

## ENDANGERED SPECIES ACT (ESA) ELIGIBILITY CRITERIA

### 1. Background

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA), grants authority and imposes requirements on Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (listed species) and any habitat of such species that has been designated as critical under the ESA (a “critical habitat”). Section 7(a)(2) of the ESA requires every federal agency, in consultation with and with the assistance of the Secretary of Interior, to ensure that any action it authorizes, funds or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (FWS) administers Section 7 consultations for freshwater species. The National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) administers Section 7 consultations for marine and anadromous species.

In order to meet its obligations under the Clean Water Act (CWA) and the Endangered Species Act (ESA), and to promote the goals of those Acts, the Environmental Protection Agency (EPA) is seeking to ensure the activities regulated by the Potable Water Facility General Permit (PWTF GP) do not adversely affect endangered and threatened species or critical habitat. Operators seeking coverage under this general permit must assess the impacts of their discharges and discharge-related activities on federally listed endangered and threatened species (“listed species”) and designated/proposed critical habitat (“critical habitat”) to ensure that those goals are met.

Prior to obtaining general permit coverage, operators must meet the ESA eligibility provisions of this general permit by following the steps in this appendix. EPA strongly recommends that operators begin this process as early as possible to ensure the notification requirements for general permit coverage are complete upon Notice of Intent (NOI) submission. A site that cannot meet any of the ESA eligibility criteria under this general permit must apply for an individual permit.

Operators seeking coverage also have an independent ESA obligation to ensure that their activities do not result in any prohibited “take” of listed species.<sup>1</sup> The term “take” is used in the ESA to mean harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. “Harass” is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include, but are not limited to, breeding, feeding, or sheltering.

---

<sup>1</sup> Section 9 of the ESA prohibits any person from “taking” a listed species (e.g., harassing or harming it) unless: (1) the taking is authorized through an “incidental take statement” as part of completion of formal consultation according to ESA section 7; (2) where an incidental take permit is obtained under ESA section 10 (which requires the development of a habitat conversion plan; or (3) where otherwise authorized or exempted under the ESA. This prohibition applies to all entities including private individuals, businesses, and governments.

The following are federally protected ESA species under FWS jurisdiction in Massachusetts and New Hampshire:

**Massachusetts (18)**

Northern Long-Eared Bat (*Myotis septentrionalis*)  
Piping Plover (*Charadrius melodus*)  
Red Knot (*Calidris canutus rufa*)  
Roseate Tern (*Sterna dougallii dougallii*)  
Plymouth Redbelly Turtle (*Pseudemys rubriventris bangsi*)  
Bog Turtle (*Clemmys muhlenbergii*)  
Dwarf Wedgemussel (*Alasmidonta heterodon*)  
American Burying Beetle (*Nicrophorus americanus*)  
Northeastern Beach Tiger Beetle (*Cicindela dorsalis dorsalis*)  
Puritan Tiger Beetle (*Cicindela puritana*)  
Rusty Patched Bumble Bee (*Bombus affinis*)  
American Chaffseed (*Schwalbea americana*)  
Northeastern Bulrush (*Scirpus ancistrochaetus*)  
Sandplain Gerardia (*Agalinis acuta*)  
Small Whorled Pogonia (*Isotria medeoloides*)  
Seabeach amaranth (*Amaranthus pumilus*)

**New Hampshire (12)**

Northern Long-Eared Bat (*Myotis septentrionalis*)  
Karner Blue butterfly (*Lycaeides melissa samuelis*)  
Jesup's Milk-vetch (*Astragalus robbinsii* var. *jesupii*)  
Canada Lynx (*Lynx canadensis*)  
Piping Plover (*Charadrius melodus*)  
Red Knot (*Calidris canutus rufa*)  
Roseate Tern (*Sterna dougallii dougallii*)  
Dwarf Wedgemussel (*Alasmidonta heterodon*)  
Northeastern Bulrush (*Scirpus ancistrochaetus*)  
Small Whorled Pogonia (*Isotria medeoloides*)

Any operator seeking coverage under the PWTF GP must certify eligibility with respect to ESA. By terms of this permit, EPA has automatically designated operators as non-Federal representatives for the purpose of conducting formal or informal consultations with the FWS. (See 50 CFR § 402.08 and § 402.13). EPA will coordinate with the NMFS regarding the anadromous and marine species under its jurisdiction to determine that the terms of the permit adequately address effects to listed species and critical habitat. Formal or informal consultation with the NMFS has been concluded as part of the final permit issuance, and results have been provided in written concurrence that discharges are “not likely to adversely affect” listed species or critical habitat.

When listed species are present, permit coverage is only available if EPA determines, or the operator determines and EPA concurs, that discharges will have “no effect” on the listed species or critical habitat, or are “not likely to adversely affect” listed species and will not cause adverse modification to critical habitat or result in take of listed species. Before submitting an NOI for coverage under this permit, operators must determine whether they meet the ESA eligibility criteria by following the steps in Sections 3 and 4 of this appendix. Operators that cannot meet the eligibility criteria in Sections 3 and 4 may be required to apply for an individual permit.

## 2. ESA Eligibility Criteria for one FWS Threatened Species – The Northern Long-Eared Bat

The FWS ESA eligibility requirements of this general permit relating to the northern long-eared bat have been satisfied. This threatened species is under the jurisdiction of the FWS and is identified as occurring statewide in Massachusetts and New Hampshire. The PWTF GP permit issuance is consistent with activities analyzed in the FWS January 5, 2016, Programmatic Biological Opinion (PBO).<sup>2</sup> No further ESA consultation is needed for the northern long-eared bat.

## 3. ESA Eligibility Criteria for the U.S. Fish and Wildlife Service (FWS)

The FWS ESA eligibility requirements of this general permit may be satisfied by documenting that one of the following criteria has been met:

**FWS Criterion A:** No endangered or threatened species or critical habitat (other than the northern long eared bat) are in proximity to the discharges or related activities or come in contact with the “action area”.

**FWS Criterion B:** If the action area of the facility has already undergone formal or informal consultation with the FWS under section 7 of the ESA, resulting in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are “not likely to adversely affect” listed species or critical habitat (informal consultation).

**FWS Criterion C:** Endangered or threatened species or critical habitat do overlap with the discharges or related activities and come in contact with the “action area” according to the IPaC species list. However, using the best scientific and commercial data available, as well as Attachment I to this appendix, a determination is made by EPA, or by the operator and affirmed by EPA, that the federally listed species or designated critical habitat listed on the FWS species list is not found in the site-specific aquatic habitat of the action area. This results in a “no effect” determination. No ESA section 7 consultation is required.

If no protected species overlap with your project’s action area (Criterion A or C), you may skip to Section 5 and verify that your activities “may affect but are not likely to adversely affect” listed species or critical habitat. You must submit this information to EPA as specified in Section 5 of this appendix. You may submit your NOI for permit coverage 30 days after you have submitted this ESA information. You must also provide a description of the basis for the criterion you selected on your NOI form, including the species and critical habitat list(s), the report of species present from the ESA Section 7 Mapper, the IPaC species list and any other documentation supporting your eligibility.

---

<sup>2</sup> FWS Massachusetts Project Code: 2023-0012054, November 3, 2022.  
FWS New Hampshire Project Code: 2023-0012056, November 3, 2022.

#### 4. Steps to Determine if the FWS ESA Eligibility Criteria Can Be Met

To determine eligibility, operators must assess the potential effects of their discharges and related activities on listed species or critical habitat **prior to completing and submitting an NOI**. Operators must follow the steps outlined below and document the results of the eligibility determination.

The FWS Information, Planning, and Conservation (IPaC) online system can be used to develop a preliminary determination of federally listed species or designated critical habitats within the action area of your discharge and related activities. Further information on IPaC is available on the FWS website at <http://ecos.fws.gov/ipac/>. Instructions for using IPaC are available in an attachment to this Appendix (end of document).

##### Step 1 – Determine if you meet FWS Criterion A:

You can certify eligibility, according to FWS Criterion A, for coverage by this permit if, upon completing the IPaC online system process, you printed and saved the Resource List, which indicated that federally listed species (other than the northern long-eared bat) or designated critical habitats are not present in the action area.

*If you have met FWS Criterion A, skip to Step # 4.*

*If you have not met FWS Criterion A, go to Step # 2.*

##### Step 2 – Determine if you meet FWS Criterion B:

You can certify eligibility according to FWS Criterion B for coverage by this permit if you answer “Yes” to **all** of the following questions:

- 1) Does your action area overlap with the range of any threatened or endangered species?  
The IPaC system may be used to answer this question.
- 2) Did your assessment of the discharge and related activities indicate that discharges may affect but are “not likely to adversely affect” listed species or critical habitat?
- 3) Did you contact the FWS and did formal or informal consultation result in either a “no jeopardy” opinion by the FWS (formal consultation) or concurrence by the FWS (informal consultation) that your discharge and related activities would be “not likely to adversely affect” listed species or critical habitat?
- 4) Do you agree to implement all measures upon which the consultation was conditioned?

Use the guidance below Step 3 to understand effects determination and to answer these questions.

*If you answered “Yes” to **all** four questions above, you have met eligibility FWS Criterion B.  
Skip to Step 4.*

*If you answered “No” to **any** of the four questions above, go to Step 3.*

### Step 3 – Determine if you meet FWS Criterion C

FWS Criterion C: You can certify eligibility according to FWS Criterion C for coverage by this permit if you answer “Yes” to **either** of the following questions:

- 1) Does your action area contain one or more endangered or threatened species, other than the long-eared bat? The IPaC system may be used to answer this question.
- 2) Did the assessment of your discharge and related activities indicate that there would be “no effect” on listed species or critical habitat?

Use the guidance below to understand effects determination and to answer these questions.

*If you answered “Yes” to **either** question above, you have met eligibility FWS Criterion C. Go to Step 4.*

*If you answered “No” to **both** of the questions above, you are not eligible for coverage under this permit. You must submit an application for an individual permit for your remediation activity discharges. (See 40 CFR §122.21).*

### Step 4 - Document results of the Eligibility Determination

Once the FWS ESA eligibility requirements have been met, you shall include documentation of FWS ESA eligibility in your NOI. Documentation for the various eligibility criteria are as follows:

- **FWS Criterion A:** A copy of the IPaC-generated resources list indicating that no listed species or critical habitat is present within your action area.
- **FWS Criterion B:** A dated copy of the FWS letter of concurrence on a finding of “no jeopardy” (for formal consultation) or “not likely to adversely affect” (for informal consultation) regarding the ESA section 7 consultation.
- **FWS Criterion C:** You can certify eligibility according to Criterion C for coverage by this permit if you answer “Yes” to **both** of the following questions:
  - 1) Does your action area contain one or more of the FWS species listed above using the IPaC system species list?
  - 2) Did the further assessment of the potential presence of all species within your discharge and related activities indicate that there would ultimately be no overlap between all the species habitat and the aquatic action area?<sup>3</sup> This will result in a “no effect” on listed species or critical habitat.<sup>4</sup>

### U.S. Fish and Wildlife Service IPaC System Instructions

---

<sup>3</sup> For FWS species, Attachment I, as well as other habitat information, may be used to further examine the habitat of the species present on the species list.

<sup>4</sup> See FWS Section 7 consultation handbook, available at [http://www.fws.gov/endangered/esa-library/pdf/esa\\_section7\\_handbook.pdf](http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf) for definitions and guidance.

Follow the instructions provided below to determine if any federally listed species or designated critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service exist in the action area of a site.

Enter site-specific information into the “Initial Project Scoping” feature of the Information, Planning, and Conservation (IPaC) system mapping tool, which can be accessed at:

<https://ecos.fws.gov/ipac/>

1. Indicate the action area<sup>5</sup> for the site by either:
  - a. Drawing the boundary on the map; or
  - b. Uploading a shapefile.
2. Select “Continue”.
3. Select “SEE RESOURCE LIST”. The next screen will display a resources list, which can be exported. This list indicates natural resources of concern, which will include a list of Endangered Species Act species<sup>6</sup>. An official species list under “REGULATORY DOCUMENTS” can also be requested. Retain a copy of the resources list for record keeping purposes.

If you are unable to certify eligibility under Criterion A, you must assess whether your discharges or related activities “may affect, but will not likely adversely affect” listed species or critical habitat. Discharges include wastewater from potable water treatment sites which undergoes treatment processes including clarification, coagulation, media filtration, membrane filtration, and/or disinfection. “Discharge-related activities” include Best Management Practices (BMPs) to prevent or minimize the concentration of pollutants in the wastewater.

---

<sup>5</sup> The action area is defined by regulation as all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action (50 CFR §402.02). This analysis is not limited to the “footprint” of the action nor is it limited by the Federal agency's authority. Rather, it is a biological determination of the reach of the proposed action on listed species. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area.

The documentation used by a Federal action agency to initiate consultation should contain a description of the action area as defined in the Services' regulations and explained in the Services' consultation handbook. If the Services determine that the action area as defined by the action agency is incorrect, the Services should discuss their rationale with the agency or applicant, as appropriate. Reaching agreement on the description of the action area is desirable but ultimately the Services can only consult when an action area is defined properly under the regulations.

The action area will vary with the size and location of the outfall pipe, the nature and quantity of the discharges, and the type of receiving waters, among other factors.

<sup>6</sup> The northern long-eared bat, (*Myotis septentrionalis*), under the jurisdiction of the FWS, is identified as occurring statewide in Massachusetts and New Hampshire. The DRGP permit reissuance is consistent with activities analyzed in the FWS January 5, 2016, Programmatic Biological Opinion (PBO). No further ESA consultation is needed for the northern long-eared bat.

The scope of effects to consider will vary with each site. If you are having difficulty in determining whether your discharge is likely to cause adverse effects to a listed species or critical habitat, you should contact the FWS for assistance. In order to complete the determination of effects it may be necessary to follow the formal or informal consultation procedures in section 7 of the ESA.

Upon completion of your assessment, document the results of your effects determination. If your results indicate that discharges and related activities do not ultimately overlap with the aquatic action area, a “no effect” determination on threatened or endangered species or critical habitat can be made. If EPA concurs with your determination, you are eligible under Criterion C of this Appendix.

**If the determination is “may affect, but not likely to adversely affect”** you must contact the FWS to discuss your findings and measures you could implement to avoid, eliminate, or minimize adverse effects. If you and the FWS reach agreement on measures to avoid adverse effects, you are eligible under Criterion B. Any terms and/or conditions to protect listed species and critical habitat that you relied on to complete an adverse effects determination, must be attached to your NOI.

Effects from remediation activity discharges and/or related activities which could pose an adverse effect include, but are not limited to:

- **Water Quality:** PWTF GP discharges may induce pH and dissolved oxygen changes in receiving waters. These effects will vary with the volume discharged and the volume and condition of the receiving water. Where a discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely.
- **Water Quality/Prey Quality:** Certain pollutants present in discharges and chemicals used in treatment processes have the potential to cause toxicity in the receiving water. Toxic pollutants in the discharges may have toxic effects on listed species or their prey.
- **Habitat Structure and Disturbance:** Solids have the potential to settle and cover bottom habitat areas, potentially causing benthic smothering and effluent flow can cause erosion or scouring.

**If endangered species issues cannot be resolved:** If you cannot reach agreement with the NOAA Fisheries/FWS on measures to avoid or eliminate adverse effects, you are not eligible for coverage under this general permit. You must seek coverage under an individual permit.

## **5. Submittal of Notice of Intent (NOI)**

Once the ESA eligibility requirements of this Appendix have been met, and an operator has determined ESA eligibility, an operator may certify ESA eligibility in the Notice of Intent (NOI). Signature and submittal of the NOI constitutes an operator’s certification, under penalty of law, of eligibility for permit coverage under 40 CFR §122.21.

## **6. Duty to Implement Terms and Conditions upon which Eligibility was Determined**

Operators must comply with any terms and conditions imposed under the ESA eligibility requirements to ensure that PWTF GP discharges and related activities do not pose adverse effects or jeopardy to listed species and/or critical habitat. If the ESA eligibility requirements of this permit cannot be met, then a site may not receive coverage under this general permit and must apply for an individual permit.

## **7. Services Information**

### **United States Fish and Wildlife Service**

National websites for Endangered Species Information:

Endangered Species home page: <https://www.fws.gov/program/endangered-species>

ESA Section 7 Consultations: <https://www.fws.gov/service/esa-section-7-consultation>

Information, Planning, and Conservation System (IPAC): <https://ipac.ecosphere.fws.gov/>

United States Fish and Wildlife Service  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 033015087  
Phone: (603) 2232541

### **Natural Heritage Network**

Additional information on endangered and threatened species can be found through the Natural Heritage Network, which includes 75 independent heritage program organizations located in all 50 states, 10 Canadian provinces, and 12 countries and territories located throughout Latin America and the Caribbean. These programs gather, manage, and distribute detailed information about the biological diversity found within their jurisdictions. Developers, businesses, and public agencies use natural heritage information to comply with environmental laws and to improve the environmental sensitivity of economic development projects. Local governments use the information to aid in land use planning.

The Natural Heritage Network is overseen by NatureServe, the Network's parent organization, and is accessible online at: <http://www.natureserve.org/>, which provides websites and other access to a large number of specific biodiversity centers. Information and links specific to the Massachusetts and New Hampshire Natural Heritage Programs are provided below.

Massachusetts Natural Heritage & Endangered Species Program

<https://www.mass.gov/orgs/masswildlifes-natural-heritage-endangered-species-program>

1 Rabbit Hill Road  
Westborough, Massachusetts 01581  
508.389.6360

New Hampshire Natural Heritage Inventory

<https://www.nh.gov/nhdf/about-us/natural-heritage-bureau.htm>  
Department of Resources & Economic Development  
172 Pembroke Street, P.O. Box 30370  
Concord, NH 03301  
603.271.2214

**Attachment 1 – Selected FWS Species Habitat Descriptions**

Protected Species	General Habitat <sup>7</sup>
American chaffseed ( <i>Schwalbea americana</i> ) <sup>MA</sup>	American chaffseed occurs in fire-maintained longleaf pine flatwoods and savannas. Often it is found in ecotonal areas between peaty wetlands and xeric sandy soils. Kral described American chaffseed habitat in 1983 as an open grass-sedge system in moist acidic sandy loams or sandy peat loams. Chaffseed is dependent on factors like fire, mowing, or fluctuating water tables to maintain the open to partly-open conditions that it requires. Most of the surviving populations, and all of the most vigorous populations, are in areas that are still subject to frequent fire.
Northeastern bulrush ( <i>Scirpus ancistrochaetus</i> ) <sup>MA, NH, VT</sup>	The northeastern bulrush is a wetland obligate plant occurring in acidic to circumneutral wetlands including sinkhole ponds, wet depressions, vernal pools (collectively, seasonal or ephemeral wetlands), beaver flowages, and other riparian areas found in hilly country (Service 1991). Northeastern bulrush requires water levels that fluctuate seasonally and/or annually as well as ample sunlight.
Sandplain gerardia ( <i>Agalinis acuta</i> ) <sup>MA, CT, RI</sup>	Sandplain Gerardia grows in dry, sandy soils of grasslands and roadsides; in pine/oak scrub openings, usually where there is considerable growth of lichens and scattered patches of bare soil; and in sandy plains. Both poor soils and habitat disturbance may create the open, relatively competition-free areas required by Sandplain Gerardia. Habitats in Massachusetts are dry grasslands, including cemeteries with native species maintained by mowing.
Small whorled pogonia ( <i>Isotria medeoloides</i> ) <sup>MA, NH, CT, RI</sup>	This orchid grows in older hardwood stands of beech, birch, maple, oak, and hickory that have an open understory. Sometimes it grows in stands of softwoods such as hemlock. It prefers acidic soils with a thick layer of dead leaves, often on slopes near small streams.
Seabeach amaranth ( <i>Amaranthus pumilus</i> ) <sup>MA</sup>	Seabeach amaranth inhabits the dynamic shores of the Atlantic Coast. This low-growing annual colonizes newly disturbed beach related habitats such as over-wash areas at the end of barrier islands and flat, low-lying areas along the foremost dunes. It is perfectly designed for trapping sand and plays an important role in the dune-building process.

<sup>7</sup> Information taken from US Fish and Wildlife species profile website, Biological Opinions, species recovery plan documents, and the National Heritage and Endangered Species Program of Massachusetts.

Protected Species	General Habitat <sup>7</sup>
<p>Jesup's milk-vetch (<i>Astragalus robbinsii</i> var. <i>jesupii</i>)<sup>NH, VT</sup></p>	<p>Jesup's milk-vetch inhabits bedrock outcrops of chlorite or phyllite schist that are periodically scoured by flooding and ice-rafting along the Connecticut River. The endangered plant clings by its small roots to silt-filled crevices in the steep rock outcrops along the high water mark of the Connecticut River.</p>
<p>Piping plover (<i>Charadrius melodus</i>)<sup>MA, NH, CT, RI</sup></p>	<p>Piping plovers nest above the high tide line on coastal beaches, sand flats at the ends of sandspits and barrier islands, gently sloping foredunes, blowout areas behind primary dunes, sparsely vegetated dunes, and washover areas cut into or between dunes. Feeding areas include intertidal portions of ocean beaches, washover areas, mudflats, sandflats, wrack lines, and shorelines of coastal ponds, lagoons, or saltmarshes. Wintering plovers on the Atlantic Coast are generally found at accreting ends of barrier islands, along sandy peninsulas, and near coastal inlets.</p>
<p>Red knot (<i>Calidris canutus rufa</i>)<sup>MA, NH, CT, RI</sup></p>	<p>Along the U.S. Atlantic coast, dynamic and ephemeral features are important red knot habitats, including sand spits, islets, shoals, and sandbars, features often associated with inlets.</p>
<p>Roseate tern (<i>Sterna dougallii</i> <i>dougallii</i>)<sup>MA, NH, CT, RI</sup></p>	<p>In Massachusetts, the Roseate Tern generally nests on sandy, gravelly, or rocky islands and, less commonly, in small numbers at the ends of long barrier beaches. Compared to the Common Tern, it selects nest sites with denser vegetation, such as seaside goldenrod and beach pea, which is also used for cover by chicks. Large boulders are used for cover at other locations in the northeast. It feeds in highly specialized situations over shallow sandbars, shoals, inlets or schools of predatory fish.</p>
<p>Plymouth redbelly turtle <i>also known as</i> Northern red-bellied cooter  <i>(Pseudemys rubriventis bangsi)</i>  <sup>MA</sup></p>	<p>In Massachusetts, northern red-bellied cooters primarily live in freshwater ponds and rivers with abundant aquatic vegetation. These areas also have a good amount of logs, rocks, and vegetation mats that act as basking sites. They have been documented in coastal plain ponds, larger lakes and rivers, manmade reservoirs, and cranberry bogs. Northern red-bellied cooters nest in exposed sand and gravel, lawns, gardens, and roadsides near ponds and rivers.</p>

Protected Species	General Habitat <sup>7</sup>
Bog turtle ( <i>Glyptemys muhlenbergii</i> ) <sup>MA, CT</sup>	<p>Bog turtles occupy shallow wetland habitats. They are semi-aquatic.</p> <p>These microhabitats are characterized by soft muddy bottoms, interspersed wet and dry pockets, vegetation dominated by low-growing grasses and sedges, and a low volume of standing or slow-moving water, which often forms a network of shallow pools and rivulets. Bog turtles prefer areas with ample sunlight, high humidity in the near-ground microclimate, and perennial saturation of portions of the ground in which to bury themselves to get cool during hot summer months.</p> <p>Bog turtles generally retreat into more densely vegetated areas (different areas than what they typically use during spring and summer months), under the roots of trees or shrubs, rock walls, or even muskrat burrows to hibernate from mid-September through mid-April (depending on latitude).</p>
American burying beetle ( <i>Nicrophorus americanus</i> ) <sup>MA, RI</sup>	<p>The ABB is considered a generalist in terms of the vegetation types where it is found, as it has been successfully live-trapped in a wide range of habitats, including wet meadows, partially forested loess canyons, oak-hickory forests, shrub land and grasslands, lightly grazed pasture, riparian zones, coniferous forest, and deciduous forests with open understory. Individuals do not appear to be limited by vegetation types as long as food, shelter, and moisture are available and have been recorded moving between and among these habitat types. ABBs occurrence in an areas is widely believed to depend on the presence of small mammals, birds and other sources of carrion necessary for completion their life cycle ABB are rarely found in areas such as agricultural lands that are tilled frequently. They are not found in areas that are permanently inundated with water, although they may use wetland areas that are only seasonally flooded or seek moist soils near areas with water. Urban areas with manicured lawns or where access to top soil is unavailable (pavement), etc. are also considered unsuitable habitat.</p>
Northeastern beach tiger beetle ( <i>Cicindela dorsalis dorsalis</i> ) <sup>MA</sup>	<p>These tiny sand-colored beetles spend their whole lives on long, wide beaches with little human activity, often congregating at the water's edge during warm days.</p>
Puritan tiger beetle ( <i>Cicindela puritan</i> ) <sup>MA, CT</sup>	<p>They can be found on sandy beaches and eroding cliffs where there is little to no vegetation along the Chesapeake Bay in Maryland and the Connecticut River in New England.</p>

Protected Species	General Habitat <sup>7</sup>
Rusty patched bumble bee <i>(Bombus affinis)</i> <sup>MA</sup>	<p>RPBB is found in prairies, woodlands, marshes, agricultural landscapes and residential parks and gardens. This bee requires nectar and pollen from diverse and abundant flowers, as well as undisturbed nesting sites that are in proximity to those floral resources. Nests in upland grasslands and shrublands that contain forage during the summer and fall and as far as 30 meters into the edges of forest and woodland. Nest-seeking queens favored woody transitional habitats over open habitats. Nests are typically 1 to 4 feet underground in abandoned rodent nests or other mammal burrows and occasionally at the soil surface or aboveground. Queens overwinter in upland forest and woodlands. Overwintering queens have been found mostly in shaded areas, usually near trees and in banks without dense vegetation.</p>
Karner blue butterfly <i>(Lycaeides Melissa samuelis)</i> <sup>NH</sup>	<p>The Karner blue butterfly lives in oak savannas and pine barren ecosystems. Wild blue lupine (<i>Lupinus perennis</i>) is the only plant Karner blue larvae, or caterpillars, can eat. Even so, the range of these butterflies and that of their host plant do not completely overlap. Instead, Karner blue butterfly are found predominantly along the northern band of wild lupine's range.</p>
Canada lynx ( <i>Lynx canadensis</i> ) <sup>NH, VT</sup>	<p>The distribution of lynx in North America is closely associated with the distribution of North American boreal forest. In Canada and Alaska, lynx inhabit the classic boreal forest ecosystem known as the taiga. The range of lynx populations extends south from the classic boreal forest zone into the boreal/hardwood forest ecotone in the eastern United States. Within these general forest types, lynx are most likely to persist in areas that receive deep snow and have high-density populations of snowshoe hares, the principal prey of lynx.</p>
Indiana bat ( <i>Myotis sodalis</i> ) <sup>CT, VT</sup>	<p>The Indiana bat hibernates colonially in caves and mines in the winter. IBs require forests for foraging and roosting and are found in forested areas in the eastern half of the United States. Maternity habitat ranges from areas that are completely forested to highly fragmented forest. Males and nonreproductive females often do not roost in colonies and may stay close to their hibernaculum or migrate shorter distances to summer habitat. Summer roosts are typically behind exfoliating bark of large, often dead, trees.</p>