



To: Project File: Essex Town Site Assessment

Date: September 1, 2023
Revised October
24, 2023

Memorandum

Project #: 58982.00

From: Ben Galligan, WPIT; Carla Fenner, PWS,
Meghan Lout, CWB

Re: Natural Resources Assessment Memorandum

Introduction

At the request of The Town of Essex ("Client"), VHB conducted natural resources assessments to support planning for the potential redevelopment of lots 80 and 90 Upper Main Street located in Essex, Vermont ("Project," see Natural Resources Map, **Attachment 1**). This memorandum summarizes the results of the natural resources assessments and potential implications for regulatory review of and permitting for the Project. The assessments presented herein include natural resource and environmental criteria reviewed by the District Environmental Commission ("Commission") for projects subject to Act 250 jurisdiction per 10 V.S.A. Chapter 151, as well as review by the Vermont Agency of Natural Resources ("ANR") under the Act 250 process. Each of the following criteria are discussed in this memorandum in terms of their presence or absence at the Project site and, if present, the potential regulatory implications for Project planning, design, and permitting:

- › Outstanding Resource Waters: 10 V.S.A. § 1424a(d)
- › Headwaters: 10 V.S.A. § 6086(a)(1)(A)
- › Floodways: 10 V.S.A. § 6086(a)(1)(D)
- › Streams: 10 V.S.A. § 6086(a)(1)(E)
- › Shorelines: 10 V.S.A. § 6086(a)(1)(F)
- › Wetlands: 10 V.S.A. § 6086(a)(1)(G)
- › Soil Erosion: 10 V.S.A. § 6086(a)(4)
- › Rare and Irreplaceable Natural Areas (significant natural communities): 10 V.S.A. § 6086(a)(8)
- › Necessary Wildlife Habitat and Endangered Species: 10 V.S.A. § 6086(a)(8)(A)
- › Primary Agricultural Soils: 10 V.S.A. § 6086(a)(9)(B)

Study Area Description

VHB conducted resource assessments within two undeveloped parcels at 80 and 90 Upper Main Street in Essex and having SPAN 207-067-15958 and 207-067-15959 respectively, consisting of a total of approximately 31.9 acres combined and referred to as the "Study Area." VHB's Study Area is depicted on the Natural Resources Map in **Attachment 1**.

The Study Area occurs near to the mapped boundary between the Champlain Valley and the Champlain Hills biophysical regions of Vermont, which is characterized by a warmer climate and moderate topography and silt and clay dominated soils. The Study Area occurs within the Mallets Bay Watershed (HUC 10 - 0430010809). The Study Area has elevations ranging from approximately 438 to 523 feet above mean sea level (per topographic elevation data from

the US Geologic Survey) and includes areas of fallow agricultural fields, a former house site, and naturalized hedgerows and forested areas.

VHB conducted fieldwork to support the natural resource assessments for the Project on June 16, July 3, and August 2, 2023. Representative site photographs are included as **Attachment 2**.

Act 250 Natural Resources Criteria

Outstanding Resource Waters

The Vermont Water Quality Standards ("VWQS", ANR 2017c), under section 29A-105(d), state that the Secretary of the ANR may, under 10 V.S.A. Section 1424(a), designate Outstanding Resource Waters ("ORW"). The following waterways have been designated ORWs:

1. Batten Kill River, Towns of Dorset and Arlington;
2. Pike's Falls/Ball Mountain, Town of Jamaica;
3. Poultney River, Towns of Poultney and Fair Haven; and,
4. Great Falls, Ompompanoosuc River, Town of Thetford.

The Study Area was reviewed against this list to determine if it is located within the vicinity of any listed ORW. None of these waters is within or near the Study Area, and therefore, the Project would not result in any impact to Outstanding Resource Waters.

Headwaters

The Headwaters criterion under Act 250 requires that a project — if located in a headwater area — meet any applicable health and Department of Environmental Conservation ("DEC") regulations regarding reduction of the quality of the ground or surface waters flowing through or upon lands that are not devoted to intensive development, and which lands are:

- i. headwaters or watersheds characterized by steep slopes and shallow soils; or
- ii. drainage areas of 20 square miles or less; or
- iii. above 1,500 feet elevation; or
- iv. watersheds of public water supplies designated by ANR; or
- v. areas supplying significant amounts of recharge waters to aquifers.

At present, the Study Area is not considered to be devoted to "intensive development," though VHB understands that the Town is pursuing a Growth Center designation for the area to include the two subject parcels. Until that is resolved, the preceding five points would be evaluated by the District Commission to determine the presence of headwaters. VHB reviewed National Resource Conservation Service ("NRCS") soils mapping, topography, and the stream features as included in available databases and as mapped by VHB during onsite delineations.

The subcategories i and iii through v are not met in the Study Area. Subcategory ii is not satisfied, as the Study Area lies within the Mallett's Bay watershed, which has a contributing drainage area of roughly 52.8 square miles just south of the Study Area. Accordingly, it is VHB's opinion that the Study Area would not be considered to be in a Headwaters location.

Floodways

The Floodways criterion under Act 250 takes into consideration a project's effect on both floodways and floodway fringes. The term "floodway" is defined to mean "the channel of a watercourse which is expected to flood on an average of at least once every 100 years and the adjacent land areas which are required to carry and discharge the flood of the watercourse." (10 V.S.A. § 6001(6)). The term "floodway fringe" is defined as "an area which is outside of a floodway and is flooded with an average frequency of once or more in each 100 years." (Id. § 6001(7)). A project's impacts are considered with respect to both flood inundation and fluvial erosion hazards pursuant to Flood Hazard Area and River Corridor Protection ("FHARC") Procedure (ANR 2017a). The FHARC Procedure addresses both inundation risks as represented by Federal Emergency Management Agency ("FEMA")-mapped flood information, and potential fluvial erosion risks associated with fluvial geomorphic processes. In addition to the floodway and floodway fringe, the FHARC procedure also addresses River Corridors. The river corridor consists of the meander belt or fluvial erosion hazard area, which is defined as the lateral width of a stream corridor that may be subject to fluvial erosion from stream channel lateral migration as well as a 50-foot riparian buffer outside of this meander belt (ANR 2017a). The meander belt is typically determined by geomorphic assessments of channel bankfull width, meander centerline, confining lateral topography, channel type, and current channel adjustments, which are then translated into the channel-width-to-belt-width ratio, dependent on stream sensitivity type and adjacent landform.

VHB reviewed available river corridor data from ANR's River Corridor Mapping, and other FEMA floodway and special flood hazard area mapping within the Study Area. Based on this review, there is one FEMA-mapped Zone A Special Flood Hazard Areas ("SFHA," *i.e.*, areas with a one percent chance of annual flooding) within the Study Area, located at the westernmost portion of lot at 80 Main Street associated with Indian Brook and generally coincident with a Class II wetland feature, discussed below (see Natural Resources Map, **Attachment 1**). Zone A floodplains do not have a base flood elevation assigned. Additionally, ANR has mapped a river corridor for Indian Brook

Project activities within the SFHA would require approval under municipal flood hazard regulations, and activities within the river corridor would be subject to review by the state under the Flood Hazard and River Corridor Rule.

Streams

The Streams criterion under Act 250 requires that projects will, when feasible, maintain natural stream channel condition, and will not endanger the health, safety, or welfare of the public or adjoining landowners.

When applicable, VHB's stream delineation is conducted pursuant to ANR's Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers ("Riparian Buffer Guidance," ANR 2005). Stream and Ordinary High Water ("OHW") width determinations follow guidance provided in the U.S. Army Corps of Engineers ("USACE") Regulatory Guidance Letter: Subject- Ordinary High Water Identification (USACE 2005). Stream top of bank ("TOB") and top of slope ("TOS") are flagged in the field according to the Riparian Buffer Guidance. Stream TOB and TOS are flagged on larger channels, generally wider than six feet, using blue survey tape and labeling that includes the stream ID and flag number. Stream centerline is flagged for smaller channels, generally less than six feet wide, with blue survey tape, and labeling that includes the stream ID and flag number. When applicable, stream TOS, TOB, or OHW limits in the Study

Area are marked with blue flagging tape and labeled by stream ID and flag number. Flow regimes are preliminarily classified in the field as ephemeral, intermittent, or perennial, and are determined based on qualitative observations of in-stream hydrology indicators at the time of observation, as well as geomorphic characteristics (*i.e.*, stream bed and bank development), and are subject to professional judgment. When present, stream flagging is mapped in the field using sub-meter capable mobile data collection equipment.

VHB delineated two stream channels within the Study Area, as shown on the Natural Resources Map (**Attachment 1**) and summarized in **Attachment 3**. One delineated stream was found to be perennial and is an unnamed tributary to Indian Brook (Stream 2023-TOB-1). The other delineated stream is an intermittent channel which flows generally west beyond the limit of the Study Area towards the unnamed tributary (Stream 2023-SC-2). Both streams are generally in the western portion of the Study Area. The hydrologic regime of the on-site stream segments is denoted by the suffix in its name [*i.e.*, (E) = ephemeral, (I) = intermittent, (P) = perennial] on the Natural Resources Map (**Attachment 1**). Per the Riparian Buffer Guidance, a 50-foot riparian buffer is shown for all but ephemeral streams. Where the stream originates at or flows through a wetland, the 50-foot riparian buffer is measured from the wetland boundary.

All streams within the Study Area were found to be subject to USACE jurisdictional definitions. Authorization from the USACE is anticipated to be required for any unavoidable impacts to mapped streams. Additionally, perennial streams would also be subject to Vermont Stream Alteration Permit requirements, with authorization required for the placement of greater than 10 cubic yards of fill within a stream channel. Potential effects on riparian buffers would be reviewed under Act 250 Criterion 1(E). If impacts to Riparian Buffers are unavoidable, the Project may be required to prepare a Riparian Buffer Management Plan for ANR's and the Commission's approval.

Shorelines

Shorelines are defined under Act 250 as the land adjacent to the waters of lakes, ponds, reservoirs, and rivers. Shorelines shall include the land between the mean high-water mark and the mean low water mark of such surface waters (10 V.S.A. § 6001(17); Argentine 2008). The Study Area was reviewed against these criteria to determine if it is located on or adjacent to any shoreline. The Study area is not adjacent to any shoreline.

Wetlands

The Wetlands criterion under Act 250 requires that the proposed project comply with the Vermont Wetland Rules ("VWR") (ANR 2023). The VWR regulations apply to significant wetlands (Class I and Class II wetlands) and their buffers. Impacts to Class III wetlands are not considered under Act 250 Criterion 1(G) but may be reviewed under Criterion 1(E) Streams. Further, all wetlands are regulated by the USACE under Section 404 of the Clean Water Act ("CWA") permit program and the associated DEC CWA Section 401 Water Quality Certification ("WQC") review process.

VHB's wetland delineations are made pursuant to applicable methodologies outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Routine Determination Method (USACE 2012). When applicable, wetland boundaries are identified in the field with pink flagging and mapped using sub-meter capable mobile data collection equipment. Field notes are taken to record information such as potential wetland classifications, general characteristics, wetland functions and values, and any unique qualities observed during the site assessment, along with other considerations relevant to support site findings. Wetland types are classified in accordance with the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin *et al.* 1979). Wetland functions and value presence and significance are evaluated based on the field notes and observations according to the VWR (ANR 2023).

Prior to field assessments, VHB reviewed the Vermont Significant Wetland Inventory ("VSWI") layer to assess potential wetlands within the Study Area. There are two VSWI wetlands mapped within the Study Area. VHB delineated four wetland areas on site that meet applicable wetland parameters to be considered wetland per regulatory definitions. VHB's delineated wetland features are depicted in **Attachment 1** and summarized in **Attachment 3**. All wetland features are proposed by VHB to be Class II, which are presumed to be significant and therefore regulated under the VWR. Also as depicted in **Attachment 1** mapping, the Class II wetlands are accorded a 50-foot wetland buffer. On-site wetland features are in the western half of lot 80 and along the northwest perimeter of lot 90, generally away from the Study Area's roadway frontage along Vermont Route 15.

Discharge of fill or other impacts to wetlands are anticipated to be subject to the USACE and DEC jurisdiction. For activities that are not exempt or Allowed Uses, impacts to the 50-foot Class II wetland buffers are subject to DEC jurisdiction under the VWR.

Soil Erosion

The Soil Erosion criterion requires that a project must not cause unreasonable soil erosion or significant drainage or runoff problems. Determination of compliance with this criterion involves two components: (1) preventing soil erosion, and (2) preventing a reduction in the land's capacity to hold water.

The NRCS classifies each soil series in terms of its potential erodibility ("K-factors"). According to the NRCS-mapped K-factors, there are soil series within the Study Area which the Vermont Standards and Specifications for Erosion Prevention and Sediment Control (ANR 2020b) considers to have "low," "medium," and "high" erodibility ranking (Low, $K \leq 0.17$; Medium, $0.17 < K < 0.36$; High, $K \geq 0.36$). Erosion risk is assessed by combining the soil erodibility ranking with slope (ANR 2020c).

The NRCS-mapped soils within the Study Area have K-factor erosion values ranging from 0.24 to 0.49 across the Study Area with the highest K-factor (*e.g.*, highest erodibility) soils located in the western portion of the site, near the mapped stream channels (see **Attachment 1**).

As a preliminary conservative estimate, the Project could exceed one acre of soil disturbance and therefore require a construction stormwater discharge permit from the DEC Stormwater Program, either a General Permit 3-9020 or Individual Permit ("INDC"), depending on the amount of area disturbed and duration of disturbance. In addition to a construction stormwater permit, demonstration of Project design measures to minimize soil erosion and reduce the potential for sediment-laden runoff to reach receiving waters are anticipated to be necessary to satisfy the Commission and ANR's review of the Soil Erosion criterion.

Rare and Irreplaceable Natural Areas, Necessary Wildlife Habitat, and Endangered Species

Under Act 250, a project must be shown to have no undue adverse effect on Rare and Irreplaceable Natural Areas ("RINA"). Additionally, a project must not destroy or significantly endanger Necessary Wildlife Habitat ("NWH") or any Endangered Species.

RINA

To identify potential occurrences of known significant natural communities, VHB queried the Vermont Natural Heritage Inventory ("NHI") database for the presence of known Element Occurrences ("EOs") of significant natural

community types within and adjacent to the Study Area. This search determined that there are no such features previously mapped within the Study Area.

Necessary Wildlife Habitat

Necessary Wildlife Habitat (“NWH”) is most often defined as deer wintering habitat (“DWH”), black bear forage habitat (beech/oak mast or wetlands), black bear travel corridors, or in some cases moose overwintering areas. VHB reviewed habitat mapping available from ANR to determine if the Study Area is situated within or adjacent to mapped NWH. There is no mapped NWH within the Study Area.

Endangered Species

VHB queried the NHI database for the presence of known EOs of rare, threatened, and endangered (“RTE”) and uncommon plant and animal species within and adjacent to the Study Area, to identify the potential occurrence of rare or sensitive species, particularly those that are state or federally-listed threatened or endangered, and to assess available onsite habitat condition relative to each. This search determined that there are no RTE or uncommon plant or animal species previously mapped within the Study Area and no state or federally-listed threatened or endangered species have been previously mapped within one mile of the Study Area.

Animals

VHB also queried the U.S. Fish and Wildlife Service’s (“USFWS”) online Information, Planning, and Conservation System (“IPaC”) database for information regarding federally listed species in the Project region, and the Study Areas fall within the potential range of the federally and state-protected northern long-eared bat (*Myotis septentrionalis*, or “MYSE”), a forest-dwelling bat (see IPaC official species, queried on October 24, 2023, list as **Attachment 4**). From the NHI database review, there are no known MYSE occurrences within a one-mile radius of the Study Area. However, a time-of-year (“TOY”) restriction on tree clearing would apply per the current Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (“Guidelines,” USFWS 2023), restricting tree removal to the period between October 1 and April 14, inclusive, unless an acoustic survey (conducted in accordance with the Guidelines) yields a probable absence determination for this species and the USFWS and the Vermont Fish and Wildlife Department (“VFWD”) concur with the survey results.

VHB notes that, by April 1, 2024, the USFWS is expected to have reviewed the best available information for the distribution of MYSE in Vermont and may recommend new means of consultation for compliance with Section 7 of the Endangered Species Act and possibly additional conservation measures for this species. However, VHB believes it is unlikely that a scenario will emerge wherein tree clearing at the subject properties would be forbidden.

The tri-colored bat (*Perimyotis subflavus*) is a state-protected species that is proposed to be listed as federally endangered by the USFWS, which may occur as early as fall 2023. Although this species was not identified in the IPaC database query, TOY tree clearing restrictions (or other avoidance measures) may be required if and when the tri-colored bat is federally listed and/or when the USFWS releases the 2024 bat survey guidelines.

The IPaC database review also identified the Study Area within the range of the Monarch Butterfly (*Danaus plexippus*), a candidate species not yet listed or proposed for listing.

Plants

To corroborate the findings of the database query, a VHB Botanist conducted a general (*i.e.*, not exhaustive) plant inventory on August 2, 2023. This plant inventory followed ANR's Guidance for Conducting Rare, Threatened, and Endangered Plant Inventories in Connection with Section 248 Projects (ANR 2016a). All plant species identified in the inventory were checked against the current Rare and Uncommon Native Vascular Plants of Vermont list (ANR 2022a), as well as the Endangered and Threatened Plants of Vermont (ANR 2022b), to determine their rarity rank and any potential protections under endangered species law. No RTE species were observed during the survey. VHB did observe potential bat roost trees suitable for summer use by tree roosting bats within lot 80, clearing of which may be subject to time of year restrictions.

Primary Agricultural Soils

Under 10 V.S.A. § 6001(15), a primary agricultural soil is defined as:

- A. An important farmland soils map unit that the Natural Resources Conservation Service of the U.S. Department of Agriculture ("NRCS") has identified and determined to have a rating of prime, statewide, or local importance, unless the Commission determines that the soils within the unit have lost their agricultural potential. In determining that soils within an important farmland soils map unit have lost their agricultural potential, the Commission shall consider:
 - i. impacts to the soils relevant to the agricultural potential of the soil from previously constructed improvements;
 - ii. the presence on the soils of a Class I or Class II wetland under chapter 37 of this title;
 - iii. the existence of topographic or physical barriers that reduce the accessibility of the rated soils so as to cause their isolation and that cannot reasonably be overcome; and
 - iv. other factors relevant to the agricultural potential of the soils, on a site-specific basis, as found by the Commission after considering the recommendation, if any, of the Secretary of Agriculture, Food and Markets.
- B. Soils on the project tract that the District Commission finds to be of agricultural importance, due to their present or recent use for agricultural activities and that have not been identified by the NRCS as important farmland soil map units.

VHB's review is limited to examination of NRCS soil map unit designations. As shown on the Natural Resources Map (**Attachment 1**), all but 0.3 ac of the Study Area is mapped as either Prime farmland or soils of Statewide importance. If, based on a consideration of points A. i. through iv. above, that primary agricultural soils are confirmed to be present in the proposed Project area, an Act 250 permit would be granted if the Project would not result in any reduction in the agricultural potential of primary agricultural soils. Impacts to primary agricultural soils may require a finding of appropriate circumstances by the District Commission and, depending on the conceptual plan for the Project, payment of an offsite mitigation fee or some combination of onsite and offsite mitigation.

Conclusion

Based on the results of VHB's field and database assessments, there are natural resources present that will need to be considered during detailed Project planning and design and for which state and/or federal permits would be required for unavoidable impacts. These resources include:

- › streams (including riparian buffers);
- › wetlands;
- › erodible soils; and
- › primary agricultural soils.

Additionally, adherence to TOY restrictions on tree clearing may be required and other restrictions or mitigation measures may be required for the state and federally listed endangered northern long-eared bat and state-listed endangered tri-colored bat, which is expected to be federally listed as endangered in fall 2023.

Given the scope of the Project, VHB recommends proactive outreach to state and federal regulatory agencies to discuss potential impacts and mitigation scenarios. VHB notes that the western half of lot 80 contains the highest density of state and federally regulated natural resources, including Class II wetlands and buffers, riparian buffers, and the floodplain of Indian Brook.

Attachments

1. Natural Resources Map
2. Representative Site Photographs
3. Summary of Onsite Waters and Wetlands
4. USFWS IPaC Official Species List

Resources and References

Agency of Natural Resources (ANR). 2023. Vermont Wetland Rules. Adopted February 7, 1990. Amendments adopted January 23, 2023, effective February 10, 2023.

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_____. 2021 *Guidance for the review and Mitigation of Impacts to Grassland Bird Habitat in Connection with Regulated Projects in Vermont*. Effective October 26, 2021.

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Project File: Essex Town Site Assessment
Ref: 58982.00
October 24, 2023
Page 10



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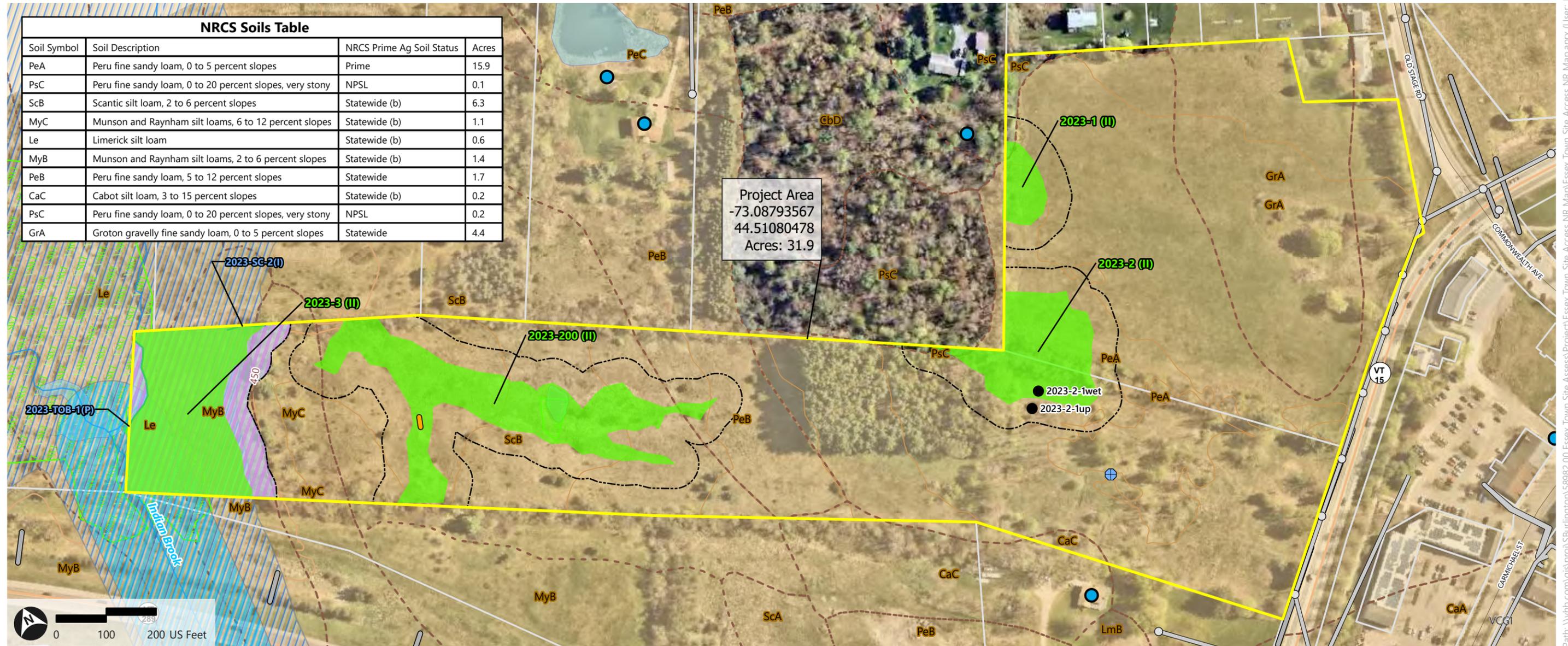
ATTACHMENT 1

Natural Resources Map

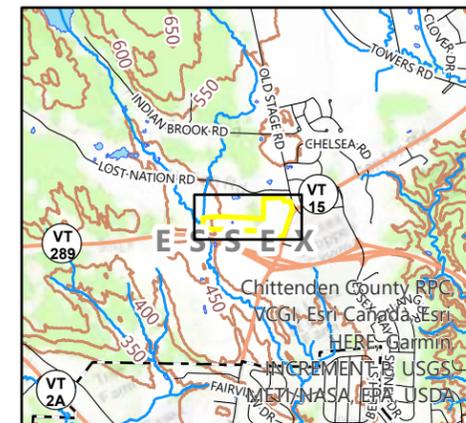
Essex Town Site | Essex Town, VT



October 19, 2023



- Project Area
- Delineated Wetland (VHB) (4)
- Presumed Class II Wetland Buffer (VHB)
- Delineated Waters (VHB) (2)
- Riparian Buffer (VHB)
- River Corridor (VHB)
- Water Supply (VHB) (1)
- Existing Utility Pole - GMP/VEC (VCGI)
- Delineation Data Point (VHB) (2)
- Culvert (VHB) (1)
- Parcel Boundary (VCGI) (55)
- Stream (ANR) (6)
- Waterbody (ANR) (3)
- VSWI (ANR) (2)
- Surface Water SPA (ANR) (0)
- Public Water Source (ANR) (0)
- Private Well (ANR) (5)
- River Corridor (ANR) (1)
- 100 Year Flood Zone (FEMA) (1)
- AE/VCE Confirmed Vernal Pools (0)
- VT Uncommon Species (VCGI) (0)
- NRCS Prime Agricultural Soils (VCGI)
- NRCS Soil Boundary (VCGI)
- Town Boundary (VCGI)
- State Highway
- Town Road
- 50 ft Contour (VCGI)
- Culverts (VTrans)



Notes:
 Potential roost trees may be present in the Study Area.

(#) Count of feature visible within map extent.

Sources: Background Imagery by NearMap (2023) VCGI (Vermont Center for Geographic Information - Various Dates); ANR (Vermont Agency of Natural Resources - Various Dates); DFW (Vermont Department of Fish & Wildlife - Various Dates); VTrans (Vermont Department of Transportation - 2015); VHB - 2023.

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ATTACHMENT 2



Essex Town Site Assessment

Photographs: 6/16, 7/3 2023

PROJECT NUMBER

58982.00

80 Upper Main Street,
Essex, VT 05452

Town of Essex
81 Main Street
Essex Junction, VT 05452



NO. 1 / 6.16.2023

DESCRIPTION

Palustrine Emergent ("PEM") wetland 2023-1 in the northeast portion of the Study Area.



NO. 2 / 6.16.2023

DESCRIPTION

PEM wetland 2023-2 in the northeast portion of the Study Area.



NO. 3 / 7.03.2023

DESCRIPTION

Palustrine Scrub Shrub ("PSS") wetland 2023-3 in the northwest portion of the Study Area.



NO. 4 / 7.03.2023

DESCRIPTION

PEM wetland 2023-200 in the northwest portion of the Study Area.



NO. 5 / 7.03.2023

DESCRIPTION

Perennial Stream 2023-TOB-1, located in the northwest portion of the Study Area.



NO. 6 / 7.03.2023

DESCRIPTION

Intermittent Stream 2023-TOB-1, located in the northwest portion of the Study Area.

NO. 4 / 6.16.2023

DESCRIPTION

A representative photo of the upland in the southeast portion of the Study Area.



ATTACHMENT 3

Summary of Delineated Wetlands

Project: Essex Town Site Assessment

Client: Town of Essex

Location: 80 Upper Main St, Essex Junction VT

Prepared By: VHB (B. Galligan)

Delineation Date(s): 6/16, 7/3, 8/2 2023



VHB Delineated Wetlands												
Wetland ID	Delineated Area (Square Feet) ¹	Cowardin Classification ²	Hydrology Indicator	Hydric Soil Indicator	Vermont Wetland Rules Classification						Typical Vegetation	Comments
					Contiguous to a VSWI-mapped Wetland?	Riparian Wetland Contiguous to Stream Channel? (Flow Regime) ³	VWR Section 4.6 Presumptions ⁴	VWR Section 5 Functional Criteria Presence / Significance		VHB-Proposed VWR Classification ⁶		
								Type ⁵	VHB-Proposed Significant?			
2023-1	10,400	PEM	Saturation_Visible_on_Aerial_(C9) Geomorphic_Position_(D2)	Depleted_Matrix (F3)	No	No	4.6a	5.1(L), 5.2(P)	Yes	II	<i>Juncus_effusus</i> <i>Onoclea_sensibilis</i>	A depression on the edge of a field that receives runoff, appears to connect to a larger feature outside the Study Area.
2023-2	42,650	PEM/PFO	Saturation_Visible_on_Aerial_(C9) Geomorphic_Position_(D2)	Depleted_Matrix (F3)	No	No	4.6a	5.1(P), 5.2(P)	Yes	II	<i>Juncus_effusus</i> <i>Onoclea_sensibilis</i>	
2023-3	68,100	PEM/PSS	Surface_Water_(A1) Saturation_(A3) Saturation_Visible_on_Aerial_(C9) Geomorphic_Position_(D2) Drainage_Patterns_(B10)	Depleted_Matrix (F3)	Yes	Yes	4.6a, b	5.1(P), 5.2(P), 5.10(P)	Yes	II	<i>Alnus_incana</i> <i>Impatiens_capensis</i> <i>Juncus_effusus</i>	A large wetland feature associated with Indian Brook and smaller streams.
2023-200	77,500	PEM/PSS	Surface_Water_(A1) Saturation_(A3) Saturation_Visible_on_Aerial_(C9) Geomorphic_Position_(D2)	Depleted_Matrix (F3)	Yes	No	4.6a	5.1(P), 5.2(P)	Yes	II	<i>Spiraea_alba</i> <i>Onoclea_sensibilis</i>	A wetland depression in an old field associated with runoff and a farm pond.

¹All wetlands field delineated per the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and North Central Region. U.S. Army Corps of Engineers. 2011; Delineated Wetlands that extend outside the Study Area are denoted with **bold** text.

²Classification follows Cowardin, L.M., Carter, V., Golet, F.C. and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitat of the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31. 103pp.

³Wetland contiguity to streams as defined in the Vermont ANR (2005) *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers* and confirmed if a delineated perennial or intermittent stream channel inflows, through flows, and outflows from a delineated wetland (ephemeral channels not typically being subject to ANR Riparian Buffer Guidance). The vegetative assemblage or natural community type is used when determining riparian vegetation function. Flow regime determined based on qualitative observations of instream hydrology indicators and geomorphic characteristic and are subject to professional judgment (P=perennial, I=intermittent, E=ephemeral).

⁴Alpha-numeric codes correspond with Section 4.6 Presumptions of the 2023 Vermont Wetland Rules.

⁵VWR Section 5: Functional Criteria for Evaluating a Wetland's Significance: 5.1=Water Storage for Flood Water and Storm Runoff, 5.2=Surface and Groundwater Protection, 5.3=Fish Habitat, 5.4=Wildlife Habitat, 5.5=Exemplary Wetland Natural Community, 5.6=Rare, Threatened or Endangered Species Habitat, 5.7=Education and Research in Natural Sciences, 5.8=Recreational Value and Economic Benefits, 5.9=Open Space and Aesthetics, 5.10=Erosion Control Through Binding and Stabilizing the Soil. (P)= Present, (H)=High, (L)=Low; Correspond to observed level of functionality.

⁶VHB-Proposed VWR Classification is based on review and application of the VWR, particularly VHB's interpretation of Section 4.6 Presumptions and is subject to final determinations by the ANR-DEC.

Summary of Delineated Streams

Project: Essex Town Site Assessment

Client: Town of Essex

Location: 80 Upper Main St, Essex Junction VT

Prepared By: VHB (B. Galligan)

Delineation Date(s): 6/16, 7/3, 8/2 2023



VHB Delineated Streams													
Stream ID	Stream Name	Associated Wetlands	Average Ordinary High Water (OHW) Width (Feet) ¹	Dominant Substrate	Water Depth (Inches)	Bank Height (Feet)	Flow Regime (Ephemeral, Intermittent, or Perennial) ²	Watershed Size (Square Miles) ³	VWQS Classification (2022) ⁴	ANR-Mapped Stream/River (Yes/No)	ANR-Mapped River Corridor? (Yes/No) ⁵	VHB-Proposed Riparian Buffer? (Yes/No) ⁶	Comments
2023-TOB-1	-	2023-3	4.00	Clay	24.00	1.50	Perennial	1.15	B	Yes	No	Yes	A tributary to Indian Brook.
2023-SC-2	-	2023-3	1.00	Silt	1.00	0.25	Intermittent	<0.05	B	No	No	Yes	A small stream that may originate from an agricultural ditch, naturalized within the Study Area then dissipates into the wetland.

¹ U.S. Army Corps of Engineers. 2005. *Regulatory Guidance Letter. Subject: Ordinary High Water Mark Identification. No. 05-05.*

² Stream flow regime determined based on qualitative observations of in stream hydrology indicators and geomorphic characteristic and are subject to professional judgment.

³ Watershed size determined from Vermont Agency of Natural Resources ("ANR") Stream Alteration Regulatory Program mapping or USGS Stream Stats

⁴ From ANR. 2022. *Vermont Water Quality Standards. 303(d) Assessment of the Condition of Vermont Waters. Priority Listing of Vermont Waters. Vermont Department of Environmental Conservation.*

⁵ List of River Corridors from the ANR Atlas.

⁶ Determined through guidance from Vermont ANR (2005) *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers.*

ATTACHMENT 4



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:
Project Code: 2024-0008411
Project Name: Essex Town Site Project

October 24, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the “**New England Field Office Endangered Species Project Review and Consultation**” website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (Updated 4/12/2023) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act

Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/service/section-7-consultations>

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/program/migratory-bird-permit>

<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Please feel free to contact us at newengland@fws.gov with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

PROJECT SUMMARY

Project Code: 2024-0008411

Project Name: Essex Town Site Project

Project Type: Acquisition of Lands

Project Description: Project proposed the potential redevelopment of lots 80 and 90 Upper Main Street located in Essex, Vermont

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.51075675,-73.08546419354654,14z>



Counties: Chittenden County, Vermont

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Carolyn Black
Address: 40 IDX Drive
City: South Burlington
State: VT
Zip: 05403
Email: cblack@vhb.com
Phone: 3512019445