

**WILDLIFE HABITAT EVALUATION
31 WATER STREET
FOXBOROUGH, MA**

I. INTRODUCTION

A Wildlife Habitat Evaluation has been prepared by Pare Corporation (Pare) to assess the habitat characteristics at the undeveloped property located at 31 Water Street in Foxborough, Massachusetts. This evaluation was prepared to support a Notice of Intent (NOI) for a proposed single-family house development that will alter approximately 1.23 acres of forested upland within the 2.69 acre parcel. The Evaluation focused primarily on the approximately 0.70 acres of the impact area which is located in the 100' Buffer Zone to the Bank of Cocasset Lake and associated Bordering Vegetated Wetlands (BVW). The Evaluation included field investigation to identify important habitat features provided by the Buffer Zone within the Limits of Disturbance (LOD), a detailed vegetation inventory, and an assessment of those features within the remainder of the property to evaluate overall project impacts on wildlife habitat.

Pare completed a Detailed Wildlife Habitat Evaluation (Form B, attached in Appendix B) in accordance with criteria contained in 310 CMR 10.60 and the Department of Environmental Protection (DEP) Wildlife Habitat Protection Guidance for Inland Wetlands (the Guidance). It should be noted that the Guidance is intended for evaluation of Resource Areas and is not typically applied to Buffer Zones. In order to provide additional detail of the upland habitat composition of the LOD, Pare also provided a vegetation inventory of the site (attached in Appendix C) including a tree count and vegetation plots.

The Wildlife Habitat Evaluation was conducted by Lauren H. Gluck, P.W.S., Senior Environmental Scientist, of Pare. Ms. Gluck graduated cum laude from the University of Rhode Island in 2006 with a Bachelor of Science degree in Wildlife and Conservation Biology. She has over 15 years of experience as a wetland scientist in Rhode Island and Massachusetts, and has been involved in a variety of projects involving multidisciplinary aspects of wetland identification, delineation and assessment. In this time, Ms. Gluck has served as a primary investigator for a number of wildlife-related projects with emphasis on habitat identification and description and functional evaluation. Pursuant to 310 CMR 10.60, Ms. Gluck meets the requirements necessary to complete a Wildlife Habitat Evaluation, as she is a competent professional with at least two years of experience conducting wildlife habitat evaluations in Rhode Island and Massachusetts.

II. EVALUATION METHODOLOGY

In response to comments from the Foxborough Conservation Commission and public on the recently submitted NOI, Bay Colony Group (BCG) requested that Pare complete a Wildlife Habitat Evaluation to assess the habitat characteristics of the site.

During a site visit on December 7, 2021, Pare conducted a field review of the site and completed a Detailed Wildlife Habitat Evaluation Form (Appendix B) for the LOD. Prior to Pare's evaluation, BCG marked out features on the property, including limits of clearing, building and driveway locations, 25-foot No Activity Zones (NAZ), and 100' Buffer Zones. Pare inspected the land within the LOD for the Important Habitat Features listed in Appendix B. Pare then investigated the portions of the property outside the LOD to provide a site-wide inventory of those habitat features previously identified within the LOD. Pare also made note of any wildlife indicators and upland habitat characteristics not on Appendix B. To provide a more detailed characterization of the habitat composition onsite, Pare inventoried the vegetation community within six (6) 30-foot radius plots, three of which were in the LOD and three outside the LOD. During a return visit on December 21, 2021, Pare completed a site-wide count of trees >6" diameter at breast height (DBH). A return visit on December 31, 2021 was completed to account for minor adjustments to the LOD. The findings of the tree count and vegetation plots are included in Appendix C of this report.



III. PROJECT IMPACTS

a. Resource Areas and Buffers

The project proposes approximately 0.70 acres of disturbance to the 100' Buffer Zone associated with Cocasset Lake and BVW areas. The project has been designed to avoid tree clearing in the municipal 25-foot NAZ established under the local wetlands bylaw. A 3' wide pond access path and floating dock at the northeast side of the peninsula will result in minimal disturbance to the BVW, Bank, and 25' NAZ, however no trees will be removed for the installation of these features, and a location was selected that minimizes the degree of wetland crossing required. The portion of the buffer zone to be impacted generally consists of a homogenous forest dominated by White Pine and Red Oak, with a sparse understory dominated by Black Huckleberry and Lowbush Blueberry.

b. Tree removal

As shown on Table 1 in Appendix C, approximately 173 trees >6" in diameter are proposed to be removed and are primarily concentrated on the interior portion of the peninsula, except for select trees along the driveway alignment and adjacent septic system. Trees to be removed account for approximately 29% of the 607 trees counted on the subject parcel. Pare noted that tree density and species diversity increased closer to the water's edge along most of the property, and that a vast majority of trees to be removed consist of White Pine and Red Oak, which are the most abundant species on the site. The remaining 434 trees counted on the property are to be preserved, including all trees on Bank, in the BVW, and within the 25' NAZ.

As shown on Figure A, a wooded buffer will remain around the perimeter of the site between the development and the edge of water, ranging from 25 feet to 210 feet in width. A continuous wooded tract approximately 1/2 acre in size will be preserved to the east of the driveway, which is part of a larger approximately 1-acre tract when combined with the north side of Lot 1 to the south.

IV. HABITAT FEATURES AND FUNCTIONS

a. Important Habitat Features

The Buffer Zone within the project site contains several Important Habitat Features listed in Appendix B of the Guidance. The habitat features inventoried are listed and described below.

- **Important upland/ wetland food plants (hard mast and fruit-berry producers):** The LOD contains several species that produce palatable berries and hard-mast fruits that are favorable food sources for White-Tailed Deer, small mammals, and birds. These species included White Pine (*Pinus strobus*), Oaks (*Quercus sp.*), Black Huckleberry (*Gaylussacia baccata*), Lowbush Blueberry (*Vaccinium angustifolium*), and Highbush Blueberry (*Vaccinium corymbosum*). When compared with the surrounding site, the LOD provides more limited foraging opportunities for wildlife with a lower density of trees and sparse shrub understory. In addition, a row of Lowbush Blueberry are proposed along the perimeter of the site, which will enhance the vegetated buffer and replenish a portion of the lost shrubs.
- **Standing dead trees:** A total of 8 standing dead trees and stumps were inventoried within the LOD, which have the potential to provide perches and cavities for wildlife, as well as wildlife food source for insectivore birds such as woodpeckers. One of these trees had a cavity measuring 5-6" in diameter which appears to be a woodpecker hole. 16 additional standing dead trees were observed outside the LOD and will remain, some of which contained more numerous cavities.



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- **Large woody debris on ground (small mammals, mink, amphibians & reptiles):** Twelve (12) logs over 12” in diameter were identified within the LOD. Most of these logs appear to be recently fallen trees as indicated by lack of decomposition. Outside the LOD, 12 additional logs over 12” in diameter were observed, along with numerous smaller decaying woody debris, most concentrated in the 25’ NAZ and wetland areas at the north side of the site. It should be noted that some of the logs counted in the LOD extend outside the LOD into the 25’ NAZ.
 - **Live or dead standing vegetation overhanging water or offering good visibility of open water(e.g., osprey, kingfisher, flycatchers or cedar waxwings):** As described in Section III, a total of 173 trees >6” DBH will be removed, which accounts for approximately 29% of the total trees counted onsite. Approximately 97 of these trees are located within the 100’ buffer zone. Due to the configuration of the site, most trees have the potential to provide some degree of visibility to the water, however the trees to be preserved along the water’s edge provide a more optimal location for foraging birds, and all trees within at least 25’ of the water’s edge will be preserved around the perimeter of the peninsula.

b. Landscape Context and Habitat Connectivity

The unique geography of the site and dense tree cover provides an ideal refuge for both wetland-dependent wildlife inhabiting Cocasset Lake and upland wildlife. The wooded shorelines of the two neighboring properties border on the site, making it a part of a wooded corridor that partially encircles the lake. The site is located about 300 feet east of the F. Gilbert Hills State Forest west of Prospect Street as well as the Water Street Conservation Area just south of Water Street. While divided from these larger tracts by roadways, it is likely that birds and mammals cross the site to access Cocasset Lake from the adjacent conservation areas, and the frontage on the lake provides an ideal foraging and resting place.

Because a wooded perimeter is being preserved and no obstructions to wildlife such as fencing is proposed, Pare does not anticipate any significant impact to the habitat connectivity function provided by the site.

c. Habitat Degradation

A majority of the LOD is largely undisturbed woodland, with no evidence of degradation or invasive species infestations present. The exception is the driveway area at the south end of the parcel, which is located primarily outside of the Buffer Zone, and contains invasive species such as Burningbush (*Euonymus alatus*), Tatarian Honeysuckle (*Lonicera tatarica*), and English Ivy (*Hedera helix*).

The portions of the peninsula outside of the LOD share the undisturbed quality of the peninsula interior, with a notably denser vegetation community and more robust understory closer to the edge of the lake. The areas pf BVW at the northern tip of the peninsula are exceptionally well-vegetated and diverse, providing abundant food, favorable nesting locations, and escape cover. Preserving an uninterrupted corridor along the shoreline will maintain the functions currently provided while screening the adjacent pond from the proposed development.

Given the robust native plant community present within the wooded perimeter, Pare recommends the Commission incorporate conditions to avoid the potential spread of invasive plants to the site. Such measures may include power washing equipment prior to entering the site; avoiding transport of plant material or tracking of soils from the south (driveway) end of the site where invasives are present; and prohibiting use of erosion controls such as hay bales that may contain invasive plant material and seeds.



VI. CONCLUSION

The geographic context and composition of the subject property offers valuable habitat for wetland-dependent and upland wildlife. Pare's observations indicate that the property is minimally disturbed and offers a relatively pristine tract of wooded habitat. The proposed development includes clearing of approximately 1.23 acres of the 2.69 acre parcel, approximately 0.70 of which is located within 100' Buffer Zone.

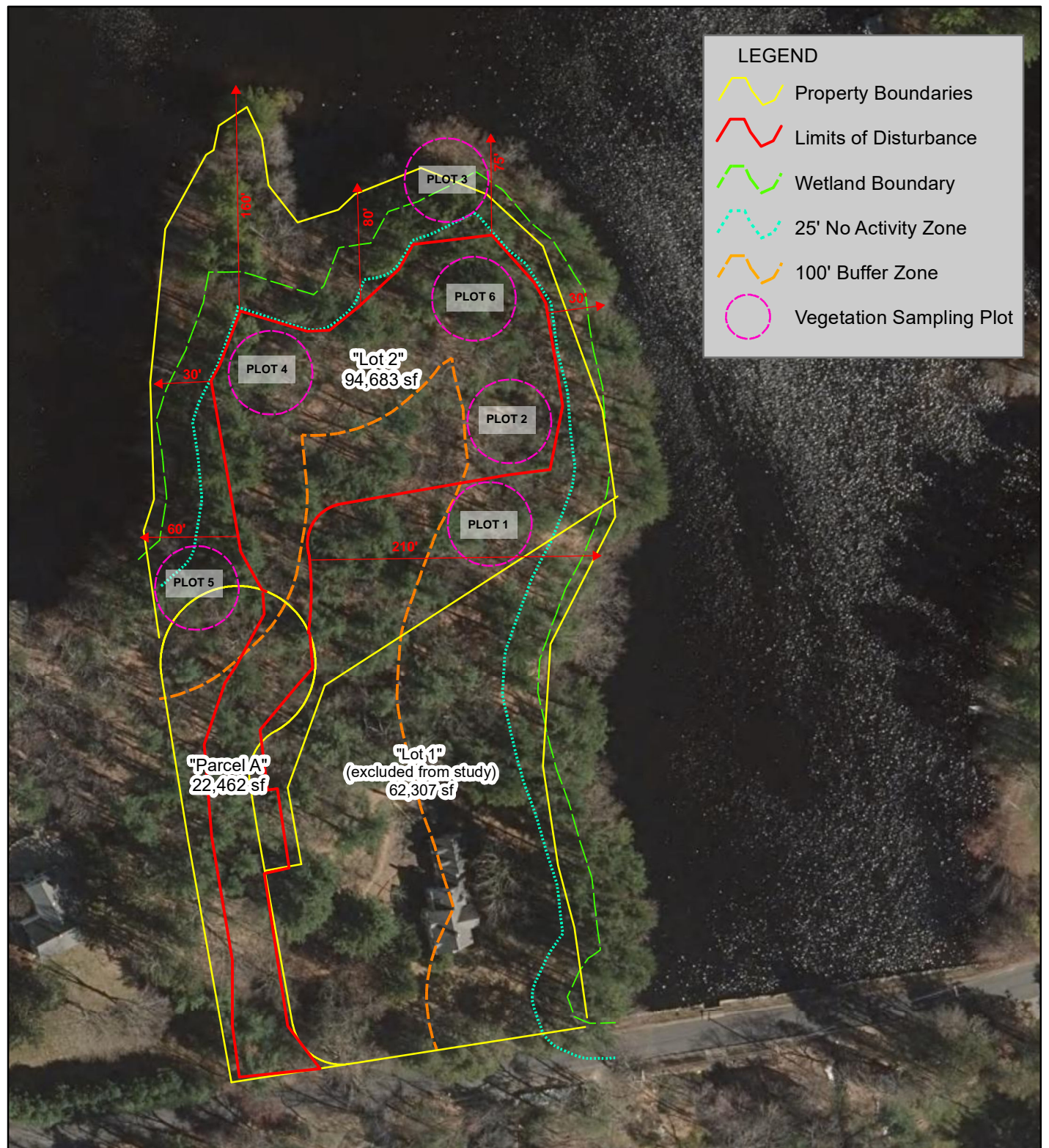
Due to the relatively homogenous nature of the LOD at the interior of the peninsula, the proposed development will result in minimal impact to the "Important Habitat Features" in the Guidance (Appendix B) when compared with the overall site. No significant wildlife habitat features are provided by the Buffer Zone in the LOD that are not provided in greater magnitude by the surrounding site outside the proposed LOD. The development does not appear to include any impediments to wildlife migration within the wooded portions of the site and between surrounding properties.

As documented herein, the more densely vegetated and diverse habitat are located along the perimeter of the peninsula outside the LOD. While the LOD comprises approximately 46% of the lot's land area, only 29% of trees >6" DBH are to be removed, and the understory vegetation in the LOD is generally sparse when compared with the rest of the site. A continuous buffer of undisturbed forested wetland and upland will remain around the perimeter of the site, including a tract of continuous woodland at the east side of the driveway, and up to 160-feet of woodland at the northern terminus of the peninsula.

Pare recognizes the concern of invasive species encroaching into a previously undeveloped site as the result of construction and the detrimental impact on habitat. As such, Pare recommends the Conservation Commission condition the approval to include measures to avoid transport of invasive plant material onto the site. In addition, Pare recommends the Commission incorporate conditions for tree protection on trees to be preserved immediately adjacent to the LOD, including standing dead trees which provide important habitat functions.



APPENDIX A:
ANNOTATED AERIAL PHOTOGRAPH



ANNOTATED AERIAL PHOTOGRAPH

SCALE: 1" = 100'



8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
(401) 334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
(508) 543-1755

PARE PROJECT No. 18170.24

DECEMBER 2021

FIGURE A

31 WATER ST.
FOXBORO, MA

WILDLIFE HABITAT EVALUATION

APPENDIX B:
DETAILED WILDLIFE HABITAT EVALUATION

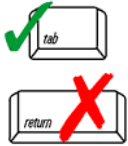


Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 1. Summary Sheet

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



31 Water Street, Foxborough
Project Name

31 Water Street, Foxborough
Location

1.23 ac
Size of Area Being Impacted

December 31, 2021
Date

Impact Areas (linear feet, square feet, or acres for each of the impact areas within the site)

Name	Waterbody/ Waterway	Wetland	Upland*	Total Area
1. Proposed House Site			1.23 ac	1.23 ac
2.				
3.				
4.				
5.				
6.				
7.				

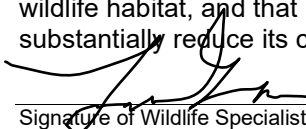
Attach Sketch map and/or photos of the Impact Areas

Narrative Description of Site (attach separate page if necessary)

Undeveloped wooded parcel approximately 2.69 acres in size, which occupies a peninsula of land extending into Cocasset Lake a short distance west of the dam. The Bank of Cocasset Lake extends around the perimeter of the parcel, with Bordering Vegetated Wetlands present in several locations. Flag series "A" defines the upper limit of resource areas which have an associated 100' buffer zone and 25' municipal no activity zone. The work area for the proposed house is located within the central portion of the parcel as shown on Figure A, and includes a new driveway extending north from Water Street. Approximately 1.23 acres of disturbance is proposed on the parcel and approximately 1.46 acres will remain wooded, including the entire 25' No Activity Zone.

Certification

I hereby certify that this project has been designed to avoid, minimize, and mitigate adverse effects on wildlife habitat, and that it will not, following two growing seasons of project completion and thereafter, substantially reduce its capacity to provide important wildlife habitat functions.


Signature of Wildlife Specialist (per 310 CMR 10.60 (1) (b))

Lauren H. Gluck, P.W.S. - Pare Corporation
Typed or Printed Name



Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (for each wetland or non-wetland resource area)

I. General Information

31 Water Street, Foxborough

Project Location (from NOI page 1)

1. House Site

Impact Area (number/name)

December 7, 2021 and December 21, 2021

Date(s) of Site Visit(s) and Data Collection

Overcast, 40 degrees & Sunny, 35 degrees

Weather Conditions During Site Visit (if snow cover, include depth)

Lauren Gluck, P.W.S. - Senior Environmental Scientist, Pare Corporation

December 31, 2021

Person completing form per 310 CMR 10.60(1)(b)

Date this form was completed

The information on this data sheet is based on my observations unless otherwise indicated

Signature

II. Site Description (complete A or B under Classification - see instructions for full description)

A. Classification

1. For Wetland Resource Areas, complete the following:

System: N/A (buffer zone only)

Subsystem: _____

Class: _____

Subclass: _____

Hydrology/Water Regime

Permanently flooded

Saturated

Intermittently exposed

Temporarily flooded

Semi-permanently flooded

Intermittently flooded

Seasonally flooded

Artificially flooded

2. For Riverfront or Bordering Land Subject to Flooding Resource Areas, complete the following. Use a terrestrial classification system such as one of the two listed below:

a. "Classification of the Natural Communities of Massachusetts (Draft)" by Patricia C. Swain and Jennifer B. Kearsley, MA DFW NHESP, Westborough, MA. July 2000. ([Department of Fish & Game Website](#))

b. "New England Wildlife: Habitat, Natural History, and Distribution" by Richard M. DeGraaf and Deborah D. Rudis, USDA Forest Service, Northeastern Forest Experiment Station. General Technical Report NE-108. August 1992. 491 pages.

N/A (buffer zone only)

Community Name

Vegetation Description

Physical Description



Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

B. Inventory (Plant community)

% Cover: 76-100% 16-25% 0-5% 0-5% 16-25%
Trees (> 20') Shrubs (< 20') Woody vines Mosses Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
<u>Tree & Sapling</u>	<u>Pinus strobus*</u>	<u>Sapling</u>	<u>Fagus grandifolia</u>
<u>Tree & Sapling</u>	<u>Quercus rubra*</u>	<u>Shrub</u>	<u>Gaylussacia baccata*</u>
<u>Tree & Sapling</u>	<u>Quercus alba</u>	<u>Shrub</u>	<u>Hamamelis virginiana*</u>
<u>Tree</u>	<u>Acer rubrum</u>	<u>Shrub</u>	<u>Vaccinium corymbosum</u>
<u>Tree</u>	<u>Betula populifolia</u>	<u>Herbaceous</u>	<u>Vaccinium angustifolium*</u>
<u>Tree</u>	<u>Betula lenta</u>	<u>Herbaceous</u>	<u>Lycopodium obscurum*</u>

C. Inventory (Soils)

<u>Merrimac fine sandy loam, 8-15% slopes</u>	<u>Somewhat excessively drained</u>
<u>Soil Survey Unit</u>	<u>Drainage Class</u>
<u>Sandy loam</u>	<u>More than 80"</u>
<u>Texture (upper part)</u>	<u>Depth</u>
<u>More than 80"</u>	
<u>Depth to Water Table</u>	

III. Important Habitat Features (complete for all resource areas)

If the following habitat characteristics are present, describe & quantify them on a separate sheet & attach.

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

Abundant Present Absent

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

Abundant Present Absent

Shrub thickets or streambeds with abundant earthworms (American woodcock)

Present Absent

Shrub and/or herbaceous vegetation suitable for veery nesting

Present Absent



Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

Number of trees (live or dead) > 30" DBH: 0

Number (or density) of Standing Dead Trees (potential for cavities and perches):

4 3 1 (5' tall stump) 0
6-12" dbh 12-18" dbh 18-24" dbh > 24" dbh

Number of Tree Cavities in trunks or limbs of:

2 (1 small 5-6" cavity in 4' tall stump; 1 12" long cavity in 12" diameter snag)
6-12" diameter (e.g., tree swallow, saw whet owl, screech owl, bluebird, other songbirds)

0
12-18" diameter (e.g., hooded merganser, wood duck, common goldeneye, mink)

0
>18" diameter (e.g., hooded merganser, wood duck, common goldeneye, common merganser, barred owl, mink, raccoon, fisher)

Small mammal burrows

Abundant Present Absent

Cover/Perches/Basking/Denning/Nesting Habitat

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

Rock piles, crevices, or hollow logs suitable for:

otter mink porcupine bear bobcat turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

Depressions that may serve as seasonal (vernal/autumnal) pools

Present Absent

Standing water present at least part of the growing season, suitable for use by

Breeding amphibians Non-breeding amphibians (foraging, re-hydration)

Turtles Foraging waterfowl

Sphagnum hummocks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

Present Absent



Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

Important habitat characteristics (if present, describe and quantify them on a separate sheet)

Medium to large (> 6"), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

Present Absent

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

Present Absent

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

Present Absent

Undercut or overhanging banks (small mammals, mink, weasels)

Present Absent

Vertical sandy banks (bank swallow, kingfisher)

Present Absent

Areas of ice-free open water in winter

Present Absent

Mud flats

Present Absent

Exposed areas of well-drained, sandy soil suitable for turtle nesting

Present Absent

Wildlife dens/nests (if present, describe & quantify them on the back of this sheet)

Turtle nesting sites

Present Absent

Bank swallow colony

Present Absent

Nest(s) present of

Bald Eagle Osprey Great Blue Heron

Den(s) present of

Otter Mink Beaver



Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

Project area is within:

- 100' of beaver, mink or otter den, bank swallow colony or turtle nesting area
- 200' of Great Blue Heron or osprey nest(s)
- 1400' of a Bald Eagle nest¹

Emergent Wetlands (if present, describe & quantify them on a separate sheet)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm Present Absent

Flooded > 25 cm (pied-billed grebe) Present Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm Present Absent

Flooded > 25 cm (least bittern, common moorhen) Present Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) Present Absent

Flooded > 25 cm (least bittern, common moorhen) Present Absent

Fine-leaved emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm Present Absent

Flooded > 25 cm (least bittern, common moorhen) Present Absent

IV. Landscape Context

A. **Habitat Continuity** (if present, describe the landscape context on a separate sheet and its importance for area-sensitive species)

Is the impact area part of an emergent marsh at least 1.0 acre in size? Yes No

(marsh and waterbirds) 2.0 acres in size? Yes No

5.0 acres in size? Yes No

10.0 acres in size? Yes No

¹ 1400 feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet.



Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

- | | | | |
|---|---------------------|---|--|
| Is the impact area part of a wetland complex at least | 2.5 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| (turtles, frogs, waterfowl, mammals) | 5.0 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| | 10.0 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| | 25.0 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| For upland resource areas is the impact area part of contiguous forested habitat at least | | | |
| (forest interior nesting birds) | 50 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| | 100 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| | 250 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| | 500 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| (grassland nesting birds) | > 1.0 acre in size? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| (special habitat such as gallery floodplain forest, alder thicket, etc.) | > 1.0 acre in size? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

B. Connectivity with adjoining natural habitats

- No direct connections to adjacent areas of wildlife habitat (little connectivity function)
- Connectors numerous or impact area is embedded in a large area of natural habitat (limited connectivity function)
- Impact area contributes to a limited number of connectors to adjacent areas of habitat (somewhat important for connectivity function)
- Impact area serves as *part of* a sole connector to adjacent areas of habitat (important for connectivity function)
- Impact area serves as *only* connector to adjacent areas of habitat (very important for connectivity function)

V. Habitat Degradation (describe degradation and wildlife impacts on the back of the sheet)

- Evidence of significant chemical contamination
- Evidence of significant levels of dumping
- Evidence of significant erosion or sedimentation problems
- Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)
- Disturbance from roads or highways
- Other human disturbance
- Is the site the only resource area in the vicinity of an otherwise developed area

Note: These are not the only important habitat features that may be observed on a site. If the wildlife specialist identifies other features they should be noted in the application.



Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

VI. Quantification Table for Important Habitat Characteristics

Habitat Feature	Amount Impacted in Impact Area	Current (entire site)**	Post-Construction (entire site)
Important upland/wetland food plants	White Pine (>6" DBH): 88 Oaks (>6" DBH): 67 Highbush Blueberry: 11 Lowbush Blueberry: 20% +/- cover Huckleberry: 10% +/- cover	White Pine (>6" DBH): 322 Oaks (>6" DBH): 167 Highbush Blueberry: >100 Lowbush Blueberry: 20% +/- cover excluding wetlands Huckleberry: 10% +/- cover excluding wetlands	White Pine (>6" DBH): 234 Oaks (>6" DBH): 95 Highbush Blueberry: >100 Lowbush Blueberry: 11% +/- cover excluding wetlands Huckleberry: 6% +/- cover excluding wetlands
Standing dead trees	4: 6-12" DBH 3: 12-18" DBH 1: 18-24" DBH (5' stump) 8 total	15: 6-12" DBH 9: 12-18" DBH 4: 18-24" DBH 28 total	11: 6-12" DBH 6: 12-18" DBH 3: 18-24" DBH 20 total
Cavities >6" in stumps and dead trees	One(1) 5-6" cavity in stump One (1) 12" long cavity in snag	12 cavities in dead trees and stumps	10 cavities >6" in dead trees and stumps
Large Woody Debris on ground	12 logs > 6" diameter (most appear to be recently fallen trees)	24 logs >6" diameter	12 logs >6" diameter
Live or dead standing vegetation offering good visibility of open water	173 trees in LOD, some may provide visibility of nearby water although all outside of 25' NAZ.	607 trees onsite, including those within wetlands and within 25' of delineated wetland/bank to remain onsite.	434 trees remaining, including all trees within wetlands and within 25' NAZ

APPENDIX C:
VEGETATION INVENTORY

Table 1: Tree Count by species (includes trees on subject parcel greater than or equal to 6" DBH)

Species	Limits of Disturbance (to be cleared)				Outside Limits of Disturbance (to be preserved)			
	25' NDZ/BVW	25-100'	Outside 100'	Total trees	25' NDZ/BVW	25-100'	Outside 100'	Total trees
<i>Pinus strobus</i>	0	51	37	88	116	68	50	234
<i>Quercus rubra</i>	0	35	25	60	40	21	29	90
<i>Quercus alba</i>	0	4	3	7	0	2	3	5
<i>Acer rubrum</i>	0	3	3	6	25	1	3	29
<i>Nyssa sylvatica</i>	0	1	0	1	49	0	0	49
<i>Betula alleghaniensis</i>	0	1	0	1	20	1	0	21
<i>Betula populifolia</i>	0	0	0	0	2	0	0	2
<i>Betula lenta</i>	0	2	0	2	0	1	0	1
<i>Fagus grandifolia</i>	0	0	0	0	1	0	0	1
<i>Carya sp.</i>	0	0	0	0	2	0	0	2
<i>Fraxinus sp.</i>	0	0	2	2	0	0	0	0
<i>Tsuga canadensis</i>	0	0	6	6	0	0	0	0
Total trees	0	97	76	173	255	94	85	434

Table 2: Percentage of trees to be removed by area

Area	Total trees	% to be removed	% to be preserved
25' NDZ/BVW	255	0%	100%
25-100' Buffer Zone	191	51%	49%
Outside 100' Buffer Zone	161	47%	53%
Total	607	29%	71%

PLOTS INSIDE LIMITS OF DISTURBANCE

Plot 2

Stratum	Species	% Cover
Tree	Pinus strobus	50
	Quercus rubra	20
	Total cover for tree stratum	70
Sapling	Pinus strobus	20
	Betula lenta	10
	Quercus rubra	10
	Fagus grandifolia	5
	Total cover for sapling stratum	45
Shrub	Gaylussacia baccata	30
	Total cover for shrub stratum	30
Herbaceous	Vaccinium angustifolium	20
	Lycopodium obscurum	10
	Total cover herbaceous stratum	30

Plot 6

Stratum	Species	% Cover
Tree	Pinus strobus	60
	Quercus rubra	20
	Betula alleghaniensis	5
	Total cover for tree stratum	85
Sapling	Fagus grandifolia	20
	Pinus strobus	10
	Total cover for sapling stratum	30
Shrub	Gaylussacia baccata	20
	Vaccinium corymbosum	10
	Total cover for shrub stratum	30
Herbaceous	Vaccinium angustifolium	10
	Total cover herbaceous stratum	10

Plot 4

Stratum	Species	% Cover
Tree	Pinus strobus	40
	Quercus rubra	30
	Betula alleghaniensis	10
	Total cover for tree stratum	80
Sapling	Pinus strobus	20
	Fagus grandifolia	10
	Quercus rubra	10
	Betula lenta	5
	Total cover for sapling stratum	45
Shrub	(none)	0
	Total cover for shrub stratum	0
Herbaceous	Vaccinium angustifolium	10
	Total cover herbaceous stratum	10

PLOTS OUTSIDE LIMITS OF DISTURBANCE (TO BE PRESERVED)

Plot 1

Stratum	Species	% Cover
Tree	Pinus strobus	40
	Quercus rubra	20
	Quercus alba	10
	Acer rubrum	10
	Nyssa sylvatica	10
	Betula lenta	5
	Total cover for tree stratum	95
Sapling	Pinus strobus	20
	Quercus alba	10
	Fagus grandifolia	10
	Castanea dentata	10
	Total cover for sapling stratum	50
Shrub	Gaylussacia baccata	30
	Clethra alnifolia	20
	Vaccinium corymbosum	20
	Total cover for shrub stratum	70
Herbaceous	Vaccinium angustifolium	30
	Pinus strobus (seedling)	10
	Total cover herbaceous stratum	40

Plot 5

Stratum	Species	% Cover
Tree	Pinus strobus	40
	Quercus rubra	40
	Total cover for tree stratum	80
Sapling	Pinus strobus	20
	Quercus sp.	10
	Total cover for sapling stratum	30
Shrub	Gaylussacia baccata	10
	Total cover for shrub stratum	10
Herbaceous	Pyrola americana	20
	Lycopodium obscurum	10
	Pinus strobus (seedling)	10
	Polypodium virginicum	5
	Vaccinium angustifolium	5
	Total cover herbaceous stratum	50

Plot 3

Stratum	Species	% Cover
Tree	Nyssa sylvatica	30
	Pinus strobus	30
	Betula alleghaniensis	10
	Quercus rubra	10
	Total cover for tree stratum	80
Sapling	Nyssa sylvatica	10
	Quercus rubra	10
	Total cover for sapling stratum	20
Shrub	Vaccinium corymbosum	60
	Clethra alnifolia	20
	Hamamelis virginiana	5
	Total cover for shrub stratum	85
Herbaceous	Clethra alnifolia	10
	Total cover herbaceous stratum	10

**APPENDIX D:
SITE PHOTOGRAPHS**



Photo 1: Typical view of peninsula interior, facing north from south limit of clearing.



Photo 2: Easternmost portion of LOD, facing south.





Photo 3: Logs and woody debris in LOD at central portion of peninsula.



Photo 4: Location of pond access path and dock at northeast side of site.





Photo 5: A 6" cavity in dead stump located in LOD.



Photo 6: Wooded area east of driveway, including two 18" standing dead trees with cavities outside LOD





Photo 7: Typical view of BVW at north side of site, outside LOD



Photo 8: Typical view of Bank and 25' No Activity Zone at east side of peninsula, outside LOD

