, 5/23/2011

1 BVP

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	5-4		5/23		Egg Masses (or adult Fairy Shrimp)		Tadpoles/Larvae			
	Count	CL	Count	CL	Confidence Level <sup>1</sup>	Egg Mass Maturity <sup>2</sup>	Observed		Confidence Level <sup>1</sup>	
Wood Frog	0	0	0	0	-	-	0	0	-	-
Spotted Salamander	0	0	0	0	-	-	0	0	-	-
Blue-spotted Salamander	0	0	0	0	-	-	0	0	-	-
Fairy Shrimp <sup>3</sup>	0	0	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 None observed

- 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*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 unlikely to have indicator sp egg masses @ and visit as no EM seen in this visit & no spermatophores.

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: \_\_\_\_\_



INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: CA-33VP-BA504 MDEW Pool ID: \_\_\_\_\_

1. PRIMARY OBSERVER INFORMATION

CA-33VP-BA523

- a. Observer name: Lauren Leclerc, David Brenneman
b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other Kathleen Miller
b. Contact and credentials previously provided? No (submit Addendum 1) Yes
c. Project Name: Canton Mountain Wind

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: Linwood + Roxanne Worster Phone: (207) 897-5572
Street Address: 387 Chesterville Road City: Chesterville State: ME Zip: 04938
c. Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: DIXFIELD

Brief site directions to the pool (using mapped landmarks):

FROM INT. OF WIDDEN LANE AND CANTON POINT RD FOLLOW WIDDEN LANE NORTH
750'. POOL IS 35' ON WEST SIDE OF 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.
X GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: 393600.212 Latitude/Northing: 4927721.559
Check Datum: NAD27 X NAD83 / WGS84 Coordinate system: UTM

- Check one: X 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

2 NVP

Choose the best descriptor for the landscape setting:

- Isolated depression
- Floodplain depression
- Pool associated with larger wetland complex
- Other: oxbow

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:

FED BY LYDGEN BROOK (FLOOD STRESS). WAS NEARLY DRY IN AUGUST OF 2010.

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: 75 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): None OBS

- 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): \_\_\_\_\_

CA-33NVP-BA523

**6. VERNAL POOL INDICATOR INFORMATION**

a. Indicator survey dates: 5/4/2011, 5/23/2011

**2 NVP**

**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	5/4		5/23		Egg Masses (or adult Fairy Shrimp)		Tadpoles/Larvae			
	Confidence Level <sup>1</sup>		Confidence Level <sup>1</sup>		Egg Mass Maturity <sup>2</sup>		Observed		Confidence Level <sup>1</sup>	
Wood Frog	0	0	-	-	-	-	0	0	-	-
Spotted Salamander	1	1	3	3	M	A	0	0	-	-
Blue-spotted Salamander	0	0	-	-	-	-	0	0	-	-
Fairy Shrimp <sup>3</sup>	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** NONE OBS

- 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*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: \_\_\_\_\_



INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: CA-32VP-BA501 MDIFW Pool ID: \_\_\_\_\_

CA-32BVP-8A523

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Lauren Leclerc, David Brenneman
b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other Kathleen Miller
b. Contact and credentials previously provided? No (submit Addendum 1) Yes
c. Project Name: Canton Mountain Wind

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: Linwood + Roxanne Worster Phone: (207) 897-5572
Street Address: 387 Chesterville Road City: Chesterville State: ME Zip: 04938
c. Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: DIXFIELD

Brief site directions to the pool (using mapped landmarks):

TAKE CARPOOL POINT RD TO LUDDEN LANE. FOLLOW LUDDEN LANE NORTH FOR ~ 750'. POOL IS ON WEST SIDE OF RD (~35' FROM RD)

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: 393591.438 Latitude/Northing: 4927724.136
Check Datum: NAD27 NAD83 / WGS84 Coordinate system: UTM

- 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**

3 BVP

■ Choose the best descriptor for the landscape setting:

- Isolated depression
- Floodplain depression
- Pool associated with larger wetland complex
- Other: EX BOW

■ 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 POOL FED BY OVERFLOW FROM UPRIVER BROOK @ FLOOD STAGE.

■ 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: 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)
- 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): NONE CBS

- 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): \_\_\_\_\_

**6. VERNAL POOL INDICATOR INFORMATION**

**3 BVP**

a. Indicator survey dates: 5/4/2011, 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	5/4		5/23		Egg Masses (or adult Fairy Shrimp)		Tadpoles/Larvae				
	Egg Masses	Confidence Level <sup>1</sup>	Egg Masses	Confidence Level <sup>1</sup>	Egg Mass Maturity <sup>2</sup>	Confidence Level <sup>1</sup>	Observed		Confidence Level <sup>1</sup>		
Wood Frog	0	0	0	0	-	-	-	0	0	-	-
Spotted Salamander	0	0	0	0	-	-	-	0	0	-	-
Blue-spotted Salamander	0	0	0	0	-	-	-	0	0	-	-
Fairy Shrimp <sup>3</sup>	0	0	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** *NONE OBS*

- 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*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: \_\_\_\_\_



# Maine State Vernal Pool Assessment Form 4 NVP



**INSTRUCTIONS:** Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: CA-31VP-BAS04 MDJEW Pool ID: \_\_\_\_\_  
CA-31VP-BAS03

### 1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Lauren Leclerc, David Breneman
- b. Contact and credentials previously provided?  No (submit Addendum 1)  Yes

### 2. PROJECT CONTACT INFORMATION

- a. Contact name:  same as observer  other Kathleen Miller
- b. Contact and credentials previously provided?  No (submit Addendum 1)  Yes
- c. Project Name: Canton Mountain Wind

**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: Linwood + Roxanne Worster Phone: (207) 897-5572  
Street Address: 387 Chesterville Road City: Chesterville State: ME Zip: 04938
- c.  Large Projects: check if separate project landowner data file submitted

### 4. VERNAL POOL LOCATION INFORMATION

a. Location Township: DIXFIELD

Brief site directions to the pool (using mapped landmarks):

CANTON POINT RD @ INTERSECTION OF LIDDEN LAKE HEAD NORTH ON LIDDEN LAKE ROAD IN OXBOW 750' NORTH ALONG RD. POOL IS 35' WEST OF 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: 393578.97 Latitude/Northing: 4927748.71  
Check Datum:  NAD27  NAD83 / WGS84 Coordinate system: UTM

- 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

4 NVP

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other: Oxbow of brook

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Shrub swamp, Lake/Pond, Floodplain overflow / oxbow, Peatland (fen or bog), Abandoned beaver flowage, Headwater seepage, Emergent marsh, Active beaver flowage, 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, Ephemeral, Unknown

Explain:

SHALLOW ROCKY CHANNEL ONLY RECEIVES WATER FROM BROOK @ FLOOD STAGE IN SPRING AND FALL.

Maximum depth at survey: 0-12", 12-36", 36-60", >60"

Approximate size of pool (at spring highwater): Width: 15 m ft Length: 50 m ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp., Wet site ferns, Dry site ferns, Wet site shrubs, Moist site ferns, Wet site graminoids, Moist site vasculars, Aquatic vascular spp., Sphagnum moss, Floating or submerged aquatics, No vegetation in pool

Faunal indicators (check all that apply): NONE OBS

- 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, Permanent inlet or outlet, Intermittent inlet or outlet, Other or Unknown (explain):

6. VERNAL POOL INDICATOR INFORMATION

4 NVP

a. Indicator survey dates: 5/4/2011, 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	5/4		5/23		Egg Masses (or adult Fairy Shrimp)		Tadpoles/Larvae			
	Count	Count	Confidence Level <sup>1</sup>	Confidence Level <sup>1</sup>	Egg Mass Maturity <sup>2</sup>	Egg Mass Maturity <sup>2</sup>	Observed		Confidence Level <sup>1</sup>	
Wood Frog	0	0	-	-	-	-	0	0	-	-
Spotted Salamander	2	2	3	3	M	M	0	0	-	-
Blue-spotted Salamander	0	0	-	-	-	-	0	0	-	-
Fairy Shrimp <sup>3</sup>	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 NONE OBSERVED

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*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:

Oxbow, mineral rocky bottom, cobble/boulders throughout

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:



INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: CA-35NP BAS04 MDPFW Pool ID: CA-35NP-BAS23

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Lauren Leclerc, David Brenneman
b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other Kathleen Miller
b. Contact and credentials previously provided? No (submit Addendum 1) Yes
c. Project Name: Canton Mountain Wind

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: Joaquin + Crystal Mills Phone: (207) 320-0941
Street Address: 140 Ludden Lane City: Canton State: ME Zip: 04221
c. Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Canton

Brief site directions to the pool (using mapped landmarks):

From Canton Point Road travel north along Ludden Lane approx 500 feet Pool is approx 75' to east of Ludden Lane (across the road) from a road-off 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.
X GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: 393569.406 Latitude/Northing: 4928963.850
Check Datum: NAD27 X NAD83 / WGS84 Coordinate system: UTM

- Check one: X 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

5 NVP

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):

Possible historic impact removed from site with surrounding land

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:

Very shallow 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: 15 m ft Length: 200 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): None recorded

- 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): \_\_\_\_\_

CA-35NP-BAS23

**6. VERNAL POOL INDICATOR INFORMATION**

a. Indicator survey dates: 5-4-2011, 5/23/2011

**5 NVP**

**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 <sup>1</sup>	Egg Mass Maturity <sup>2</sup>	Observed	Confidence Level <sup>1</sup>
Wood Frog	0	-	0	-
Spotted Salamander	0	-	0	-
Blue-spotted Salamander	0	-	0	-
Fairy Shrimp <sup>3</sup>	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. Rarely criteria** None observed

- 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*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:**

See no species pool - 2011. Only in summer to 2011. No species observed in pool. See main water's in pool.

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: \_\_\_\_\_

6 NVP

Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

CA-3NVP-BA506  
CA-3NVP-BA415

Project Name#: CANTON MTN WIND Organization Name: TETRA TECH Pool ID: [redacted]  
(BOYLE ASSOC TEAM 4)

Observer Contact Information

Primary Observer (include secondary, if applicable): DAVID BRENNEMAN Phone or Email: DBRENNEMAN@BOYLEASSOC.COM

Primary Observer has Submitted the MAWS VP Credential Form: [X] Previously Submitted [ ] Included w/this Submission

Landowner Contact Information

Landowner permission obtained for this survey & submission: [X] Yes [ ] No Notes: KATHLEEN MILLER - TETRA TECH

Landowner contact information (REQUIRED): Name: Thomdike + Sons, Inc. Phone: (207) 684-3299

Street Address: 26 South Main St. City: Strong State: ME Zip: 04983

1. OBSERVER RECOMMENDATION

Table with 4 columns: This pool is: Significant, Potentially Significant, Not significant due to:; and 2 rows: does not meet MDEP SVP biological criteria, does not meet MDEP vernal pool definition criteria, Notes.

2. VERNAL POOL LOCATION INFORMATION

Municipality or Township: CANTON

Brief site directions to the pool (using mapped landmarks): APPROX 1800' ALONG WOODS ROAD FROM DUNN CEMETARY

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)

Brand and Model of GPS unit\*\*: TRIMBLE GEO 6X Mapping grade GPS with post processed corrections: [X] Yes [ ] No

Check / submit one: [ ] GPS-location of center point of the pool included in shapefile named\*

[X] GPS-location of pool perimeter included as polygon shapefile named\* C0415BA

[ ] Pool Center Point Easting\*\*\*: Pool Center Point Northing\*\*\*:

\* Observers must check the information on an aerial photo to ensure data quality.

\*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.

\*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

3. VERNAL POOL SURVEY INFORMATION

a. Pool or Wetland Habitat Characterization

i. Choose the best descriptor for the physical setting:

[ ] Isolated Upland Depression [X] Pool associated with larger wetland complex

[ ] Floodplain Depression [ ] Other:

ii. Check all palustrine types that best apply to this pool or wetland:

- [X] Forested wetland 50% [ ] Wet meadow [ ] Slow stream
[X] Shrub wetland 50% [ ] Shallow pond [ ] Floodplain overflow / Oxbow
[ ] Peatland (acidic fen or bog) [ ] Abandoned beaver flowage [ ] Headwater seepage
[ ] Emergent marsh [ ] Active beaver flowage [ ] Other:

iii. Predominate substrate in order of increasing hydroperiod:

- [ ] Mineral soil (bare, leaf-litter bottom, or upland mosses present)
[X] Mineral soil (sphagnum moss present)
[ ] Organic matter (peat/muck) shallow or restricted to deepest portion
[ ] Organic matter (peat/muck) deep and widespread

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) [X] Sphagnum moss (anchored or suspended)
[ ] Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern) [ ] Wet site ferns (e.g. royal fern, marsh fern)
[ ] Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York) [X] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)
[ ] Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle) [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
[ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

b. Vernal Pool Origin or Impacts

i. Pool's Origin: [ ] Natural [X] Natural-Modified [ ] Non-Natural [ ] Unknown

\* Describe any modern or historic modifications to the pool and associated wetland (REQUIRED):

WOODS ROAD w/ IN 75' OF POOL, EVIDENCE OF RENATURALIZED SKID TRAIL FROM HISTORIC LOGGING THRU w/ POOL

3. VERNAL POOL SURVEY INFORMATION (continued)

Pool ID: \_\_\_\_\_

ii. Hydrology

- Approximate size of pool (at max. capacity): Width 50  m  ft (check one) Length 40  m  ft (check one)
- Maximum depth at time of survey: 8  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent
- Semi-permanent (drying partially in all years and completely in drought years) FRONT / POSITION IN LANDSCAPE w/ SLIGHT FLOW TO SOUTH INDICATORS
- Ephemeral (drying out completely in most years)
- Recommend dry out period observation

iii. Inlet/Outlet Permanency

- No inlet / outlet
- Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Ephemeral inlet / outlet
- Other

iv. Faunal Indicators:

- Fish (species): \_\_\_\_\_
- Bullfrog or Green frog tadpoles
- Other: \_\_\_\_\_

c. Significant Vernal Pool Status under NRPA

- i. Survey Date(s): 4/15/10 5/06/2010

ii. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No
- For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:		Egg Masses (or Adult Fairy Shrimp)				Tadpoles/Larvae	
	Information:		#	VM*	CL**	EMI***	VM*	CL**
	Date:							
Wood frog	<u>0</u>	<u>5/6</u>						
Spotted Salamander	<u>14</u>	<u>17*</u>	<u>S,H,P</u>		<u>3</u>	<u>F,M</u>		
Blue-spotted Salamander	<u>0</u>							
Fairy Shrimp	<u>2</u>							

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

iii. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted: \_\_\_\_\_

■ Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%. 2= 60-95%. 3= >95%

d. General Comments:

NEEDS 2nd VISIT

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: vernalpools.mdifw@maine.gov

OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: [Signature] Date 4/15/10

[Signature] 3/14/2010

For MDIF&W Use Only: Reviewed by MDIF&W Date \_\_\_\_\_ Initials \_\_\_\_\_

- Significant
- Potentially significant but lacking critical data
- Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria

see sketch

Project Name#: Canton Mt Wind Organization Name: Tetra Tech (Bayle) Pool ID: \_\_\_\_\_

**Observer Contact Information**

Primary Observer (include secondary, if applicable): Helen Stierlitz Team A Phone or Email 707 317-4630  
 Primary Observer has Submitted the MAWS VP Credential Form:  Previously Submitted  Included w/this Submission

**Landowner Contact Information**

Landowner permission obtained for this survey & submission:  Yes  No Notes: Tetra Tech (Kathleen Miller)  
 Landowner contact information (REQUIRED): Name: Helen Industries Phone: (617) 388-6633  
150 Appleton St. #4D City: Boston State: MA Zip: 02116

**1. OBSERVER RECOMMENDATION**

This pool is:	<input type="checkbox"/> Significant	<input type="checkbox"/> Potentially Significant <small>(Include notes in section 3e. on Page 2)</small>	<input type="checkbox"/> Not significant due to:	<input checked="" type="checkbox"/> does not meet MDEP SVP biological criteria
				<input type="checkbox"/> does not meet MDEP vernal pool definition criteria
				Notes:

**2. VERNAL POOL LOCATION INFORMATION**

Municipality or Township: Canton  
 Brief site directions to the pool (using mapped landmarks): \_\_\_\_\_

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)  
 Brand and Model of GPS unit\*\*: Trimble Geo XH Mapping grade GPS with post processed corrections:  Yes  No  
 Check / submit one:  GPS-location of center point of the pool included in shapefile named\* \_\_\_\_\_  
 GPS-location of pool perimeter included as polygon shapefile named\* CO418BA  
 Pool Center Point Easting\*\*\*: \_\_\_\_\_ Pool Center Point Northing\*\*\*: \_\_\_\_\_

\* Check the information on an aerial photo to ensure data quality.  
 \*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.  
 \*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

**3. VERNAL POOL SURVEY INFORMATION**

a. Pool or Wetland Habitat Characterization  
 i. Choose the best descriptor for the physical setting:  
 Isolated Upland Depression  Pool associated with larger wetland complex  
 Floodplain Depression  Other: \_\_\_\_\_

ii. Check all palustrine types that best apply to this pool or wetland:  
 Forested wetland  Wet meadow  Slow stream  
 Shrub wetland  Shallow pond  Floodplain overflow / Oxbow  
 Peatland (acidic fen or bog)  Abandoned beaver flowage  Headwater seepage  
 Emergent marsh  Active beaver flowage  Other: \_\_\_\_\_

iii. 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

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):  
 Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)  Sphagnum moss (anchored or suspended)  
 Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern)  Wet site ferns (e.g. royal fern, marsh fern)  
 Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York)  Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)  
 Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle)  Aquatic vascular spp. (e.g. pickerelweed, arrowhead)  
 Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

b. Vernal Pool Origin or Impacts  
 i. Pool's Origin:  Natural  Natural-Modified  Non-Natural  Unknown  
 Describe any modern or historic modifications to the pool and associated wetland (REQUIRED): \_\_\_\_\_

3. VERNAL POOL SURVEY INFORMATION (continued)

ii. Hydrology

- Approximate size of pool (at max. capacity): Width 150  m  ft (check one) Length 300  m  ft (check one)
- Maximum depth at time of survey: 30  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent \_\_\_\_\_
- Semi-permanent (drying partially in all years and completely in drought years) \_\_\_\_\_
- Ephemeral (drying out completely in most years) \_\_\_\_\_
- Recommend dry out period observation \_\_\_\_\_

iii. Inlet/Outlet Permanency

- No inlet / outlet  Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Ephemeral inlet / outlet  Other \_\_\_\_\_

iv. Faunal Indicators:

- Fish (species): N/A  Bullfrog or Green frog tadpoles  Other: N/A

c. Significant Vernal Pool Status under NRPA

i. Survey Date(s): 4.18.10

ii. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No
- For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:	Egg Masses (or Adult Fairy Shrimp)						Tadpoles/Larvae	
	Information:	#	VM*	CL**	EMI***		VM*	CL**	
	Date:								
Wood frog	<u>4/18.10</u>	<u>5/0</u>	<u>S,H,P</u>	<u>3</u>	<u>3</u>	<u>M</u>			
Spotted Salamander	<u>4/18.10</u>	<u>17</u>	<u>S,H,P</u>	<u>5</u>	<u>3</u>	<u>3</u>	<u>M-A</u>	<u>-</u>	
Blue-spotted Salamander		<u>-</u>							
Fairy Shrimp		<u>-</u>							

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\*Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

iii. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted:
- Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

d. General Comments:

old woods road adj to VP in the SW corner, pool located in area of old kettle hole? surrounding area forested (coniferous)

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools, 650 State Street, Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: [vernalpools.mdifw@maine.gov](mailto:vernalpools.mdifw@maine.gov)

OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: [Signature] Date 5/17/2010

For MDIF&W Use Only: Reviewed by MDIF&W Date: \_\_\_\_\_ Initials: \_\_\_\_\_

This pool is:

- Significant
- Potentially significant but lacking critical data
- Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria

Vernal Pool Data Collection Form

Project Name#: Canton Mt. Wind Organization Name: Tetra Tech (Bourke) Pool ID: \_\_\_\_\_

Observer Contact Information

Primary Observer (include secondary, if applicable): Heather Steuker Wood Phone or Email: 207 517 6630

Primary Observer has Submitted the MAWS VP Credential Form:  Previously Submitted  Included w/this Submission

Landowner Contact Information

Landowner permission obtained for this survey & submission:  Yes  No Notes: Tetra Tech (Kathleen Miller)

Landowner contact information (REQUIRED): Name: Thorndike + Sons, Inc. Phone: (207) 684-3299

Street Address: 26 South Main St. City: Strong State: ME Zip: 04983

1. OBSERVER RECOMMENDATION

This pool is:	<input type="checkbox"/> Significant	<input type="checkbox"/> Potentially Significant <small>(include notes in section 3e. on Page 2)</small>	<input checked="" type="checkbox"/> Not significant due to:	<input type="checkbox"/> does not meet MDEP SVP biological criteria
				<input type="checkbox"/> does not meet MDEP vernal pool definition criteria
				Notes:

2. VERNAL POOL LOCATION INFORMATION

Municipality or Township: Canton

Brief site directions to the pool (using mapped landmarks): \_\_\_\_\_

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)

Brand and Model of GPS unit: Trimble Geo XT1 Mapping grade GPS with post processed corrections:  Yes  No

Check / submit one:  GPS-location of center point of the pool included in shapefile named\* \_\_\_\_\_

GPS-location of pool perimeter included as polygon shapefile named\* C0418BA

Pool Center Point Easting\*\*\*: \_\_\_\_\_ Pool Center Point Northing\*\*\*: \_\_\_\_\_

\* Observers must check the information on an aerial photo to ensure data quality.  
 \*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.  
 \*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

3. VERNAL POOL SURVEY INFORMATION

a. Pool or Wetland Habitat Characterization

i. Choose the best descriptor for the physical setting:

Isolated Upland Depression  Pool associated with larger wetland complex

Floodplain Depression  Other: \_\_\_\_\_

ii. Check all palustrine types that best apply to this pool or wetland:

Forested wetland  Wet meadow  Slow stream

Shrub wetland  Shallow pond  Floodplain overflow / Oxbow

Peatland (acidic fen or bog)  Abandoned beaver flowage  Headwater seepage

Emergent marsh  Active beaver flowage  Other: \_\_\_\_\_

iii. 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

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):

Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)  Sphagnum moss (anchored or suspended)

Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern)  Wet site ferns (e.g. royal fern, marsh fern)

Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York)  Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)

Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle)  Aquatic vascular spp. (e.g. pickerelweed, arrowhead)

Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

b. Vernal Pool Origin or Impacts

i. Pool's Origin:  Natural  Natural-Modified  Non-Natural  Unknown

- Describe any modern or historic modifications to the pool and associated wetland (REQUIRED): \_\_\_\_\_

3. VERNAL POOL SURVEY INFORMATION (continued)

Pool ID: \_\_\_\_\_

ii. Hydrology

• Approximate size of pool (at max. capacity): Width 56'  m  ft (check one) Length 200  m  ft (check one)  
• Maximum depth at time of survey: 20  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent \_\_\_\_\_  
 Semi-permanent (drying partially in all years and completely in drought years) \_\_\_\_\_  
 Ephemeral (drying out completely in most years) \_\_\_\_\_  
 Recommend dry out period observation \_\_\_\_\_

iii. Inlet/Outlet Permanency

- No inlet / outlet  Permanent inlet or outlet (channel with well-defined banks and permanent flow)  
 Ephemeral inlet / outlet  Other \_\_\_\_\_

iv. Faunal Indicators:

Fish (species): N/A  Bullfrog or Green frog tadpoles  Other: N/A

c. Significant Vernal Pool Status under NRPA

i. Survey Date(s): 4-18-10 5/6/2010

ii. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No  
■ For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:	Egg Masses (or Adult Fairy Shrimp)						Tadpoles/Larvae	
	Information:	#	VM*	CL**	EMI***		VM*	CL**	
	Date:								
Wood frog		5/6		5/6		5/6			
Spotted Salamander	Hatched	17	SH, P	S	3	3	M	A	
Blue-spotted Salamander									
Fairy Shrimp									

\*Verification Method: S= Seen, H= Handled, P= Photographed \*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%  
\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

iii. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No  
■ If yes, indicate which species were targeted:  
■ Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen \*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

d. General Comments:

much woody debris located in rt. of pool. pool located between two saddles, cigar tube + log cabin  
caudally larvae, some predating on SSEM's.

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol  
 Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME  
 Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)  
 Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: [vernalpools.mdifw@maine.gov](mailto:vernalpools.mdifw@maine.gov)

OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: [Signature] Date 5/7/2010

For MDIF&W Use Only: Reviewed by MDIF&W Date: \_\_\_\_\_ Initials: \_\_\_\_\_  
This pool is:  
 Significant  Potentially significant but lacking critical data  Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria

at the Church Hill road + sk etc

9P SVP Maine Association of Wetland Scientists (MAWS)  
 Vernal Pool Data Collection Form

CR-11SVP  
 CR-11VP-BA421  
 BASC6

Project Name#: Canton Meadows Organization Name: Tetra Tech EC

Observer Contact Information

Primary Observer (include secondary, if applicable): Rod Kelshaw & Rob Jordan Phone or Email: (207) 944-6776  
 Primary Observer has Submitted the MAWS VP Credential Form:  Previously Submitted  Included w/this Submission

Landowner Contact Information

Landowner permission obtained for this survey & submission:  Yes  No Notes: Subcontractor - see Kathleen Miller  
 Landowner contact information (REQUIRED): Name: Thorndike + Sons, Inc. Phone: (207) 684-3299  
 Street Address: 26 South Main St. City: Strong State: ME Zip: 04983

1. OBSERVER RECOMMENDATION

This pool is:	<input checked="" type="checkbox"/> Significant	<input type="checkbox"/> Potentially Significant	<input type="checkbox"/> Not significant due to:	<input type="checkbox"/> does not meet MDEP SVP biological criteria
	(Include notes in section 3e. on Page 2)			<input type="checkbox"/> does not meet MDEP vernal pool definition criteria
				Notes:

2. VERNAL POOL LOCATION INFORMATION

Municipality or Township: Canton  
 Brief site directions to the pool (using mapped landmarks): located on the northeast ridge in the northeastern portion

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)  
 Brand and Model of GPS unit\*\*: Trimble GeoXM Mapping grade GPS with post processed corrections:  Yes  No  
 Check / submit one:  GPS-location of center point of the pool included in shapefile named\* \_\_\_\_\_  
 GPS-location of pool perimeter included as polygon shapefile named\* C0421RA  
 Pool Center Point Easting\*\*\*: \_\_\_\_\_ Pool Center Point Northing\*\*\*: \_\_\_\_\_

\* Observers must check the information on an aerial photo to ensure data quality.  
 \*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.  
 \*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

3. VERNAL POOL SURVEY INFORMATION

a. Pool or Wetland Habitat Characterization

i. Choose the best descriptor for the physical setting:

Isolated Upland Depression  Pool associated with larger wetland complex  
 Floodplain Depression  Other: \_\_\_\_\_

ii. Check all palustrine types that best apply to this pool or wetland:

Forested wetland  Wet meadow  Slow stream  
 Shrub wetland  Shallow pond  Floodplain overflow / Oxbow  
 Peatland (acidic fen or bog)  Abandoned beaver flowage  Headwater seepage  
 Emergent marsh  Active beaver flowage  Other: open water

iii. 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

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):

Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)  Sphagnum moss (anchored or suspended)  
 Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern)  Wet site ferns (e.g. royal fern, marsh fern)  
 Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York)  Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)  
 Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle)  Aquatic vascular spp. (e.g. pickerelweed, arrowhead)  
 Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

b. Vernal Pool Origin or Impacts

i. Pool's Origin:  Natural  Natural-Modified  Non-Natural  Unknown  
 Describe any modern or historic modifications to the pool and associated wetland (REQUIRED):  
Appears to be a natural depression in the landscape that has been enhanced. There was historic granite removal in this area and this appears that some bedrock was removed & a potential old road leading to it.

9P SVP

# Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

CR-115VP-BA421

CR-115VP-BASCC

### 3. VERNAL POOL SURVEY INFORMATION (continued)

#### ii. Hydrology

- Approximate size of pool (at max. capacity): Width 60  m  ft (check one) Length 80  m  ft (check one)
- Maximum depth at time of survey: 3  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent
- Semi-permanent (drying partially in all years and completely in drought years) deep @ center yet small watershed to feed pool
- Ephemeral (drying out completely in most years)
- Recommend dry out period observation

#### iii. Inlet/Outlet Permanency

- No inlet / outlet  Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Ephemeral inlet / outlet  Other

#### iv. Faunal Indicators:

- Fish (species):  Bullfrog or Green frog tadpoles  Other: Caddis fly larvae water striders whirling g b mosquito larva

#### c. Significant Vernal Pool Status under NRPA

i. Survey Date(s): 2010-4-21

#### ii. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No Suggest 2nd visit
- For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Egg Masses (or Adult Fairy Shrimp)								Tadpoles/Larvae	
	Observation:		VM*		CL**		EMI***		VM*	CL**
	Date:	#								
Wood frog	2010-4-21	57	H	S/H/P	3	3	M/F	A		
Spotted Salamander		7	145	S	3	3	M	M		
Blue-spotted Salamander										
Fairy Shrimp										

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

#### iii. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted:
- Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

#### d. General Comments:

Deep pool possibly embanked. There is an ephemeral overflow channel that connects to CR-10VP-BA421  
-See attached sketch

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: [vernalpools.mdifw@maine.gov](mailto:vernalpools.mdifw@maine.gov)

#### OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: [Signature] Date 2010-4-21

For MDIF&W Use Only:

Reviewed by MDIF&W Date

Initials

This pool is:

- Significant
- Potentially significant but lacking critical data
- Not significant due to:  does not meet biological criteria  does not meet definition of vernal pool

-Sketch attached as separate sheet-

5/14 - Pat

Kod Kelshaw 2010-4-21  
BA  
CR.13 BVP.506

# 10 BVP Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

Project Name#: Carbon Mountain Organization Name: Tetra Tech EC Pool ID: \_\_\_\_\_

**Observer Contact Information**

Primary Observer (include secondary, if applicable): Rod Kelshaw + Dan Bowman Phone or Email (207) 940-6776  
 Primary Observer has Submitted the MAWS VP Credential Form:  Previously Submitted  Included w/this Submission

**Landowner Contact Information**

Landowner permission obtained for this survey & submission:  Yes  No Notes: Per: Kathleen Miller  
 Landowner contact information (REQUIRED): Name: Thorndike + Sons, Inc. Phone: (207) 684-3299  
 Street Address: 26 South Main St. City: Strong State: ME Zip: 04983

**1. OBSERVER RECOMMENDATION**

This pool is:	<input type="checkbox"/> Significant	<input type="checkbox"/> Potentially Significant <small>(Include notes in section 3e. on Page 2)</small>	<input checked="" type="checkbox"/> Not significant due to:	<input checked="" type="checkbox"/> does not meet MDEP SVP biological criteria
				<input type="checkbox"/> does not meet MDEP vernal pool definition criteria
				Notes:

**2. VERNAL POOL LOCATION INFORMATION**

Municipality or Township: Carbon  
 Brief site directions to the pool (using mapped landmarks): Northwest edge south of old trail on West facing slope

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)  
 Brand and Model of GPS unit\*\*: Trimble Geo XT Mapping grade GPS with post processed corrections:  Yes  No  
 Check / submit one:  GPS-location of center point of the pool included in shapefile named\* 042130  
 GPS-location of pool perimeter included as polygon shapefile named\* \_\_\_\_\_  
 Pool Center Point Easting\*\*\*: \_\_\_\_\_ Pool Center Point Northing\*\*\*: \_\_\_\_\_

\* Observers must check the information on an aerial photo to ensure data quality.  
 \*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.  
 \*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

**3. VERNAL POOL SURVEY INFORMATION**

a. Pool or Wetland Habitat Characterization  
 i. Choose the best descriptor for the physical setting:  
 Isolated Upland Depression  Pool associated with larger wetland complex - small wetland area  
 Floodplain Depression  Other: \_\_\_\_\_

ii. Check all palustrine types that best apply to this pool or wetland:  
 Forested wetland  Wet meadow  Slow stream  
 Shrub wetland  Shallow pond  Floodplain overflow / Oxbow  
 Peatland (acidic fen or bog)  Abandoned beaver flowage  Headwater seepage  
 Emergent marsh  Active beaver flowage  Other: \_\_\_\_\_

iii. 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

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):  
 Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)  Sphagnum moss (anchored or suspended) N/A  
 Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern)  Wet site ferns (e.g. royal fern, marsh fern)  
 Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York)  Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)  
 Moist site vasculars (skunk cabbage, jewelweed, blue flag irfs, swamp candle)  Aquatic vascular spp. (e.g. pickerelweed, arrowhead)  
 Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

b. Vernal Pool Origin or Impacts  
 i. Pool's Origin:  Natural  Natural-Modified  Non-Natural  Unknown  
 Describe any modern or historic modifications to the pool and associated wetland (REQUIRED):

- skid trail upslope / may have been enhanced for drainage

Vernal Pool Data Collection Form

3. VERNAL POOL SURVEY INFORMATION (continued)

II. Hydrology

• Approximate size of pool (at max. capacity): Width 5  m  ft (check one) Length 6  m  ft (check one)  
 • Maximum depth at time of survey: 10  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent  
 Semi-permanent (drying partially in all years and completely in drought years)  
 Ephemeral (drying out completely in most years)  
 Recommend dry out period observation

III. Inlet/Outlet Permanency

- No inlet / outlet  Permanent inlet or outlet (channel with well-defined banks and permanent flow)  
 Ephemeral inlet / outlet  Other non permanent outlet channel

IV. Faunal Indicators:

- Fish (species):  Bullfrog or Green frog tadpoles  Other: None Noted

c. Significant Vernal Pool Status under NRPA

I. Survey Date(s): 2010-4-21, 5/6/2010

II. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No  
 ■ For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:	Egg Masses (or Adult Fairy Shrimp)				Tadpoles/Larvae	
	Information:	#	VM*	CL**	EMI***	VM*	CL**
	Date:						
Wood frog	4-21	5/6					
Spotted Salamander							
Blue-spotted Salamander							
Fairy Shrimp							

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

III. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No  
 ■ If yes, indicate which species were targeted:  
 ■ Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

d. General Comments:

No egg masses or other faunal evidence noted

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol  
 Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401  
 Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)  
 Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: vernalpools.mdifw@maine.gov

OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: [Signature] Date 2010-4-21

For MDIF&W Use Only:

Reviewed by MDIF&W Date \_\_\_\_\_ Initials: \_\_\_\_\_

- This pool is:  
 Significant  Potentially significant but lacking critical data  Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria

12 BVP

Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

CR-BVP-BA507

CR-BVP-BATZT

Project Name#: Canton M.L. Organization Name: Tfe-h EC Pool ID:

Observer Contact Information

Primary Observer (include secondary, if applicable): Rick Jordan Phone or Email 207 671 2760

Primary Observer has Submitted the MAWS VP Credential Form: [X] Previously Submitted [ ] Included w/this Submission

Landowner Contact Information

Landowner permission obtained for this survey & submission: [X] Yes [ ] No Notes: see K Miller @ Tfe-h EC

Landowner contact information (REQUIRED): Name: Mark + Donna Brann Phone: (207) 532-8059

Street Address: 833 Canton Pt. Rd City: Dixfield State: ME Zip: 04224

1. OBSERVER RECOMMENDATION

Table with columns for 'This pool is:' (Significant, Potentially Significant, Not significant due to) and rows for 'does not meet MDEP SVP biological criteria' and 'does not meet MDEP vernal pool definition criteria'. Includes a 'Notes:' field.

2. VERNAL POOL LOCATION INFORMATION

Municipality or Township: Canton

Brief site directions to the pool (using mapped landmarks): in saddle on hardwood hill on east side of steep slope in Canton M.L.

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)

Brand and Model of GPS unit\*\*: GeoXH Mapping grade GPS with post processed corrections: [X] Yes [ ] No

Check / submit one: [ ] GPS-location of center point of the pool included in shapefile named\*

[X] GPS-location of pool perimeter included as polygon shapefile named\* 6041 PA

[ ] Pool Center Point Easting\*\*\*: Pool Center Point Northing\*\*\*:

\* Observers must check the information on an aerial photo to ensure data quality. \*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form. \*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

3. VERNAL POOL SURVEY INFORMATION

a. Pool or Wetland Habitat Characterization

i. Choose the best descriptor for the physical setting:

- [ ] Isolated Upland Depression [X] Pool associated with larger wetland complex [ ] Floodplain Depression [ ] Other:

ii. Check all palustrine types that best apply to this pool or wetland:

- [X] Forested wetland [ ] Wet meadow [ ] Slow stream [ ] Shrub wetland [ ] Shallow pond [ ] Floodplain overflow / Oxbow [ ] Peatland (acidic fen or bog) [ ] Abandoned beaver flowage [ ] Headwater seepage [ ] Emergent marsh [ ] Active beaver flowage [ ] Other:

iii. Predominate substrate in order of increasing hydroperiod:

- [ ] Mineral soil (bare, leaf-litter bottom, or upland mosses present) [ ] Mineral soil (sphagnum moss present) [X] Organic matter (peat/muck) shallow or restricted to deepest portion [ ] Organic matter (peat/muck) deep and widespread

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) [X] Sphagnum moss (anchored or suspended) [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern) [ ] Wet site ferns (e.g. royal fern, marsh fern) [ ] Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York) [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail) [ ] Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle) [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead) [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

b. Vernal Pool Origin or Impacts

i. Pool's Origin: [X] Natural [ ] Natural-Modified [ ] Non-Natural [ ] Unknown

\* Describe any modern or historic modifications to the pool and associated wetland (REQUIRED): Some quarrying evidence south of pool, some logging impacts in area - but nothing noted @ pool

# 12 BVP Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

CR-SVP-BAV21

### 3. VERNAL POOL SURVEY INFORMATION (continued)

Pool ID: \_\_\_\_\_

#### II. Hydrology

- Approximate size of pool (at max. capacity): Width 15  m  ft (check one) Length 30  m  ft (check one)
- Maximum depth at time of survey: 18  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent \_\_\_\_\_
- Semi-permanent (drying partially in all years and completely in drought years) \_\_\_\_\_
- Ephemeral (drying out completely in most years) already appears abandoned pool; phytoplankton pool
- Recommend dry out period observation \_\_\_\_\_

#### III. Inlet/Outlet Permanency

- No inlet / outlet  Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Ephemeral inlet / outlet  Other \_\_\_\_\_

#### IV. Faunal Indicators:

- Fish (species): \_\_\_\_\_  Bullfrog or Green frog tadpoles  Other: \_\_\_\_\_

#### c. Significant Vernal Pool Status under NRPA

I. Survey Date(s): 4/21/2010; 5/7/2010

#### II. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No
- For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:	Egg Masses (or Adult Fairy Shrimp)				Tadpoles/Larvae	
	Information:	#	VM*	CL**	EMI***	VM*	CL**
	Date:	4/21	5/7				
Wood frog		0	-				
Spotted Salamander			-				
Blue-spotted Salamander			-				
Fairy Shrimp			-				

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

#### III. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted: NA
- Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

#### d. General Comments:

Small depression in skunk in hardwood forest. No insects or EMI. Southern 1/2 of forest probably dries prior to major winter melt. May dry by July

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: [vernalpools.mdifw@maine.gov](mailto:vernalpools.mdifw@maine.gov)

#### OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: [Signature] Date: 4-21-2010

For MDIF&W Use Only:

Reviewed by MDIF&W Date: \_\_\_\_\_ Initials: \_\_\_\_\_

This pool is

- Significant  Potentially significant but lacking critical data  Not significant due to:  does not meet biological criteria  does not meet definition criteria

Project Name/#: Canton Mt Organization Name: Tahuboc Pool ID: \_\_\_\_\_

**Observer Contact Information**

Primary Observer (include secondary, if applicable): Rebecca Feltre Phone or Email: 207 5212700

Primary Observer has Submitted the MAWS VP Credential Form:  Previously Submitted  Included w/this Submission

**Landowner Contact Information**

Landowner permission obtained for this survey & submission:  Yes  No Notes: sub to TTEL - see Kathleen Miller

Contact information (REQUIRED): Name: Mark + Donna Brann Phone: (207) 532-8059

Street Address: 833 Canton Pt. Rd City: Dixfield State: ME Zip: 04224

**1. OBSERVER RECOMMENDATION**

This pool is:	<input type="checkbox"/> Significant	<input type="checkbox"/> Potentially Significant <small>(Include notes in section 3e. on Page 2)</small>	<input checked="" type="checkbox"/> Not significant due to:	<input checked="" type="checkbox"/> does not meet MDEP SVP biological criteria
				<input type="checkbox"/> does not meet MDEP vernal pool definition criteria
				Notes:

**2. VERNAL POOL LOCATION INFORMATION**

Municipality or Township: Canton

Brief site directions to the pool (using mapped landmarks): NE corner of timber area @ outlet of road bog on hill above street entrance

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)

Brand and Model of GPS unit\*\*: Garmin Mapping grade GPS with post processed corrections:  Yes  No

Check / submit one:  GPS-location of center point of the pool included in shapefile named\* \_\_\_\_\_

GPS-location of pool perimeter included as polygon shapefile named\* COY21RA

Pool Center Point Easting\*\*\*: \_\_\_\_\_ Pool Center Point Northing\*\*\*: \_\_\_\_\_

Observers must check the information on an aerial photo to ensure data quality.  
\*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.  
\*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

**3. VERNAL POOL SURVEY INFORMATION**

**a. Pool or Wetland Habitat Characterization**

i. Choose the best descriptor for the physical setting:

- Isolated Upland Depression
- Pool associated with larger wetland complex
- Floodplain Depression
- Other: \_\_\_\_\_

ii. Check all palustrine types that best apply to this pool or wetland:

- Forested wetland
- Shrub wetland
- Peatland (acidic fen or bog) COY21RA
- Emergent marsh
- Wet meadow
- Shallow pond
- Abandoned beaver flowage
- Active beaver flowage
- Slow stream
- Floodplain overflow / Oxbow
- Headwater seepage
- Other: \_\_\_\_\_

iii. Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- Mineral soil (sphagnum moss present)
- Water (peat/muck) shallow or restricted to deepest portion
- Matter (peat/muck) deep and widespread

iv. Nonwoody 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, polypody fern)
- Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York)
- Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle)
- Sphagnum moss (anchored or suspended)
- Wet site ferns (e.g. royal fern, marsh fern)
- Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)
- Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

No VEGE - all leaves

**b. Vernal Pool Origin or Impacts**

i. Pool's Origin:  Natural  Natural-Modified  Non-Natural  Unknown

Describe any modern or historic modifications to the pool and associated wetland (REQUIRED):  
Area has been logged in past (>15yrs) but pool is undisturbed

CR-6BVP-BA507

3. VERNAL POOL SURVEY INFORMATION (continued)

Pool ID: \_\_\_\_\_

II. Hydrology

- Approximate size of pool (at max. capacity): Width 20  m  ft (check one) Length 30  m  ft (check one)
- Maximum depth at time of survey: 6  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent \_\_\_\_\_
- Semi-permanent (drying partially in all years and completely in drought years) \_\_\_\_\_
- Ephemeral (drying out completely in most years) Shallow pool bed of variable flow
- Recommend dry out period observation \_\_\_\_\_

III. Inlet/Outlet Permanency

- No inlet / outlet  Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Ephemeral inlet / outlet  Other \_\_\_\_\_

IV. Faunal Indicators:

- Fish (species): NA  Bullfrog or Green frog tadpoles  Other: NA

C. Significant Vernal Pool Status under NRPA

i. Survey Date(s): 4-21-2010 ; 5/7/2010

II. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No
- For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:	Egg Masses (or Adult Fairy Shrimp)				Tadpoles/Larvae	
	Information:	#	VM*	CL**	EMI***	VM*	CL**
	Date:						
Wood frog	<u>4/21</u>	<u>5/7</u>					
Spotted Salamander	<u>4/21</u>	<u>5/7</u>					
Blue-spotted Salamander	<u>4/21</u>	<u>5/7</u>					
Fairy Shrimp	<u>4/21</u>	<u>5/7</u>					

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

III. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted: \_\_\_\_\_
- Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%. 3= >95%

d. General Comments:

shallow, no EMs, probably dries prior to June

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: [vernalpools.mdifw@maine.gov](mailto:vernalpools.mdifw@maine.gov)

OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: [Signature] Date 4-21-2010

For MDIF&W Use Only:

Reviewed by MDIF&W Date: \_\_\_\_\_ Initials: \_\_\_\_\_

This pool is

- Significant  Potentially significant but lacking critical data  Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria

File - see sketches + photos

Project Name/#: Canton Mountain Organization Name: Triha Truss EC

**Observer Contact Information**

Primary Observer (include secondary, if applicable): L. Foster, R. Seaton Phone or Email: 207-756-9322

Primary Observer has Submitted the MAWS VP Credential Form:  Previously Submitted  Included w/this Submission

**Landowner Contact Information**

Landowner permission obtained for this survey & submission:  Yes  No Notes: PH: Kathleen M. Hiller

Landowner contact information (REQUIRED): Name: Mark + Donna Brann Phone: (207) 532-8059

Street Address: 833 Canton Pt. Rd City: Dixfield State: ME Zip: 04224

**1. OBSERVER RECOMMENDATION**

This pool is:	<input type="checkbox"/> Significant	<input type="checkbox"/> Potentially Significant <small>(Include notes in section 3a. on Page 2)</small>	<input checked="" type="checkbox"/> Not significant due to:	<input checked="" type="checkbox"/> does not meet MDEP SVP biological criteria
				<input type="checkbox"/> does not meet MDEP vernal pool definition criteria
				Notes:

**2. VERNAL POOL LOCATION INFORMATION**

Municipality or Township: Canton

Brief site directions to the pool (using mapped landmarks): NE turbine location

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)

Brand and Model of GPS unit\*\*: Trimble GeoXH Mapping grade GPS with post processed corrections:  Yes  No

Check / submit one:  GPS-location of center point of the pool included in shapefile named\* C0421 BA

GPS-location of pool perimeter included as polygon shapefile named\*

Pool Center Point Easting\*\*\*: \_\_\_\_\_ Pool Center Point Northing\*\*\*: \_\_\_\_\_

\* Observers must check the information on an aerial photo to ensure data quality.

\*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.

\*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

**3. VERNAL POOL SURVEY INFORMATION**

**a. Pool or Wetland Habitat Characterization**

i. Choose the best descriptor for the physical setting:

Isolated Upland Depression  Pool associated with larger wetland complex kettle hole bog

Floodplain Depression  Other: \_\_\_\_\_

ii. Check all palustrine types that best apply to this pool or wetland:

Forested wetland ridge  Wet meadow  Slow stream

Shrub wetland ridge  Shallow pond  Floodplain overflow / Oxbow

Peatland (acidic fen or bog) predominantly  Abandoned beaver flowage  Headwater seepage

Emergent marsh  Active beaver flowage  Other: \_\_\_\_\_

iii. 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

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):

Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)  Sphagnum moss (anchored or suspended)

Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern)  Wet site ferns (e.g. royal fern, marsh fern)

Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York)  Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)

Moist site vasculars (skunk cabbage, jewelweed, blue flag ins, swamp candle)  Aquatic vascular spp. (e.g. pickerelweed, arrowhead)

Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

**b. Vernal Pool Origin or Impacts**

i. Pool's Origin:  Natural  Natural-Modified  Non-Natural  Unknown

• Describe any modern or historic modifications to the pool and associated wetland (REQUIRED):

Surrounding land has been logged in past 45 yrs but pool are undisturbed & pool are

3. VERNAL POOL SURVEY INFORMATION (continued)

Global ID: \_\_\_\_\_

II. Hydrology

Overall  $\nabla$  Spature 100 x 300

Approximate size of pool (at max. capacity): Width 20'  m  ft (check one) Length 30'  m  ft (check one)

Maximum depth at time of survey: 8  in  ft  cm  m (check one)

Small pools within larger  $\nabla$  none larger than approx. 20x30' @ edges of  $\nabla$

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent
- Semi-permanent (drying partially in all years and completely in drought years)
- Ephemeral (drying out completely in most years) ground seepage in bottom of pool, shallow depth
- Recommend dry out period observation

III. Inlet/Outlet Permanency

- No inlet / outlet
- Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Ephemeral inlet / outlet
- Other

iv. Faunal Indicators:

- Fish (species): None observed
- Bullfrog or Green frog tadpoles
- Other: None observed

c. Significant Vernal Pool Status under NRPA

i. Survey Date(s): 4/21/2010; 5/7/2010

II. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No
- For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:		Egg Masses (or Adult Fairy Shrimp)				Tadpoles/Larvae	
	Information:		#	VM*	CL**	EMI***	VM*	CL**
	Date:							
Wood frog		4/21	4	SP	3	M		
Spotted Salamander		5/7	2	SP	3	M		
Blue-spotted Salamander			-					
Fairy Shrimp			-					

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

III. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted:
- Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date). None observed

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

d. General Comments:

kettle hole bog with several small basins along edge none of which contained EMT

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: [vernalpools.mdifw@maine.gov](mailto:vernalpools.mdifw@maine.gov)

OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: Jawan H. Jelinek Date: 4-21-2010

For MDIF&W Use Only:

Reviewed by MDIF&W Date: \_\_\_\_\_ Initials: \_\_\_\_\_

This pool is:

- Significant
- Potentially significant but lacking critical data
- Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria

*Canton 11 visits Boyle*

# 15 BVP Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

*CR 4BVP-BAS07*  
*CR 4BVP-BAS07*

Project Name#: Canton 11 Wetland Organization Name: Terrace E.C. Pool ID: [REDACTED]

**Observer Contact Information**

Primary Observer (include secondary, if applicable): Ruth Jordan Phone or Email 207 671-2760

Primary Observer has Submitted the MAWS VP Credential Form:  Previously Submitted  Included w/this Submission

**Landowner Contact Information**

Landowner permission obtained for this survey & submission:  Yes  No Notes: sub for TTEC

Landowner contact information (REQUIRED): Name: Mark + Donna Bram Phone: (207) 532-8059

Street Address: 833 Canton Pt. Rd City: Dixfield State: ME Zip: 04224

**1. OBSERVER RECOMMENDATION**

*10/11/10 2nd visit - under way + No ems on 4/19*

<b>This pool is:</b>	<input type="checkbox"/> Significant	<input checked="" type="checkbox"/> Potentially Significant <small>(include notes in section 3e. on Page 2)</small>	<input checked="" type="checkbox"/> Not significant due to:	<input checked="" type="checkbox"/> does not meet MDEP SVP biological criteria <input type="checkbox"/> does not meet MDEP vernal pool definition criteria Notes:
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**2. VERNAL POOL LOCATION INFORMATION**

Municipality or Township: CANTON

Brief site directions to the pool (using mapped landmarks): NE Top of Ridge line of Canton wetland east of ATU  
20000 + 1500

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)

Brand and Model of GPS unit\*\*: Trimble GPS Mapping grade GPS with post processed corrections:  Yes  No

Check / submit one:  GPS-location of center point of the pool included in shapefile named\* CO4BVP

GPS-location of pool perimeter included as polygon shapefile named\* CO4BPA

Pool Center Point Easting\*\*\*: \_\_\_\_\_ Pool Center Point Northing\*\*\*: \_\_\_\_\_

\* Observers must check the information on an aerial photo to ensure data quality.

\*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.

\*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

**3. VERNAL POOL SURVEY INFORMATION**

**a. Pool or Wetland Habitat Characterization**

**i. Choose the best descriptor for the physical setting:**

- Isolated Upland Depression  Pool associated with larger wetland complex  
 Floodplain Depression  Other: \_\_\_\_\_

**ii. Check all palustrine types that best apply to this pool or wetland:**

- |   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Forested wetland  | <input type="checkbox"/> Wet meadow               | <input type="checkbox"/> Slow stream                  |
| <input type="checkbox"/> Shrub wetland                | <input type="checkbox"/> Shallow pond             | <input type="checkbox"/> Floodplain overflow / Oxbow  |
| <input type="checkbox"/> Peatland (acidic fen or bog) | <input type="checkbox"/> Abandoned beaver flowage | <input checked="" type="checkbox"/> Headwater seepage |
| <input type="checkbox"/> Emergent marsh               | <input type="checkbox"/> Active beaver flowage    | <input type="checkbox"/> Other: _____                 |

**iii. Predominate substrate in order of increasing hydroperiod:**

- Mineral soil (bare, leaf-litter bottom, or upland mosses present)  
 Mineral soil (sphagnum moss present) (1)  
 Organic matter (peat/muck) shallow or restricted to deepest portion (2)  
 Organic matter (peat/muck) deep and widespread

**iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):**

- |  |   |
|--|---|
| <input type="checkbox"/> Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)             | <input checked="" type="checkbox"/> Sphagnum moss (anchored or suspended)                                       |
| <input type="checkbox"/> Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern)           | <input checked="" type="checkbox"/> Wet site ferns (e.g. royal fern, marsh fern)                                |
| <input checked="" type="checkbox"/> Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York) | <input type="checkbox"/> Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)                    |
| <input type="checkbox"/> Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle) | <input type="checkbox"/> Aquatic vascular spp. (e.g. pickerelweed, arrowhead)                                   |
|  | <input type="checkbox"/> Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort) |

**b. Vernal Pool Origin or Impacts**

**i. Pool's Origin:**  Natural  Natural-Modified  Non-Natural  Unknown

\* Describe any modern or historic modifications to the pool and associated wetland (REQUIRED):

Pit and mound forested drainage complex with a series of interconnected pools

3. VERNAL POOL SURVEY INFORMATION (continued)

Pool ID: \_\_\_\_\_

ii. Hydrology

- Approximate size of pool (at max. capacity): Width 100  m  ft (check one) Length 220  m  ft (check one)
- Maximum depth at time of survey: 16  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent \_\_\_\_\_
- Semi-permanent (drying partially in all years and completely in drought years) \_\_\_\_\_
- Ephemeral (drying out completely in most years) \_\_\_\_\_
- Recommend dry out period observation \_\_\_\_\_

iii. Inlet/Outlet Permanency

- No inlet / outlet  Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Ephemeral inlet / outlet  Other \_\_\_\_\_

iv. Faunal Indicators:

- Fish (species): NO  Bullfrog or Green frog tadpoles  Other: none

c. Significant Vernal Pool Status under NRPA

i. Survey Date(s): 7-19-2010, 5/6/2010

ii. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No
- For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:	Egg Masses (or Adult Fairy Shrimp)				Tadpoles/Larvae	
	Information:	#	VM*	CL**	EI***	VM*	CL**
	Date:						
Wood frog	7-19	5/6					
Spotted Salamander	7-19	—					
Blue-spotted Salamander	7-19	—					
Fairy Shrimp	7-19	—					

\*Verification Method: S= Seen, H= Handled, P= Photographed \*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%  
\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

iii. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted: NA
- Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (attached with observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen \*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

d. General Comments:

Located perennials of complex of pools w/in p.m drainage watershed MAY DRY SOON. SUGGEST 2nd VISIT to see if 1) any breeding activity occurs or 2) if it dries and is a non-feature

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: [vernalpools.mdifw@maine.gov](mailto:vernalpools.mdifw@maine.gov)

OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: REJ Date 4/19/2010

For MDIF&W Use Only: Reviewed by MDIF&W Date \_\_\_\_\_ Initials \_\_\_\_\_

This pool is:

- Significant  Potentially significant but lacking critical data  Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria



INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: CR-14VP-BA504 MDIFW Pool ID: \_\_\_\_\_  
CR-148VP-BA523

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Lauren Leclerc, David Brenneman
- b. Contact and credentials previously provided?  No (submit Addendum 1)  Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name:  same as observer  other Kathleen Miller
- b. Contact and credentials previously provided?  No (submit Addendum 1)  Yes
- c. Project Name: Canton Mountain Wind

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: Mark + Donna Brann Phone: (207) 364-4956  
Street Address: 833 Canton Point Rd City: Dixfield State: ME Zip: 04224
- c.  Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

- a. Location Township: Canton  
Brief site directions to the pool (using mapped landmarks):  
Near top of Canton Mountain, ON WEST SIDE OF MOUNTAIN.

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: 396706.32 Latitude/Northing: 4930430.10  
Check Datum:  NAD27  NAD83 / WGS84 Coordinate system: UTM

- 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)

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**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:

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> Forested swamp | <input type="checkbox"/> Wet meadow               | <input type="checkbox"/> Slow stream                 |
| <input type="checkbox"/> Shrub swamp               | <input type="checkbox"/> Lake/Pond                | <input type="checkbox"/> Floodplain overflow / oxbow |
| <input type="checkbox"/> Peatland (fen or bog)     | <input type="checkbox"/> Abandoned beaver flowage | <input type="checkbox"/> Headwater seepage           |
| <input type="checkbox"/> Emergent marsh            | <input type="checkbox"/> Active beaver flowage    | <input type="checkbox"/> 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):

@ base of upslope drainage

**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 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: 5 m  ft Length: 20 m  ft

■ Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- Organic matter (peat/muck) shallow or restricted to deepest portion
- Mineral soil (sphagnum moss present)
- Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- |   |   |
|---|---|
| <input type="checkbox"/> Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)                      | <input type="checkbox"/> Wet site ferns (e.g. royal fern, marsh fern)   |
| <input type="checkbox"/> Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)                     | <input type="checkbox"/> Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)      |
| <input type="checkbox"/> Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern) | <input type="checkbox"/> Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)         |
| <input type="checkbox"/> Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)     | <input type="checkbox"/> Aquatic vascular spp. (e.g. pickerelweed, arrowhead)                                   |
| <input checked="" type="checkbox"/> Sphagnum moss (anchored or suspended)                                       | <input type="checkbox"/> Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort) |
|   | <input type="checkbox"/> No vegetation in pool  |

■ Faunal indicators (check all that apply): NONE OBSERVED

- 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
- Permanent Inlet or outlet (channel with well-defined banks and permanent flow)
- Intermittent inlet or outlet
- Other or Unknown (explain): \_\_\_\_\_

Upslope drainage into Downslope Overland flow

**6. VERNAL POOL INDICATOR INFORMATION**

a. Indicator survey dates: 5-4-2011, 5-23-2011

**16 BVP**

**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	5-4-2011		5-23-2011		Egg Masses (or adult Fairy Shrimp)		Tadpoles/Larvae	
	Egg Masses	Confidence Level <sup>1</sup>	Egg Masses	Confidence Level <sup>1</sup>	Egg Mass Maturity <sup>2</sup>	Observed	Confidence Level <sup>1</sup>	
Wood Frog	0	0	0	0	-	0	0	
Spotted Salamander	0	0	0	0	-	0	0	
Blue-spotted Salamander	0	0	0	0	-	0	0	
Fairy Shrimp <sup>3</sup>	0	0	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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*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:**

Very small & small pool in Saco wetland

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: \_\_\_\_\_

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Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

CR-5BVP-BA507 CR-5VP-BA4:at

Project Name#: Canton Mountain Organization Name: Tetra Tech EC

Observer Contact Information

Primary Observer (include secondary, if applicable): L. Hecker, R. Kelshaw Phone or Email Hecker@bayleas.com
Primary Observer has Submitted the MAWS VP Credential Form: [ ] Previously Submitted [X] Included with this Submission

Landowner Contact Information

Landowner permission obtained for this survey & submission: [X] Yes [ ] No Notes: PM: Kathleen Miller
Landowner contact information (REQUIRED): Name: Mark + Donna Brann Phone: (207) 532-8059
Street Address: 833 Canton Pt. Rd City: Dixfield State: ME Zip: 04224

1. OBSERVER RECOMMENDATION

Table with columns for 'This pool is:' (Significant, Potentially Significant, Not significant due to) and rows for 'does not meet MDEP SVP biological criteria', 'does not meet MDEP vernal pool definition criteria', and 'Notes:'.

2. VERNAL POOL LOCATION INFORMATION

Municipality or Township: Canton
Brief site directions to the pool (using mapped landmarks): NE corner of ridge in NE turbine location

Location of Vernal Pool\* (Required Coordinate System, Datum and Units: UTM, NAD83, Zone 19 North, meters)
Brand and Model of GPS unit\*\*: Trimble GeoXH Mapping grade GPS with post processed corrections: [X] Yes [ ] No
Check / submit one: [ ] GPS-location of center point of the pool included in shapefile named\*
[X] GPS-location of pool perimeter included as polygon shapefile named\* C04215A
[ ] Pool Center Point Easting\*\*\*: Pool Center Point Northing\*\*\*:

\* Observers must check the information on an aerial photo to ensure data quality.
\*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form.
\*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

3. VERNAL POOL SURVEY INFORMATION

a. Pool or Wetland Habitat Characterization
i. Choose the best descriptor for the physical setting:
[ ] Isolated Upland Depression [X] Pool associated with larger wetland complex
[ ] Floodplain Depression [ ] Other:

ii. Check all palustrine types that best apply to this pool or wetland:
[ ] Forested wetland [ ] Wet meadow [ ] Slow stream
[ ] Shrub wetland [ ] Shallow pond [ ] Floodplain overflow / Oxbow
[ ] Peatland (acidic fen or bog) [ ] Abandoned beaver flowage [ ] Headwater seepage
[X] Emergent marsh [ ] Active beaver flowage [ ] Other:

iii. Predominate substrate in order of increasing hydroperiod:
[X] 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

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply):
[X] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) [X] Sphagnum moss (anchored or suspended)
[ ] Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern) [ ] Wet site ferns (e.g. royal fern, marsh fern)
[X] Moist site ferns (e.g. sensitive cinnamon, interrupted, New York) [X] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail)
[ ] Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle) [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
[ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

b. Vernal Pool Origin or Impacts
i. Pool's Origin: [X] Natural [ ] Natural-Modified [ ] Non-Natural [ ] Unknown
Describe any modern or historic modifications to the pool and associated wetland (REQUIRED):
area has been logged in past (>15 yrs) but pool is undisturbed

3. VERNAL POOL SURVEY INFORMATION (continued)

Pool ID: \_\_\_\_\_

ii. Hydrology

- Approximate size of pool (at max. capacity): Width 15  m  ft (check one) Length 35  m  ft (check one)
- Maximum depth at time of survey: 14  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent
- Semi-permanent (drying partially in all years and completely in drought years)
- Ephemeral (drying out completely in most years) shallow depth, granular bottom of pool
- Recommend dry out period observation

iii. Inlet/Outlet Permanency

- No inlet / outlet
- Ephemeral inlet / outlet
- Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Other

iv. Faunal Indicators:

- Fish (species): None observed
- Bullfrog or Green frog tadpoles
- Other: None observed

c. Significant Vernal Pool Status under NRPA

i. Survey Date(s): 4-21-2010 ; 5/7/2010

ii. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No
- For each indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:	Egg Masses (or Adult Fairy Shrimp)				Tadpoles/Larvae	
	Information:	#	VM*	CL**	EMI***	VM*	CL**
	Date:						
Wood frog		0	—				
Spotted Salamander		0	—				
Blue-spotted Salamander		0	—				
Fairy Shrimp		0	—				

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\*Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

iii. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted:
- Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date). None observed

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

d. General Comments:

shallow, no EMI, likely dries prior to June

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: [vernalpools.mdifw@maine.gov](mailto:vernalpools.mdifw@maine.gov)

OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: [Signature] Date 4-21-2010 5/17/2010

For MDIF&W Use Only:

Reviewed by MDIF&W Date: \_\_\_\_\_ Initials: \_\_\_\_\_

This pool is

- Significant
- Potentially significant but lacking critical data
- Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria

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Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

CR-3BVP-BAS07

CR-3VP-8417

Project Name#: Canton MA Wetland Organization Name: Tenthredin LLC Pool ID:

Observer Contact Information

Primary Observer (include secondary, if applicable): Rick Jordan Phone or Email 207 671 2760

Primary Observer has Submitted the MAWS VP Credential Form: [X] Previously Submitted [ ] Included w/this Submission

Landowner Contact Information

Landowner permission obtained for this survey & submission: [X] Yes [ ] No Notes: Surveying as volunteer this is

Landowner contact information (REQUIRED): Name: Mark & Donna Brann Phone: (207) 532-8059

Street Address: 833 Canton Pt Rd City: Dixfield State: ME Zip: 04224

1. OBSERVER RECOMMENDATION

Table with columns for 'This pool is:' (Significant, Potentially Significant, Not significant) and 'does not meet MDEP criteria' (SVP biological, vernal pool definition). Includes a 'Notes' section.

2. VERNAL POOL LOCATION INFORMATION

Municipality or Township: CANTON Brief site directions to the pool (using mapped landmarks): Northeastern corner of survey area on Canton MA ridge and to ATV access road in bedrock saddle of valley

Brand and Model of GPS unit: Trimble 660 2.0 Mapping grade GPS with post processed corrections: [X] Yes [ ] No

Check / submit one: [X] GPS-location of center point of the pool included in shapefile named\* Cont/1/1/1/1

[X] GPS-location of pool perimeter included as polygon shapefile named\* 7

[ ] Pool Center Point Easting\*\*\*: Pool Center Point Northing\*\*\*:

\* Observers must check the information on an aerial photo to ensure data quality. \*\* If mapping grade GPS or Professional Survey is not available, observers must use the most current MDIF&W Vernal Pool Data Collection Form. \*\*\* Center points entered on this form must be submitted with a paper map showing the pool location on USGS Topo Quad or large scale aerial photo.

3. VERNAL POOL SURVEY INFORMATION

a. Pool or Wetland Habitat Characterization

i. Choose the best descriptor for the physical setting:

- [ ] Isolated Upland Depression [X] Pool associated with larger wetland complex [ ] Floodplain Depression [ ] Other:

ii. Check all palustrine types that best apply to this pool or wetland:

- [X] Forested wetland [ ] Wet meadow [ ] Slow stream [X] Shrub wetland [ ] Shallow pond [ ] Floodplain overflow / Oxbow [ ] Wetland (acidic fen or bog) [ ] Abandoned beaver flowage [ ] Headwater seepage [ ] Active beaver flowage [ ] Other:

iii. Check all substrate in order of increasing hydroperiod:

- [ ] Mineral soil (bare, leaf-litter bottom, or upland mosses present) [ ] Mineral soil (sphagnum moss present) [X] Organic matter (peat/muck) shallow or restricted to deepest portion [ ] Organic matter (peat/muck) deep and widespread

iv. Nonwoody pool vegetation indicators in order of increasing hydroperiod (check all that apply): NA

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) [ ] Sphagnum moss (anchored or suspended) [ ] Wet site ferns (e.g. royal fern, marsh fern) [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, polypody fern) [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail) [ ] Moist site ferns (e.g. sensitive, cinnamon, interrupted, New York) [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead) [ ] Moist site vasculars (skunk cabbage, jewelweed, blue flag iris, swamp candle) [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)

b. Vernal Pool Origin or Impacts

i. Pool's Origin: [X] Natural [ ] Natural-Modified [ ] Non-Natural [ ] Unknown

Describe any modern or historic modifications to the pool and associated wetland (REQUIRED):

Adj. to ATV trail

# 18 BVP Maine Association of Wetland Scientists (MAWS) Vernal Pool Data Collection Form

(8)  
CR-3 BVP-BAS07  
~~CR-3VP-BAS07~~

## 3. VERNAL POOL SURVEY INFORMATION (continued)

Pool ID: \_\_\_\_\_

### II. Hydrology

- Approximate size of pool (at max. capacity): Width 10  m  ft (check one) Length 100  m  ft (check one)
- Maximum depth at time of survey: 13  in  ft  cm  m (check one)

Select the pool's likely hydroperiod and give evidence in the space to the right.

- Permanent \_\_\_\_\_
- Semi-permanent (drying partially in all years and completely in drought years) limited sege when pool, shallowed 2m
- Ephemeral (drying out completely in most years) \_\_\_\_\_
- Recommend dry out period observation \_\_\_\_\_

### III. Inlet/Outlet Permanency

- No inlet / outlet  Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- Ephemeral inlet / outlet  Other \_\_\_\_\_

### IV. Faunal Indicators:

- Fish (species): NA  Bullfrog or Green frog tadpoles  Other: mosq larvae

## c. Significant Vernal Pool Status under NRPA

I. Survey Date(s): 4-17-2010 ; 5/6/2010

### II. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses?  Yes  No
- For each Indicator species, indicate the exact number of egg masses, verification method (VM), confidence level (CL), and egg mass integrity (EI) for each life stage (separate cells are provided for separate survey dates).

Indicator Species	Observation:	Egg Masses (or Adult Fairy Shrimp)					Tadpoles/Larvae	
	Information:	#	VM*	CL**	EMI***	VM*	CL**	
	Date:							
Wood frog		<u>—</u>	<u>—</u>					
Spotted Salamander		<u>—</u>	<u>—</u>					
Blue-spotted Salamander		<u>—</u>	<u>—</u>					
Fairy Shrimp		<u>—</u>	<u>—</u>					

\*Verification Method: S= Seen, H= Handled, P= Photographed

\*\*Confidence Level (species ID): 1= <60%, 2= 60-95%, 3= >95%

\*\*\* Egg Mass Integrity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

### III. Rarity Criteria

- Was a specific effort made to survey for rare species?  Yes  No
- If yes, indicate which species were targeted: \_\_\_\_\_
- Note any rare species associated with vernal pools using the box below. Observations should be accompanied photographs (labeled with observer name, pool location, and date).

Species	Verification Method*			CL**	Species	Verification Method*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:				

\*Verification Method: P= Photographed, H= Handled, S= Seen

\*\*CL-Confidence level in verification: 1= <60%, 2= 60-95%, 3= >95%

### d. General Comments:

More looking pool nearby 2nd visit

- Completed Vernal Pool Survey per guidelines outlined in the MAWS 2010 Interim Vernal Pool Survey Protocol
- Sent hard copy of MAWS Vernal Pool Data Collection Form to: MDIF&W, Attn: Vernal Pools; 650 State Street; Bangor, ME 04401
- Sent hard copy map of pool center point with coordinates on MAWS Vernal Pool Data Collection Form to MDIF&W (address above)
- Sent shapefile of pool perimeter / center point on CD to MDIF&W (address above) or  emailed to: vernalpools.mdifw@maine.gov

### OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge:

Signature: Roy Date 7/1/10

For MDIF&W Use Only: Reviewed by MDIF&W Date: \_\_\_\_\_ Initials: \_\_\_\_\_

This pool is:

- Significant
- Potentially significant but lacking critical data
- Not significant due to:  does not meet biological criteria and/or  does not meet definition criteria

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 1CP  
**Vernal Pool:** CA\_1CP\_BA415  
**Date:** April 15, 2010  
**Photographer**  
: David Brenneman  
**Comments:** Pool in hillside excavation area looking east. Contained a single egg mass.



**Photo No.:** 2  
**Plan ID:** 1CP  
**Vernal Pool:** CA\_1CP\_BA415  
**Date:** April 15, 2010  
**Photographer**  
: David Brenneman  
**Comments:** Pool looking north.



**Photo No.:** 3  
**Plan ID:** 1CP  
**Vernal Pool:** CA\_1CP\_BA415  
**Date:** April 15, 2010  
**Photographer**  
: David Brenneman  
**Comments:** Looking south.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 2CP  
**Vernal Pool:** CA\_17CP\_BA421  
**Date:** April 21, 2010  
**Photographer :** Rodney Kelshaw  
**Comments:** Facing west at old skidder ruts in wetland.



**Photo No.:** 2  
**Plan ID:** 2CP  
**Vernal Pool:** CA\_17CP\_BA421  
**Date:** April 21, 2010  
**Photographer :** Rodney Kelshaw  
**Comments:** Facing east.



**Photo No.:** 3  
**Plan ID:** 2CP  
**Vernal Pool:** CA\_17CP\_BA421  
**Date:** April 21, 2010  
**Photographer :** Rodney Kelshaw  
**Comments:** Facing north.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 3CP  
**Vernal Pool:** CA\_18CP\_BA421  
**Date:** April 21, 2010  
**Photographer :** Rodney Kelshaw  
**Comments:** “Borrow pit” along Ludden Road, facing east.



**Photo No.:** 2  
**Plan ID:** 3CP  
**Vernal Pool:** CA\_18CP\_BA421  
**Photographer :** Rodney Kelshaw  
**Comments:** Facing south.



**Photo No.:** 3  
**Plan ID:** 3CP  
**Vernal Pool:** CA\_18CP\_BA421  
**Photographer :** Rodney Kelshaw  
**Comments:** Spotted salamander egg mass in pool.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 4  
**Plan ID:** 3CP  
**Vernal Pool:** CA\_18CP\_BA421  
**Photographer :** Rodney Kelshaw  
**Comments:** Skidder ruts in wetland at access road boundary. No egg masses found. Photo facing east.



**Photo No.:** 5  
**Plan ID:** 3CP  
**Vernal Pool:** CA\_18CP\_BA421  
**Photographer :** Rodney Kelshaw  
**Comments:** Adult green frog in pool.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 4CP  
**Vernal Pool:** CA\_29CP\_BA503  
**Date:** May 3, 2011  
**Photographer :** Lauren Leclerc  
**Comments:** Ruts from logging activity in forested swale. No egg masses were present at time of survey. Looking north.



**Photo No.:** 2  
**Plan ID:** 4CP  
**Vernal Pool:** CA\_29CP\_BA503  
**Photographer :** Lauren Leclerc  
**Comments:** Looking east.



**Photo No.:** 3  
**Plan ID:** 4CP  
**Vernal Pool:** CA\_29CP\_BA503  
**Photographer :** Lauren Leclerc  
**Comments:** Looking south.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 5ABA  
**Vernal Pool:** CA\_1ABA\_BA416  
**Date:** April 16, 2010  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Looking east at beaver flowage. Area completely floods access road. Most egg masses were found to the east of the access road.



**Photo No.:** 2  
**Plan ID:** 5ABA  
**Vernal Pool:** CA\_1ABA\_BA416  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Looking north at beaver flowage.



**Photo No.:** 3  
**Plan ID:** 5ABA  
**Vernal Pool:** CA\_1ABA\_BA416  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Looking south at beaver flowage.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 4  
**Plan ID:** 5ABA  
**Vernal Pool:** CA\_1ABA\_BA416  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Looking southeast at beaver dam.



**Photo No.:** 5  
**Plan ID:** 5ABA  
**Vernal Pool:** CA\_1ABA\_BA416  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Looking east at beaver flowage.



**Photo No.:** 6  
**Plan ID:** 5ABA  
**Vernal Pool:** CA\_1ABA\_BA416  
**Photographer:** Heather Storlazzi-Ward  
**Comments:** Spotted salamander egg mass.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 6CP  
**Vernal Pool:** CA\_16CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Pool complex in wetland feature that was used as a log landing. No egg masses found at time of survey. Photo facing west.



**Photo No.:** 2  
**Plan ID:** 6CP  
**Vernal Pool:** CA\_16CP\_BA421  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing east.



**Photo No.:** 3  
**Plan ID:** 6CP  
**Vernal Pool:** CA\_16CP\_BA421  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing north.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 7CP  
**Vernal Pool:** CA\_4CP\_BA415  
**Date:** April 15, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking northeast at ditch along access road with four spotted salamander egg masses.



**Photo No.:** 2  
**Plan ID:** 7CP  
**Vernal Pool:** CA\_4CP\_BA415  
**Date:** April 15, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking northwest.



**Photo No.:** 3  
**Plan ID:** 7CP  
**Vernal Pool:** CA\_4CP\_BA415  
**Date:** April 15, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking southeast.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 8CP  
**Vernal Pool:** CA\_15CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Skidder ruts in wetland at access road boundary. No egg masses found. Photo facing east.



**Photo No.:** 2  
**Plan ID:** 8CP  
**Vernal Pool:** CA\_15CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing south.



**Photo No.:** 3  
**Plan ID:** 8CP  
**Vernal Pool:** CA\_15CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing west.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 9CP  
**Vernal Pool:** CA\_19CP\_BA430  
**Date:** April 30, 2011  
**Photographer:** Lauren Leclerc  
**Comments:** Naturalized historic borrow area along road containing eight spotted salamander egg masses. Part of pool was outside of survey area. Looking north.



**Photo No.:** 2  
**Plan ID:** 9CP  
**Vernal Pool:** CA\_19CP\_BA430  
**Date:** April 30, 2011  
**Photographer:** Lauren Leclerc  
**Comments:** Looking east.



**Photo No.:** 3  
**Plan ID:** 9CP  
**Vernal Pool:** CA\_19CP\_BA430  
**Date:** April 30, 2011  
**Photographer:** Lauren Leclerc

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 10CP  
**Vernal Pool:** CA\_5CP\_BA415  
**Date:** April 15, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking east at road ditch in wetland. Water in ditch is dammed by road.



**Photo No.:** 2  
**Plan ID:** 10CP  
**Vernal Pool:** CA\_5CP\_BA415  
**Date:** April 15, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking north.



**Photo No.:** 3  
**Plan ID:** 10CP  
**Vernal Pool:** CA\_5CP\_BA415  
**Date:** April 15, 2010  
**Photographer:** David Brenneman  
**Comments:** Looking south.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 11CP  
**Vernal Pool:** CA\_14CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Pool in wetland adjacent to berm and road ditch. Photo facing east.



**Photo No.:** 2  
**Plan ID:** 11CP  
**Vernal Pool:** CA\_14CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing north.



**Photo No.:** 3  
**Plan ID:** 11CP  
**Vernal Pool:** CA\_14CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing south.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation

	<p><b>Photo No.:</b> 1</p> <p><b>Plan ID:</b> 12CP</p> <p><b>Vernal Pool:</b> CR_1CP_BA418</p> <p><b>Date:</b> April 18, 2010</p> <p><b>Photographer:</b> Heather Storlazzi-Ward</p> <p><b>Comments:</b> Looking east at pool 1 in skidder rut complex.</p>
	<p><b>Photo No.:</b> 2</p> <p><b>Plan ID:</b> 12CP</p> <p><b>Vernal Pool:</b> CR_1CP_BA418</p> <p><b>Date:</b> April 18, 2010</p> <p><b>Photographer:</b> Heather Storlazzi-Ward</p> <p><b>Comments:</b> Looking north at pool 1.</p>
	<p><b>Photo No.:</b> 3</p> <p><b>Plan ID:</b> 12CP</p> <p><b>Vernal Pool:</b> CR_1CP_BA418</p> <p><b>Date:</b> April 18, 2010</p> <p><b>Photographer:</b> Heather Storlazzi-Ward</p> <p><b>Comments:</b> Looking south at pool 1.</p>

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 13CP  
**Vernal Pool:** CR\_9CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Re-naturalizing skid trail with a complex of pools in approximately 15 year old harvest area. No egg masses found.



**Photo No.:** 2  
**Plan ID:** 13CP  
**Vernal Pool:** CR\_9CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing north.



**Photo No.:** 3  
**Plan ID:** 13CP  
**Vernal Pool:** CR\_9CP\_BA421  
**Date:** April 21, 2010  
**Photographer:** Rodney Kelshaw  
**Comments:** Facing south.

**PHOTOGRAPHIC RECORD**

**Company:** Patriot Renewables  
**Project:** Canton Mountain Wind Project – ABA and Corps Pool Photo Documentation



**Photo No.:** 1  
**Plan ID:** 14CP  
**Vernal Pool:** CA\_28CP\_BA503  
**Date:** May 3, 2011  
**Photographer:** Lauren Leclerc  
**Comments:** Small excavation adjacent to gravel road. No egg masses were present at time of survey. Looking north.



**Photo No.:** 2  
**Plan ID:** 14CP  
**Vernal Pool:** CA\_28CP\_BA503  
**Date:** May 3, 2011  
**Photographer:** Lauren Leclerc  
**Comments:** Looking east.



**Photo No.:** 3  
**Plan ID:** 14CP  
**Vernal Pool:** CA\_28CP\_BA503  
**Date:** May 3, 2011  
**Photographer:** Lauren Leclerc  
**Comments:** Looking west.

APPENDIX F

MAINE AMPHIBIAN AND REPTILE ATLAS SITE CARDS

INSTRUCTIONS: Complete 1 form per visit. Grayed sections are for Heritage office use only.

**RARE ANIMAL SURVEY FORM**

MDIFW  
650 State St.  
Bangor, ME  
04401

Completed By: David Brenneman Date: 8/27/2010 Review by (MDIFW): \_\_\_\_\_ Date: \_\_\_\_\_

SURVEYSITE: <u>Canton Mountain</u>		TOWNSHIP: <u>Dixfield, ME</u>	
NEW EO (check):	UPDATE (check):	(EO NUM: _____)	DELORME PAGE & GRID (e.g. 04B2): <u>19E3</u>

**ELEMENT INFORMATION**

Common Name: <u>Northern Spring Salamander</u>	Scientific Name: <u>Gyrinophilus p. porphyriticus</u>
--	---

**SURVEYOR INFORMATION**

Survey date (yyyy – mm – dd): <u>2010-08-12</u>	Time from: <u>1700</u>	To: <u>1800</u>	am or <b>pm</b>	Sourcecode: <u>F_____</u>
Surveyors (principal surveyor first, include first & last name and contact information): <u>Rodney Kelshaw (207) 944-6776, Dawn Morgan (802) 793-5807</u>				

**IDENTIFICATION**

Photograph/slide taken? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Notes & repository: _____
Specimen collected? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Specimen # and repository: _____
Identification problems? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Explain: _____

**ELEMENT OCCURRENCE INFORMATION**

- Type of Observation: sight  vocalization  handled  collected  other (explain): \_\_\_\_\_
- Observed Abundance (incl. age and sex): Single adult found
- Estimated Abundance (and basis for estimate): \_\_\_\_\_
- Evidence of Reproduction and/or Other Behaviors: \_\_\_\_\_
- Misc. Notes: \_\_\_\_\_

**HABITAT DESCRIPTION**

Describe the specific habitat or micro-habitats where this animal occurs. Convey a mental image of the habitat and its features including: land forms, aquatic features, vegetation, slope, aspect, soils, associated plant and animal species, natural disturbances.

Northern Spring Salamander (NSS) found approximately 50' south of the confluence of Ludden Brook and Fletcher Brook, in Ludden Brook. Stream habitat consisted of fast moving water over cobble and boulder sized rock. Some outcrops of bedrock throughout the stream. Little to no vegetation found within the brook channel. Bank to bank of the brook averages around 40' wide in most places. Adjacent areas of the stream consist of uplands with some small areas of floodplain wetland. A forested overstory dominates this area.

THREATS AND/OR MANAGEMENT CONCERNS: There is a residence and small farm a short distance south along the stream from the location where the NSS was found. The farm has a few cleared fields that abut part of the brook. Within +/-200' west there is a gravel road (Ludden Lane) that parallels the brook and runs north/south in this area. The road is primarily used for forestry (logging) access of Canton Mountain.

**DIRECTIONS**

Provide detailed directions to this element occurrence (versus the survey site) using a readily locatable and relatively permanent landmark as a starting point. Refer to nearby landmarks, roads and villages. Include distances, compass directions (North, South etc.).

From the intersection of Ludden Lane and Canton Point Road follow Ludden Lane north for approximately one mile. Around .75 miles you will cross a small logging bridge over Ludden Brook and then a small residence on the west side of Ludden Lane. If you reach another logging bridge and a small cemetery you have traveled too far north. At the one mile mark you will travel on foot approximately 200' west from Ludden Lane. You should be at the confluence of Fletcher Brook and Ludden Brook. About 50' south of this point is the occurrence of the Northern Spring Salamander.

OWNER: (If known, indicate name of owner(s), address and phone number): \_\_\_\_\_

**LOCATION of OBSERVATION**

**Source 1:** 393539.297 UTM-E / Lat 4928852.327 UTM-N / Long **NAD 83 / 27** (circle one)

**Source 2:** \_\_\_\_\_ UTM-E / Lat \_\_\_\_\_ UTM-N / Long **NAD 83 / 27** (circle one)

**Coordinates / polygon provide location of:**

Animal/habitat feature(s) **OR**  Observer--DISTANCE / DIRECTION to animal/habitat feature: \_\_\_\_\_ meters / feet at \_\_\_\_\_ °

**GPS Unit Information**

Differentially corrected  Unit accuracy for location: ± 0.4 m  # of Satellites = 7  2D / 3D

Unit Model Trimble Geo XH

**LOCATION SKETCH (or attach aerial photograph/photocopied topo)** Sketch fine details of an overhead view of this observation that may not be apparent on a topo map. Indicate landmarks, important features, route taken, animal/habitat observed, disturbances & threats, scale, and north. Include GPS location(s).

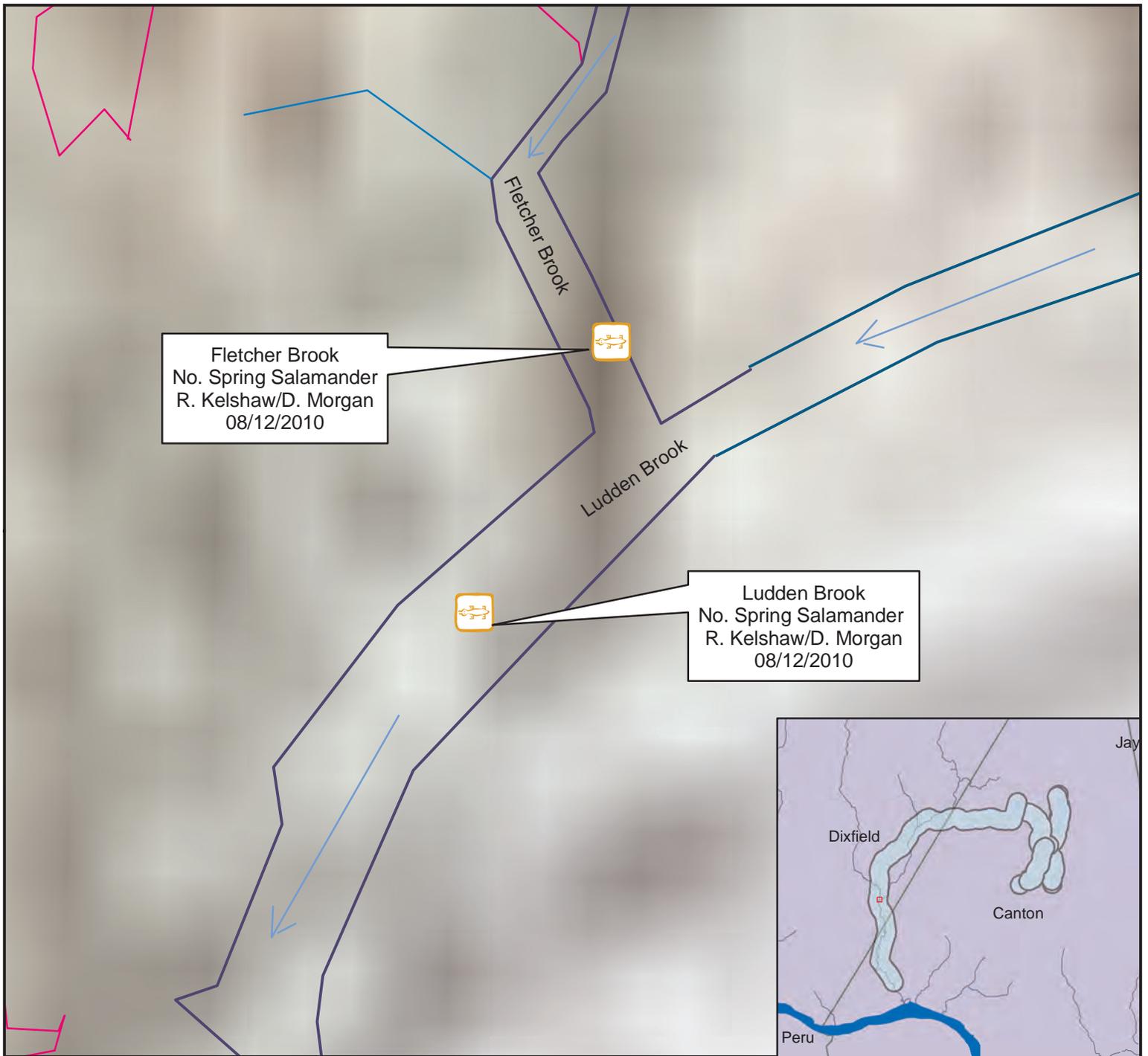
See drawing on next page.

<b><u>DIGITIZED IN GIS</u></b>	<b><u>HAND-DRAWN</u></b>
Scale digitized at = 1: _____ <input type="checkbox"/> 1:24,000 topographic maps <input type="checkbox"/> Orthophoto (pixel size = _____ m / ft), date = _____ <input type="checkbox"/> Other: _____	Scale drawn at = 1: _____ <input type="checkbox"/> Topographic map (scale = 1: _____) <input type="checkbox"/> Aerial imagery <span style="float: right;"><input type="checkbox"/> Other: _____</span> scale = 1: _____ date = _____

**OVERALL LOCATION ACCURACY:** including uncertainty about where the animal/habitat feature was and mapping accuracy related to the GPS unit used, resolution of reference information like topographic maps or aerial photos used, etc.:

± \_\_\_\_\_ meters / feet / kilometers / miles

# Timberwinds - Spring Salamander Assessment 2010



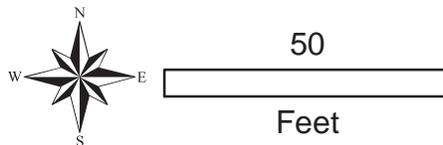
## Legend

 North Spring Salamander Found

## Boyle 2010 Streams

### Stream Type

-  Intermittent
-  Perennial
-  Wetland Boundary



**Project:** Timberwinds; Canton, Maine

**Drawing Date:** September 2010

**Notes:**



Boyle Associates  
Environmental Consultants  
Mailing Address:  
25 Dundee Road  
Gorham, Maine 04038

phone: 207.591.5220

INSTRUCTIONS: Complete 1 form per visit. Grayed sections are for Heritage office use only.

### RARE ANIMAL SURVEY FORM

MDIFW  
650 State St.  
Bangor, ME  
04401

Completed By: David Brenneman Date: 8/27/2010 Review by (MDIFW): \_\_\_\_\_ Date: \_\_\_\_\_

SURVEYSITE: <u>Canton Mountain - Timberwinds Project</u>		TOWNSHIP: <u>Dixfield, ME</u>	
NEW EO (check):	UPDATE (check):	(EO NUM: _____)	DELORME PAGE & GRID (e.g. 04B2): <u>19E3</u>

#### ELEMENT INFORMATION

Common Name: <u>Northern Spring Salamander</u>	Scientific Name: <u>Gyrinophilus p. porphyriticus</u>
--	---

#### SURVEYOR INFORMATION

Survey date (yyyy – mm – dd): <u>2010-08-12</u>	Time from: <u>1700</u>	To: <u>1800</u>	am or <b>pm</b>	Sourcecode: <u>F_____</u>
Surveyors (principal surveyor first, include first & last name and contact information): <u>Rodney Kelshaw (207) 944-6776, Dawn Morgan (802) 793-5807</u>				

#### IDENTIFICATION

Photograph/slide taken? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Notes & repository: _____
Specimen collected? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Specimen # and repository: _____
Identification problems? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Explain: _____

#### ELEMENT OCCURRENCE INFORMATION

- Type of Observation: sight  vocalization  handled  collected  other (explain): \_\_\_\_\_
- Observed Abundance (incl. age and sex): Single adult found
- Estimated Abundance (and basis for estimate): 1
- Evidence of Reproduction and/or Other Behaviors: NA
- Misc. Notes: \_\_\_\_\_

#### HABITAT DESCRIPTION

Describe the specific habitat or micro-habitats where this animal occurs. Convey a mental image of the habitat and its features including: land forms, aquatic features, vegetation, slope, aspect, soils, associated plant and animal species, natural disturbances.

Northern Spring Salamander (NSS) found approximately 25' northwest of the confluence of Ludden Brook and Fletcher Brook, in Fletcher Brook. Most of Fletcher Brook is deep and slower moving above it's confluence with Ludden Brook. There is not much suitable habitat within Fletcher Brook. Stream habitat within a few hundred feet of entering Ludden consisted of fast moving water over cobble and boulder sized rock. Little to no vegetation found within the brook channel. Bank to bank of the brook averages around 30' wide in most places. Adjacent areas of the stream consist of uplands with some small areas of floodplain wetland. A softwood-forested overstory dominates this area.

THREATS AND/OR MANAGEMENT CONCERNS: Within +/-200' west there is a gravel road (Ludden Lane) that parallels the brook and runs north/south in this area. The road is primarily used for forestry (logging) access of Canton Mountain. There is a timber bridge built over Fletcher Brook about 100' south of a cemetery on Ludden Lane.

#### DIRECTIONS

Provide detailed directions to this element occurrence (versus the survey site) using a readily locatable and relatively permanent landmark as a starting point. Refer to nearby landmarks, roads and villages. Include distances, compass directions (North, South etc.).

From the intersection of Ludden Lane and Canton Point Road follow Ludden Lane north for approximately one mile. Around .75 miles you will cross a small logging bridge over Ludden Brook and then a small residence on the west side of Ludden Lane. If you reach another logging bridge and a small cemetery you have traveled too far north. At the one mile mark you will travel on foot approximately 200' west from Ludden Lane. You should be at the confluence of Fletcher Brook and Ludden Brook. About 20' northwest of this point is the occurrence of the Northern Spring Salamander.

OWNER: (If known, indicate name of owner(s), address and phone number): \_\_\_\_\_

**LOCATION of OBSERVATION**

**Source 1:** 393549.088 UTM-E / Lat 4928871.683 UTM-N / Long **NAD 83 / 27** (circle one)

**Source 2:** \_\_\_\_\_ UTM-E / Lat \_\_\_\_\_ UTM-N / Long **NAD 83 / 27** (circle one)

**Coordinates / polygon provide location of:**

Animal/habitat feature(s) **OR**  Observer--DISTANCE / DIRECTION to animal/habitat feature: \_\_\_\_\_ meters / feet at \_\_\_\_\_ °

**GPS Unit Information**

Differentially corrected  Unit accuracy for location: ± 1.4 m  # of Satellites = 6  2D / 3D

Unit Model Trimble Geo XH

**LOCATION SKETCH (or attach aerial photograph/photocopied topo)** Sketch fine details of an overhead view of this observation that may not be apparent on a topo map. Indicate landmarks, important features, route taken, animal/habitat observed, disturbances & threats, scale, and north. Include GPS location(s).

See drawing on next page.

**DIGITIZED IN GIS**

- Scale digitized at = 1: \_\_\_\_\_
- 1:24,000 topographic maps
- Orthophoto (pixel size = \_\_\_\_\_ m / ft), date = \_\_\_\_\_
- Other: \_\_\_\_\_

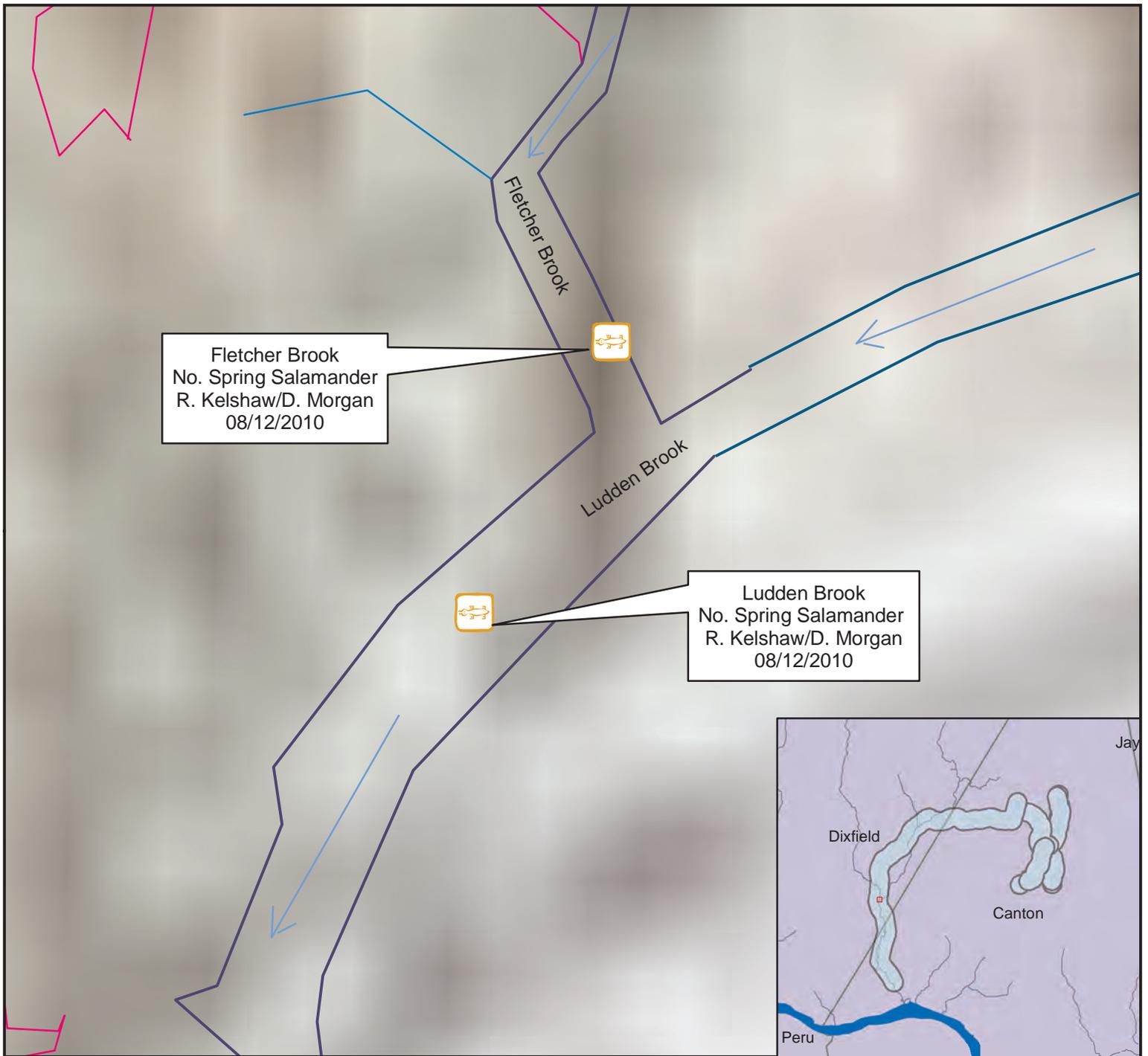
**HAND-DRAWN**

- Scale drawn at = 1: \_\_\_\_\_
- Topographic map (scale = 1: \_\_\_\_\_)
- Aerial imagery  Other: \_\_\_\_\_
- scale = 1: \_\_\_\_\_
- date = \_\_\_\_\_

**OVERALL LOCATION ACCURACY:** including uncertainty about where the animal/habitat feature was and mapping accuracy related to the GPS unit used, resolution of reference information like topographic maps or aerial photos used, etc.:

± \_\_\_\_\_ meters / feet / kilometers / miles

# Timberwinds - Spring Salamander Assessment 2010



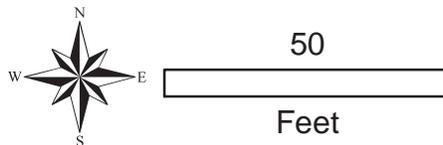
## Legend

 North Spring Salamander Found

## Boyle 2010 Streams

### Stream Type

-  Intermittent
-  Perennial
-  Wetland Boundary



**Project:** Timberwinds; Canton, Maine

**Drawing Date:** September 2010

**Notes:**



Boyle Associates  
Environmental Consultants  
Mailing Address:  
25 Dundee Road  
Gorham, Maine 04038

phone: 207.591.5220

INSTRUCTIONS: Complete 1 form per visit. Grayed sections are for Heritage office use only.

### RARE ANIMAL SURVEY FORM

MDIFW  
650 State St.  
Bangor, ME  
04401

Completed By: David Brenneman Date: 8/27/2010 Review by (MDIFW): \_\_\_\_\_ Date: \_\_\_\_\_

SURVEYSITE: <u>Canton Mountain</u>		TOWNSHIP: <u>Dixfield, ME</u>	
NEW EO (check):	UPDATE (check):	(EO NUM: _____)	DELORME PAGE & GRID (e.g. 04B2): <u>19E4</u>

#### ELEMENT INFORMATION

Common Name: <u>Northern Spring Salamander</u>	Scientific Name: <u>Gyrinophilus p. porphyriticus</u>
--	---

#### SURVEYOR INFORMATION

Survey date (yyyy – mm – dd): <u>2010-08-12</u>	Time from: <u>1700</u>	To: <u>1800</u>	am or <b>pm</b>	Sourcecode: <u>F_____</u>
Surveyors (principal surveyor first, include first & last name and contact information): <u>Richard Jordan (207) 671-2760, Dawn Morgan (802) 793-5807</u>				

#### IDENTIFICATION

Photograph/slide taken? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Notes & repository: _____
Specimen collected? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Specimen # and repository: _____
Identification problems? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Explain: _____

#### ELEMENT OCCURRENCE INFORMATION

- Type of Observation: sight  vocalization  handled  collected  other (explain): \_\_\_\_\_
- Observed Abundance (incl. age and sex): Single adult found
- Estimated Abundance (and basis for estimate): \_\_\_\_\_
- Evidence of Reproduction and/or Other Behaviors: \_\_\_\_\_
- Misc. Notes: \_\_\_\_\_

#### HABITAT DESCRIPTION

Describe the specific habitat or micro-habitats where this animal occurs. Convey a mental image of the habitat and its features including: land forms, aquatic features, vegetation, slope, aspect, soils, associated plant and animal species, natural disturbances.

Northern Spring Salamander (NSS) found approximately 5' south of the confluence of Ludden Brook and a tributary (CASBW8). NSS found in Ludden Brook. Stream habitat consisted of fast moving water over cobble and boulder sized rock and a sand/gravel substrate. Some outcrops of bedrock throughout the stream. Little to no vegetation found within the brook channel. Bank to bank of the brook averages around 30' wide in most places. Adjacent areas of the stream consist of uplands with some small areas of floodplain wetland. A mixed forested overstory dominates this area.

THREATS AND/OR MANAGEMENT CONCERNS: There is a gravel road (Ludden Lane) that parallels the brook and runs east/west in this area. The road is primarily used for forestry (logging) access of Canton Mountain.

#### DIRECTIONS

Provide detailed directions to this element occurrence (versus the survey site) using a readily locatable and relatively permanent landmark as a starting point. Refer to nearby landmarks, roads and villages. Include distances, compass directions (North, South etc.).

From the intersection of Ludden Lane and Canton Point Road follow Ludden Lane north for approximately one mile. Around .75 miles you will cross a small logging bridge over Ludden Brook and then a small residence on the west side of Ludden Lane. Continuing north you will pass a small cemetery on the west side of Ludden Lane. About 1000' north of the cemetery the road forks and you want to bear right at this intersection. Continue for approximately another mile until you reach another intersection in the road. The NSS occurrence is approximately 100' southwest of this intersection.

OWNER: (If known, indicate name of owner(s), address and phone number): \_\_\_\_\_

**LOCATION of OBSERVATION**

**Source 1:** 394300.107 UTM-E / Lat 4930118.842 UTM-N / Long **NAD 83 / 27** (circle one)

**Source 2:** \_\_\_\_\_ UTM-E / Lat \_\_\_\_\_ UTM-N / Long **NAD 83 / 27** (circle one)

**Coordinates / polygon provide location of:**

Animal/habitat feature(s) **OR**  Observer--DISTANCE / DIRECTION to animal/habitat feature: \_\_\_\_\_ meters / feet at \_\_\_\_\_ °

**GPS Unit Information**

Differentially corrected  Unit accuracy for location: ± 0.4 m  # of Satellites = 6  2D / 3D

Unit Model Trimble Geo XH

**LOCATION SKETCH (or attach aerial photograph/photocopied topo)** Sketch fine details of an overhead view of this observation that may not be apparent on a topo map. Indicate landmarks, important features, route taken, animal/habitat observed, disturbances & threats, scale, and north. Include GPS location(s).

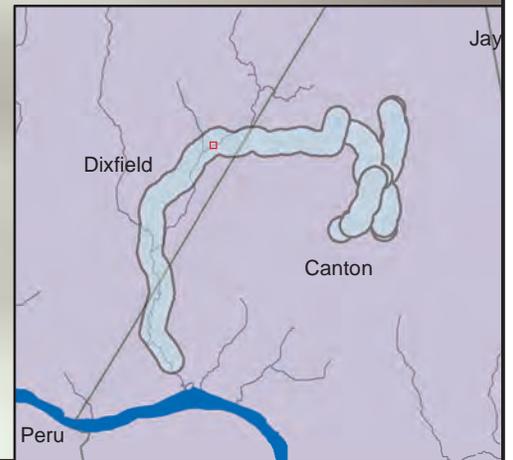
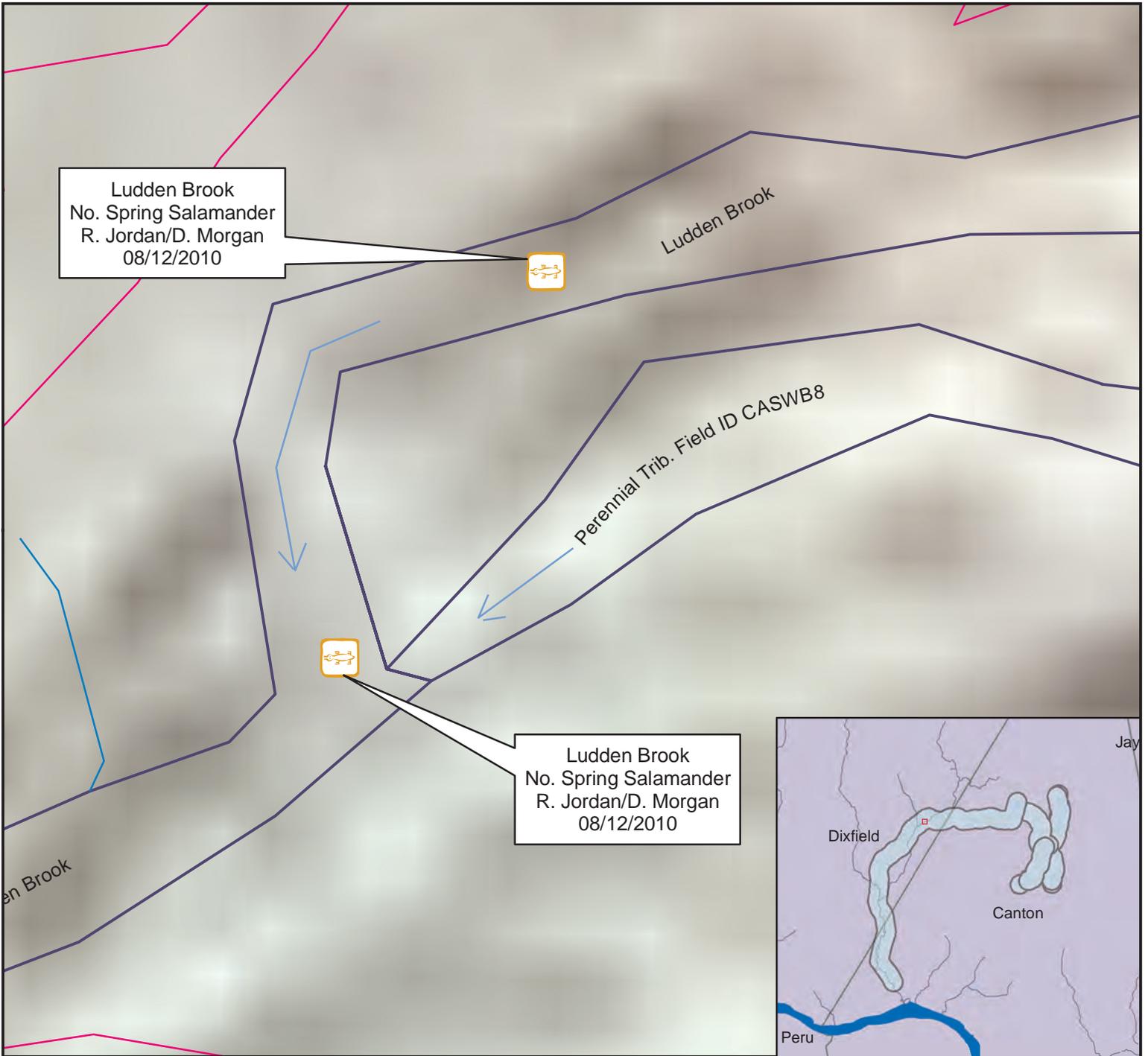
See drawing on next page.

<b><u>DIGITIZED IN GIS</u></b>	<b><u>HAND-DRAWN</u></b>
Scale digitized at = 1: _____ <input type="checkbox"/> 1:24,000 topographic maps <input type="checkbox"/> Orthophoto (pixel size = _____ m / ft), date = _____ <input type="checkbox"/> Other: _____	Scale drawn at = 1: _____ <input type="checkbox"/> Topographic map (scale = 1: _____) <input type="checkbox"/> Aerial imagery <span style="float: right;"><input type="checkbox"/> Other: _____</span> scale = 1: _____ date = _____

**OVERALL LOCATION ACCURACY:** including uncertainty about where the animal/habitat feature was and mapping accuracy related to the GPS unit used, resolution of reference information like topographic maps or aerial photos used, etc.:

± \_\_\_\_\_ meters / feet / kilometers / miles

# Timberwinds - Spring Salamander Assessment 2010



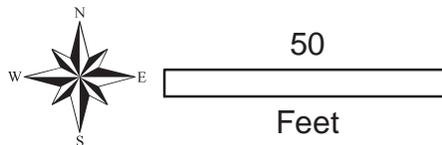
## Legend

 North Spring Salamander Found

## Boyle 2010 Streams

### Stream Type

-  Intermittent
-  Perennial
-  Wetland Boundary



**Project:** Timberwinds; Canton, Maine

**Drawing Date:** September 2010

**Notes:**



Boyle Associates  
Environmental Consultants  
Mailing Address:  
25 Dundee Road  
Gorham, Maine 04038

phone: 207.591.5220

INSTRUCTIONS: Complete 1 form per visit. Grayed sections are for Heritage office use only.

**RARE ANIMAL SURVEY FORM**

MDIFW  
650 State St.  
Bangor, ME  
04401

Completed By: David Brenneman Date: 8/27/2010 Review by (MDIFW): \_\_\_\_\_ Date: \_\_\_\_\_

SURVEYSITE: <u>Canton Mountain</u>		TOWNSHIP: <u>Dixfield, ME</u>	
NEW EO (check):	UPDATE (check):	(EO NUM: _____)	DELORME PAGE & GRID (e.g. 04B2): <u>19E4</u>

**ELEMENT INFORMATION**

Common Name: <u>Northern Spring Salamander</u>	Scientific Name: <u>Gyrinophilus p. porphyriticus</u>
--	---

**SURVEYOR INFORMATION**

Survey date (yyyy – mm – dd): <u>2010-08-12</u>	Time from: <u>1300</u>	To: <u>1600</u>	am or <b>pm</b>	Sourcecode: <u>F_____</u>
Surveyors (principal surveyor first, include first & last name and contact information): <u>Richard Jordan (207) 671-2760, Dawn Morgan (802) 793-5807</u>				

**IDENTIFICATION**

Photograph/slide taken? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Notes & repository: _____
Specimen collected? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Specimen # and repository: _____
Identification problems? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Explain: _____

**ELEMENT OCCURRENCE INFORMATION**

- Type of Observation: sight  vocalization  handled  collected  other (explain): \_\_\_\_\_
- Observed Abundance (incl. age and sex): Single adult found
- Estimated Abundance (and basis for estimate): \_\_\_\_\_
- Evidence of Reproduction and/or Other Behaviors: \_\_\_\_\_
- Misc. Notes: Identified adult was not photographed or handled by biologists. However, both are trained and familiar with identifying the Northern Spring Salamander and were in agreement regarding the species they had seen.

**HABITAT DESCRIPTION**

Describe the specific habitat or micro-habitats where this animal occurs. Convey a mental image of the habitat and its features including: land forms, aquatic features, vegetation, slope, aspect, soils, associated plant and animal species, natural disturbances.

Northern Spring Salamander (NSS) found in Ludden Brook, approximately 130' upstream of the confluence of Ludden Brook and a perennial, unnamed trib (field ID CASWB8). Stream habitat consisted of fast moving water over cobble and boulder sized rock and a sand/gravel substrate. Little to no vegetation found within the brook channel. Bank to bank of the brook averages around 30' wide in most places. Adjacent areas of the stream consist of uplands with some small areas of floodplain wetland. A mixed forested overstory dominates this area.

THREATS AND/OR MANAGEMENT CONCERNS: There is a gravel road (Ludden Lane) that parallels the brook and runs east/west in this area. The road is primarily used for forestry (logging) access of Canton Mountain.

**DIRECTIONS**

Provide detailed directions to this element occurrence (versus the survey site) using a readily locatable and relatively permanent landmark as a starting point. Refer to nearby landmarks, roads and villages. Include distances, compass directions (North, South etc.).

From the intersection of Ludden Lane and Canton Point Road follow Ludden Lane north for approximately one mile. Around .75 miles you will cross a small logging bridge over Ludden Brook and then a small residence on the west side of Ludden Lane. Continuing north you will pass a small cemetery on the west side of Ludden Lane. About 1000' north of the cemetery the road forks and you want to bear right at this intersection. Continue for approximately another mile until you reach another intersection in the road. The NSS occurrence is approximately 75' southwest of this intersection.

OWNER: (If known, indicate name of owner(s), address and phone number): \_\_\_\_\_

**LOCATION of OBSERVATION**

**Source 1:** 394314.843 UTM-E / Lat 4930146.443 UTM-N / Long **NAD 83 / 27** (circle one)

**Source 2:** \_\_\_\_\_ UTM-E / Lat \_\_\_\_\_ UTM-N / Long **NAD 83 / 27** (circle one)

**Coordinates / polygon provide location of:**

Animal/habitat feature(s) **OR**  Observer--DISTANCE / DIRECTION to animal/habitat feature: \_\_\_\_\_ meters / feet at \_\_\_\_\_ °

**GPS Unit Information**

Differentially corrected  Unit accuracy for location: ± 0.4 m  # of Satellites = 6  2D / 3D

Unit Model Trimble Geo XH

**LOCATION SKETCH (or attach aerial photograph/photocopied topo)** Sketch fine details of an overhead view of this observation that may not be apparent on a topo map. Indicate landmarks, important features, route taken, animal/habitat observed, disturbances & threats, scale, and north. Include GPS location(s).

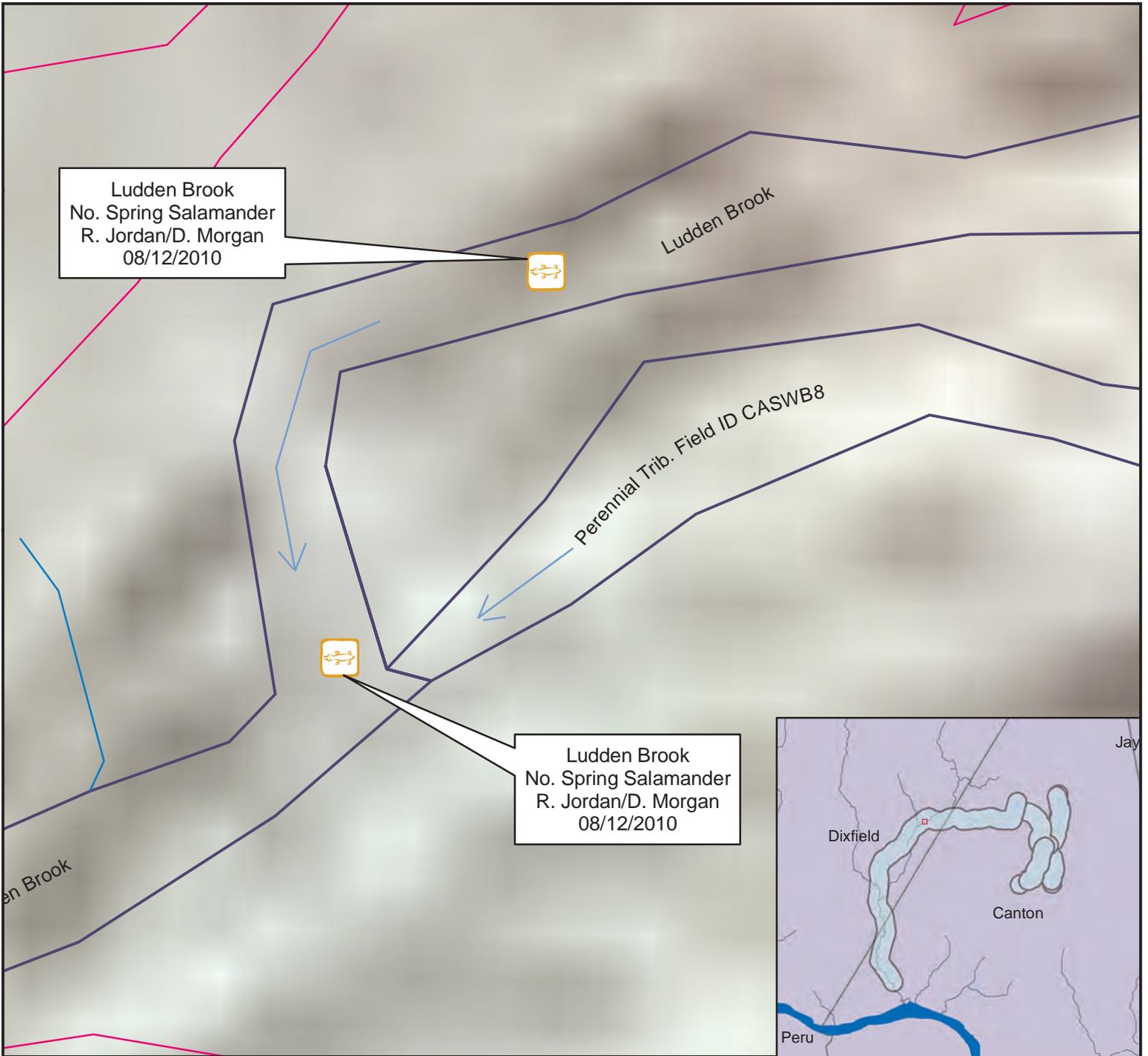
See drawing on next page.

<b><u>DIGITIZED IN GIS</u></b>	<b><u>HAND-DRAWN</u></b>
Scale digitized at = 1: _____ <input type="checkbox"/> 1:24,000 topographic maps <input type="checkbox"/> Orthophoto (pixel size = _____ m / ft), date = _____ <input type="checkbox"/> Other: _____	Scale drawn at = 1: _____ <input type="checkbox"/> Topographic map (scale = 1: _____) <input type="checkbox"/> Aerial imagery <span style="float: right;"><input type="checkbox"/> Other: _____</span> scale = 1: _____ date = _____

**OVERALL LOCATION ACCURACY:** including uncertainty about where the animal/habitat feature was and mapping accuracy related to the GPS unit used, resolution of reference information like topographic maps or aerial photos used, etc.:

± \_\_\_\_\_ meters / feet / kilometers / miles

# Timberwinds - Spring Salamander Assessment 2010



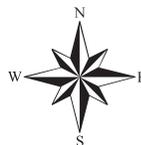
## Legend

 North Spring Salamander Found

## Boyle 2010 Streams

### Stream Type

-  Intermittent
-  Perennial
-  Wetland Boundary



50  
Feet

**Project:** Timberwinds; Canton, Maine

**Drawing Date:** September 2010

**Notes:**



Boyle Associates  
Environmental Consultants  
Mailing Address:  
25 Dundee Road  
Gorham, Maine 04038

phone: 207.591.5220

INSTRUCTIONS: Complete 1 form per visit. Grayed sections are for Heritage office use only.**RARE ANIMAL SURVEY FORM**Completed By: David BrennemanDate: 8/27/2010

Review by (MDIFW):

Date:

MDIFW  
650 State St.  
Bangor, ME  
04401

SURVEYSITE: <u>Canton Mountain</u>		TOWNSHIP: <u>Canton, ME</u>	
NEW EO (check):	UPDATE (check):	(EO NUM: _____)	DELORME PAGE & GRID (e.g. 04B2): <u>19E4</u>

**ELEMENT INFORMATION**

<b>Common Name:</b> <u>Northern Spring Salamander</u>	<b>Scientific Name:</b> <u><i>Gyrinophilus p. porphyriticus</i></u>
---	---

**SURVEYOR INFORMATION**

Survey date (yyyy – mm – dd): <u>2010-08-12</u>	Time from: <u>1120</u>	To: <u>1150</u>	<u>am</u> or pm	Sourcecode: <u>F_____</u>
Surveyors (principal surveyor first, include first & last name and contact information): <u>Richard Jordan (207) 671-2760, Rodney Kelshaw (207) 944-6776</u>				

**IDENTIFICATION**

Photograph/slide taken? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Notes & repository: _____
Specimen collected? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Specimen # and repository: _____
Identification problems? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Explain: _____

**ELEMENT OCCURRENCE INFORMATION**

1. Type of Observation: sight  vocalization  handled  collected  other (explain): \_\_\_\_\_
2. Observed Abundance (incl. age and sex): Single adult found
3. Estimated Abundance (and basis for estimate): \_\_\_\_\_
4. Evidence of Reproduction and/or Other Behaviors: \_\_\_\_\_
5. Misc. Notes \_\_\_\_\_

**HABITAT DESCRIPTION**

Describe the specific habitat or micro-habitats where this animal occurs. Convey a mental image of the habitat and its features including: land forms, aquatic features, vegetation, slope, aspect, soils, associated plant and animal species, natural disturbances.

Northern Spring Salamander (NSS) found in small perennial stream approximately 24" wide. Stream bed consisted of shallow runs and leaf litter. Some cobbles present in channel. Adjacent wetlands consisted of mostly deep organics. Stream begins as an overland drainage (non-wetland/non-stream) with surficial flow on side-slope. The drainage quickly empties to an eroded gully and the stream begins. Old and new skid trails in adjacent habitats of stream. Area is mostly hardwood forest with a fairly closed canopy over stream. Stream did not appear to be suitable NSS habitat upon initial survey, but one individual was found in stream bed.

THREATS AND/OR MANAGEMENT CONCERNS: Adjacent area was being actively logged adjacent to stream at time of survey.

**DIRECTIONS**

Provide detailed directions to this element occurrence (versus the survey site) using a readily locatable and relatively permanent landmark as a starting point. Refer to nearby landmarks, roads and villages. Include distances, compass directions (North, South etc.).

From the intersection of Ludden Lane and Canton Point Road follow Ludden Lane north for approximately one mile. Around .75 miles you will cross a small logging bridge over Ludden Brook and then a small residence on the west side of Ludden Lane. Continuing north you will pass a small cemetery on the west side of Ludden Lane. About 1000' north of the cemetery the road forks and you want to bear right at this intersection. Continue for approximately another mile until you reach another intersection in the road where you will bear right again and cross a timber bridge. Continue along gravel road for another mile. At the next (T) intersection turn right. Travel about 3000' along this road. From this point you will need to travel on foot approximately 1500' to the east.

OWNER: (If known, indicate name of owner(s), address and phone number):

**LOCATION of OBSERVATION**

**Source 1:** 396115.744 UTM-E / Lat 4929105.821 UTM-N / Long **NAD 83 / 27** (circle one)

**Source 2:** \_\_\_\_\_ UTM-E / Lat \_\_\_\_\_ UTM-N / Long **NAD 83 / 27** (circle one)

**Coordinates / polygon provide location of:**

Animal/habitat feature(s) **OR**  Observer--DISTANCE / DIRECTION to animal/habitat feature: \_\_\_\_\_ meters / feet at \_\_\_\_\_ °

**GPS Unit Information**

Differentially corrected  Unit accuracy for location: ± 0.3 m  # of Satellites = 6  2D / 3D

Unit Model Trimble Geo XH

**LOCATION SKETCH (or attach aerial photograph/photocopied topo)** Sketch fine details of an overhead view of this observation that may not be apparent on a topo map. Indicate landmarks, important features, route taken, animal/habitat observed, disturbances & threats, scale, and north. Include GPS location(s).

See drawing on next page.

**DIGITIZED IN GIS**

- Scale digitized at = 1: \_\_\_\_\_
- 1:24,000 topographic maps
- Orthophoto (pixel size = \_\_\_\_\_ m / ft), date = \_\_\_\_\_
- Other: \_\_\_\_\_

**HAND-DRAWN**

- Scale drawn at = 1: \_\_\_\_\_
- Topographic map (scale = 1: \_\_\_\_\_)
- Aerial imagery  Other: \_\_\_\_\_
- scale = 1: \_\_\_\_\_
- date = \_\_\_\_\_

**OVERALL LOCATION ACCURACY:** including uncertainty about where the animal/habitat feature was and mapping accuracy related to the GPS unit used, resolution of reference information like topographic maps or aerial photos used, etc.:

± \_\_\_\_\_ meters / feet / kilometers / miles

# Timberwinds - Spring Salamander Assessment 2010



## Legend



North Spring Salamander Found

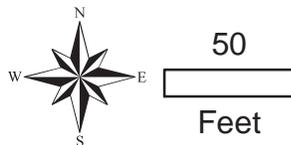
## Boyle 2010 Streams

### Stream Type

 Intermittent

 Perennial

 Wetland Boundary



**Project:** Timberwinds; Canton, Maine

**Drawing Date:** September 2010

**Notes:**



Boyle Associates  
Environmental Consultants  
Mailing Address:  
25 Dundee Road  
Gorham, Maine 04038

phone: 207.591.5220

Appendix B. Maine Amphibian & Reptile Atlas site cards – Non-northern Spring Salamanders

# Maine Amphibian and Reptile Atlasing Project (MARAP) Site Card

Date:

Township:

County:

Site Name:

DeLorme Map Page & Grid (e.g., 02B3):

Name:

Address:

City:

State:  Zip Code:  Phone:

Email:

Additional Observers:

Location: (be specific, reference mapped landmarks, when possible include GPS coordinates)

This is an unnamed intermittent stream located along Ludden Lane & on the western side of Canton Mountain. The field identification number is CASBK42.  
 GPS Location UTM Meters: 4930044.846N 395057.258E  
 See the report for photos and more details.

Habitat Description: The average width is approximately 2 to 4 feet and the stream flow is relatively fast. The substrate is a complex of bedrock and sandy materials with a surface of cobbles. There are many small pools where organics accumulate behind roots and stones.

Species (and # observed)	Microhabitat	Photo	Handled	Observed	Heard (frogs only)	ID Confidence (%)
1 Northern Two-lined Salamander (several)	cobbles	Yes	Yes	Yes		100
2 Dusky Salamander (several)	cobbles	Yes	Yes	Yes		100
3						
4						
5						
6						
7						
8						
9						
10						

Notes (Description, Behavior, Age, Sex - - please annotate with Species # above):

Northern Two-lined Salamander - Adult & Juvenile  
 Dusky Salamander - Adult & Juvenile

**Return this form and labeled photos to:**  
 MARAP: Reptile, Amphibian, and Invertebrate Group  
 Department of Inland Fisheries and Wildlife  
 650 State Street, Bangor, ME 04401

**OR email**

[Print Form](#)

jonathan.mays@maine.gov  
 or  
 phillip.demaynadier@maine.gov

# Maine Amphibian and Reptile Atlasing Project (MARAP) Site Card

Date:

Name:

Township:

Address:

County:

City:

Site Name:

State:  Zip Code:  Phone:

DeLorme Map Page & Grid (e.g., 02B3):

Email:

Additional Observers:

Location:

(be specific, reference mapped landmarks, when possible include GPS coordinates)

GPS Location UTM Meters: 4928851.961N 393538.742E  
 4930118.966N 394300.184E  
 4930146.296N 394314.862E

Habitat Description:

Species (and # observed)	Microhabitat	Photo	Handled	Observed	Heard (frogs only)	ID Confidence (%)
1 Northern Spring Salamander (1)	Cobbles	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text"/>	<input type="text" value="100"/>
2 Northern Two-lined Salamander (several)	Cobbles	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text"/>	<input type="text" value="100"/>
3 Dusky Salamander (several)	Cobbles	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text"/>	<input type="text" value="100"/>
4		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
10		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Notes (Description, Behavior, Age, Sex - - please annotate with Species # above):

**Return this form and labeled photos to:**  
 MARAP: Reptile, Amphibian, and Invertebrate Group  
 Department of Inland Fisheries and Wildlife  
 650 State Street, Bangor, ME 04401

**OR email**

jonathan.mays@maine.gov  
 or  
 phillip.demaynadier@maine.gov

# Maine Amphibian and Reptile Atlasing Project (MARAP) Site Card

Date:

Township:

County:

Site Name:

DeLorme Map Page & Grid (e.g., 02B3):

Name:

Address:

City:

State:  Zip Code:  Phone:

Email:

Additional Observers:

Location:   
(be specific, reference mapped landmarks, when possible include GPS coordinates)

GPS Location UTM Meters:    
 See the report for photos and more details.

Habitat Description:

Species (and # observed)	Microhabitat	Photo	Handled	Observed	Heard (frogs only)	ID Confidence (%)
1 Northern Spring Salamander (1)	Cobbles	Yes	Yes	Yes		100
2 Northern Two-lined Salamander (2)	Cobbles	No	Yes	Yes		100
3						
4						
5						
6						
7						
8						
9						
10						

Notes (Description, Behavior, Age, Sex - - please annotate with Species # above):

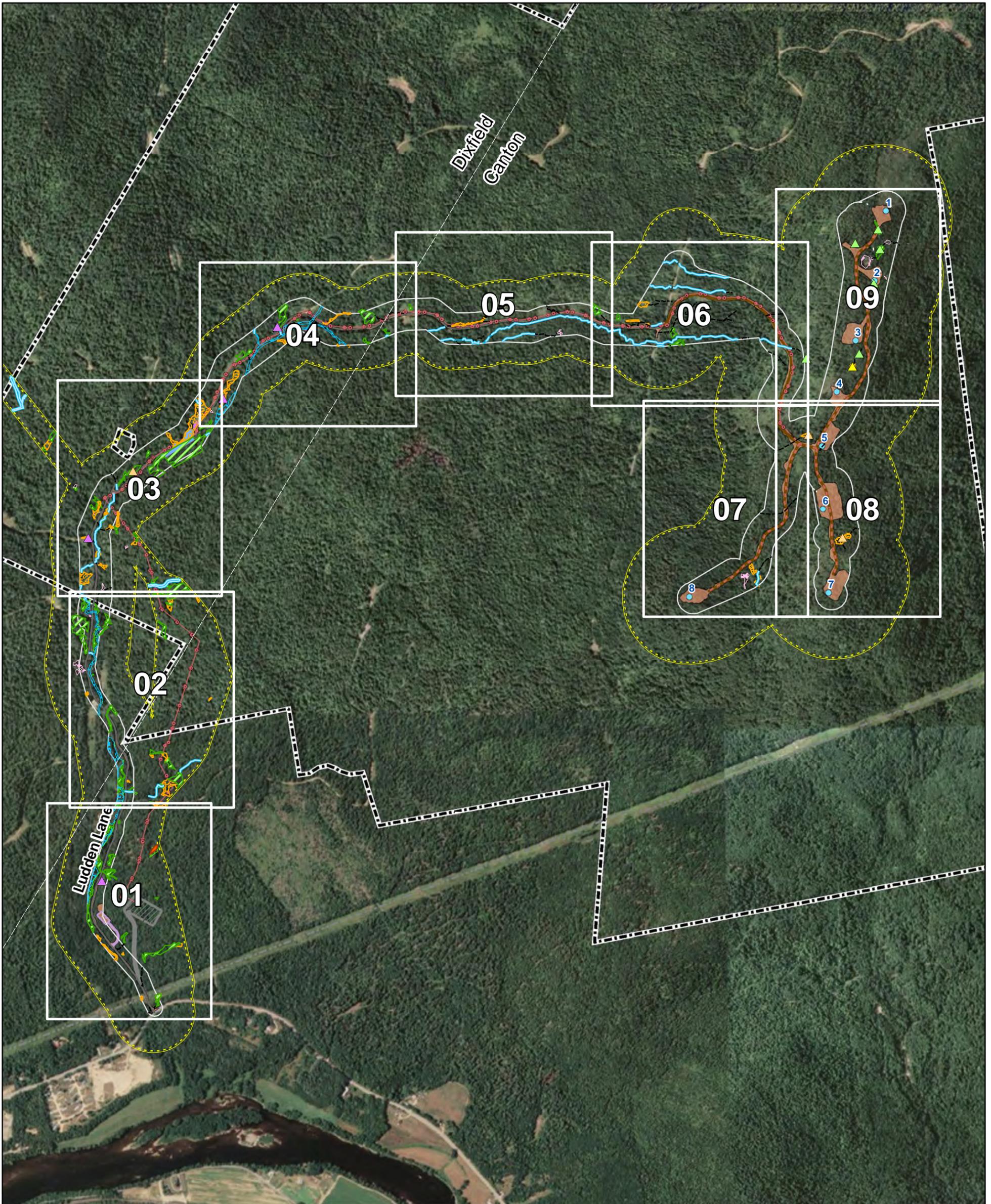
**Return this form and labeled photos to:**  
 MARAP: Reptile, Amphibian, and Invertebrate Group  
 Department of Inland Fisheries and Wildlife  
 650 State Street, Bangor, ME 04401

**OR email**

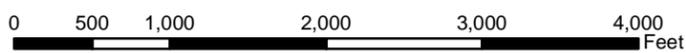
jonathan.mays@maine.gov  
 or  
 phillip.demaynadier@maine.gov

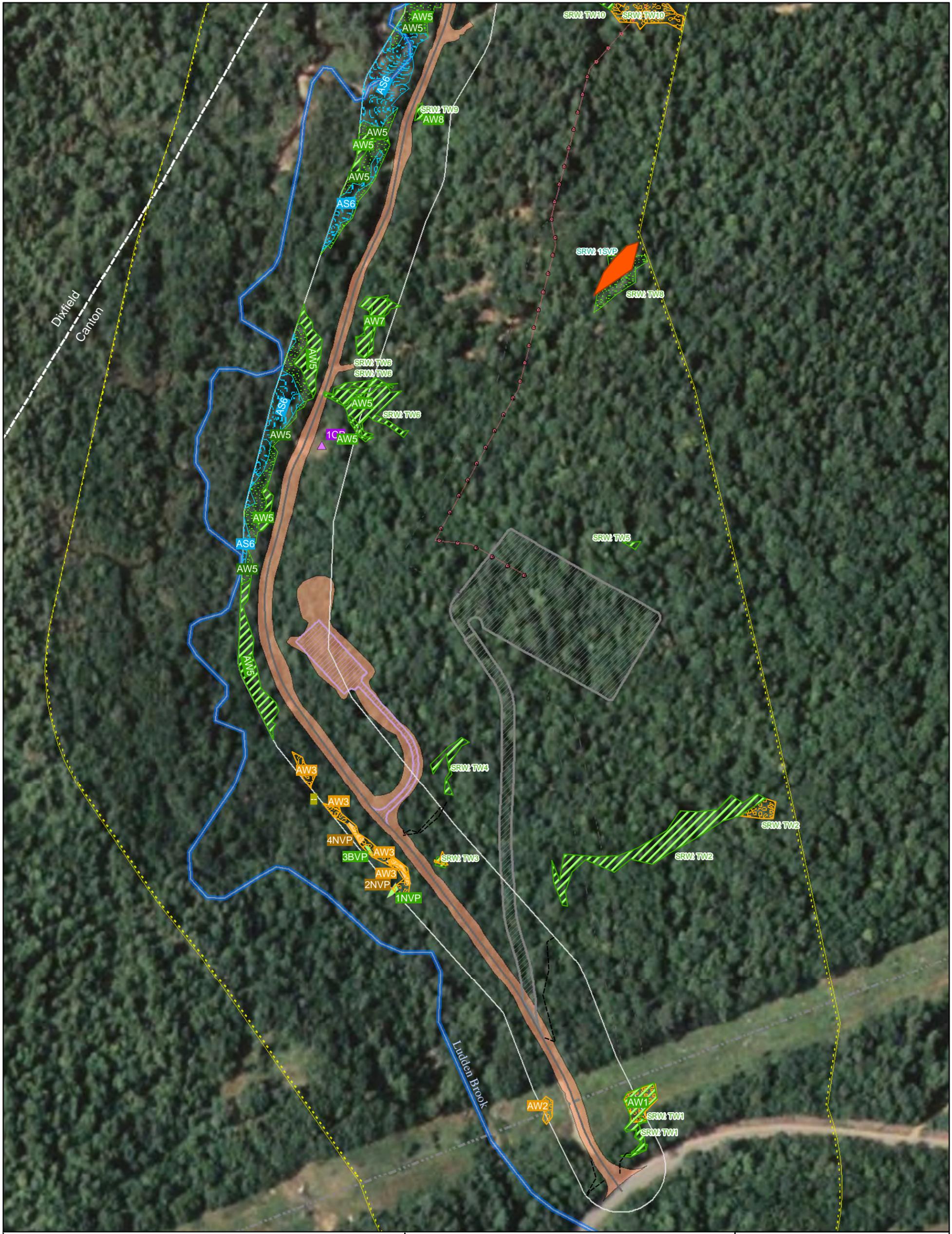
APPENDIX G

CANTON MOUNTAIN WIND PROJECT  
RESOURCE SURVEY MAPS



**Appendix G**  
**Resource Survey Maps**  
**Canton Mountain Wind Project**  
**Canton and Dixfield, Maine**  
 December 2011





**Water Resources**

--- Non-jurisdictional drainage	▲ Amphibian breeding area (ABA)
— MEDEP jurisdictional stream	▲ Corps pool (CP)
— MEDEP jurisdictional stream	▲ Natural vernal pool (NVP)
▨ Palustrine forested (PFO) wetland	▲ Natural vernal pool with no egg masses (BVP)
▨ WSS Palustrine forested (PFO) wetland	▲ Potential Significant vernal pool (PSVP)
▨ Palustrine shrub scrub (PSS) wetland	▲ Significant vernal pool (SVP)
▨ WSS Palustrine shrub scrub (PSS) wetland	— Wetland Survey Limit
▨ Palustrine emergent (PEM) wetland	— Vernal Pool Survey Limit
▨ WSS Palustrine emergent (PEM) wetland	— Maine DIFW Surveyed Stream

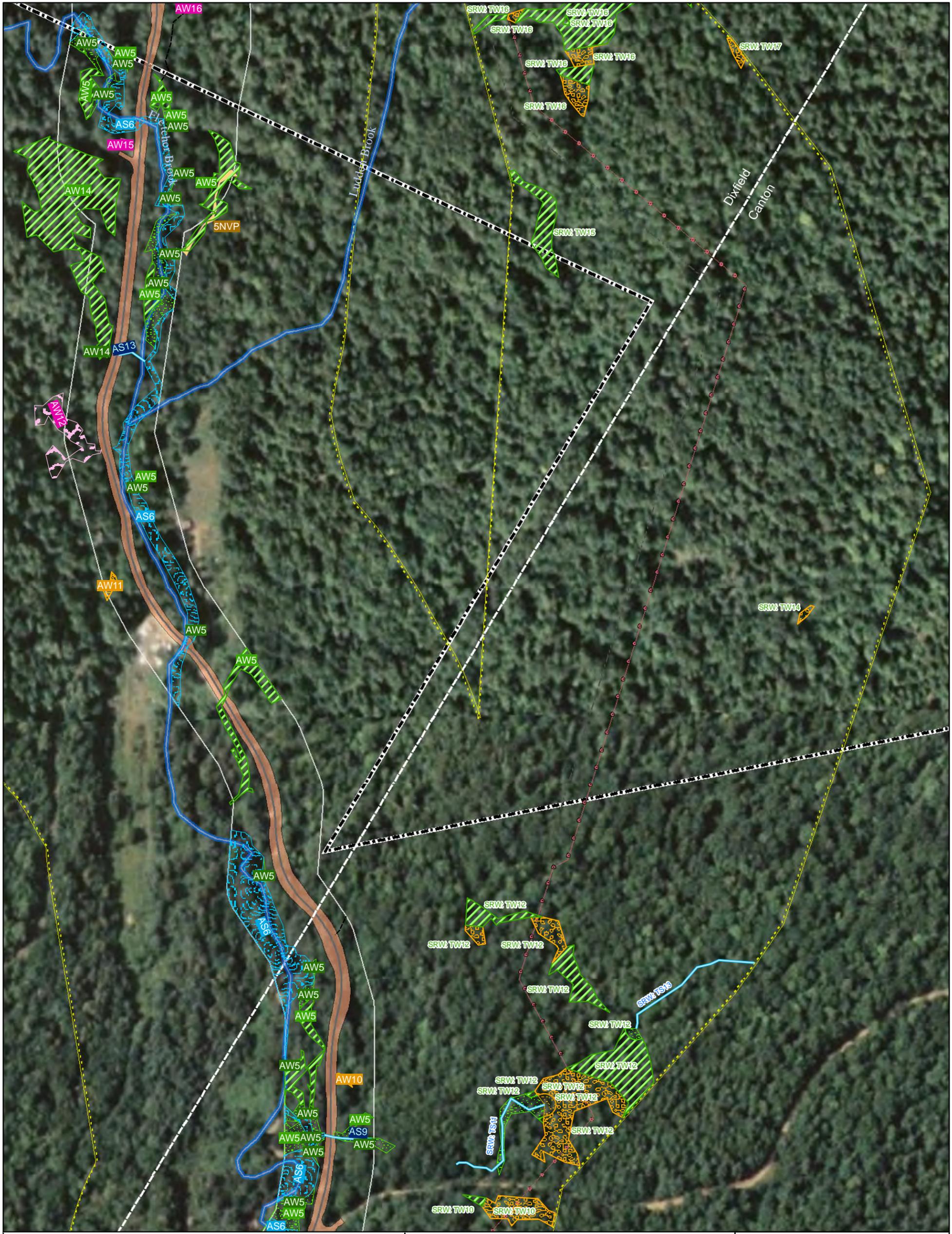
**Appendix G**  
**Project Resource Survey Maps**

**Canton Mountain Wind Project**  
**Canton and Dixfield, Maine**

December 2011

TETRA TECH
 PATRIOT RENEWABLES  
 Canton Mountain Wind, LLC

**MAP 01**



**Water Resources**

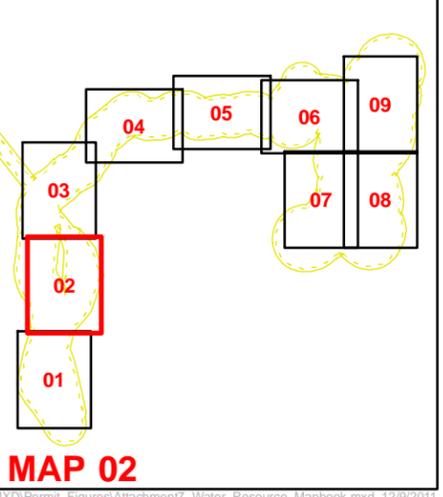
--- Non-jurisdictional drainage	▲ Amphibian breeding area (ABA)
— MEDEP jurisdictional stream	▲ Corps pool (CP)
— MEDEP jurisdictional stream	▲ Natural vernal pool (NVP)
▨ Palustrine forested (PFO) wetland	▲ Natural vernal pool with no egg masses (BVP)
▨ WSS Palustrine forested (PFO) wetland	▲ Potential Significant vernal pool (PSVP)
▨ Palustrine shrub scrub (PSS) wetland	▲ Significant vernal pool (SVP)
▨ WSS Palustrine shrub scrub (PSS) wetland	— Wetland Survey Limit
▨ Palustrine emergent (PEM) wetland	— Vernal Pool Survey Limit
▨ WSS Palustrine emergent (PEM) wetland	— Maine DIFW Surveyed Stream

0 100 200 400 Feet

## Appendix G Project Resource Survey Maps

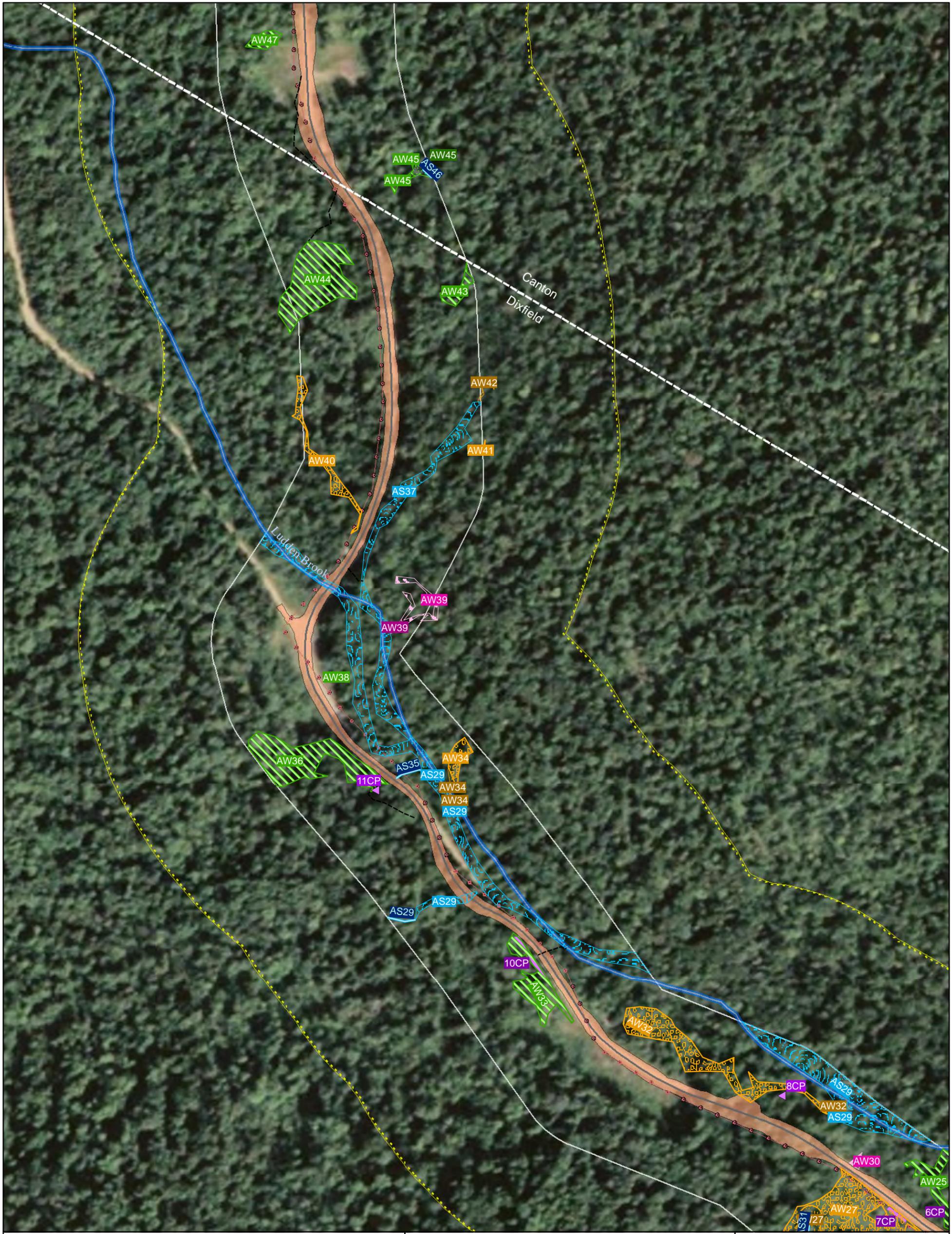
### Canton Mountain Wind Project Canton and Dixfield, Maine

December 2011



**MAP 02**





**Water Resources**

--- Non-jurisdictional drainage	▲ Amphibian breeding area (ABA)
— MEDEP jurisdictional stream	▲ Corps pool (CP)
— MEDEP jurisdictional stream	▲ Natural vernal pool (NVP)
▨ Palustrine forested (PFO) wetland	▲ Natural vernal pool with no egg masses (BVP)
▨ WSS Palustrine forested (PFO) wetland	▲ Potential Significant vernal pool (PSVP)
▨ Palustrine shrub scrub (PSS) wetland	▲ Significant vernal pool (SVP)
▨ WSS Palustrine shrub scrub (PSS) wetland	— Wetland Survey Limit
▨ Palustrine emergent (PEM) wetland	— Vernal Pool Survey Limit
▨ WSS Palustrine emergent (PEM) wetland	— Maine DIFW Surveyed Stream

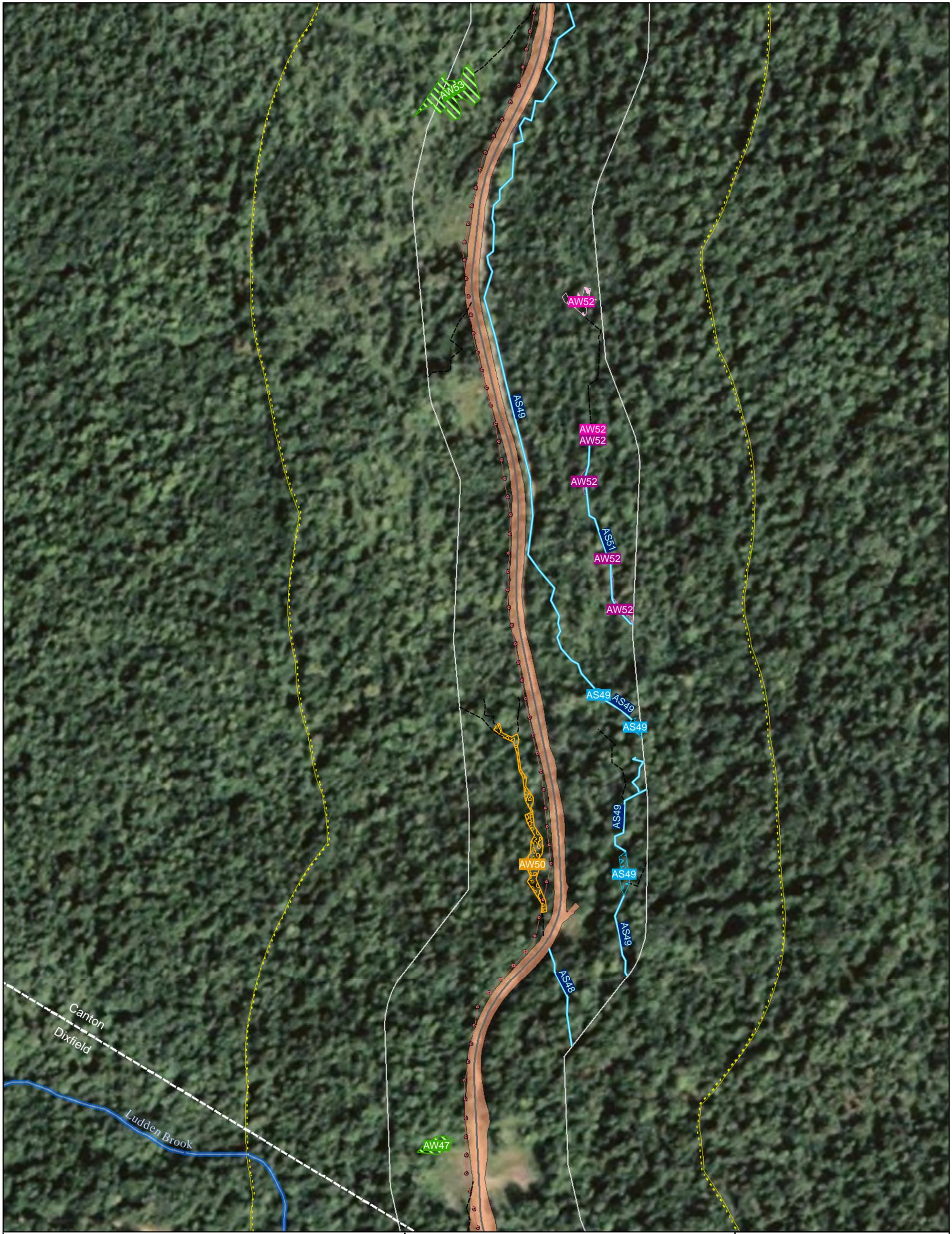
### Appendix G Project Resource Survey Maps

#### Canton Mountain Wind Project Canton and Dixfield, Maine

December 2011




**MAP 04**



**Water Resources**

--- Non-jurisdictional drainage	▲ Amphibian breeding area (ABA)
— MEDEP jurisdictional stream	▲ Corps pool (CP)
— MEDEP jurisdictional stream	▲ Natural vernal pool (NVP)
▨ Palustrine forested (PFO) wetland	▲ Natural vernal pool with no egg masses (BVP)
▨ WSS Palustrine forested (PFO) wetland	▲ Potential Significant vernal pool (PSVP)
▨ Palustrine shrub scrub (PSS) wetland	▲ Significant vernal pool (SVP)
▨ WSS Palustrine shrub scrub (PSS) wetland	— Wetland Survey Limit
▨ Palustrine emergent (PEM) wetland	— Vernal Pool Survey Limit
▨ WSS Palustrine emergent (PEM) wetland	— Maine DIFW Surveyed Stream

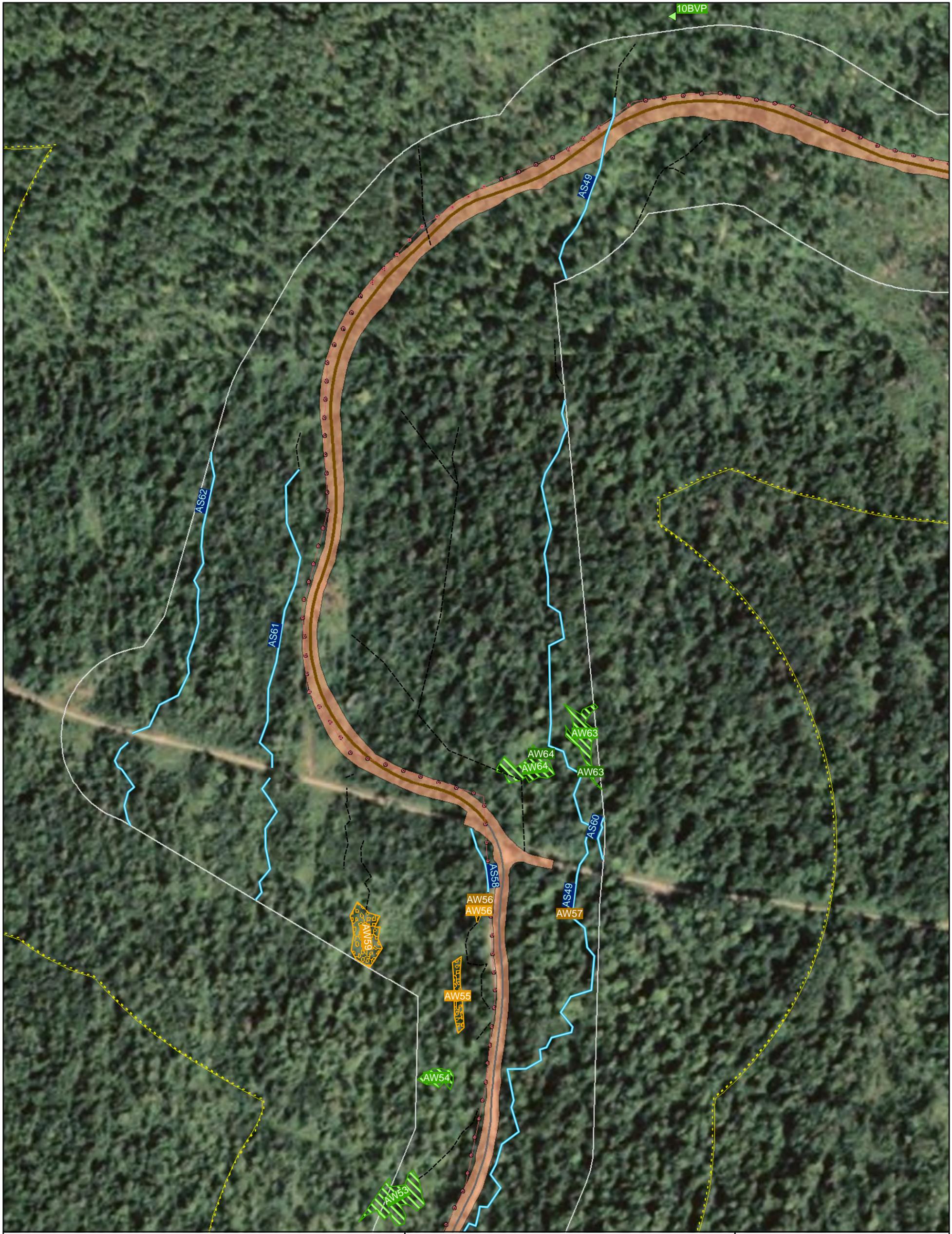
**Appendix G**  
**Project Resource Survey Maps**

**Canton Mountain Wind Project**  
**Canton and Dixfield, Maine**

December 2011




**MAP 05**



**Water Resources**

--- Non-jurisdictional drainage	▲ Amphibian breeding area (ABA)
— MEDEP jurisdictional stream	▲ Corps pool (CP)
— MEDEP jurisdictional stream	▲ Natural vernal pool (NVP)
▨ Palustrine forested (PFO) wetland	▲ Natural vernal pool with no egg masses (BVP)
▨ WSS Palustrine forested (PFO) wetland	▲ Potential Significant vernal pool (PSVP)
▨ Palustrine shrub scrub (PSS) wetland	▲ Significant vernal pool (SVP)
▨ WSS Palustrine shrub scrub (PSS) wetland	— Wetland Survey Limit
▨ Palustrine emergent (PEM) wetland	— Vernal Pool Survey Limit
▨ WSS Palustrine emergent (PEM) wetland	— Maine DIFW Surveyed Stream

**Appendix G**  
**Project Resource Survey Maps**

**Canton Mountain Wind Project**  
**Canton and Dixfield, Maine**

December 2011

TETRA TECH
 PATRIOT RENEWABLES  
 Canton Mountain Wind, LLC

**MAP 06**



**Water Resources**

--- Non-jurisdictional drainage	▲ Amphibian breeding area (ABA)
MEDEP jurisdictional stream	▲ Corps pool (CP)
MEDEP jurisdictional stream	▲ Natural vernal pool (NVP)
Palustrine forested (PFO) wetland	▲ Natural vernal pool with no egg masses (BVP)
WSS Palustrine forested (PFO) wetland	▲ Potential Significant vernal pool (PSVP)
Palustrine shrub scrub (PSS) wetland	▲ Significant vernal pool (SVP)
WSS Palustrine shrub scrub (PSS) wetland	Wetland Survey Limit
Palustrine emergent (PEM) wetland	Vernal Pool Survey Limit
WSS Palustrine emergent (PEM) wetland	Maine DIFW Surveyed Stream

0 100 200 400 Feet

## Appendix G Project Resource Survey Maps

### Canton Mountain Wind Project Canton and Dixfield, Maine

December 2011

**MAP 07**



**Water Resources**

--- Non-jurisdictional drainage	▲ Amphibian breeding area (ABA)
— MEDEP jurisdictional stream	▲ Corps pool (CP)
— MEDEP jurisdictional stream	▲ Natural vernal pool (NVP)
▨ Palustrine forested (PFO) wetland	▲ Natural vernal pool with no egg masses (BVP)
▨ WSS Palustrine forested (PFO) wetland	▲ Potential Significant vernal pool (PSVP)
▨ Palustrine shrub scrub (PSS) wetland	▲ Significant vernal pool (SVP)
▨ WSS Palustrine shrub scrub (PSS) wetland	□ Wetland Survey Limit
▨ Palustrine emergent (PEM) wetland	□ Vernal Pool Survey Limit
▨ WSS Palustrine emergent (PEM) wetland	— Maine DIFW Surveyed Stream

0 100 200 400 Feet

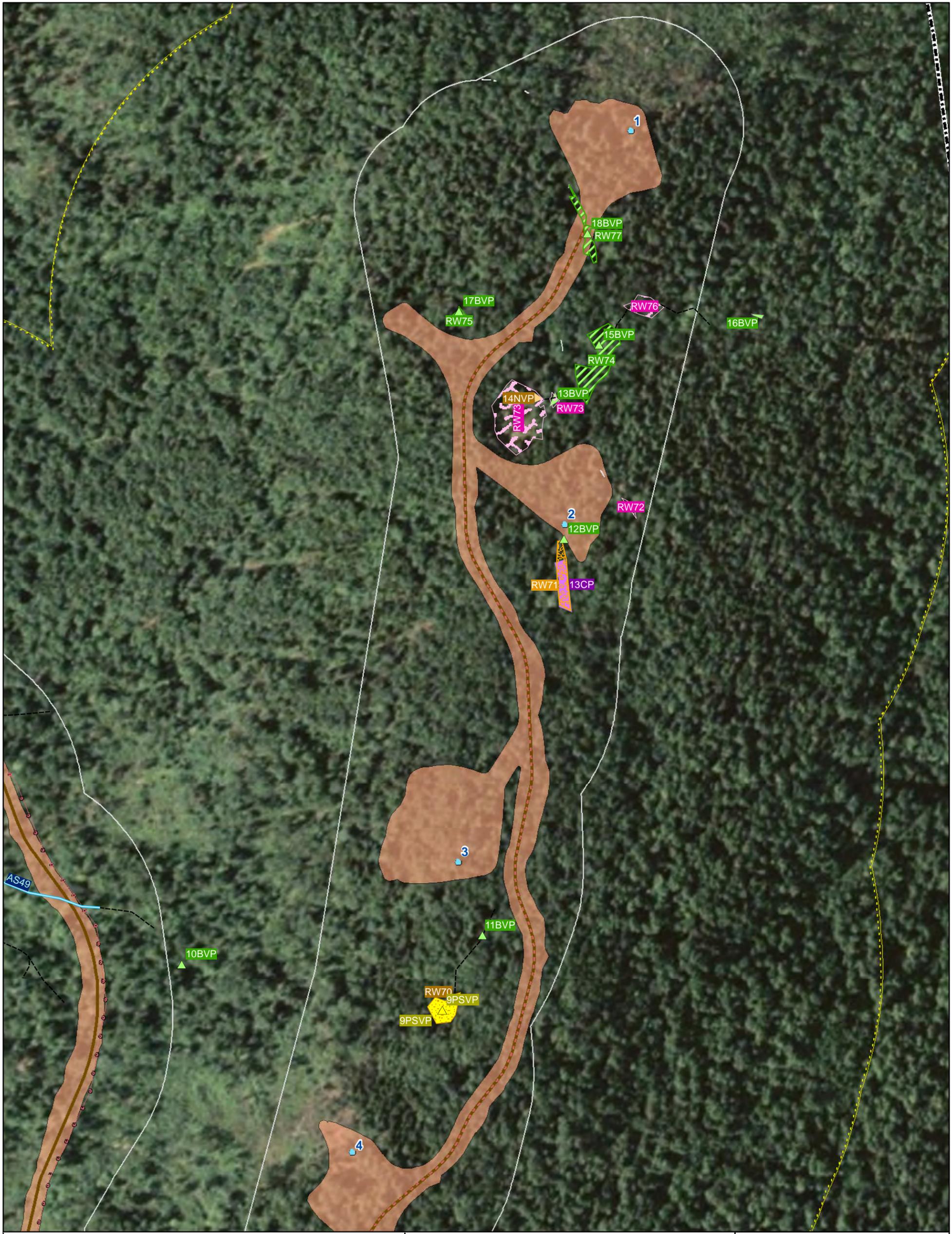
## Appendix G Project Resource Survey Maps

### Canton Mountain Wind Project Canton and Dixfield, Maine

December 2011




**MAP 08**



**Water Resources**

--- Non-jurisdictional drainage	▲ Amphibian breeding area (ABA)
— MEDEP jurisdictional stream	▲ Corps pool (CP)
— MEDEP jurisdictional stream	▲ Natural vernal pool (NVP)
▨ Palustrine forested (PFO) wetland	▲ Natural vernal pool with no egg masses (BVP)
▨ WSS Palustrine forested (PFO) wetland	▲ Potential Significant vernal pool (PSVP)
▨ Palustrine shrub scrub (PSS) wetland	▲ Significant vernal pool (SVP)
▨ WSS Palustrine shrub scrub (PSS) wetland	— Wetland Survey Limit
▨ Palustrine emergent (PEM) wetland	— Vernal Pool Survey Limit
▨ WSS Palustrine emergent (PEM) wetland	— Maine DIFW Surveyed Stream

**Appendix G**  
**Project Resource Survey Maps**

**Canton Mountain Wind Project**  
**Canton and Dixfield, Maine**

December 2011




**MAP 09**