

AMENDMENT #5 TO THE
VERMONT IN-LIEU FEE PROGRAM INSTRUMENT

1. WHEREAS, the approved Ducks Unlimited, Inc. Vermont In-lieu Fee Program instrument was signed by Ducks Unlimited on January 6, 2011 and the Corps on January 4, 2011. Amendment #1 was signed by Ducks Unlimited on March 9, 2015 and the Corps on January 30, 2015. Amendment #2 was signed by Ducks Unlimited on June 10, 2015 and the Corps on June 29, 2015. Amendment #3 was signed by Ducks Unlimited on November 11, 2016, and the Corps of October 19, 2016. Amendment #4 was signed by DU on February 11, 2019, and the Corps on February 2, 2019.

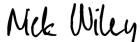
NOW THEREFORE,

This amendment modifies the instrument to include the Duren Mountain Swamp compensatory mitigation site in the Connecticut River Service Area off VT Route 102 in Guildhall, Vermont.

2. The mitigation plan includes the preservation of 183.39 acres of wetlands and uplands to compensate for authorized impacts to waters of the United States in the Connecticut River Service Area for which payments into the DU-VT-ILF program were made in lieu of the permittees doing their own mitigation. The Duran Mountain Swamp site includes the protection of a northern white cedar swamp that supports rare plant species, beaver-ponded wetlands and a perennial stream that feeds a series of shrub and forested wetlands. The wetland mitigation site is expected to provide about 11.12 credits. This mitigation plan is described in the attached plan entitled "Duren Mountain Swamp Mitigation Plan for The Connecticut River Service Area", and dated "26 September 2019".

IN WITNESS WHEREOF, the undersigned have caused this amendment to be duly executed.

DocuSigned by:

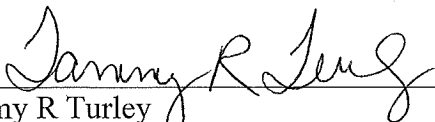


7BA2D9DE46BE4A5...

Nick Wiley

Chief Operating Officer, Program Sponsor
Ducks Unlimited, Inc.

Date: 3/26/2020



Tammy R Turley
Chief, Regulatory Division

Date: 5 March 2020

Duren Mountain Swamp Mitigation Plan for The Connecticut River Service Area

Prepared by:

Ducks Unlimited Vermont In-Lieu Fee Program



**GREAT LAKES &
ATLANTIC REGION**



Submitted To:

United States Army Corps of Engineers and
The Interagency Review Team

New England District	New England District
11 Lincoln Street	Regulatory Division
Room 210	696 Virginia Road
Essex Junction, VT 05452	Concord, MA 01742-2751

DATE: 26 September 2019



Table of Contents

1. Introduction and Objectives	3
2. Site Selection	5
2.1 Site Description.....	5
3. Site Protection Instrument.....	9
4. Determination of Credits.....	9
5. Baseline Ecological Characteristics	11
5.1 Historic and Existing Plant Communities, Including Wetlands	11
5.2 Site Land Use History, Including Structures.	17
5.3 Soil Descriptions	18
5.4 Animal and Plant Species Including Endangered Species.....	20
6. Mitigation Work Plan	28
6.1 Geographic Boundaries.....	28
6.2 Sources of Water, Connections to Existing Waters and Upland Runoff	28
7. Long-term Management Plan, Including Financial Arrangements.....	28
References	29

List of Figures

Figure 1. Site Location and Service Area.	7
Figure 2. View of the ILF Site.	8
Figure 3. Credit Generation Map	10
Figure 4. Contemporary and Historic Conditions.....	17
Figure 5. Soils Map.....	19

List of Tables

Table 1. Credit Generation.....	11
Table 2. Wildlife and Plant Species Identified.	233

List of Appendices

Appendix A. Wetland Delineation Report
Appendix B. Budget



1. Introduction and Objectives

Ducks Unlimited's (DU) mission focuses on protecting and restoring wetland resources critical to sustaining North America's waterfowl populations. DU utilizes a scientific approach to prioritize its' conservation activities. At a high-level, DU's conservation priorities are identified by a team of international biologists made up of waterfowl and conservation experts spanning government, academia, and NGO sectors as described in the North American Waterfowl Management Plan (NAWAMP; United States Fish and Wildlife Service 1986, 2012). NAWMP and DU's applied version of this plan, identifies portions of Vermont as priority landscapes for waterfowl conservation. Further, the northeastern United States and adjacent Canada support an estimated 7.6 million breeding waterfowl, 2.7 million wintering waterfowl, and four to five million migrating waterfowl can be found within the Atlantic flyway. Providing a high-quality compensatory mitigation option in New England is therefore a priority for Ducks Unlimited.

The Service Areas established within the Ducks Unlimited Vermont In Lieu Fee Program (DU-VT-ILF Program) align with the Vermont Dept. of Environmental Conservation's basin planning efforts and other resource conservation strategies within Vermont. Additionally, DU has developed a suite of GIS-planning tools to aid in the identification of wetland restoration and protection opportunities within these Service Areas. DU's tools are based largely on similar past efforts to identify and prioritize sites suitable for mitigation banking in New York and Pennsylvania (e.g., Hunter et al. 2012, Raney et al. 2017, Raney and Leopold 2018). DU's top-down prioritization of landscapes and significant wetland features within those landscapes enables DU to identify priority areas for wetland conservation and mitigation activities on a watershed-scale.

To date DU has only sold 3.31 credits in the Connecticut River Service Area. The DU-VT-ILF Program is supported by the sale of credits and projects undertaken are scaled to available funding levels. The amount of funding available from 3.31 credits is insufficient for completion of a full reestablishment project. As a result, DU, in coordination with the Interagency Review Team, focused on the permanent preservation of a site that contains a globally uncommon wetland type (northern white cedar swamp) and species of conservation need (e.g., bobcat, moose).



This plan describes an approach that will be used to protect rare and uncommon wetland plant communities (northern white cedar swamp and medium fens) and other aquatic habitats that support wetland dependent species (e.g., wood duck). This mitigation plan has been prepared and will be implemented by DU in accordance with 33 CFR 332.4, the “U.S. Army Corps of Engineers New England District Compensatory Mitigation Guidelines.” A Mitigation Plan for each ILF site is submitted for Interagency Review Team (IRT) review for potential approval. This plan describes the \pm 183.39-acre site known as the Duren Mountain Swamp Site located in the Town of Guildhall, Essex County, Vermont. This site is proposed as ILF site for compensatory mitigation in the Connecticut Service Area (Upper Connecticut River – HUC 010801 and Lower Connecticut River – HUC 010802). The SA boundaries are shown in Figure 1.

The primary goal of the Duren Mountain Swamp ILF Site is to preserve biologically significant wetland features and adjacent terrestrial habitats near the Connecticut River.

More specifically this project will:

- Preserve wetland habitat, including a northern white cedar swamp, a rare wetland type and ecological community in Vermont
- Preserve habitat for at least one rare plant species
- Preserve flood attenuation capacity
- Preserve habitat for big game including moose and black bear
- Preserve a wildlife connective corridor
- Preserve upland buffer on the site to preserve water quality in the Connecticut River watershed
- Preserve a large interior forest block
- Preserve a larger wetland complex whose groundwater inputs may buffer populations from heat and moisture stresses that are expected to increase because of climate change
- Provide recreational opportunities for hiking, wildlife viewing, and hunting
- Potentially provide educational and research opportunities for nearby universities



2. Site Selection

2.1 Site Description

The ILF site is located directly to the west of Route 102 approximately 2.6 miles north of US Route 2 in the town of Guildhall in Essex County, Vermont as shown in Figure 2. The project site lies within the Connecticut River ILF Service Area (Figure 1). The coordinates for the project entrance are: 44°32'25" N, 71°35'08" W. Duren Mountain Swamp site lies within an area with a high density of protected properties and is a connecting parcel between existing Vermont Land Trust Easements. Several agencies and conservation partners have identified this area as a priority for protection. The site falls within the Atlantic Coast Joint Venture (ACJV) Atlantic Northern Forest Bird Conservation Region's (BCR-14) Connecticut River Waterfowl Focus Area and is identified as a high priority landscape for conservation of waterfowl species (Dettmers 2006). The Vermont Conservation Design Tool, developed by the Vermont Fish and Wildlife Department identifies this area as a high priority riparian wildlife connectivity corridor, and a priority interior forest block (Sorenson and Zaino 2018). Similarly, The Nature Conservancy's (TNC) habitat connectivity tools identified this area as part of a connective corridor for wildlife. TNC owns more than 11,000 acres in the Northern Connecticut River Watershed in Vermont and New Hampshire portions.

Species of greatest conservation need (black bear, moose, bobcat, snowshoe hare) and the rare plant species *Platanthera huronensis* (S3) have been identified at this site. Protection of intact, large wetland areas such as those present at this site is one of the strategies identified in The Vermont's 2010-2020 Moose Management Plan (VT Big Game Management Plan 2009). In addition to providing excellent wildlife habitat, the site contains a northern white cedar swamp identified by the Vermont Natural Heritage Inventory (VNHI) as a state-vulnerable (S-3), globally uncommon (G-4) community (Vermont Fish and Wildlife Department 2016). According to VNHI, this is a "*site of ecological significance*" and a "classic example of a seepage swamp". These communities are also rare in the Northeast, and commonly support rare plant species (Podnieszinski and Leopold 1998; Scanga et al 2009, Raney et al. 2014, Vermont Fish and Wildlife Department 2016).



Groundwater flows from Duren Mountain also support two moderately minerotrophic (medium) fens (pH in the 5-range) upslope of the larger cedar swamp. Groundwater discharge provides fens with steadier hydroperiods than wetlands whose hydrological inputs are dominated by surface-water and precipitation alone (Keddy 2010). Groundwater discharge also ameliorates near-surface temperature swings in groundwater-fed wetlands such as fens and northern white cedar swamps (e.g., Forsythe 1974, Raney et al. 2014; Fernández-Pascual et al. 2015). Researchers have found temperate occurrences of the boreal species balsam fir (*Abies balsamea*) in similar cedar swamps to be buffered from effects of heat stress and warming when compared to nearby firs positioned on drier uplands (Raney et al. 2016). Thus, there is some evidence that wetlands with in similar hydrogeologic settings may provide important refugia from climate change.

Beaver-ponded wetlands and surface flows feed a series of small shrub and forested wetlands at upper slope positions (Appendix A). Based on the habitat characteristics observed by DU biologists, the upper beaver pond likely supports seasonal use by at least three species of waterfowl including black duck, wood duck, and mallard. Wood ducks were observed at the site. Such headwater wetlands are disproportionately impacted by development activities, and due to their small-size and position in the landscape are rarely restored (White and Fennessy 2005). Furthermore, recent reductions in regulatory authority over wetlands (SWANCC, Rapanos) suggest that further relaxation of the Clean Water Act may lead to continued loss of headwater wetlands and fens such as those identified on this site (Raney and Leopold 2018). Thus, it is important to permanently protect headwater wetlands when given the opportunity. Sorensen et al. (1998) recommends permanently protecting the groundwater recharge areas and flow-paths from Duren Mountain to the swamp. The preservation of this site associated with this project achieves these recommended management guidelines.

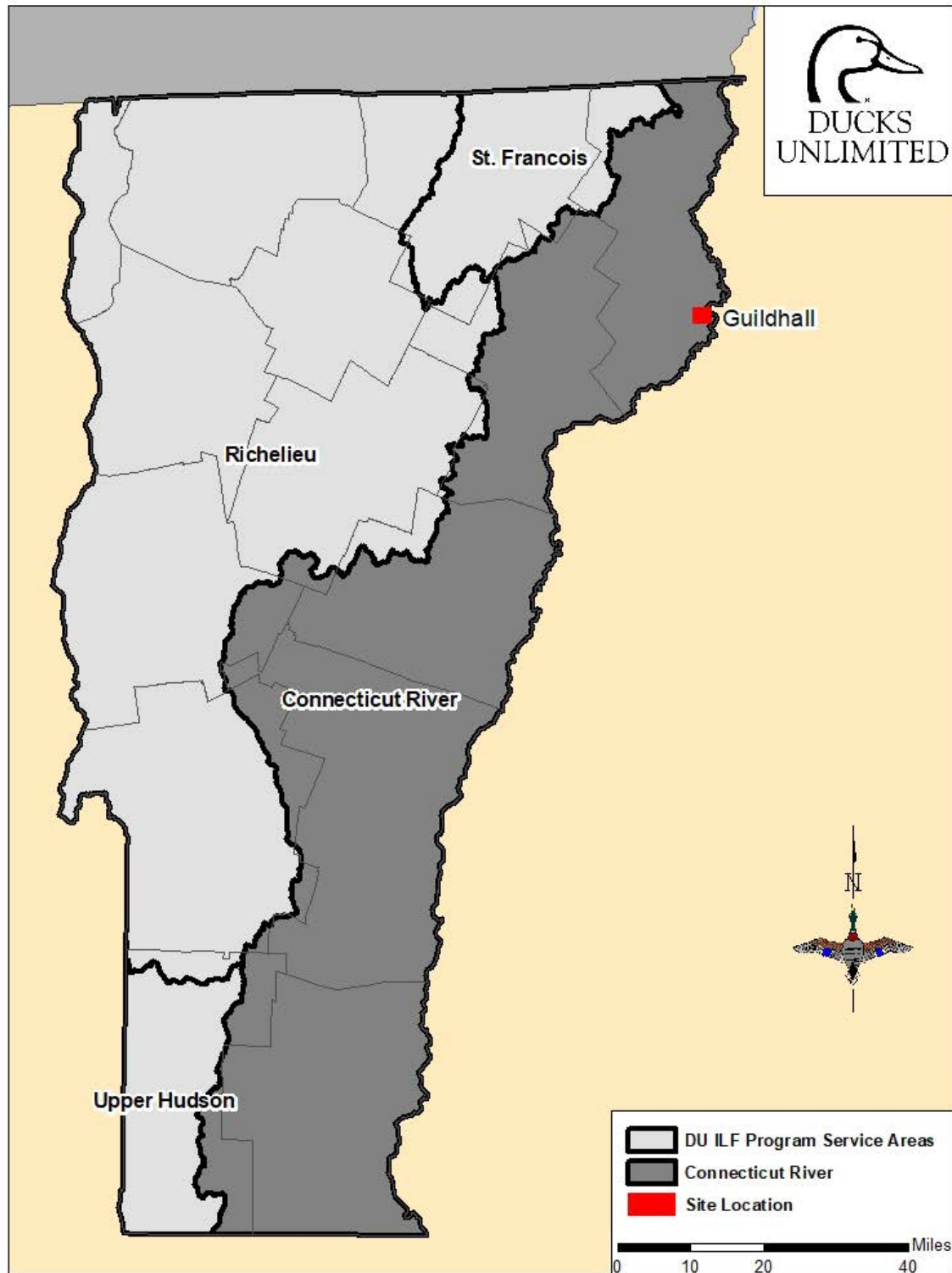
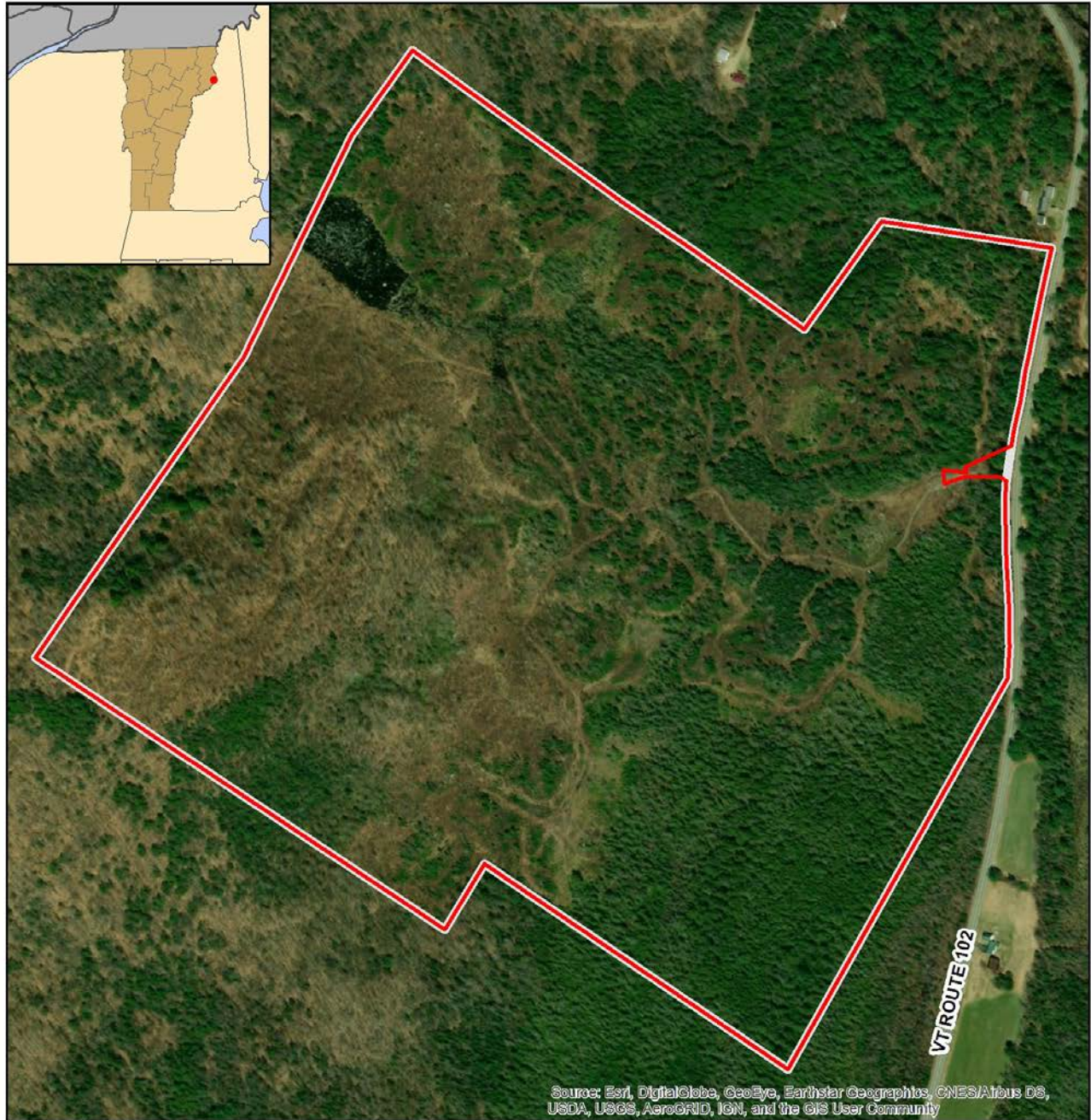
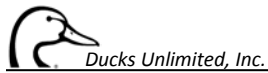




Figure 1. Site Location and Service Area.

Approximate Coordinates Latitude: 44°32'25" N, 71°35'08" W. The Connecticut River ILF Service Area (Upper Connecticut River – HUC 010801 and Lower Connecticut River – HUC 010802) is shown in dark gray shading.



-  Property Boundary (183.739 ac.)
-  ILF Site (183.389 ac. +/-)

0 500 1,000 Feet

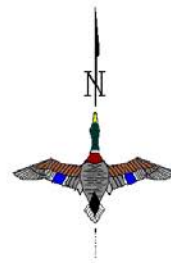


Figure 2. View of the ILF Site. The site is accessed from a gravel driveway to the west of Vermont Route 102 approximately 2.6 miles to the north of US Route 2. DU owns the property.



3. Site Protection Instrument

The ILF Site is owned by Wetlands America Trust, Inc. (WAT). WAT, a wholly owned subsidiary of DU, is a non-profit conservation organization and an Accredited Land Trust. Ownership of the Mitigation Site by WAT meets the site protection requirements of 332.7(a)(1). Signs shall be erected and maintained that identify the mitigation site for conservation purposes. In addition to ownership, WAT will record a Corps approved Conservation Easement (CE) in the land records of Essex County upon transfer of the property to the long-term steward. At this time, a Corps of Engineers approved Long-Term Management Plan (LTMP) will be recorded to the Deed in the land records of Essex County. As part of the LTMP and CE requirements, the property will remain perpetually as undeveloped property as a natural area for the preservation of aquatic resources on the site. Efforts to prevent unauthorized access (e.g., vehicular trespass) will be the main point of emphasis in the LTMP. Additionally, the Long-term Steward will not cut or remove native vegetation with the exception of trees posing a public health hazard or trees impacted by invasive pests or pathogens. It is anticipated that the site will be self-sustaining with minimal management inputs required by the Long-Term Steward aside from normal monitoring to ensure the site remains in a protected state.

DU has identified the Northeast Wilderness Trust (NWT) as the Long-Term Steward of the property. DU will donate the property to NWT and retain a perpetual Conservation Easement on the property. DU will also transfer funds to NWT for the establishment of a long-term protection endowment for long-term protection and Conservation Easement monitoring in perpetuity (Described further in Section 7).

4. Determination of Credits

Based on established credit ratios used in the New England District this site produces 11.12-credits (Figure 3, Table 1). Credits produced in excess of direct costs to implement the project will remain in the Connecticut River ILF Service Area account and will only be used for additional mitigation.

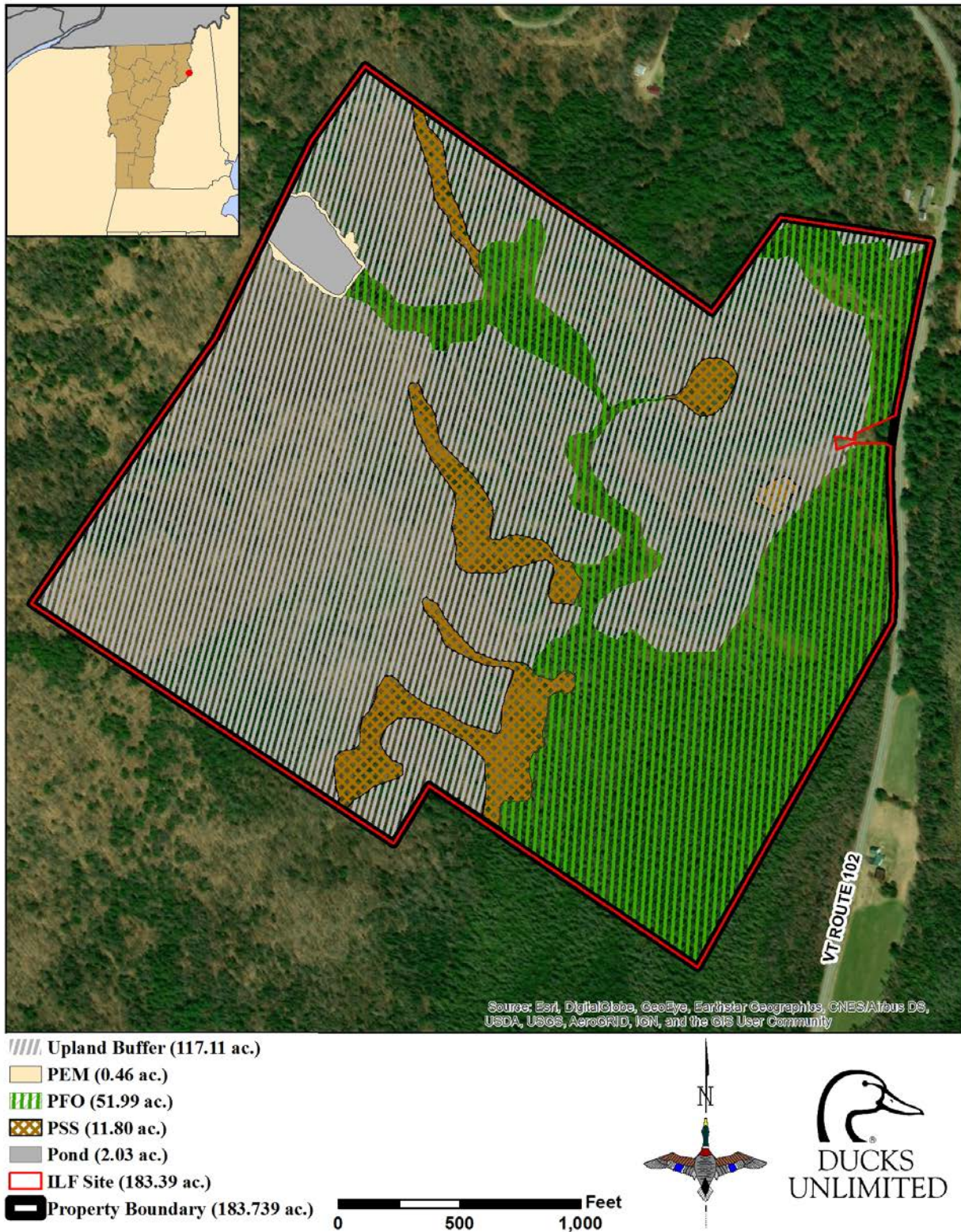
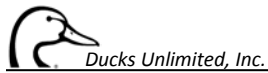


Figure 3. Credit Generation Map

The site is expected to produce 11.12 credits based on established credit-production ratios used in the New England District.



Table 1. Credit Generation

The program sponsor anticipates the mitigation site will generate 11.12 credits based on the following ratios and acreages. Credit ratios are established in the DU-VT-ILF Program Instrument and follow guidance for the New England District.

Mitigation Activity	Description	Acre	Ratio (Acre: Credits)	Credits
PEM Preservation		0.46		0.02
PSS Preservation	Preservation of Aquatic Resources	11.80	20:1	0.59
PFO Preservation		51.99		2.60
Pond Preservation		2.03		0.10
Upland Buffer Preservation	Preservation of Upland Buffer	117.11	15:1	7.81
Total		183.39		11.12

Credit Release:

Provided this is a preservation-only project, 25% of credits (2.78-credits) will be released upon approval of this plan via Instrument Amendment. The remaining 75% of credits (8.34-credits) will be released when documentation the US Army Corps of Engineers receives documentation that an acceptable perpetual Conservation Easement is filed with the Essex County Clerk.

Wetlands America Trust, a wholly owned subsidiary of Ducks Unlimited will hold the Conservation Easement. The Conservation Easement will not be transferred to another party unless written approval to do so is obtained from the US Army Corps of Engineers in advance of transfer.

5. Baseline Ecological Characteristics

5.1 Historic and Existing Plant Communities, Including Wetlands

The site is primarily forested but was previously logged – *most recently a partial logging of uplands occurred in 2006*. Adjacent properties consist primarily of wetland and forested upland habitats. Wetland plant communities present at the site consist of forested, scrub/shrub, and emergent wetlands, as well as an open water pond (datasheets are provided in Appendix A). A 51.99-acre forested wetland is present. A large portion of the forested wetland is a northern white



cedar swamp at the base of Duren Mountain. The forested wetland is dominated by balsam fir (*Abies balsamea*), and northern white cedar (*Thuja occidentalis*). There is considerable microtopographic relief in the forested wetlands, characteristic of a northern white cedar swamps. The understory is dominated by *Sphagnum* moss, dwarf red blackberry (*Rubus pubescens*), and calciphyllic species.

11.80 acres of scrub/shrub wetlands were present, and included two areas of shrub-dominated medium fen. pH in the 5-range, deep muck deposits and presence of *Sphagnum* spp. were noted. Trees included red spruce (*Picea rubens*), tamarack (*Larix laricina*), alder (*Alnus rugosa*), quaking aspen (*Populus tremuloides*), balsam fir (*A. balsamea*), and willow species (*Salix* sp.) were present, largely as somewhat stunted components of the shrub layer.

0.46 acres of emergent wetland were positioned adjacent to the open-water, beaver pond. A little over 2-acres of open water was the result of beaver activity. The emergent wetland has a diverse herb community dominated by woolgrass (*Scirpus cyperinus*), touch-me-not (*Impatiens capensis*), and Joe-pye weed (*Eutrochium maculatum*).

Adjacent forested uplands consisted of deciduous and coniferous forests. Sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), red spruce (*Picea rubens*) and paper birch (*Betula papyrifera*) were among the more common tree species present. Upland areas include parts of Duren Mountain, where steep terrain includes some forested areas with rock outcrops.

Wetland Areas



A northern white cedar swamp at Guildhall. An S-3 community in Vermont, as designated by the Natural Heritage Program. Rare plant species were found on site during an August 2018 botanical survey conducted by DU biologists.





Duren Mountain Swamp - a northern white cedar swamp in the town of Guildhall. The cedar swamp has excellent microtopography and is dominated by mosses and liverworts.



Abies balsamea, *Betula* spp., in one of the shrub wetlands onsite.



Scirpus cyperinus and mosses and sedges (*Carex* spp.) are found in fenny-PSS areas.



Moose were observed feeding in the wetland for palatable emergent wetland vegetation. Wood ducks and bald eagles have also been observed here. Bald eagles were observed at this pond.



Beaver were actively expanding wetland areas on the property.



Upland Areas



Upland forest along the side of Duren Mountain.



Upland forest and rock outcrop on Duren Mountain.



Cultural Resources

No earthwork is proposed as part of this plan and as a result no historic artifacts will be affected by the mitigation activities.

5.2 Site Land Use History, Including Structures.

This site has largely been maintained in a wooded state. The most recent logging on the site occurred in 2006. Aerial imagery provides a recent historical landuse perspective (Figure 4).

There are no structures present at the site.

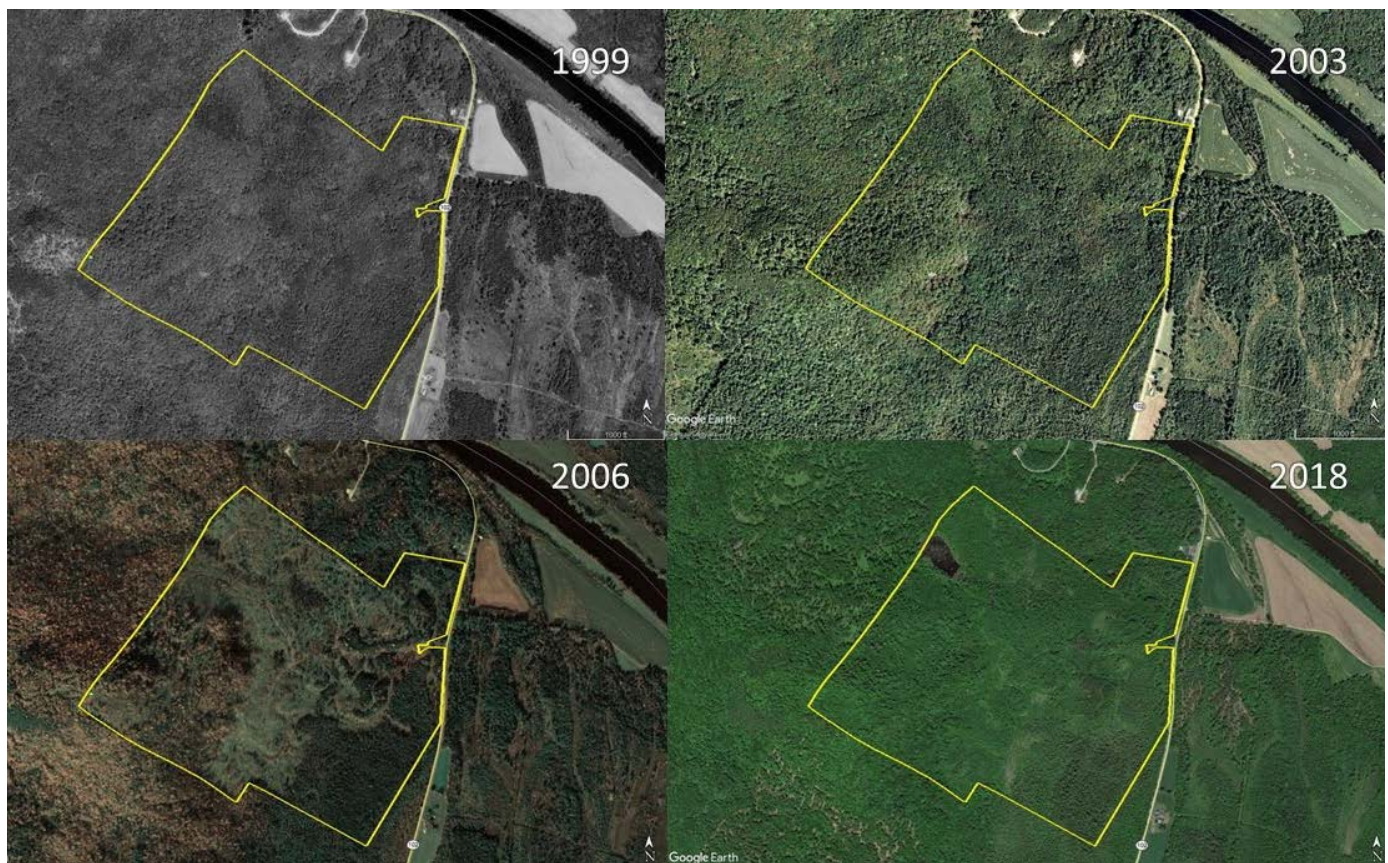


Figure 4. Contemporary and Historic Conditions.

Historic aerial imagery from the ILF site from 1999-2018, show that other than logging in 2006, the land-use has remained relatively stable.



5.3 Soil Descriptions

Based on the Soil Survey of Essex County, Vermont (USDA Official Soil Series Descriptions) the following soils are mapped on-site. A soils map is provided in Figure 5. Soil conditions in the field appear to conform to the mapped soil series.

Kinsman sand (25A) consists of poorly drained soils, located in outwash plains and derived from sandy glaciofluvial deposits. Classified as hydric with high saturated hydraulic conductivity.

The Tunbridge-Peru-Wilmington complex, very stony (SIE41) consists of well drained soils, located on hills and mountains and derived from loamy till. Classified as non-hydric with low to high saturated hydraulic conductivity.

The Tunbridge-Colonel-Cabot complex, very stony (SIE42) consists of somewhat poorly drained soils, located on hills and mountains and derived from loamy lodgment till. Classified as non-hydric with very low to moderately high saturated hydraulic conductivity.

The Tunbridge-Peru-Colonel complex, very stony (SIE43) consists of well drained soils, located on hills and mountains and derived from loamy supraglacial till. Classified as non-hydric with very low to high saturated hydraulic conductivity.

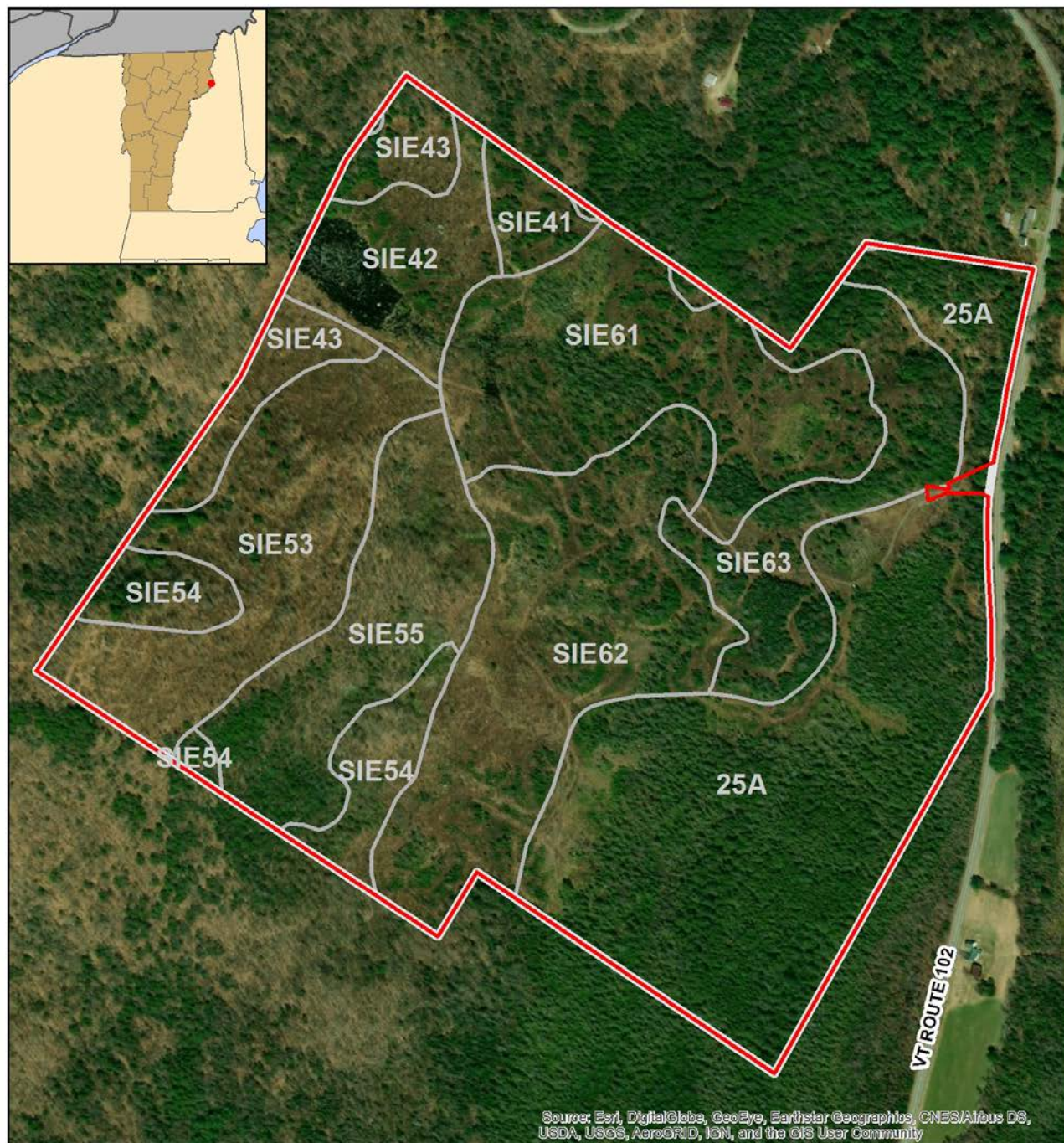
The Tunbridge-Lyman complex, very rocky (SIE53 and SIE 54) consists of well drained soils, located on hills and mountains and derived from loamy supraglacial till. Classified as non-hydric with very low to high saturated hydraulic conductivity.

The Lyman-Knob Lock-Rock outcrop complex, very stony (SIE55) consists of somewhat excessively drained soils, located on hills and mountains and derived from loamy till. Classified as non-hydric with low to high saturated hydraulic conductivity.

The Sunapee-Moosilauke complex, very stony (SIE61) consists of moderately well drained soils, located on moraines and derived from sandy and gravelly ablation till or loamy ablation till. Classified as non-hydric with moderately high to high saturated hydraulic conductivity.

The Monadnock-Sunapee-Colonel complex, very stony (SIE62) consists of well drained soils, located on moraines and derived from sandy and gravelly ablation till. Classified as non-hydric with moderately high to high saturated hydraulic conductivity.

The Monadnock-Sunapee complex, very stony (SIE63) consists of well drained soils, located on moraines and derived from sandy and gravelly ablation till. Classified as non-hydric with moderately high to high saturated hydraulic conductivity.



- Property Boundary (183.739 ac.)
- ILF Site (183.389 ac. +/-)
- Soils

0 500 1,000 Feet

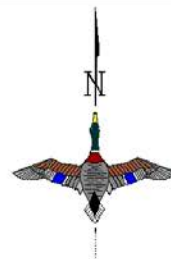


Figure 5. Soils Map.



5.4 Animal and Plant Species Including Endangered Species

164-species of wildlife and plants have been observed at the site (Table 2). Several species of greatest conservation need were identified during this inventory including: moose (*Alces alces*), black bear (*Ursus americana*), bald eagle (*Haliaeetus leucocephalus*), and tall northern bog orchid (*Platanthera huronensis*). Tall northern bog orchid is uncommon in Vermont (S3). Additionally, four species listed as moderate priority species in BCR-14 (bald eagle, northern flicker (*Colaptes auratus*), wood duck (*Aix sponsa*), and ruffed grouse (*Bonasa umbellus*) have been identified on site (Dettmers 2006). Black ducks (*Anas rubripes*), a high priority species, and mallards (*Anas platyrhynchos*), a species of management concern, also likely utilize the site.

The site supports several species listed as species of greatest conservation need (SGCN) by the Vermont Wildlife Action Plan (Vermont Wildlife Action Plan Team 2015). Bald eagles are listed as a high priority SGCN, and ruffed grouse are listed as a medium priority SGCN. Black ducks – likely present – are also a high priority SGCN. Several mammal species on the SGCN list were also identified on site. Snowshoe hare (*Lepus americanus*), moose, black bear, and bobcat (*Lynx rufus*) are all medium priority SGCN that have been observed on the mitigation site. Preserving large contiguous blocks of habitat has been identified by the Wildlife Action Plan as a goal for conservation of priority bird species.

No plant species of greatest conservation need have been identified on site, but the presence of a northern white cedar swamp on the mitigation site means that several rare plant species likely occur on the mitigation site. Species such as the ram's head lady's-slipper (*Cypripedium arietinum*), dragon's mouth orchid (*Arethusa bulbosa*), and pale sedge (*Carex livida*) are all high priority SGCN species associated with northern white cedar swamps and may occur at the site.

No federally listed threatened or endangered species have been identified on the mitigation site. According to the US Fish and Wildlife Service (USFWS) the federally listed (threatened) Canada lynx (*Lynx canadensis*) and northern long-eared bat (*Myotis septentrionalis*) may occur within the mitigation site's boundary. Canada lynx are most likely to occur in forests with snowshoe hares present, and snowshoe hares have been observed on the site. It is possible that Canada lynx may infrequently use the mitigation site.



Black bears observed at the site, are a medium priority species of greatest conservation need.



Moose were observed at the ILF site during a fall 2018 camera trapping effort, and during site visits. Moose are a medium priority species of greatest conservation need.



Tall northern bog orchid (*Platanthera huronensis*), an uncommon (S3) species in the state of Vermont, was found at the site .

**Table 2. Wildlife and Plant Species Identified.**

Species	common name	Conservation Status	Notes
plants			
<i>Abies balsamea</i>	balsam fir		
<i>Acer rubrum</i>	red maple		
<i>Acer saccharum</i>	sugar maple		
<i>Acer spicatum</i>	mountain maple		
<i>Achillea millefolium</i>	yarrow		
<i>Agrostis scabra</i>	rough bentgrass		
<i>Alnus incana</i>	speckled alder		
<i>Aralia nudicaulis</i>	wild sarsparilla		
<i>Arisaema triphyllum</i>	jack-in-the-pulpit		
<i>Asclepias syriaca</i>	Common milkweed		
<i>Bazzania trilobata</i>	greater whipwort		
<i>Betula alleghaniensis</i>	yellow birch		
<i>Betula papyrifera</i>	paper birch		
<i>Bidens cernua</i>	nodding beggartick		
<i>Bidens frondosa</i>	devil's beggartick		
<i>Botrychium virginianum</i>	rattlesnake fern		
<i>Carex comosa</i>	bristly sedge		
<i>Carex gynandra</i>	nodding sedge		
<i>Carex intumescens</i>	bladder sedge		
<i>Carex scoparia</i>	broom sedge		
<i>Carex stricta</i>	tussock sedge		
<i>Carex trisperma</i>	three-seeded sedge		
<i>Chamaenerion angustifolium</i>	fireweed		
<i>Chelone glabra</i>	turtlehead		
<i>Circaea alpina</i>	enchanter's nightshade		
<i>Clematis virginiana</i>	woodbine		
<i>Clintonia borealis</i>	blue-bead lily		
<i>Coptis groenlandica</i>	threeleaf goldthread		
<i>Cornus canadensis</i>	creeping dogwood		
<i>Cornus racemosa</i>	gray dogwood		
<i>Corylus cornuta</i>	beaked hazelnut		
<i>Cypripedium acaule</i>	pink lady's slipper		
<i>Dennstaedtia punctilobula</i>	hayscented fern		
<i>Dryopteris carthusiana</i>	spinulose wood fern		
<i>Dryopteris cristata</i>	crested wood fern		
<i>Dryopteris intermedia</i>	intermediate wood fern		
<i>Epilobium</i> sp.	willowherb		
<i>Epipactis helleborine</i>	weed orchid		non-native
<i>Equisetum fluviatile</i>	water horsetail		



Species	common name	Conservation Status	Notes
<i>Eriophorum vaginatum</i>	tussock cottongrass		
<i>Eutrochium maculatum</i>	joe pye weed		
<i>Eupatorium perfoliatum</i>	white boneset		
<i>Eurybia divaricata</i>	wood aster		
<i>Euthamia graminifolia</i>	grass leaved goldenrod		
<i>Fagus grandifolia</i>	american beech		
<i>Fragaria vesca</i>	wild strawberry		
<i>Frangula alnus</i>	glossy buckthorn		
<i>Fraxinus nigra</i>	black ash		
<i>Galium tinctorium</i>	stiff marsh bedstraw		
<i>Glyceria canadensis</i>	rattlesnake mannagrass		
<i>Glyceria striata</i>	fowl mannagrass		
<i>Gymnocarpium dryopteris</i>	oak fern		
<i>Hylocomnium splendens</i>	stair-step moss		
<i>Ilex mucronata</i>	mountain holly		
<i>Ilex verticillata</i>	winterberry		
<i>Impatiens capensis</i>	touch-me-not		
<i>Iris versicolor</i>	blue flag iris		
<i>Juncus alpinoarticulatus</i>	northern green rush		
<i>Juncus canadensis</i>	canadian rush		
<i>Juncus effusus</i>	soft rush		
<i>Juncus tenuis</i>	poverty rush		
<i>Larix laricina</i>	Eastern larch		
<i>Lemna minor</i>	duckweed		
<i>Linnaea borealis</i>	twinline		
<i>Lobelia inflata</i>	Indian tobacco		
<i>Lonicera oblongifolia</i>	swamp honeysuckle		
<i>Luzula acuminata</i>	hairy wood rush		
<i>Lycopodium</i> sp.	clubmoss		
<i>Lycopus americanus</i>	water horehound		
<i>Maianthemum canadense</i>	Canada mayflower		
<i>Maianthemum racemosum</i>	false solomon's-seal		
<i>Maianthemum stellatum</i>	star-flowered lily-of-the-valley		
<i>Maianthemum trifolium</i>	three-leaf solomon's-seal		
<i>Medeola virginiana</i>	Indian cucumber-root		
<i>Melilotus officinalis</i>	yellow sweet clover		
<i>Mitchella repens</i>	partridgeberry		
<i>Mitella nuda</i>	naked bishop's cap		
<i>Mnium cuspidatum</i>	toothed plagiomnium moss		
<i>Monotropa uniflora</i>	Indian pipe		
<i>Nemopanthus mucronata</i>	mountain holly		
<i>Onoclea sensibilis</i>	sensitive fern		



Species	common name	Conservation Status	Notes
<i>Osmunda claytoniana</i>	interrupted fern		
<i>Osmunda regalis</i>	royal fern		
<i>Osmundastrum cinnamomeum</i>	cinnamon fern		
<i>Oxalis acetosella</i>	wood sorrel		
<i>Oxalis montana</i>	mountain woodsorrel		
<i>Parthenocissus quinquefolia</i>	Virginia creeper		
<i>Phleum pratense</i>	timothy		
<i>Picea glauca</i>	white spruce		
<i>Picea rubens</i>	red spruce		
<i>Pinus strobus</i>	Eastern white pine		
<i>Plantago major</i>	broadleaf plantain		
<i>Platanthera huronensis</i>	tall northern bog orchid	S3	
<i>Polypodium virginianum</i>	rock polypody		
<i>Polystichum acrostichoides</i>	Christmas fern		
<i>Populus tremuloides</i>	quaking aspen		
<i>Prunus serotina</i>	black cherry		
<i>Rhynchospora alba</i>	white beak sedge		
<i>Ribes nigrum</i>	blackcurrant		
<i>Rubus pubescens</i>	dwarf red blackberry		
<i>Salix candida</i>	sageleaf willow		
<i>Salix</i> sp.	willow		
<i>Sambucus nigra</i>	black elderberry		
<i>Scirpus cyperinus</i>	woolgrass		
<i>Solidago patula</i>	rough leaved goldenrod		
<i>Sorbus americana</i>	American mountain ash		
<i>Spergularia media</i>	media sandspurry		
<i>Sphagnum centrale</i>	sphagnum		
<i>Sphagnum squarrosum</i>	spiky bog moss		
<i>Sphagnum warnstorffii</i>	sphagnum		
<i>Spiraea alba</i>	white meadowsweet		
<i>Spiraea tomentosa</i>	rosy meadowsweet		
<i>Streptopus lanceolatus</i> var. <i>roseus</i>	rose twisted-stalk		
<i>Taraxacum officinale</i>	dandelion		
<i>Thelypteris noveboracensis</i>	New York fern		
<i>Thelypteris palustris</i>	marsh fern		
<i>Thuja occidentalis</i>	northern white cedar		
<i>Tiarella cordifolia</i>	foamflower		
<i>Tilia americana</i>	American basswood		
<i>Triadenum virginicum</i>	marsh St. John's wort		
<i>Trientalis borealis</i>	starflower		
<i>Trifolium pratense</i>	red clover		



Species	common name	Conservation Status	Notes
<i>Trifolium repens</i>	white clover		
<i>Trillium undulatum</i>	painted trillium		
<i>Tsuga canadensis</i>	eastern hemlock		
<i>Tussilago farfara</i>	coltsfoot		
<i>Typha latifolia</i>	broadleaf cattail		
<i>Ulmus americana</i>	American elm		
<i>Urtica dioica</i>	stinging nettle		
<i>Vaccinium corymbosum</i>	highbush blueberry		
<i>Vaccinium myrtilloides</i>	velvet-leaf blueberry		
<i>Verbena hastata</i>	blue vervain		
<i>Viburnum lentago</i>	nannyberry		
<i>Viburnum nudum</i> var. <i>cassinoides</i>	withe-rod		
<i>Vicia sativa</i>	common vetch		
<i>Viola</i> sp.	violets		
birds			
<i>Aix sponsa</i>	wood duck		
<i>Baeolophus bicolor</i>	tufted titmouse		
<i>Bombicilla cedrorum</i>	cedar waxwing		
<i>Bonasa umbellus</i>	ruffed grouse	MP SGCN	
<i>Colaptes auratus</i>	northern flicker		
<i>Corvus brachyrhynchos</i>	American crow		
<i>Corvus corax</i>	common raven		
<i>Cyanocitta cristata</i>	blue jay		
<i>Falco columbarius</i>	merlin		
<i>Haliaeetus leucocephalus</i>	bald eagle	HP SGCN	
<i>Poecile atricapillus</i>	black-capped chickadee		
<i>Setophaga petechia</i>	yellow warbler		
<i>Sitta carolinensis</i>	white-breasted nuthatch		
<i>Spinus tristis</i>	American goldfinch		
<i>Tringa solitaria</i>	solitary sandpiper		
<i>Zenaidura macroura</i>	mourning dove		
mammals			
<i>Alces alces</i>	moose	MP SGCN	
<i>Canis latrans</i>	coyote		
<i>Castor canadensis</i>	American beaver		
<i>Erethizon dorsatum</i>	porcupine		
<i>Lepus americanus</i>	snowshoe hare	MP SGCN	
<i>Lynx rufus</i>	bobcat	MP SGCN	
<i>Odocoileus virginianus</i>	white-tailed deer		
<i>Procyon lotor</i>	raccoon		
<i>Tamiasciurus hudsonicus</i>	American red squirrel		



Species	common name	Conservation Status	Notes
<i>Ursus americana</i>	American black bear	MP SGCN	
	amphibians		
<i>Bufo americanus</i>	American toad		
<i>Lithobates pipiens</i>	northern leopard frog		



6. Mitigation Work Plan

6.1 Geographic Boundaries

The geographic boundaries of this ILF site are the same as the conservation easement boundary as depicted in Figure 2.

6.2 Sources of Water, Connections to Existing Waters and Upland Runoff

Groundwater flow from recharge areas on Duren Mountain feed the medium fens and northern white cedar swamp areas present on the site. Beavers have impounded surface flow to create a large beaver pond on the mitigation site. Seeps, overland flow, and precipitation also provide hydrology for emergent marshes and other wetlands.

7. Long-term Management Plan, Including Financial Arrangements

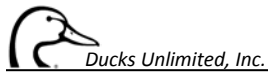
The site is owned fee simple by WAT. DU plans to erect a steel-gate at the driveway entrance to control vehicle access to the property. DU plans to donate the property to The Northeast Wilderness Trust (NWT), while retaining a perpetual conservation easement on the property. DU plans to provide NWT with a stewardship endowment for perpetual management against unauthorized use. NWT is certified by the Land Trust Alliance and is a not-for-profit organization with offices in Montpelier, Vermont. NWT's mission and vision is to protect and expand wilderness areas in the Northeastern US.

In order to provide for a sustainable approach to long-term management, WAT will transfer ownership of the site to NWT following approval of this plan. DU will provide written notice to the USACE when ownership of the Mitigation Site is transferred to NWT at which time a conservation easement will be recorded to the deed. Funds for a long-term stewardship endowment in the amount of \$80,908 have been set aside to provide funds for ongoing site fee-title maintenance. At a conservative 4% annual growth, we estimate \$3,236.31 will be available annually for maintenance and fee-title monitoring by the long-term steward. As part of long-term stewardship, the site will be monitored to ensure that restrictions identified in the conservation easement are being followed. The ILF site will be preserved in perpetuity in a wild state. The long-term strategy will advocate a sustainable approach, minimizing active management activities, opting for natural processes to prevail.



References

- Big Game Management Plan 2010-2020: Creating a Road Map for the Future (2009) – Moose Management, Chapter 3. Vermont Fish and Wildlife Department
<http://www.vtfishandwildlife.com/moose-study.html>.
- Dettmers R (2006) A blueprint for the design and delivery of bird conservation in the Atlantic northern forest. United States Fish and Wildlife Service. Department of the Interior, Washington, D.C., USA.
- Fernández-Pascual E, Jiménez-Alfaro B, Hájek M, et al (2015) Soil thermal buffer and regeneration niche may favour calcareous fen resilience to climate change. *Folia Geobotanica* 50:293–301. doi: 10.1007/s12224-015-9223-y
- Forsyth JL, Forsythe JL (1974) Geologic conditions essential for the perpetuation of cedar bog, Champaign County, Ohio. *The Ohio Journal of Science* 74:116–125.
- Keddy PA (2010) *Wetland ecology, principles and conservation*. Cambridge University Press, New York, USA
- Podniesinski GS, Leopold DJ (1998) Plant community development and peat stratigraphy in forested fens in response to ground-water flow systems. *Wetlands* 18:409–430.
- Raney PA, Fridley JD, Leopold DJ (2014) Characterizing microclimate and plant community variation in wetlands. *Wetlands*. doi: 10.1007/s13157-013-0481-2
- Raney PA, Leopold DJ, Dovciak M, Beier CM (2016) Hydrologic position mediates sensitivity of tree growth to climate: Groundwater subsidies provide a thermal buffer effect in wetlands. *Forest Ecology and Management*. doi: 10.1016/j.foreco.2016.08.004
- Scanga SE, Leopold DJ, Shannon SS (2009) *Population Ecology of the Rare Wetland Plant*.
- Sorenson E, Engstrom B, Lapin M, Popp R, Parren S. (1998) Northern white cedar swamps and red maple-northern white cedar swamps of Vermont: some sites of ecological significance. Nongame and Natural Heritage Program, Vermont Fish and Wildlife Department. Waterbury, VT.
- Sorenson E, Zaino R (2018) *Vermont conservation design: summary report for landscapes, natural communities, habitats, and species*. Vermont Fish and Wildlife Department. Montpelier, VT.
- United States Fish and Wildlife Service. 1986. *North American Waterfowl Management Plan*. Department of the Interior, Washington, D.C., USA.



United States Fish and Wildlife Service. 2012. North American Waterfowl Management Plan.

Department of the Interior, Washington, D.C., USA.

Vermont Fish and Wildlife Department (2016) Synonymy of Vermont Natural Community

Types with National Vegetation Classification Associations Natural Heritage Inventory.

Vermont Wildlife Action Plan Team (2015) Vermont Wildlife Action Plan 2015. Vermont Fish

and Wildlife Department. Montpelier, VT. <http://www.vtfishandwildlife.com>

White D, Fennessy S (2005) Modeling the suitability of wetland restoration potential at the watershed scale. *Ecological Engineering* 24:359–377.



Appendix A. Wetland Delineation Report

Ducks Unlimited, Inc. (DU) investigated site conditions at the Duren Mountain Swamp site in the summer and early fall of 2018 (August 14-15, 2018 and October 9, 2018). The Mitigation Site is located at Latitude: 44.540450° and Longitude: -71.584061° off Vermont Route 102 in the Town of Guildhall, Essex County, Vermont in the Upper Connecticut River 6-digit HUC (HUC 010801). Wetland boundaries were delineated following the protocols outlined in the United States Army Corps of Engineers' (USACE) 1987 "Wetland Delineation Manual" and the "Regional Supplement to the Corps of Engineers Wetland Delineations Manual: Northcentral and Northeast Region (Version 2.0)". Climatic/hydrologic conditions were typical for this time of year. The most prevalent type of wetland delineated at the Mitigation Site was palustrine forested (PFO, 51.99 acres) wetlands. A total of 66.28-acres of aquatic resource features (PFO, PEM, PSS, and open water) were found on the protected site. The following sections provide a written summary, photo and description, mapped locations, and datasheets describing of conditions at each wetland feature.



Forested wetland W-1. DPW1 was dominated by red maple (*Acer rubrum*), balsam fir (*Abies balsamea*), and northern white-cedar (*Thuja occidentalis*). Understory included common winterberry (*Ilex verticillata*), moss (*Sphagnum* spp.), hairy wood-rush (*Luzula acuminata*), and other hydrophytes. Primary hydrology indicators included a high-water table and saturation. A histosol (mucky peat) was the hydric soil indicator.



Forested wetland W-1. DPW2 was dominated by yellow birch (*Betula alleghaniensis*), black ash (*Fraxinus nigra*), and balsam fir (*Abies balsamea*). Understory included red maple (*Acer rubrum*), American mountain-ash (*Sorbus americana*), alternate-leaf dogwood (*Cornus alternifolia*), dwarf red raspberry (*Rubus pubescens*), heart-leaf foamflower (*Tiarella cordifolia*), hay-scented fern (*Dennstaedtia punctilobula*), and other hydrophytes. Primary hydrology indicators included a high water table and saturation.



Scrub-shrub wetland W-4. DPW3 was dominated by beaked hazelnut (*Corylus cornuta*) and quaking aspen (*Populus tremuloides*). Understory included sensitive fern (*Onoclea sensibilis*), flat-top goldentop (*Euthamia graminifolia*), steeplebush (*Spiraea tomentosa*), eastern marsh fern (*Thelypteris palustris*), and other hydrophytes. The primary hydrology indicator was saturation. A histosol was the hydric soil indicator.



Emergent wetland W-8 surrounding the open water beaver pond W-7. DPW4 was dominated by woolgrass (*Scirpus cyperinus*), jewelweed (*Impatiens capensis*), sweetscented joe pye weed (*Eutrochium purpureum*), wrinkle-leaf goldenrod (*Solidago rugosa*), broadleaf cattail (*Typha latifolia*), flat-top goldentop (*Euthamia graminifolia*), and nodding sedge (*Carex gynandra*). Primary hydrology indicators included surface water, a high water table, and saturation. Sandy mucky mineral was the hydric soil indicator.



Forested wetland W-1. DPW5 was dominated by yellow birch (*Betula alleghaniensis*) and black ash (*Fraxinus nigra*). Understory included paper birch (*Betula papyrifera*), rough bent (*Agrostis scabra*), jewelweed (*Impatiens capensis*), and other hydrophytes. Primary hydrology indicators included a high water table and saturation. A histosol was the hydric soil indicator.



Scrub-shrub wetland W-2. DPW6 was dominated by gray birch (*Betula populifolia*), red maple (*Acer rubrum*), and northern white-cedar (*Thuja occidentalis*). Understory included sensitive fern (*Onoclea sensibilis*), soft rush (*Juncus effusus*), nodding burr-marigold (*Bidens cernua*), steeplebush (*Spiraea tomentosa*), and other hydrophytes. Primary hydrology indicators included a high water table and saturation. A histic epipedon and black histic were the hydric soil indicators.



Scrub-shrub wetland W-5. DPW7 was dominated by balsam fir (*Abies balsamea*), red maple (*Acer rubrum*), red spruce (*Picea rubens*), eastern hemlock (*Tsuga canadensis*), and paper birch (*Betula papyrifera*). Understory included moss (*Sphagnum* spp.), eastern marsh fern (*Thelypteris palustris*), woolgrass (*Scirpus cyperinus*), and other hydrophytes. Surface water, a high water table, and saturation indicated wetland hydrology. Hydric soil was indicated by a histosol.



Scrub-shrub wetland W-6. DPW8 was dominated by balsam fir (*Abies balsamea*), yellow birch (*Betula alleghaniensis*), eastern hemlock (*Tsuga canadensis*), and black ash (*Fraxinus nigra*). Understory included dwarf red raspberry (*Rubus pubescens*), bristly-stalk sedge (*Carex leptalea*), cinnamon fern (*Osmundastrum cinnamomeum*), and other hydrophytes. Surface water, a high water table, and saturation indicated wetland hydrology. A histosol was the hydric soil indicator.



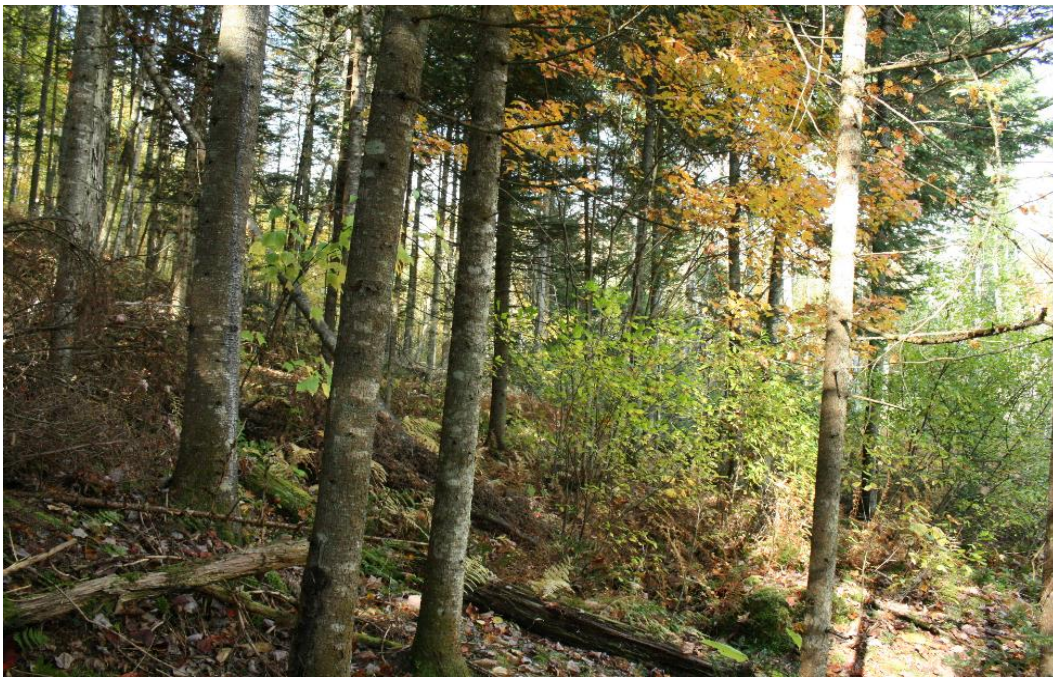
Scrub-shrub wetland W-3. DPW9 was dominated by balsam fir (*Abies balsamea*), speckled alder (*Alnus incana*), stepplebush (*Spiraea tomentosa*), and yellow birch (*Betula alleghaniensis*). Understory included shallow sedge (*Carex lurida*), dwarf red raspberry (*Rubus pubescens*), and other hydrophytes. High water table and saturation indicated wetland hydrology. A histosol was the hydric soil indicator.



DPU1. This upland point was dominated by striped maple (*Acer pensylvanicum*), mountain maple (*Acer spicatum*), yellow birch (*Betula alleghaniensis*), and evergreen wood fern (*Dryopteris intermedia*).



DPU2. This upland point was dominated by red spruce (*Picea rubens*), paper birch (*Betula papyrifera*), and Canada yew (*Taxus canadensis*).

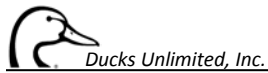


DPU3. This upland point was dominated by balsam fir (*Abies balsamea*), red spruce (*Picea rubens*), American beech (*Fagus grandifolia*), red maple (*Acer rubrum*), false lily-of-the-valley (*Maianthemum canadense*), and wild sarsaparilla (*Aralia nudicaulis*).

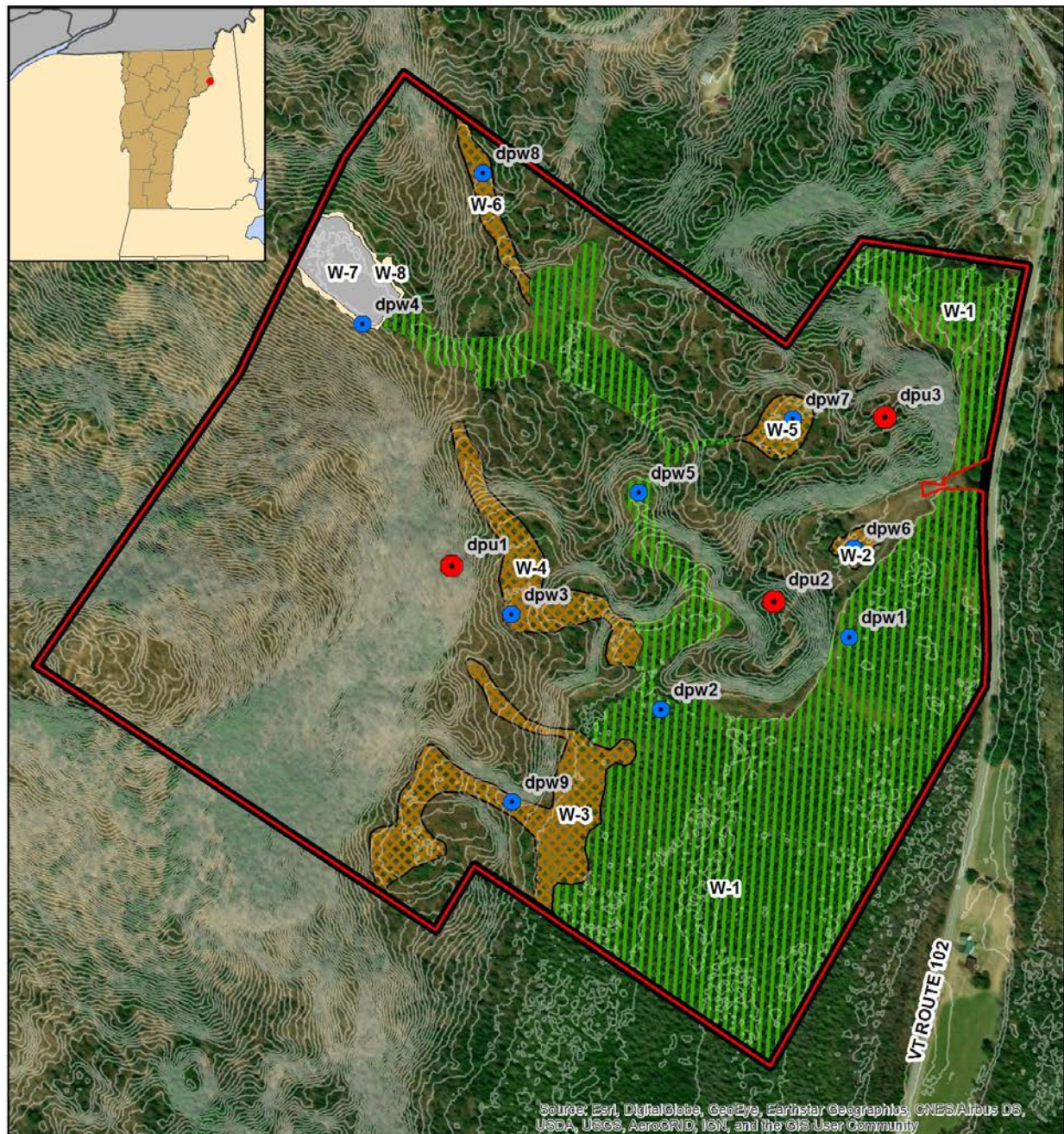


Table 1. Delineated Wetlands at the Mitigation Site

Wetland Name	Wetland Type	Datapoints	Wetland Acres
W-1	PFO	DPW1, DPW2, DPW5	51.99
W-2	PSS	DPW6	0.43
W-3	PSS	DPW9	5.94
W-4	PSS	DPW3	3.35
W-5	PSS	DPW7	0.98
W-6	PSS	DPW8	1.10
W-7	Pond	n/a	2.03
W-8	PEM	DPW4	0.46
		Total	66.28

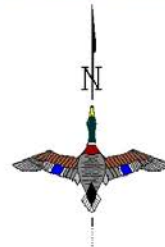


Wetland Delineation Map and Datasheets:



- PFO (W-1: 51.99 ac.)
- PSS (W-2 - W-6: 11.80 ac.)
- PEM (W-8: 0.46 ac.)
- Pond (W-7: 2.03 ac.)
- ILF Site (183.39 ac.)
- Property Boundary (183.739 ac.)

0 500 1,000 Feet



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/14/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpu1
 Investigator(s): P. Raney, J. Fraser, E. Farley Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 10
 Subregion (LRR or MLRA): LRR R Lat: 44.539904° Long: -71.591792° Datum: WGS84
 Soil Map Unit Name: Lyman-Knob Lock-Rock outcrop complex NWI classification: none

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

HYDROLOGY

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

VEGETATION – Use scientific names of plants.Sampling Point: dpu1

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer pensylvanicum</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
2. <u>Acer spicatum</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Betula alleghaniensis</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u>Acer saccharum</u>	<u>8</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Picea rubens</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>68</u>	=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>63</u></td> <td>x 4 = <u>252</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>103</u> (A)</td> <td><u>372</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.61</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>63</u>	x 4 = <u>252</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>103</u> (A)	<u>372</u> (B)	Prevalence Index = B/A = <u>3.61</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>40</u>	x 3 = <u>120</u>																			
FACU species <u>63</u>	x 4 = <u>252</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>103</u> (A)	<u>372</u> (B)																			
Prevalence Index = B/A = <u>3.61</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		_____	=Total Cover	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Dryopteris intermedia</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Oxalis montana</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
3. <u>Tiarella cordifolia</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Arisaema triphyllum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>35</u>	=Total Cover	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 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.																
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/15/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpu2
 Investigator(s): J. Fraser, E. Farley Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 8
 Subregion (LRR or MLRA): LRR R Lat: 44.539368° Long: -71.587198° Datum: WGS84
 Soil Map Unit Name: Monadnock-Sunapee complex NWI classification: none
 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 <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u> If yes, optional Wetland Site ID: <u> </u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.Sampling Point: dpu2

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Picea rubens</u>	60	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 20%;"></th> <th style="width: 20%;">Multiply by:</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">0</td> <td>x 2 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td>x 3 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">85</td> <td>x 4 =</td> <td style="text-align: center;">340</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td>x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">85</td> <td>(A)</td> <td style="text-align: center;">340 (B)</td> </tr> <tr> <td colspan="4">Prevalence Index = B/A = <u>4.00</u></td> </tr> </tbody> </table>	Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0	FACW species	0	x 2 =	0	FAC species	0	x 3 =	0	FACU species	85	x 4 =	340	UPL species	0	x 5 =	0	Column Totals:	85	(A)	340 (B)	Prevalence Index = B/A = <u>4.00</u>			
Total % Cover of:		Multiply by:																																		
OBL species	0	x 1 =	0																																	
FACW species	0	x 2 =	0																																	
FAC species	0	x 3 =	0																																	
FACU species	85	x 4 =	340																																	
UPL species	0	x 5 =	0																																	
Column Totals:	85	(A)	340 (B)																																	
Prevalence Index = B/A = <u>4.00</u>																																				
2. <u>Betula papyrifera</u>	20	Yes	FACU																																	
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
	80	=Total Cover																																		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ 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 or equal to 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 <u> </u> No <u> X </u>																																
1. _____																																				
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
11. _____																																				
12. _____																																				
	5	=Total Cover																																		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																																				
1. _____																																				
2. _____																																				
3. _____																																				
4. _____																																				
		=Total Cover																																		

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

Sampling Point: dpu2

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

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

_____ Histosol (A1)	_____ Polyvalue Below Surface (S8) (LRR R,
_____ Histic Epipedon (A2)	_____ MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9) (LRR R, MLRA 149B)
_____ Hydrogen Sulfide (A4)	_____ High Chroma Sands (S11) (LRR K, L)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1) (LRR K, L)
_____ Depleted Below Dark Surface (A11)	_____ Loamy Gleyed Matrix (F2)
_____ Thick Dark Surface (A12)	_____ Depleted Matrix (F3)
_____ Sandy Mucky Mineral (S1)	_____ Redox Dark Surface (F6)
_____ Sandy Gleyed Matrix (S4)	_____ Depleted Dark Surface (F7)
_____ Sandy Redox (S5)	_____ Redox Depressions (F8)
_____ Stripped Matrix (S6)	_____ Marl (F10) (LRR K, L)
_____ Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

☐ 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**)
☐ 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 (F21)
☐ Very Shallow Dark Surface (F22)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No ☒

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/15/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpu3
 Investigator(s): P. Raney Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 8
 Subregion (LRR or MLRA): LRR R Lat: 44.541226° Long: -71.585462° Datum: WGS84
 Soil Map Unit Name: Monadnock-Sunapee complex NWI classification: none

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

HYDROLOGY

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

VEGETATION – Use scientific names of plants.Sampling Point: dpu3

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Abies balsamea</u>	<u>45</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>42.9%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>83</u></td> <td>x 3 = <u>249</u></td> </tr> <tr> <td>FACU species <u>58</u></td> <td>x 4 = <u>232</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>141</u> (A)</td> <td><u>481</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.41</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>83</u>	x 3 = <u>249</u>	FACU species <u>58</u>	x 4 = <u>232</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>141</u> (A)	<u>481</u> (B)	Prevalence Index = B/A = <u>3.41</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>83</u>	x 3 = <u>249</u>																			
FACU species <u>58</u>	x 4 = <u>232</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>141</u> (A)	<u>481</u> (B)																			
Prevalence Index = B/A = <u>3.41</u>																				
2. <u>Picea rubens</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Acer rubrum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>70</u> =Total Cover		Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. <u>Abies balsamea</u>	<u>8</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Fagus grandifolia</u>	<u>7</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Acer rubrum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____	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 or equal to 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.																
			<u>20</u> =Total Cover																	
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Maianthemum canadense</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Aralia nudicaulis</u>	<u>8</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Dryopteris intermedia</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Trientalis borealis</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Abies balsamea</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
6. <u>Trillium undulatum</u>	<u>3</u>	<u>No</u>	<u>FACU</u>																	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
			<u>51</u> =Total Cover																	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
			_____ =Total Cover																	

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/14/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw1
 Investigator(s): J. Fraser, P. Raney, E. Farley Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): none Slope %: <1
 Subregion (LRR or MLRA): LRR R Lat: 44.539000° Long: -71.586086° Datum: WGS84
 Soil Map Unit Name: Kinsman sand NWI classification: none

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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-1</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.Sampling Point: dpw1

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer rubrum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																
2. <u>Abies balsamea</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Thuja occidentalis</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>20</u>	=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>9</u></td> <td>x 1 = <u>9</u></td> </tr> <tr> <td>FACW species <u>26</u></td> <td>x 2 = <u>52</u></td> </tr> <tr> <td>FAC species <u>33</u></td> <td>x 3 = <u>99</u></td> </tr> <tr> <td>FACU species <u>24</u></td> <td>x 4 = <u>96</u></td> </tr> <tr> <td>UPL species <u>1</u></td> <td>x 5 = <u>5</u></td> </tr> <tr> <td>Column Totals: <u>93</u> (A)</td> <td><u>261</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.81</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>9</u>	x 1 = <u>9</u>	FACW species <u>26</u>	x 2 = <u>52</u>	FAC species <u>33</u>	x 3 = <u>99</u>	FACU species <u>24</u>	x 4 = <u>96</u>	UPL species <u>1</u>	x 5 = <u>5</u>	Column Totals: <u>93</u> (A)	<u>261</u> (B)	Prevalence Index = B/A = <u>2.81</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>9</u>	x 1 = <u>9</u>																			
FACW species <u>26</u>	x 2 = <u>52</u>																			
FAC species <u>33</u>	x 3 = <u>99</u>																			
FACU species <u>24</u>	x 4 = <u>96</u>																			
UPL species <u>1</u>	x 5 = <u>5</u>																			
Column Totals: <u>93</u> (A)	<u>261</u> (B)																			
Prevalence Index = B/A = <u>2.81</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Ilex verticillata</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
		<u>15</u>	=Total Cover																	
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Sphagnum</u>	<u>50</u>	<u>Yes</u>	_____																	
2. <u>Luzula acuminata</u>	<u>12</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Aronia melanocarpa</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Cornus canadensis</u>	<u>8</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Nemopanthus mucronatus</u>	<u>8</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Taxus canadensis</u>	<u>7</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Osmundastrum cinnamomeum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Mitchella repens</u>	<u>4</u>	<u>No</u>	<u>FACU</u>																	
9. <u>Hypericum perforatum</u>	<u>1</u>	<u>No</u>	<u>UPL</u>																	
10. <u>Cypripedium acaule</u>	<u>1</u>	<u>No</u>	<u>FACW</u>																	
11. <u>Oxalis montana</u>	<u>1</u>	<u>No</u>	<u>FACU</u>																	
12. <u>Lycopus americanus</u>	<u>1</u>	<u>No</u>	<u>OBL</u>																	
		<u>108</u>	=Total Cover	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 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.																
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/14/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw2
 Investigator(s): J. Fraser, P. Raney, E. Farley Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): none Slope %: <1
 Subregion (LRR or MLRA): LRR R Lat: 44.538349° Long: -71.588860° Datum: WGS84
 Soil Map Unit Name: Kinsman sand NWI classification: PFO4E

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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-1</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Water-Stained Leaves (B9) <u>x</u> High Water Table (A2) <u> </u> Aquatic Fauna (B13) <u>x</u> Saturation (A3) <u> </u> Marl Deposits (B15) <u> </u> Water Marks (B1) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Sediment Deposits (B2) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Drift Deposits (B3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Algal Mat or Crust (B4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Iron Deposits (B5) <u> </u> Thin Muck Surface (C7) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Other (Explain in Remarks) <u> </u> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u>x</u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u> </u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u>x</u> Depth (inches): <u> </u> Water Table Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>6</u> Saturation Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.Sampling Point: dpw2

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Betula alleghaniensis</u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>85</u></td> <td>x 2 = <u>170</u></td> </tr> <tr> <td>FAC species <u>74</u></td> <td>x 3 = <u>222</u></td> </tr> <tr> <td>FACU species <u>28</u></td> <td>x 4 = <u>112</u></td> </tr> <tr> <td>UPL species <u>12</u></td> <td>x 5 = <u>60</u></td> </tr> <tr> <td>Column Totals: <u>199</u> (A)</td> <td><u>564</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.83</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>85</u>	x 2 = <u>170</u>	FAC species <u>74</u>	x 3 = <u>222</u>	FACU species <u>28</u>	x 4 = <u>112</u>	UPL species <u>12</u>	x 5 = <u>60</u>	Column Totals: <u>199</u> (A)	<u>564</u> (B)	Prevalence Index = B/A = <u>2.83</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>85</u>	x 2 = <u>170</u>																			
FAC species <u>74</u>	x 3 = <u>222</u>																			
FACU species <u>28</u>	x 4 = <u>112</u>																			
UPL species <u>12</u>	x 5 = <u>60</u>																			
Column Totals: <u>199</u> (A)	<u>564</u> (B)																			
Prevalence Index = B/A = <u>2.83</u>																				
2. <u>Fraxinus nigra</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Abies balsamea</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>80</u> =Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Acer rubrum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Sorbus americana</u>	<u>8</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Cornus alternifolia</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>23</u> =Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Rubus pubescens</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>	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 or equal to 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 <u>X</u> No _____																
2. <u>Tiarella cordifolia</u>	<u>12</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Dennstaedtia punctilobula</u>	<u>12</u>	<u>Yes</u>	<u>UPL</u>																	
4. <u>Impatiens capensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Phegopteris hexagonoptera</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Oxalis montana</u>	<u>4</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Fraxinus nigra</u>	<u>4</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Onoclea sensibilis</u>	<u>4</u>	<u>No</u>	<u>FACW</u>																	
9. <u>Ribes americanum</u>	<u>3</u>	<u>No</u>	<u>FACW</u>																	
10. <u>Thuja occidentalis</u>	<u>2</u>	<u>No</u>	<u>FACW</u>																	
11. <u>Circaea alpina</u>	<u>2</u>	<u>No</u>	<u>FACW</u>																	
12. <u>Carex sp.</u>	<u>2</u>	<u>No</u>	_____																	
		<u>98</u> =Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____ =Total Cover																		

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

VEGETATION Continued – Use scientific names of plants.Sampling Point: dpw2

<u>Tree Stratum</u>	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Vegetation Strata:
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
	<u>80</u>	=Total Cover		
<u>Sapling/Shrub Stratum</u>				
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
	<u>23</u>	=Total Cover		
<u>Herb Stratum</u>				
13. <u>Taxus canadensis</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
14. <u>Abies balsamea</u>	<u>1</u>	<u>No</u>	<u>FAC</u>	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
21. _____	_____	_____	_____	
22. _____	_____	_____	_____	
23. _____	_____	_____	_____	
24. _____	_____	_____	_____	
	<u>98</u>	=Total Cover		
<u>Woody Vine Stratum</u>				
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	_____	=Total Cover		

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/14/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw3
 Investigator(s): J. Fraser, P. Raney, E. Farley Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR or MLRA): LRR R Lat: 44.539376° Long: -71.590923° Datum: WGS84
 Soil Map Unit Name: Monadnock-Sunapee-Colonel complex NWI classification: none
 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-4</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.Sampling Point: dpw3

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>14</u></td> <td>x 1 = <u>14</u></td> </tr> <tr> <td>FACW species <u>46</u></td> <td>x 2 = <u>92</u></td> </tr> <tr> <td>FAC species <u>27</u></td> <td>x 3 = <u>81</u></td> </tr> <tr> <td>FACU species <u>91</u></td> <td>x 4 = <u>364</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>178</u> (A)</td> <td><u>551</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.10</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>14</u>	x 1 = <u>14</u>	FACW species <u>46</u>	x 2 = <u>92</u>	FAC species <u>27</u>	x 3 = <u>81</u>	FACU species <u>91</u>	x 4 = <u>364</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>178</u> (A)	<u>551</u> (B)	Prevalence Index = B/A = <u>3.10</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>14</u>	x 1 = <u>14</u>																			
FACW species <u>46</u>	x 2 = <u>92</u>																			
FAC species <u>27</u>	x 3 = <u>81</u>																			
FACU species <u>91</u>	x 4 = <u>364</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>178</u> (A)	<u>551</u> (B)																			
Prevalence Index = B/A = <u>3.10</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Corylus cornuta</u>	<u>45</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Populus tremuloides</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Salix sp.</u>	<u>10</u>	<u>No</u>																		
4. <u>Abies balsamea</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Acer rubrum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
6. <u>Fraxinus nigra</u>	<u>2</u>	<u>No</u>	<u>FACW</u>																	
7. <u>Betula populifolia</u>	<u>2</u>	<u>No</u>	<u>FAC</u>																	
=Total Cover																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Onoclea sensibilis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Euthamia graminifolia</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Spiraea tomentosa</u>	<u>12</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Thelypteris palustris</u>	<u>12</u>	<u>Yes</u>	<u>FACW</u>																	
5. <u>Carex crinita</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Luzula acuminata</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Carex exilis</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
8. <u>Chelone obliqua</u>	<u>4</u>	<u>No</u>	<u>OBL</u>																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
=Total Cover																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				

Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
3 - Prevalence Index is ≤3.0¹
4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators 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 or equal to 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.)

VEGETATION Continued – Use scientific names of plants.Sampling Point: dpw3

<u>Tree Stratum</u>	Absolute % Cover	Dominant Species?	Indicator Status	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 or equal to 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.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
		=Total Cover		
<u>Sapling/Shrub Stratum</u>				
8. <i>Populus grandidentata</i>	1	No	FACU	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
		110 =Total Cover		
<u>Herb Stratum</u>				
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
21. _____	_____	_____	_____	
22. _____	_____	_____	_____	
23. _____	_____	_____	_____	
24. _____	_____	_____	_____	
		78 =Total Cover		
<u>Woody Vine Stratum</u>				
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
		=Total Cover		

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/14/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw4
 Investigator(s): J. Fraser, P. Raney, E. Farley Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): edge of beaver pond Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR or MLRA): LRR R Lat: 44.542447° Long: -71.592886° Datum: WGS84
 Soil Map Unit Name: Tunbridge-Colonel-Cabot complex NWI classification: none
 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-8</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres 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)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>2</u> Water Table Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	

VEGETATION – Use scientific names of plants.Sampling Point: dpw4

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across All Strata: <u>10</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>90.0%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>34</u></td> <td>x 1 = <u>34</u></td> </tr> <tr> <td>FACW species <u>33</u></td> <td>x 2 = <u>66</u></td> </tr> <tr> <td>FAC species <u>32</u></td> <td>x 3 = <u>96</u></td> </tr> <tr> <td>FACU species <u>18</u></td> <td>x 4 = <u>72</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>122</u> (A)</td> <td><u>293</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.40</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>34</u>	x 1 = <u>34</u>	FACW species <u>33</u>	x 2 = <u>66</u>	FAC species <u>32</u>	x 3 = <u>96</u>	FACU species <u>18</u>	x 4 = <u>72</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>122</u> (A)	<u>293</u> (B)	Prevalence Index = B/A = <u>2.40</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>34</u>	x 1 = <u>34</u>																			
FACW species <u>33</u>	x 2 = <u>66</u>																			
FAC species <u>32</u>	x 3 = <u>96</u>																			
FACU species <u>18</u>	x 4 = <u>72</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>122</u> (A)	<u>293</u> (B)																			
Prevalence Index = B/A = <u>2.40</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Acer saccharum</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Larix laricina</u>	<u>8</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Acer rubrum</u>	<u>7</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u>Fraxinus nigra</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Scirpus cyperinus</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>	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 or equal to 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 <u>X</u> No _____																
2. <u>Impatiens capensis</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Eutrochium purpureum</u>	<u>8</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u>Solidago rugosa</u>	<u>8</u>	<u>Yes</u>	<u>FAC</u>																	
5. <u>Typha latifolia</u>	<u>7</u>	<u>Yes</u>	<u>OBL</u>																	
6. <u>Euthamia graminifolia</u>	<u>7</u>	<u>Yes</u>	<u>FAC</u>																	
7. <u>Carex gynandra</u>	<u>7</u>	<u>Yes</u>	<u>OBL</u>																	
8. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
9. <u>Dennstaedtia punctilobula</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
10. <u>Doellingeria umbellata</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
11. <u>Lycopus americanus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
12. <u>Aralia nudicaulis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
		=Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		=Total Cover																		

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

VEGETATION Continued – Use scientific names of plants.Sampling Point: dpw4

<u>Tree Stratum</u>	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Vegetation Strata:
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
			=Total Cover	
<u>Sapling/Shrub Stratum</u>				
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
			30 =Total Cover	
<u>Herb Stratum</u>				
13. <u>Populus tremuloides</u>	3	No	FACU	
14. <u>Clematis virginiana</u>	2	No	FAC	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
21. _____	_____	_____	_____	
22. _____	_____	_____	_____	
23. _____	_____	_____	_____	
24. _____	_____	_____	_____	
			92 =Total Cover	
<u>Woody Vine Stratum</u>				
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
			=Total Cover	

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

Sampling Point: dpw4

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R ,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)
<input checked="" type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Marl (F10) (LRR K, L)
<input type="checkbox"/> Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

☐ 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**)
☐ 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 (F21)
☐ Very Shallow Dark Surface (F22)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/15/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw5
 Investigator(s): J. Fraser, E. Farley Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR or MLRA): LRR R Lat: 44.540595° Long: -71.589070° Datum: WGS84
 Soil Map Unit Name: Monadnock-Sunapee-Colonel complex NWI classification: none
 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-1</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.Sampling Point: dpw5

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Betula alleghaniensis</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)																
2. <u>Fraxinus nigra</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Acer rubrum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Abies balsamea</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>65</u> =Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Betula papyrifera</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>35</u></td> <td>x 1 = <u>35</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>85</u></td> <td>x 3 = <u>255</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>180</u> (A)</td> <td><u>420</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.33</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>35</u>	x 1 = <u>35</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>85</u>	x 3 = <u>255</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>180</u> (A)	<u>420</u> (B)	Prevalence Index = B/A = <u>2.33</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>35</u>	x 1 = <u>35</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>85</u>	x 3 = <u>255</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>180</u> (A)	<u>420</u> (B)																			
Prevalence Index = B/A = <u>2.33</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>5</u> =Total Cover																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Agrostis scabra</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Impatiens capensis</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Carex gynandra</u>	<u>15</u>	<u>No</u>	<u>OBL</u>																	
4. <u>Carex comosa</u>	<u>15</u>	<u>No</u>	<u>OBL</u>																	
5. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Galium tinctorium</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>110</u> =Total Cover																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	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 or equal to 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.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																				

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

Sampling Point: dpw5

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: 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)

- ___ Polyvalue Below Surface (S8) (**LRR R**,
MLRA 149B)
- ___ Thin Dark Surface (S9) (**LRR R**, **MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K**, **L**)
- ___ 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)
- ___ Marl (F10) (**LRR K**, **L**)

Indicators for Problematic Hydric Soils³:

☐ 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**)
☐ 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 (F21)
☐ Very Shallow Dark Surface (F22)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 8

Hydric Soil Present? Yes X No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 8/15/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw6
 Investigator(s): J. Fraser, E. Farley Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): concave Slope %: <1
 Subregion (LRR or MLRA): LRR R Lat: 44.539911° Long: -71.585997° Datum: WGS84
 Soil Map Unit Name: Kinsman sand NWI classification: none

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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-2</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.Sampling Point: dpw6

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: 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>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>245</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.96</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>245</u> (B)	Prevalence Index = B/A = <u>1.96</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>45</u>	x 1 = <u>45</u>																			
FACW species <u>50</u>	x 2 = <u>100</u>																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>125</u> (A)	<u>245</u> (B)																			
Prevalence Index = B/A = <u>1.96</u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Betula populifolia</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Acer rubrum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Thuja occidentalis</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Onoclea sensibilis</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Juncus effusus</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Bidens cernua</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>																	
4. <u>Spiraea tomentosa</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
5. <u>Typha latifolia</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Taxus canadensis</u>	<u>8</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Impatiens capensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Glyceria striata</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
9. <u>Rubus allegheniensis</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
=Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				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 or equal to 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.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 10/9/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw7
 Investigator(s): J. Fraser, P. Raney Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): none Slope %: <1
 Subregion (LRR or MLRA): LRR R Lat: 44.541246° Long: -71.586773° Datum: WGS84
 Soil Map Unit Name: Sunapee-Moosilauke complex NWI classification: none
 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-5</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres 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)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>2</u> Water Table Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.Sampling Point: dpw7

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer rubrum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. <u>Picea rubens</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Tsuga canadensis</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Betula papyrifera</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>20</u>	=Total Cover																	
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Abies balsamea</u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>58</u></td> <td>x 3 = <u>174</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>118</u> (A)</td> <td><u>354</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>58</u>	x 3 = <u>174</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>118</u> (A)	<u>354</u> (B)	Prevalence Index = B/A = <u>3.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>10</u>	x 1 = <u>10</u>																			
FACW species <u>15</u>	x 2 = <u>30</u>																			
FAC species <u>58</u>	x 3 = <u>174</u>																			
FACU species <u>35</u>	x 4 = <u>140</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>118</u> (A)	<u>354</u> (B)																			
Prevalence Index = B/A = <u>3.00</u>																				
2. <u>Betula populifolia</u>	<u>8</u>	<u>No</u>	<u>FAC</u>																	
3. <u>Picea rubens</u>	<u>7</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Larix laricina</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Pinus strobus</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>60</u>	=Total Cover																	
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Sphagnum</u>	<u>70</u>	<u>Yes</u>	_____	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>_____</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Thelypteris palustris</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
3. <u>Scirpus cyperinus</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
4. <u>Mitchella repens</u>	<u>8</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Abies balsamea</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
6. <u>Cornus canadensis</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
7. <u>Carex sp.</u>	<u>5</u>	<u>No</u>	_____																	
8. _____	_____	_____	_____	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 or equal to 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.																
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>113</u>	=Total Cover																	
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover																	

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

Sampling Point: dpw7

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: 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)

- ___ Polyvalue Below Surface (S8) (**LRR R**,
MLRA 149B)
- ___ Thin Dark Surface (S9) (**LRR R**, **MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K**, **L**)
- ___ 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)
- ___ Marl (F10) (**LRR K**, **L**)

Indicators for Problematic Hydric Soils³:

☐ 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**)
☐ 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 (F21)
☐ Very Shallow Dark Surface (F22)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 4

Hydric Soil Present? Yes X No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 10/9/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw8
 Investigator(s): J. Fraser, P. Raney Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 1
 Subregion (LRR or MLRA): LRR R Lat: 44.543919° Long: -71.591078° Datum: WGS84
 Soil Map Unit Name: Tunbridge-Colonel-Cabot complex NWI classification: none
 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-6</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres 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)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>1</u> Water Table Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	

VEGETATION – Use scientific names of plants.Sampling Point: dpw8

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Tsuga canadensis</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)																
2. <u>Betula alleghaniensis</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Fraxinus nigra</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>25</u>	=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>49</u></td> <td>x 2 = <u>98</u></td> </tr> <tr> <td>FAC species <u>62</u></td> <td>x 3 = <u>186</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>161</u> (A)</td> <td><u>394</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.45</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>49</u>	x 2 = <u>98</u>	FAC species <u>62</u>	x 3 = <u>186</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>161</u> (A)	<u>394</u> (B)	Prevalence Index = B/A = <u>2.45</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>30</u>	x 1 = <u>30</u>																			
FACW species <u>49</u>	x 2 = <u>98</u>																			
FAC species <u>62</u>	x 3 = <u>186</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>161</u> (A)	<u>394</u> (B)																			
Prevalence Index = B/A = <u>2.45</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Abies balsamea</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Betula alleghaniensis</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Betula populifolia</u>	<u>7</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Acer rubrum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Acer pensylvanicum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>52</u>	=Total Cover	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Rubus pubescens</u>	<u>22</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Carex leptalea</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Osmundastrum cinnamomeum</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Bidens sp.</u>	<u>7</u>	<u>No</u>	_____																	
5. <u>Mitella nuda</u>	<u>7</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Solidago patula</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
7. <u>Galium boreale</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
8. <u>Acer rubrum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
9. <u>Scirpus cyperinus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>91</u>	=Total Cover	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 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.																
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guildhall City/County: Essex County Sampling Date: 10/9/18
 Applicant/Owner: Ducks Unlimited State: VT Sampling Point: dpw9
 Investigator(s): J. Fraser, P. Raney Section, Township, Range: Town of Guildhall
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 2
 Subregion (LRR or MLRA): LRR R Lat: 44.537468° Long: -71.591099° Datum: WGS84
 Soil Map Unit Name: Monadnock-Sunapee-Colonel complex NWI classification: none
 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W-3</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.Sampling Point: dpw9

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Abies balsamea</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: 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>100.0%</u> (A/B)																
2. <u>Betula alleghaniensis</u>	<u>8</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Salix nigra</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
4. <u>Populus tremuloides</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Alnus incana</u>	<u>2</u>	<u>No</u>	<u>FACW</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>32</u>	=Total Cover																	
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Abies balsamea</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>33</u></td> <td>x 1 = <u>33</u></td> </tr> <tr> <td>FACW species <u>48</u></td> <td>x 2 = <u>96</u></td> </tr> <tr> <td>FAC species <u>41</u></td> <td>x 3 = <u>123</u></td> </tr> <tr> <td>FACU species <u>13</u></td> <td>x 4 = <u>52</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>135</u> (A)</td> <td><u>304</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.25</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>33</u>	x 1 = <u>33</u>	FACW species <u>48</u>	x 2 = <u>96</u>	FAC species <u>41</u>	x 3 = <u>123</u>	FACU species <u>13</u>	x 4 = <u>52</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>135</u> (A)	<u>304</u> (B)	Prevalence Index = B/A = <u>2.25</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>33</u>	x 1 = <u>33</u>																			
FACW species <u>48</u>	x 2 = <u>96</u>																			
FAC species <u>41</u>	x 3 = <u>123</u>																			
FACU species <u>13</u>	x 4 = <u>52</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>135</u> (A)	<u>304</u> (B)																			
Prevalence Index = B/A = <u>2.25</u>																				
2. <u>Alnus incana</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Spiraea tomentosa</u>	<u>8</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Acer pensylvanicum</u>	<u>1</u>	<u>No</u>	<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>39</u>	=Total Cover																	
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Carex lurida</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Rubus pubescens</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Tiarella cordifolia</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Onoclea sensibilis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Scirpus cyperinus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Glyceria canadensis</u>	<u>3</u>	<u>No</u>	<u>OBL</u>																	
7. <u>Eupatorium perfoliatum</u>	<u>3</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Eutrochium purpureum</u>	<u>3</u>	<u>No</u>	<u>FAC</u>																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>64</u>	=Total Cover																	
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	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 or equal to 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.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover																	

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



Appendix B. Budget

Guildhall Swamp - VT 46

Activity	Unit Cost	Quantity	Total Cost	Description
Land Purchase	\$129,000.00	1	129,000	reimburse WAT
WAT acquisition capital access cost 0.065% annually	\$8,385.00	2	16,770	Keep to 1-year or less if possible
Taxes (Years)	\$1,570.54	2	3,141	Keep to 1-year or less if possible
Closing Cost per Transaction (boundary survey, appraisal)	\$38,408.15	1	38,408	Boundary survey, legal fees.
Site Identification & Land Acquisition Staff	\$63,532.37	1	63,532	Staff time
Mitigation Plan (Site visit IRT, permitting)	\$35,512.02	1	35,512	Staff time, travel to develop plan, delineation.
Long Term Protection (staff time to establish long-term protection mechanism)	\$14,224.62	1	14,225	Preparation of transfer documents, legal review
Conservation Easement (Endowment fund)	\$51,345.00	1	51,345	DU/WAT held CE (estimate)
Stewardship Endowment & Execution Expenses	\$91,627	1	91,627	pay to steward
Installation of Barrier Gate	\$7,987	1	7,987	To prevent unauthorized access
Subtotal			451,547	
Contingency Fund	10%		45,155	as expenses are incurred
	Total		496,702	