























**Species of Conservation Concern, Priority and Exemplary Natural Communities,  
and Other Elements of Biodiversity in Boylston**

**Insects**

**Moths**

[Orange Sallow Moth](#), (*Pyrrhia aurantiago*), SC

**Amphibians**

[Four-toed Salamander](#), (*Hemidactylium scutatum*), Non-listed SWAP

[Marbled Salamander](#), (*Ambystoma opacum*), T

**Reptiles**

Eastern Hognose Snake, (*Heterodon platirhinos*), Non-listed SWAP

**Birds**

[Common Loon](#), (*Gavia immer*), SC

[Bald Eagle](#), (*Haliaeetus leucocephalus*), T

**Plants**

[Dwarf Bulrush](#), (*Lipocarpa micrantha*), T

[Adder's-tongue Fern](#), (*Ophioglossum pusillum*), T

**Other BioMap2 Components**

[Aquatic Core](#)

[Wetland Core](#)

[Landscape Block](#)

[Aquatic Core Buffer](#)

[Wetland Core Buffer](#)

E = Endangered

T = Threatened

SC = Special Concern

S1 = Critically Imperiled communities, typically 5 or fewer documented sites or very few remaining acres in the state.

S2 = Imperiled communities, typically 6-20 sites or few remaining acres in the state.

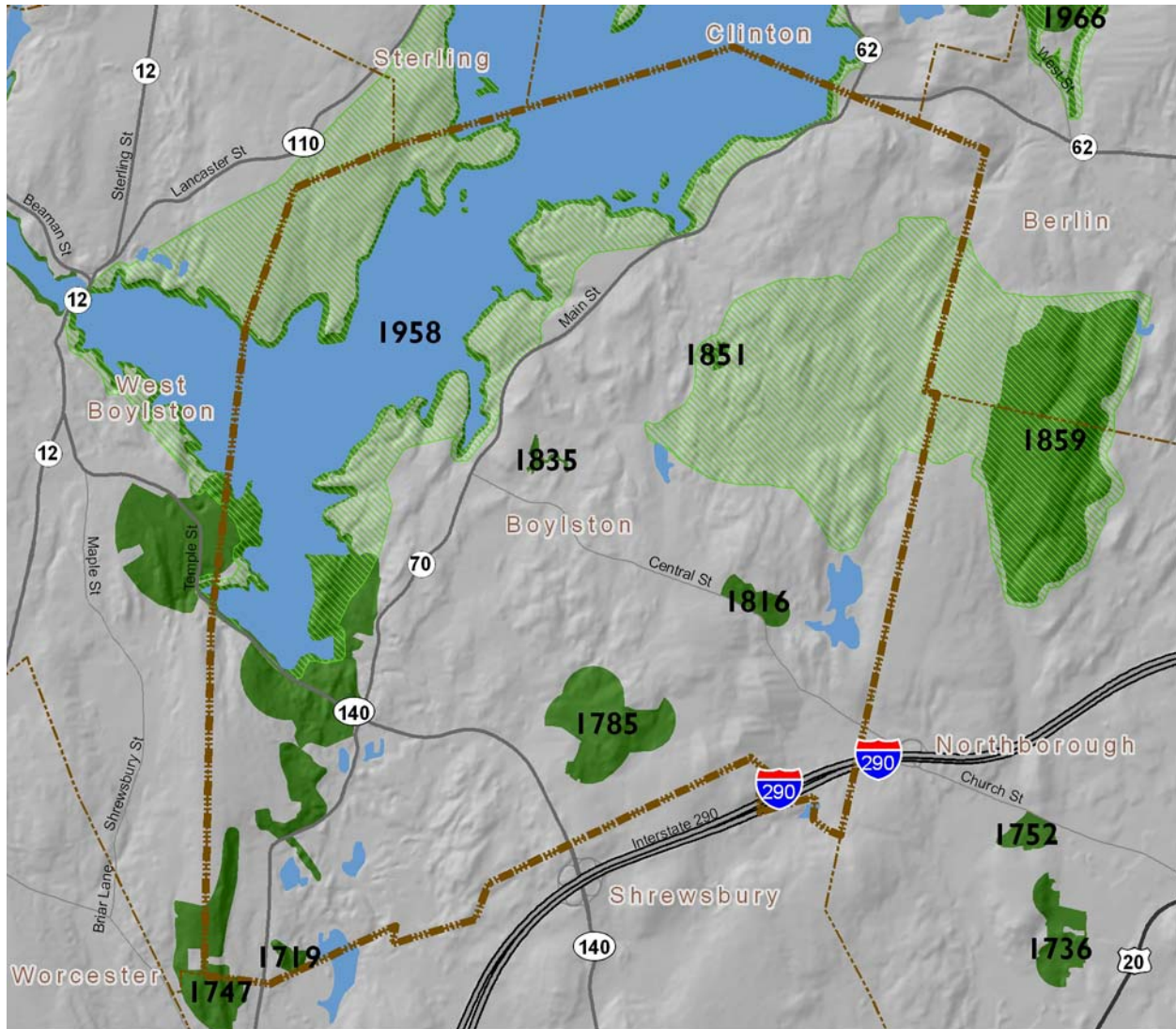
S3 = Vulnerable communities, typically have 21-100 sites or limited acreage across the state.



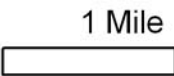


### BioMap2 Core Habitat in Boylston

Core IDs correspond with the following element lists and summaries.



- BioMap2 Core Habitat
- BioMap2 Critical Natural Landscape



Natural Heritage  
& Endangered  
Species Program

Massachusetts Division of Fisheries and Wildlife  
1 Rabbit Hill Road, Westborough, MA 01581  
phone: 508-389-6360 fax: 508-389-7890

For more information on rare species and natural communities, please see our fact sheets online at [www.mass.gov/nhesp](http://www.mass.gov/nhesp).



Elements of BioMap2 Cores

This section lists all elements of BioMap2 Cores that fall *entirely or partially* within Boylston. The elements listed here may not occur within the bounds of Boylston.

**Core 1719**

Species of Conservation Concern

Orange Sallow Moth

*Pyrrhia aurantiago*

SC

**Core 1747**

Species of Conservation Concern

Orange Sallow Moth

*Pyrrhia aurantiago*

SC

**Core 1785**

Species of Conservation Concern

Marbled Salamander

*Ambystoma opacum*

T

**Core 1816**

Species of Conservation Concern

Four-toed Salamander

*Hemidactylium scutatum*

Non-listed SWAP

**Core 1835**

Species of Conservation Concern

Adder's-tongue Fern

*Ophioglossum pusillum*

T

**Core 1851**

Wetland Core

**Core 1958**

Aquatic Core

Species of Conservation Concern

Dwarf Bulrush

*Lipocarpa micrantha*

T

Orange Sallow Moth

*Pyrrhia aurantiago*

SC

Eastern Hognose Snake

*Heterodon platirhinos*

Non-listed SWAP

Bald Eagle

*Haliaeetus leucocephalus*

T

Common Loon

*Gavia immer*

SC





## Core Habitat Summaries

### **Core 1719**

A 16-acre Core Habitat featuring a Species of Conservation Concern.

Orange Sallow Moths inhabit dry, open oak woodlands on rocky uplands. Their eggs are laid on false foxgloves (*Aureolaria* spp.) where the larvae feed on the flowers and developing seeds.

### **Core 1747**

A 186-acre Core Habitat featuring a Species of Conservation Concern.

Orange Sallow Moths inhabit dry, open oak woodlands on rocky uplands. Their eggs are laid on false foxgloves (*Aureolaria* spp.) where the larvae feed on the flowers and developing seeds.

### **Core 1785**

A 207-acre Core Habitat featuring a Species of Conservation Concern.

Adult and juvenile Marbled Salamanders inhabit upland forests during most of the year, where they reside in small-mammal burrows and other subsurface retreats. Adults migrate during late summer or early fall to breed in dried portions of vernal pools, swamps, marshes, and other predominantly fish-free wetlands. Eggs are deposited under logs, leaf-litter, or grass tussocks and hatch after being inundated by fall rains. Larvae metamorphose during late spring, whereupon they disperse into upland forest.

### **Core 1816**

A 42-acre Core Habitat featuring a Species of Conservation Concern.

Four-toed Salamanders live in forested habitats surrounding swamps, bogs, marshes, vernal pools, and other fish-free waters that are used as breeding sites. Most breeding sites in MA are characterized by pit-and-mound topography with significant sphagnum-moss cover. Eggs are typically laid in mounds or patches of sphagnum moss that overhang water. Upon hatching, the larvae wriggle through the moss and drop into the water, where they will develop for several weeks prior to metamorphosis.

### **Core 1835**

A 10-acre Core Habitat featuring a Species of Conservation Concern.

Adder's-tongue is a small terrestrial fern, up to 12 inches high, consisting of a single fleshy green stalk bearing a simple leaf and a fertile spike. Boggy meadows, acidic fens, borders of marshes, wet fields, and moist woodland clearings provide suitable open and sunny habitat for Adder's-tongue Fern.

### **Core 1851**

A 10-acre Core Habitat featuring Wetland Core.





Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

### **Core 1958**

A 5,214-acre Core Habitat featuring Aquatic Core and Species of Conservation Concern.

Aquatic Cores are intact river corridors within which important physical and ecological processes of the river or stream occur. They delineate integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern.

Dwarf Bulrush is a tiny, wiry, annual sedge, which inhabits sandy to peaty shores of low-nutrient ponds and lakes.

Orange Sallow Moths inhabit dry, open oak woodlands on rocky uplands. Their eggs are laid on false foxgloves (*Aureolaria* spp.) where the larvae feed on the flowers and developing seeds.

Eastern Hognose Snakes are shy, slow-moving, thick-bodied snakes that specialize in feeding on toads, although they eat other amphibians or other small animals as well. They require sandy soils in their habitat; both wooded and open habitats are known.

Bald Eagles nest in tall trees along large lakes and rivers. The bulk of their diet consists of fish. Large lakes and rivers also support important winter congregations of Bald Eagles.

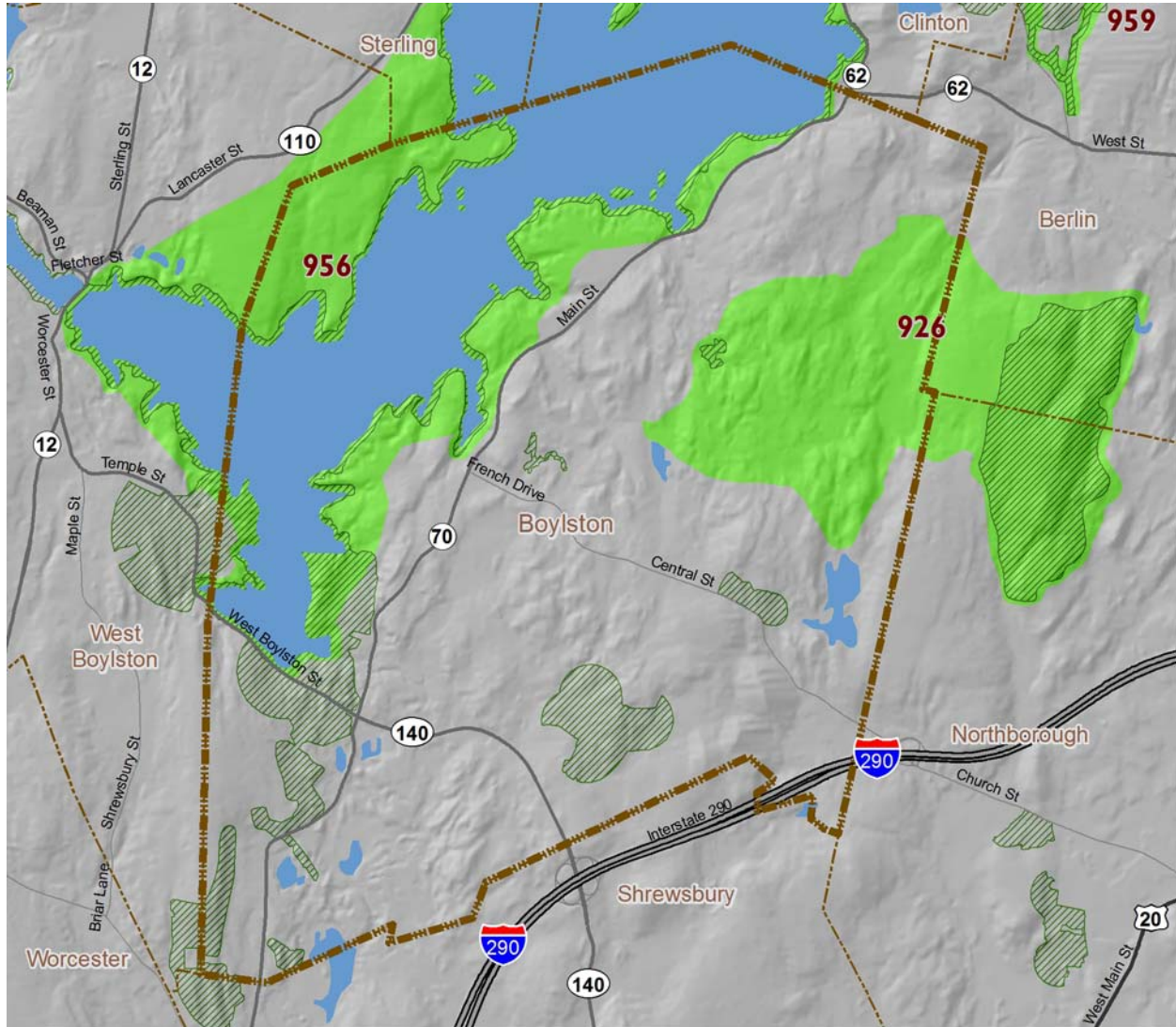
Common Loons rely upon large, clear lakes as breeding habitat. They only leave the water to tend to their nests, which are either placed in shoreline vegetation, or upon specially designed nesting platforms built for them by conservationists. Their diet consists primarily of fish, and Common Loons have been shown to be particularly vulnerable to human disturbance and toxins, especially mercury.





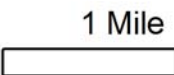


### BioMap2 Critical Natural Landscape in Boylston

Critical Natural Landscape IDs correspond with the following element lists and summaries.



-  BioMap2 Core Habitat
-  BioMap2 Critical Natural Landscape





### Elements of BioMap2 Critical Natural Landscapes

This section lists all elements of BioMap2 Critical Natural Landscapes that fall *entirely or partially* within Boylston. The elements listed here may not occur within the bounds of Boylston.

#### **CNL 926**

Landscape Block  
Wetland Core Buffer

#### **CNL 956**

Aquatic Core Buffer  
Landscape Block







## Critical Natural Landscape Summaries

### **CNL 926**

A 2,542-acre Critical Natural Landscape featuring Wetland Core Buffer and Landscape Block.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

Landscape Blocks, the primary component of Critical Natural Landscapes, are large areas of intact predominately natural vegetation, consisting of contiguous forests, wetlands, rivers, lakes, and ponds, as well as coastal habitats such as barrier beaches and salt marshes. Pastures and power-line rights-of-way, which are less intensively altered than most developed areas, were also included since they provide habitat and connectivity for many species. Collectively, these natural cover types total 3.6 million acres across the state. An Ecological Integrity assessment was used to identify the most intact and least fragmented areas. These large Landscape Blocks are most likely to maintain dynamic ecological processes such as buffering, connectivity, natural disturbance, and hydrological regimes, all of which help to support wide-ranging wildlife species and many other elements of biodiversity.

In order to identify critical Landscape Blocks in each ecoregion, different Ecological Integrity thresholds were used to select the largest intact landscape patches in each ecoregion while avoiding altered habitat as much as possible. This ecoregional representation accomplishes a key goal of *BioMap2* to protect the ecological stages that support a broad suite of biodiversity in the context of climate change. Blocks were defined by major roads, and minimum size thresholds differed among ecoregions to ensure that *BioMap2* includes the best of the best in each ecoregion.

### **CNL 956**

A 6,156-acre Critical Natural Landscape featuring Aquatic Core Buffer and Landscape Block.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

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This 5,949-acre Landscape Block is the seventh largest of 62 Blocks in the ecoregion. Unlike Landscape Blocks in much of the state that are dominated by upland forests, the upland forest in this Block is complemented by the vast expanse of open water of the Wachusett Reservoir.



# Help Save Endangered Wildlife!

Please contribute on your Massachusetts income tax form or directly to the



## Natural Heritage & Endangered Species Fund

To learn more about the Natural Heritage & Endangered Species Program and the Commonwealth's rare species, visit our web site at [www.mass.gov/nhesp](http://www.mass.gov/nhesp).