

Gilman & Briggs Environmental
1 Conti Circle, Suite, Barre, VT 05641
Ph: (802) 479-4780; FAX: (802) 476-7018
gbenvironmental@earthlink.net



DP 17-01

HABITAT DISTURBANCE ASSESSMENT

Northridge Subdivision
Metcalf Drive
Williston, VT

The project parcel is a ca. 44-acre lot located north of Metcalf Drive and east of Coyote Lane. A proposal has been developed to create a residential subdivision with access from Metcalf Drive. The property is currently undeveloped and is about 35% forested, 25% in scrub/shrub, and 40% in open field. Woodlands consist of mixed woods and a stand of conifers (white pine and hemlock) in the northwest, and hardwoods along the eastern margin and along field edges. The parcel is bounded residential development along Metcalf Drive to the south and Coyote Lane to the west.

Personnel from Gilman & Briggs Environmental visited the site on 24 and 25 August and 15 and 17 November 2016 to investigate wetlands, wildlife habitat, natural communities and rare species. In addition to the site visits, the following resources were also accessed:

- Town of Williston reports regarding Town wildlife resources (McFaden et al. 2011)
- current and past aerial photographs (Google Earth; Bing)
- Vermont Natural Resources Atlas, Fish & Wildlife Layers
- Gilman & Briggs files regarding fieldwork on nearby parcels in the town of Williston (approximately 12 projects).

HABITAT INVENTORY. The McFaden et al. study showed the site to be coniferous forest in the northwest, hardwood forest in the east and a broad swath of brush in the center. In general, we concur that these communities are accurately mapped on the Land Use/Land Cover (LULC) map, although much of the “hardwood forest” area is scrub transitioning from old field and the “scrub” in the southwestern quadrant is now managed as hayfield.

The eastern portion of the site constitutes part of a 33-acre habitat block with a weighted priority score of 4 (out of 10) designated by the Vermont Fish and Wildlife Department. It is isolated from larger, higher ranked habitat blocks north of Mountain View Road and South of Interstate 89.

Wetlands on the parcel include the man-made pond with a contiguous scrub-shrub wetland to the south and a narrow bulrush marsh to the north. The pond drains to the south through swales along the stream (a tributary to Allen Brook). The pond is mapped in the Vermont Significant Wetlands Inventory (SVWI) as a Class Two wetland, and parts of the forested and riparian wetlands are included in the Wetlands Advisory Layer of the Natural Resource Atlas.

HABITAT ASSESSMENT. In our opinion, the relative importance of habitats at this site does not constitute what is defined as a significant wildlife habitat area (SWHA) under the Town of Williston's Unified Development Bylaw for the Town of Williston, VT, last amended: January 26, 2015 (Unified Bylaw). It does not provide core habitat that "contributes to the survival and/or reproduction of the wildlife of Williston and surrounding communities" (Unified Bylaw), except for common species typical of suburban neighborhoods.

Little direct evidence of wildlife was observed; this is likely in part due to the time of year and the times of day when observations were made. Likewise, few birds were observed, but can be expected to include common species of scrubby habitat, forest edge, field and hedgerows. Amphibians (particularly spring peepers, wood frogs, toads, etc.) presumably utilize the pond and adjacent wetlands.

According to the Williston Significant Wildlife Habitat Map, the area proposed for development is part of a wildlife travel corridor, although field observations indicate that most wildlife traveling through the area is likely to move through the eastern portion of the parcel where there is a stream corridor and scrub/forest cover. Unlike typical connectivity corridors, characterized by undeveloped forested and riparian corridors that serve to link tracts of unfragmented habitat, the western half of this site is dominated by open fields except for a wooded hilltop in the northwest corner. While not a barrier to wildlife movement, the open fields represent obstacles to mammalian wildlife travel, especially during winter. In contrast, the eastern section is characterized by diverse habitat, including extensive thickets, riparian wetlands, old field associations, scrub, mature hardwood forest, and a pond with a fringing marsh.

While there is an area of coniferous cover in the northwestern corner of the parcel, it is not connected to similar habitats. Much of the stand is mature pines and hemlocks with little ground cover. There is no indication that it is used as deer wintering habitat.

Comparing this site to others we have worked on in Williston, we believe the forest communities would primarily support common species of birds and mammals (See Tables below). There is no indication that there are any uncommon, rare, threatened or endangered species on the site, nor in our estimation is there habitat that would likely support such species.

No rare, threatened, or endangered wildlife is mapped on the parcel or nearby by the Vermont Agency of Natural Resources. The parcel is out of the summer range of the endangered Indiana bat, and while it contains trees that might be used by the recently listed northern long-eared bat, a species that is not restricted to certain species of trees, there is no limiting factor involved for this species to occur in any woodlot. Known summer habitat for this northern long-eared bat has been documented near the Burlington airport, about 3 miles west of the site. This places the Project outside the Special Management Zones described in the Regulatory Review Guidance for Protecting Northern Long-eared Bats and Their Habitats (Vt. Fish & Wildlife, 2017), and the provisions for “potential summer habitat”, to include limiting impacts to less than 1% of the forested acreage within a mile or limiting the time of clearing to the period between September 1 and April 14 would apply. The tables below list species that might utilize habitats on this parcel.

Reptiles & Amphibians

Spotted salamander	<i>Ambystoma maculatum</i>	Pond & adjacent upland	Possible
Red-spotted newt	<i>Notophthalmus viridescens</i>	Pond & adjacent upland	Probable
American toad	<i>Bufo americanus</i>	General	Observed
Northern spring peeper	<i>Hyla crucifer</i>	Pond & adjacent upland	Probable
Gray treefrog	<i>Hyla versicolor</i>	Wooded low areas	Possible
Wood frog	<i>Rana sylvatica</i>	Pond and wooded uplands	Probable
Leopard frog	<i>Rana pipiens</i>	Pond & wet meadows	Possible
Garter snake	<i>Thamophis sirtalis</i>	General	Probable
Eastern milk-snake	<i>Lampropeltis triangulum</i>	Brushy woods & ledges	Possible

Mammals

Masked shrew	<i>Sorex cinereus</i>	Wet woods & swales	Possible
Northern short-tailed shrew	<i>Blarina brevicauda</i>	Hardwood forest; riparian meadows	Possible
Star-nosed mole	<i>Condylura cristata</i>	Low wet areas	Probable
Cottontail rabbit	<i>Sylvilagus floridanus</i>	Southeastern scrub area; thickets	Probable
Chipmunk	<i>Tamias striatus</i>	Northwestern conifer forest	Probable
Gray squirrel	<i>Sciurus carolinensis</i>	Southern and western margins	Probable
Woodchuck	<i>Marmota monax</i>	Meadows & open woodlands	Probable
Red squirrel	<i>Tamiasciurus hudsonicus</i>	Northwestern conifer forest	Probable
Deer mouse	<i>Peromyscus maniculatus</i>	Forests & forest edges	Probable
Meadow vole	<i>Microtus pennsylvanicus</i>	Fields & scrub	Probable
Meadow jumping mouse	<i>Zapus hudsonicus</i>	Brushy riparian thickets & meadows	Possible
Porcupine	<i>Erethizon dorsatus</i>	Hemlock forest, ledges	Possible
Coyote	<i>Canis latrans</i>	General	Transient
Red fox	<i>Vulpes fulva</i>	General	Possible

Raccoon	<i>Procyon lotor</i>	Forests & riparian corridor	Probable
Striped skunk	<i>Mephitis mephitis</i>	General	Possible
Bobcat	<i>Lynx rufus</i>	General	Transient
White-tailed deer	<i>Odocoileus virginianus</i>	General	Probable

Birds

Chickadee	<i>Parus atricapillus</i>	Alder thickets	Observed
Great blue heron	<i>Ardea herodias</i>	Pond (foraging)	Possible
Black duck	<i>Anas rubripes</i>	Pond (nesting)	Possible
Mallard	<i>Anas platyrhynchos</i>	Pond (nesting)	Possible
Kestrel	<i>Falco sparverius</i>	Forest edges	Possible
Ruffed grouse	<i>Bonasa umbellus</i>	Forest (aspen)	Probable
Turkey	<i>Meleagris galapavo</i>	Fields & forest edges	
Woodcock	<i>Scolopax minor</i>	Alder thickets	Probable
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	Forests	Probable
Downy woodpecker	<i>Picoides pubescens</i>	Forests; edges	Probable
Hairy woodpecker	<i>Picoides villosus</i>	Forests, edges	Probable
Northern flicker	<i>Colaptes auratus</i>	Forests, edge	Possible
Phoebe	<i>Sayornis phoebe</i>	Woodland edges	Probable
Alder flycatcher	<i>Empidonax alnorum</i>	Alder thickets	Possible
Great crested flycatcher	<i>Myiarchus crinitus</i>	Eastern woodlands	Possible
Kingbird	<i>Tyrannus tyrannus</i>	Forest edges, fencerows, etc.	Probable
Warbling vireo	<i>Vireo gilvus</i>	Forest edges, fencerows	Possible
Blue jay	<i>Cyanocitta cristata</i>	General	Observed
Common crow	<i>Corvus brachyrhynchos</i>	General	Observed
Tree swallow	<i>Tachycineta bicolor</i>	Fields, pastures, wetlands	Probable
Black-capped chickadee	<i>Parus atricapillus</i>	Mixed forests, thickets	Probable
Red-breasted nuthatch	<i>Sitta canadensis</i>	Conifer forests	Possible
White-breasted nuthatch	<i>Sitta carolinensis</i>	Mixed forests	Probable
Wood thrush	<i>Hylocichla mustelina</i>	Mixed forests	Possible
Robin	<i>Turdus migratorius</i>	General	Observed
Gray catbird	<i>Dumetella carolinensis</i>	Thickets and edges	Probable
Brown thrasher	<i>Toxostoma rufum</i>	Thickets and edges	Possible
Cedar waxwing	<i>Bombycilla cedrorum</i>	General	Possible
Chestnut-sided warbler	<i>Dendroica pensylvanica</i>	Shrubby areas	Probable
Blackburnian warbler	<i>Dendroica fusca</i>	Hemlock woods	Possible
Common yellowthroat	<i>Geothlypis trichas</i>	Brushy areas, thickets	Probable
Tree sparrow	<i>Spizella arborea</i>	Brushy fields, edges	Probable
Chipping sparrow	<i>Spizella passerina</i>	General	Probable
Field sparrow	<i>Spizella pusilla</i>	Old fields	Probable

Savannah sparrow	<i>Passerculus sandwichensis</i>	Hayfields	Possible
Song sparrow	<i>Melospiza melodia</i>	Brushy areas, edges	Observed
Northern cardinal	<i>Cardinalis cardinalis</i>	Thickets, edges	Probable
Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>	Mature hardwoods	Possible
Red-winged blackbird	<i>Agelaius phoeniceus</i>	Wetlands	Possible
Common grackle	<i>Quiscalus quiscula</i>	General	Possible
Baltimore oriole	<i>Icterus galbula</i>	Deciduous forest edges, shadetrees	Probable
American goldfinch	<i>Carduelis tristis</i>	Field edge, scrub	Probable

SITE DESIGN. The proposed development consists of 18 condominium units (7 duplex and 4 singles), plus 22 single family lots to be developed over a three to five-year period (See attached site plan). Access will be from Metcalf Drive to the south, and there will be a right of way to the parcel to the north (required by the town). The proposed development is located the area designated on the Williston Significant Wildlife Habitat Map as a wildlife travel corridor, although most of the area so designated is open field with minimal cover. Total disturbance will be 18 acres out of a total of 44 acres for the entire parcel. When fully developed, about half of the wooded hilltop in the northwest corner of the parcel will be cleared for roadways and house lots. As noted above, this is primarily mature pines and hemlock with little ground cover, the remaining portion being mixed woods, thickets and wetlands.

IMPACT ASSESSMENT. The subdivision, as proposed, is not located in a heavily used, resource rich habitat, therefore it will have no impact to core habitats, nor will it impede movement of wildlife species the corridor is likely to accommodate (Town of Williston’s Unified Development Bylaw for the Town of Williston, VT, last amended: January 26, 2015, Chapter 27 §27.5.3 What is a Wildlife Connectivity Corridor?), including the target species: bobcat, fisher, mink, four-toed salamander, wood frog, smooth green snake, and wood turtle. With the exception of the wood frog, we do not believe any of these species would use the areas of the parcel proposed for development, and if present, would represent transient individuals. The areas of the parcel to be left undeveloped includes virtually all of the wetlands, the stream corridor, and the diverse communities in the eastern third of the site that range from mature hardwoods to dense shrub thickets and old field associations.

RECOMMENDATIONS. Limit disturbance to Class II wetlands to road and utility crossings; maintain damp woods, thickets and scrub areas east of the stream draining from man-made pond; and provide protection for non-disturbed areas by means of a conservation easement, association bylaws or other suitable legal documents.

LITERATURE

- Capen, D.E., T. Schraf, S. MacFaden and E. Buford. 2005. An Assessment of Wildlife Habitat in Williston, Vermont. Spatial Analysis Laboratory, Rubenstein School of Environment and Natural Resources, University of Vermont, Burlington VT.
- Degraaf, R.M. and D.D. Rudis. 1983. Amphibians and Reptiles of New England. Univ. of Massachusetts Press. Amherst.
- DeGraaf, R. M., and M. Yamasaki. 2001. New England Wildlife. University Press of New England. Hanover and London.
- MacFaden, S.W., R. F. Mitchell, and D. E. Capen, 2011. An Assessment of Wildlife Habitat in Williston, Vermont: Expanded Land-cover Mapping and Corridor Modeling. Spatial Analysis Laboratory, Rubenstein School of Environment and Natural Resources, University of Vermont, Burlington VT.
- Renfrew, R. B., Ed.. 2013. The Second Atlas of Breeding Birds of Vermont. University Press of New England. Lebanon, NH.
- Vermont Fish & Wildlife Department. 2017. Regulatory Review Guidance for Protecting Northern Long-eared Bats and Their Habitats.
- Whitaker, J. O., Jr., and W. J. Hamilton, Jr. 1998. Mammals of the Eastern United States. Third Ed. Comstock Publishing Associates. Ithaca.