



# BioMap2

## Guiding Land Conservation for Biodiversity in Massachusetts

### New Marlborough

This report and associated maps provide information about important sites for biodiversity conservation in your area.

This information is intended for conservation planning, and is not intended for use in state regulations.

Produced by:  
**Natural Heritage & Endangered Species Program**  
**Massachusetts Division of Fisheries and Wildlife**

**Commonwealth of Massachusetts**

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[http://www.mass.gov/dfwele/dfw/nhesp/land\\_protection/biomap/biomap2\\_summary\\_report.pdf](http://www.mass.gov/dfwele/dfw/nhesp/land_protection/biomap/biomap2_summary_report.pdf)

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## BioMap2: Guiding Land Conservation for Biodiversity in Massachusetts

# New Marlborough

New Marlborough is located in southeast Berkshire County, in the lower Berkshire Hills along Massachusetts' border with Connecticut. It lies within the Housatonic River watershed, and several mid-size tributaries to the Housatonic flow from the town's higher elevations in the east and north toward its lowlands in the west and south. These streams – the Whiting, Umpachene, and Konkapot Rivers – ultimately join the Housatonic River mainstem further west and south in the Connecticut towns of Sheffield and North Canaan. New Marlborough contains extensive wetlands, totaling more than 2,300 acres; this is more than any other town in the Massachusetts portion of the Housatonic River watershed apart from Sheffield and Pittsfield. Most of these wetlands are located in the highlands of eastern New Marlborough, where shallow depressions in the plateaus of the Berkshire retain water along streams and in extensive areas of groundwater seeps. These wetlands, along with others found at lower elevations to the west along the Konkapot River, support a remarkable diversity of plants, animals, and natural communities.

New Marlborough is one of the less-populated towns in this part of the Berkshires, and also lacks the extensive commercial and industrial development present in towns like Pittsfield and Lee. As a result, many of its natural ecosystems remain relatively undisturbed, although past milling and agricultural activities near the town center shaped the landscape there and impacted both terrestrial and aquatic habitats. Some farming activity remains today; nearly 10 percent of the town's land is classified as agricultural. Much of the town's developed land is concentrated around the village of New Marlborough, as well as in the villages of Mill River to the west and Hartsville to the north. Most of these lands are residential. Southern and eastern parts of New Marlborough are largely undeveloped, although occasional residential areas are found in some areas, such as the southern reaches of the Konkapot River and the perimeters of Windemere Lake Reservoir.

Low elevation portions of New Marlborough, including the Konkapot River and the lower reaches of its immediate tributaries, are part of the Western New England

Marble Valleys ecological region (see Figure 1). This is one of the most biologically rich ecoregions in Massachusetts and throughout New England, supporting a relatively high percentage of Massachusetts' state-listed species and natural communities. Expansive marshlands along



### New Marlborough at a Glance

- Total area: 30,655 acres (47.9 square miles)
- Human Population in 2009: 1,507 people
- Open space protected in perpetuity: 11,163 acres, or 36.4% of the town's total area\*

### BioMap2 Components

#### Core Habitat

- 8 Aquatic Cores: 303 acres
- 2 Forest Cores: 2,837 acres
- 34 Wetland Cores: 1,065 acres
- 2 Vernal Pool Cores: 299 acres
- 3 Priority Natural Communities: 141 acres

#### Species of Conservation Concern\*\*

- 1 amphipod, 4 insects, 2 fish, 2 amphibians, 2 reptiles, 1 bird, 1 mammal, 14 plants

#### Critical Natural Landscape

- 8 Upland Buffers of Aquatic Cores: 803 acres
- 22 Upland Buffers of Wetland Cores: 3,417 acres
- 4 Landscape Blocks: 19,988 acres

\*calculated using MassGIS data layer "Protected and Recreational Open Space—November 2010"

\*\*see next page for complete list of species, natural communities, and other biodiversity elements

## Species of Conservation Concern, Priority and Exemplary Natural Communities, and Other Elements of Biodiversity in New Marlborough

### Amphipod

Piedmont Groundwater Amphipod (*Stygobromus tenuis tenuis*), Special Concern

### Insects

Brook Snaketail (*Ophiogomphus aspersus*), Special Concern

Ocellated Darner (*Boyeria grafiana*), Special Concern

Riffle Snaketail (*Ophiogomphus carolus*), Threatened

Zebra Clubtail (*Stylurus scudderii*), Special Concern

### Fish

Bridle Shiner (*Notropis bifrenatus*), Special Concern

Longnose Sucker (*Catostomus catostomus*), Special Concern

### Amphibians

Jefferson Salamander (*Ambystoma jeffersonianum*), Special Concern

Northern Leopard Frog (*Rana pipiens*), SWAP

### Reptiles

Eastern Ribbon Snake (*Thamnophis sauritus*), SWAP

Wood Turtle (*Glyptemys insculpta*), Special Concern

### Birds

American Bittern (*Botaurus lentiginosus*), Endangered

### Mammals

Rock Shrew (*Sorex dispar*), Special Concern

### Plants

Black Maple (*Acer nigrum*), Special Concern

Climbing Fumitory (*Adlumia fungosa*), Special Concern

Dwarf Mistletoe (*Arceuthobium pusillum*), Special Concern

Dwarf Scouring-rush (*Equisetum scirpoides*), Special Concern

Frank's Lovegrass (*Eragrostis frankii*), Special Concern

Hairy Agrimony (*Agrimonia pubescens*), Threatened

Hemlock Parsley (*Conioselinum chinense*), Special Concern

Intermediate Spike-sedge (*Eleocharis intermedia*), Threatened

Large-bracted Tick-trefoil (*Desmodium cuspidatum*), Threatened

Small Dropseed (*Sporobolus neglectus*), Endangered

Smooth Rock-cress (*Boechera laevigata*), Threatened

Tuckerman's Sedge (*Carex tuckermanii*), Endangered

Weft Bristle-fern (*Trichomanes intricatum*), Endangered

### Priority Natural Community

Calcareous Seepage Marsh (Imperiled)

Spruce – Fir Swamp (Imperiled)

Spruce – Tamarack Bog (Imperiled)

### Other BioMap2 Components

Aquatic Cores

Forest Cores

Landscape Blocks

Upland Buffers of Aquatic Cores

Upland Buffers of Wetland Cores

Vernal Pool Cores

Wetland Cores

the Konkapot River and its floodplains in northern New Marlborough provide nesting and feeding habitat for the state-listed Wood Turtle, which burrows in the river bottoms and banks to hibernate during winter. American Bittern, a marshbird of the heron family, nests along the lower reaches of Whiting Creek in southern parts of town. Aquatic larvae of the dragonflies Zebra Clubtail and Brook Snaketail inhabit sandy-bottomed reaches of the Konkapot River, while adults dwell in nearby uplands. Calcareous groundwater seepage along the lower slopes of the Berkshire Hills supports the state-listed subterranean crustacean called the Piedmont Groundwater Amphipod, which resembles a small shrimp and lives only in springs connected to deep groundwater aquifers in limestone-rich areas like these.

A large portion of the elevated plateau in eastern New Marlborough lies within the Lower Berkshire Hills ecoregion and supports extensive tracts of forested land. It also contains many pockets of wetland habitat. Much of this land is part of the Cookson State Forest and is protected for conservation. In general, this part of the Lower Berkshire Hills is impacted little by roads or any kind of development. It supports species like the state-listed Jefferson Salamander, which breeds in vernal pools during spring and lives in drier areas of woodlands the rest of the year.

The upper reaches of Harmon Brook in northeast New Marlborough support larvae of another state-listed dragonfly species, the Ocellated Darner. Several state-listed plants grow in these higher elevation areas as well, including Smooth Rock-cress, a plant of the mustard family, and Dwarf Mistletoe, a native parasite of Black Spruce. Two Priority Natural Communities, the Spruce – Fir Swamp and Spruce – Tamarack Bog, are also characteristic of these higher elevation forests and are found in southeast New Marlborough.

## BIODIVERSITY CONSERVATION TARGETS IN NEW MARLBOROUGH: CORE HABITAT, CRITICAL NATURAL LANDSCAPE, AND PRIORITY CONSERVATION AREAS

### Overview

In this section, we outline areas in New Marlborough that warrant special focus of conservation efforts locally, regionally, and throughout the state. Components of the Natural Heritage & Endangered Species Program's (NHESP's) statewide BioMap2 project, which incorporates NHESP data and includes findings of studies funded by the Natural Resource Damages Assessment and Resto-

## Biodiversity Studies in Massachusetts and the Housatonic River Watershed

BioMap2 is a statewide biodiversity conservation plan produced in 2010 by MassWildlife's Natural Heritage & Endangered Species Program and The Nature Conservancy. It is designed to guide strategic biodiversity conservation in Massachusetts over the next decade by focusing land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, Priority Natural Communities, and a diversity of ecosystems. BioMap2 is also designed to include the habitats and Species of Conservation Concern identified in the State Wildlife Action Plan (SWAP).

BioMap2 identifies two complementary spatial layers, Core Habitat and Critical Natural Landscape. Core Habitat identifies key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. Protection of Core Habitats will contribute to the conservation of specific elements of biodiversity. Critical Natural Landscape identifies large Landscape Blocks that are minimally impacted by development. If protected, these areas will provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances in a rapidly changing world. Areas delineated as Critical Natural Landscape also include buffering upland around wetland, coastal, and aquatic Core Habitats to help ensure their long-term integrity.

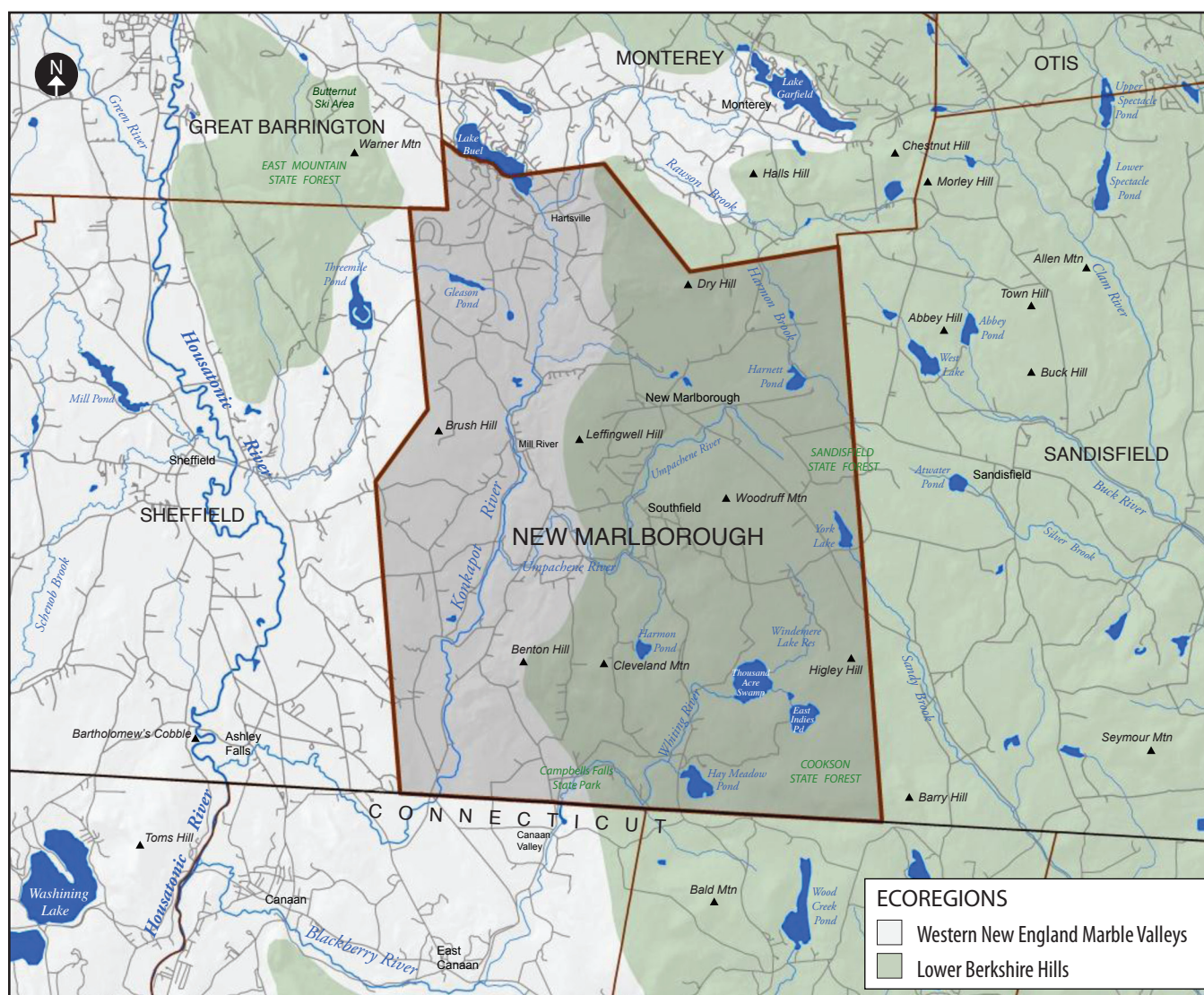
In 2008 and 2009, field surveys were carried out to improve knowledge of the region's biodiversity resources in towns in the Housatonic River watershed in western Massachusetts. During these surveys, coordinated by the Natural Heritage and Endangered Species Program (NHESP) with funds from the Natural Resources Damage Assessment and Restoration (NRD) Program, researchers collected important information about state-listed species and Priority Natural Communities of 19 towns in the region. Surveys were conducted by NHESP staff, expert consultants, academic researchers, and graduate students. Information on the surveys' findings was added to the NHESP database, combined with other NHESP data, and incorporated into Core Habitat of BioMap2. BioMap2 data layers, complete with these data and other information, are now available for use in conservation planning at the town, regional, and state levels.

ration Program (NRD) conducted in 2008 and 2009 as part of its Core Habitat and Critical Natural Landscape, were used to delineate and map these areas. The areas range in size from fewer than 10 acres to several thousand acres. Areas of Core Habitat, each called a BioMap2 Core (BC), and areas of Critical Natural Landscape (CNL), along with their associated components, are illustrated in Figure 2 and outlined in detail below. BioMap2 components described in this report are those that occur only in New Marlborough, although a given area of Core Habitat or Critical Natural Landscape listed here may extend outside of the town boundaries of New Marlborough and contain additional components.

To facilitate land protection and stewardship, NHESP further prioritized areas in each of the towns in the watershed using habitat size, habitat conditions, and other biodiversity indicators. Priority Conservation Areas (PCAs) were considered to be of high biodiversity value if they contained concentrations of state-listed species or Priority Natural Communities, or large areas of intact habitat. In each town, a total of one to six Town PCAs were designated; in New Marlborough, three were chosen. Each Town PCA contains part of at least one BioMap2 Core.

Figure 3 illustrates how BioMap2 Core Habitat and Critical Natural Landscape relate to the distribution of Town PCAs in New Marlborough.

A larger scale prioritization was also conducted to select Regional PCAs of the highest conservation and stewardship value among all towns in Massachusetts' portion of the Housatonic River watershed. Regional PCAs often cross town boundaries and are quite large, ranging from 373 acres to more than 25,000 acres. Ecological connectivity within these Regional PCAs is important to biodiversity conservation, and these large units often include select Town PCAs that are of particular ecological significance to both the town and the region. In this way, biodiversity can be conserved at two scales: locally within each town and within a broader regional context. No Regional PCAs fall directly within New Marlborough. The nearest are located to the west in Sheffield along the Housatonic River mainstem (Regional PCAs 3 and 4) and to the north in parts of Monterey and Great Barrington (Regional PCA 8).



**Figure 1.** New Marlborough falls within the Lower Berkshire Hills and Western New England Marble Valleys ecoregions, in the headwaters of the Housatonic River watershed.

### **Core Habitat and Critical Natural Landscape Components in New Marlborough**

Areas of Core Habitat in New Marlborough, called Bio-Map2 Cores (BCs), are summarized here. Also described are the various components of each BC, which may include Species of Conservation Concern, Exemplary and Priority Natural Communities, or Aquatic, Forest, Vernal Pool, or Wetland Cores. Components of Critical Natural Landscape (CNL) associated with each BC are also provided. These include Upland Buffers of both Aquatic and Wetland Cores, as well as Landscape Blocks.

#### **BC951, BC1029, BC1032, and BC1158 (no CNL); BC1108 and CNL 883**

These BCs are small and distributed throughout the town, and provide habitat for various state-listed plant species.

Most are independent of any CNL, but a portion of BC1108 is within CNL883.

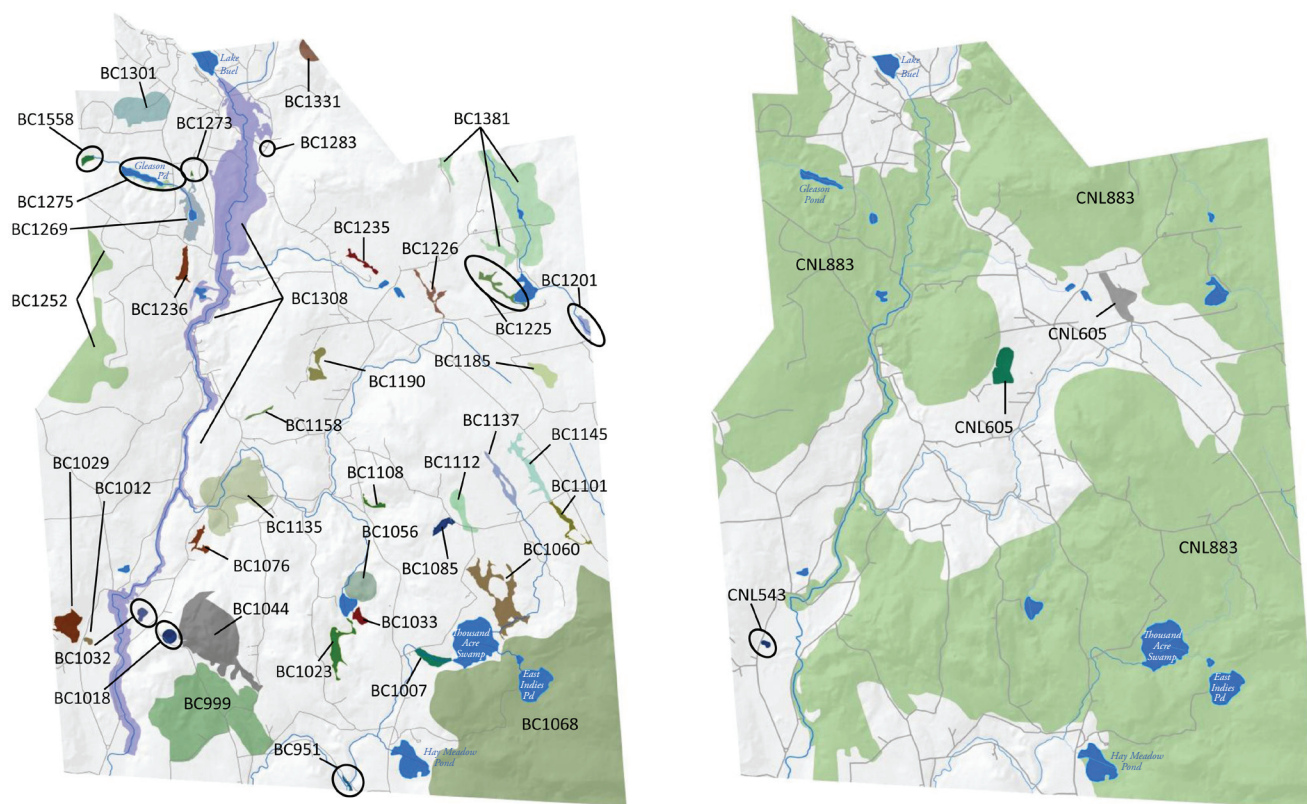
#### **Dwarf Scouring-rush (*Equisetum scirpoides*), Special Concern:**

This is a perennial, evergreen fern-ally that grows in a variety of cool, usually wet habitats, including hummocks in swamps, moist streambanks, and seeps associated with conifer tree species.

**Hairy Agrimony (*Agrimonia pubescens*), Threatened:** This is a perennial herbaceous plant that occurs at forest edges and openings on steep slopes, or on ledges within nutrient-rich, rocky woodlands, especially in areas with calcareous bedrock or soils.

#### **Hemlock Parsley (*Conioselinum chinense*), Special Concern:**

Hemlock Parsley is a perennial herbaceous plant of forested swamps that have sparse canopy cover. It generally



**Figure 2.** New Marlborough includes a total of 39 BioMap2 Cores (BCs; left), all part of BioMap2 Core Habitat, and four areas of Critical Natural Landscape (CNL; right). Overlap between these two layers is shown in Figure 3.

grows in enriched soils overlying calcareous bedrock.

**Small Dropseed (*Sporobolus neglectus*), Endangered:** Natural habitats of this grass include calcareous seeps, flat rock outcrops, and river shores. It is also occasionally found along roadsides and in other disturbed, open sites.

**Smooth Rock-cress (*Boechera laevigata*), Threatened:** This plant is a perennial herbaceous mustard of rocky woods, floodplains, and thickets.

**Weft Bristle-fern (*Trichomanes intricatum*), Endangered:** This fern lives only in the gametophyte phase of the fern life cycle, never producing a sporophyte (the leafy, spore-producing phase that is most familiar to us). Consequently it is small and made of dense, entangled filaments that resemble steel wool. It grows in moist, deeply-shaded crevices in rocky substrates.

#### BC1112 and CNL883

BC1112 comprises 35 acres along East Hill Road in eastern New Marlborough. It provides habitat for a state-listed vertebrate species and is part of a Landscape Block of CNL883.

#### BC999 and CNL883

BC999 is located in southwestern New Marlborough. It

includes an Aquatic Core and Wetland Core and associated Upland Buffers of CNL883. This BC includes one state-listed plant, three state-listed animal species, and one Priority Natural Community:

#### Plants

##### **Hemlock Parsley (*Conioselinum chinense*), Special Concern:**

This species is a perennial herbaceous plant of forested swamps that have sparse canopy cover. It generally grows in enriched soils overlying calcareous bedrock

#### Amphibians

##### **Northern Leopard Frog (*Rana pipiens*), SWAP:**

Adults of this frog species can be found in marshes, wet meadows, and peatlands, often in the narrow transition zone between open water and uplands; they retreat to the water of ponds and small streams when threatened. Their tadpoles are herbivorous and require open water of sufficient permanence to develop.

#### Reptiles

##### **Eastern Ribbon Snake (*Thamnophis sauritus sauritus*), SWAP:**

This is a slender, striped snake that is typically found in wetlands or along the edge of open water. It is an adept swimmer and generally feeds on amphibians, particularly frogs, as well as some fish and insects.

## Birds

**American Bittern (*Botaurus lentiginosus*), Endangered:** This mottled brown, heron-like bird feeds and nests primarily in large cattail, tussock, or shrub marshes, and is very sensitive to disturbance. Its coloring and unique behavior of pointing its bill skyward when threatened, sometimes swaying to mimic the movement of grasses in the wind, make it well-camouflaged in marsh habitat.

## Priority Natural Communities

**Calcareous Seepage Marsh (Imperiled):** This Priority Natural Community is an uncommon marshy wetland enriched by calcareous groundwater seepage. Of the three types of calcareous fen communities described in Massachusetts, this one is intermediate in terms of nutrient richness and presence of indicator plants. This example of Calcareous Seepage Marsh is the largest of this community type in the state.

### BC1007 and CNL883

BC1007 is located in the southeastern part of town along the Whiting River, and is part of Cookson State Forest. It includes a Wetland Core and is surrounded by an Upland Buffer and is part of a Landscape Block of CNL883.

### BC1012 and CNL543

BC1012 is a small BC of less than four acres, located in southwestern New Marlborough just west of the Konkapot River. It includes an Aquatic Core, is surrounded by the Upland Buffer of CNL543, and supports one state-listed plant species.

### BC1018 and CNL883

BC1018 is a 13-acre core located in a forested area east of the Konkapot River. It includes an Aquatic Core and associated Upland Buffer and is within a Landscape Block of CNL883. It supports one state-listed crustacean species:

**Piedmont Groundwater Amphipod (*Stygobromus tenuis tenuis*), Special Concern:** This state-listed subterranean crustacean is found in limestone springs that are connected with deep aquifers, particularly in the southern Taconic Mountains and nearby areas in southwestern Massachusetts.

### BC1023, BC1033 and CNL883

BC1023 and BC1033 contain areas of Wetland Core near Harmon Pond in south-central New Marlborough. Both are associated with Upland Buffers and are part of a Landscape Block of CNL883.

### BC1044 and CNL883

BC1044 contains nearly 300 acres and includes a large

Vernal Pool Core. This BC lies within a Landscape Block of CNL883 and also supports several state-listed plant species:

**Black Maple (*Acer nigrum*), Special Concern:** This tree may reach a height of 130 feet tall and has dark bark. It grows best in rich, moist soils.

**Climbing Fumitory (*Adlumia fungosa*), Special Concern:** This herbaceous vine grows on ledges in rocky areas of moist, shady woods, often growing over talus at the base of steep rock walls.

**Large-bracted Tick-trefoil (*Desmodium cuspidatum*), Threatened:** This plant species is a perennial legume that occurs in open, relatively dry deciduous woodlands, on talus slopes, and at forest edges.

### BC1056 and CNL833

BC1056 is located in southern New Marlborough, just east of Harmon Pond, and consists of a Vernal Pool Core. It is within a Landscape Block of CNL883.

### BC1060 and CNL883

BC1060 includes 105 acres of Wetland Core, and is situated both along the Whiting River and between Thousand Acre Swamp Reservoir and Windemere Lake Reservoir. It is surrounded by an Upland Buffer and is part of a Landscape Block of BC1060.

### BC1068 and CNL883

BC1068 comprises nearly 4,000 acres in southeast New Marlborough and southwest Sandisfield, and includes reaches of Sandy Brook. Its portion in New Marlborough – just over 2,500 acres – is larger than any other core in the town. It includes a Forest Core and lies within a Landscape Block of CNL883. BC1068 also includes East Indies Pond and borders several other reservoirs along the Whiting River and its tributaries, and contains several Wetland Cores and associated Upland Buffers. BC1068 supports one state-listed plant and two Priority Natural Communities:

## Plants

**Dwarf Mistletoe (*Arceuthobium pusillum*), Special Concern:** This plant is a native parasite of Black Spruce trees, and is typically found in peatlands.

## Priority Natural Communities

**Spruce – Fir Swamp (Imperiled):** This natural community is a forested wetland dominated by Red Spruce and Balsam Fir trees. It is typically found along stream headwaters or in poorly drained basins of the higher, western and north-central parts of the state. This occurrence of Spruce – Fir Swamp is part of an extensive wetland

complex, and lies in a wooded landscape where there is little evidence of human disturbance.

**Spruce – Tamarack Bog (Imperiled):** This is an acidic forested peatland with an overstory of Black Spruce and Tamarack, and an understory of heath shrubs on Sphagnum moss. They occur in glacial kettlehole depressions, along watershed divides, and often near pond margins. This large example occurs along a stream and is underlain by Sphagnum moss. The tree canopy is open, shrubs in the understory are quite dense, and herbaceous plants are high in diversity. Beavers occasionally occur in this natural community, causing flooding through construction of dams.

#### **BC1076, BC1085, and CNL883**

BC1076 and BC1085 are located in central New Marlborough – the first along Canaan-Sandisfield Road just east of the Konkapot River and the other along East Hill Road near the Whiting River. Both include approximately 14 acres of Wetland Core and are surrounded by Upland Buffers within a Landscape Block of CNL883.

#### **BC1101 and CNL883**

BC1101 is located in southeast New Marlborough, parallel to Route 183 just south of East Hill Road. It includes a 17-acre Wetland Core and is surrounded by an Upland Buffer and is within the Landscape Block of CNL883.

#### **BC1135 and CNL883**

BC1135 lies to the north of sections of the Umpachene River near its confluence with the Konkapot River. It includes two Certified Vernal Pools that provide breeding areas for state-listed salamanders. BC1135's southwest corner lies within a Landscape Block of CNL883. This BC is somewhat fragmented by roads, and contains some areas of development along its perimeters. It supports one state-listed salamander species.

#### **Jefferson Salamander (*Ambystoma jeffersonianum*), Special**

**Concern:** Adult and juvenile Jefferson Salamanders inhabit upland forest during most of the year, where they reside in small-mammal burrows and other subsurface retreats. Adults migrate during late winter or early spring to breed in vernal pools and fish-free areas of swamps, marshes, or similar wetlands. Larvae metamorphose in late summer or early fall, then disperse into upland forests.

#### **BC1137 and CNL883**

BC1137 lies along the headwaters of the Whiting River, contains a Wetland Core, and is surrounded by an Upland Buffer and is within a Landscape Block of CNL883.

#### **BC1145 and CNL883**

BC1145 is located in eastern New Marlborough just north of East Hill Road, and parallels Route 183. It contains a Wetland Core that is surrounded by an Upland Buffer and in a Landscape Block of CNL883.

#### **BC1185 and CNL883**

BC1185 is located in eastern New Marlborough in the headwaters of the Umpachene River, near the confluence of Idle Hour Road and Route 183. It includes a Wetland Core and is surrounded by an Upland Buffer and is within the Landscape Block of CNL883.

#### **BC1190 and CNL605**

BC1190 lies in central New Marlborough near New Marlborough Branch Road and just west of the Umpachene River. It is separated by a road from a large Landscape Block of CNL883 that extends to the west. It includes a Wetland Core and is surrounded by an Upland Buffer of CNL605.

#### **BC1201 and CNL883**

BC1201 totals nearly 36 acres in east New Marlborough and west Sandisfield, and lies along the headwaters of Harmon Brook, upstream of Harnett Pond. Twelve acres are part of New Marlborough and include an Aquatic Core. BC1201 is surrounded by an Upland Buffer and is within the Landscape Block of CNL883, and is known to support one state-listed marshbird species:

**American Bittern (*Botaurus lentiginosus*), Endangered:** This mottled brown heron-like bird feeds and nests primarily in large cattail, tussock, or shrub marshes, and is very sensitive to disturbance. Its coloring and unique behavior of pointing its bill skyward when threatened, sometimes swaying to mimic movement of grasses in the wind, make it well-camouflaged in marsh habitat.

#### **BC1225 and CNL883**

BC1225 is located west of Harnett Pond. It contains a Wetland Core and is surrounded by an Upland Buffer and is within the Landscape Block of CNL883.

#### **BC1226 and CNL622**

BC1226 lies along a small tributary to the Umpachene River between Monterey Road and Route 57, just east of New Marlborough center in the northeastern part of the town. It includes a Wetland Core and is surrounded by an Upland Buffer of CNL622.

#### **BC1235 and CNL883**

BC1235 is a 10-acre BC that lies north of the village of

New Marlborough within a Landscape Block of CNL883. It includes a Wetland Core and is part of an Upland Buffer.

#### **BC1236 and CNL883**

BC1236 is an 18-acre BC in northwestern New Marlborough and consists of wetlands just west of the Konkapot River. It includes a Wetland Core and is surrounded by an Upland Buffer and is within the Landscape Block of CNL883.

#### **BC1252 and CNL883**

BC1252 constitutes 687 acres along Brush Hill in western New Marlborough and eastern Sheffield, falling along the boundary between these two towns. Approximately half of its area lies within New Marlborough, and includes a Forest Core embedded in a Landscape Block.

#### **BC1269, BC1273, BC1275, and CNL883**

These BCs lie just west of the Konkapot River along the headwaters of Ironwork Brook in northwest New Marlborough, and include Gleason and Juniper Ponds and surrounding wetlands. Each supports a Wetland Core and is part of an Upland Buffer and is within the Landscape Block of CNL883.

#### **BC1283 (no CNL)**

This BC is less than one acre in size, falls along Route 183, and supports a state-listed plant species.

#### **BC1301 and CNL883**

BC1301 includes 112 acres in northwestern New Marlborough. Its western sections are part of a Landscape Block of CNL883. It includes a Certified Vernal Pool that provides breeding habitat for one state-listed salamander species:

**Jefferson Salamander (*Ambystoma jeffersonianum*), Special Concern:** Adult and juvenile Jefferson Salamanders inhabit upland forest during most of the year, where they reside in small-mammal burrows and other subsurface retreats. Adults migrate during late winter or early spring to breed in vernal pools and fish-free areas of swamps, marshes, or similar wetlands. Larvae metamorphose in late summer or early fall, then disperse into upland forests.

#### **BC1308 and CNL883**

BC1308 is a 931-acre BC that includes much of Konkapot River in New Marlborough, nearby wetlands and upland areas, and the lower reaches of select tributaries. It includes over 200 acres of Aquatic Core along the river,

an additional 209 acres of Wetland Core, and several hundred acres of habitat for state-listed plant and animal species. The Aquatic and Wetland Cores, in the northern parts of BC1308, are surrounded by upland Buffers. Most of this BC is part of a Landscape Block of CNL883.

#### **Plants**

**Black Maple (*Acer nigrum*), Special Concern:** This tree can grow to about 130 feet tall and has dark bark. It grows best in rich, moist soils.

**Dwarf Scouring-rush (*Equisetum scirpoides*), Special Concern:** This perennial, evergreen, herbaceous plant grows in a variety of cool and typically wet habitats, including hummocks in swamps, moist stream banks, and areas under conifers that contain seeps.

**Frank's Lovegrass (*Eragrostis frankii*), Special Concern:** This annual grass grows in open, sandy and silty river bars and river shores. In Massachusetts, Frank's Lovegrass is found only along the Housatonic and Connecticut Rivers, typically along sandy river riverbanks and within floodplain forests.

**Intermediate Spike-sedge (*Eleocharis intermedia*), Threatened:** This densely-tufted, grass-like annual is found on muddy, alkaline riverbanks and pond shores. It is usually visible during periods of low water when mud is exposed.

**Tuckerman's Sedge (*Carex tuckermanii*), Endangered:** This species is a perennial grass-like plant that grows in rich soils of oxbows and other depressions of river floodplains.

#### **Insects**

**Brook Snaketail (*Ophiogomphus aspersus*), Special Concern:** This is a dragonfly whose aquatic larvae can be found in clear, sand-bottomed streams that generally flow through dense woodland and have intermittent rapids.

**Riffle Snaketail (*Ophiogomphus carolus*), Threatened:** This dragonfly inhabits clear, cold, and rocky streams that are fast-flowing and contain relatively few pools. Their aquatic larvae burrow in stream bottoms in areas that contain sand or other fine substrates.

**Zebra Clubtail (*Stylurus scudderii*), Special Concern:** This dragonfly species inhabits lakes or mid-sized forested streams that are sandy-bottomed and have slow to moderate stream flows with intermittent rapids. Its larvae are aquatic and live on stream bottoms, while adults are terrestrial and inhabit nearby uplands.

#### **Fish**

**Bridle Shiner (*Notropis bifrenatus*), Special Concern:** The Bridle Shiner is a small, straw-colored minnow with a distinct dark lateral band that runs from the tip of the snout to the base of the tail. It is typically found in clear water in slack areas of streams and rivers, as well as in

lakes and ponds, and is sensitive to turbidity, invasive plant species, and severe changes in flow regime. This fish is generally associated with submerged aquatic vegetation, but also schools in areas of open water.

**Longnose Sucker (*Catostomus catostomus*), Special Concern:** This species is a torpedo-shaped fish with a snout extending beyond its downturned mouth. It is typically found in cool, lower order streams and rivers with rocky bottoms. These fish rely on clean and well oxygenated gravel substrates to rear their eggs. In Massachusetts, they are found only in the western part of the state.

#### Reptiles

**Wood Turtle (*Glyptemys insculpta*), Special Concern:** This is a medium-sized turtle with a sculpted upper shell and orange coloration on its feet and neck. Ideal habitat for this species includes streams and rivers such as the Konkapot River that have long corridors of undeveloped and interconnected uplands.

#### BC1331 and CNL883

BC1331 consists of 46 acres that lie along New Marlborough's boundary with Monterey. This BC is embedded in a Landscape Block of CNL883 and includes two Certified Vernal Pools – one in each town – that each provide breeding habitat for state-listed salamanders. The nearby forested landscape provides ample habitat for the salamanders during non-breeding periods, when they tend to inhabit dry, wooded areas. One state-listed salamander is documented in this core:

**Jefferson Salamander (*Ambystoma jeffersonianum*), Special Concern:** Adult and juvenile Jefferson Salamanders inhabit upland forest during most of the year, where they reside in small-mammal burrows and other subsurface retreats. Adults migrate during late winter or early spring to breed in vernal pools and fish-free areas of swamps, marshes, or similar wetlands. Larvae metamorphose in late summer or early fall, then disperse into upland forests.

#### BC1381 and CNL883

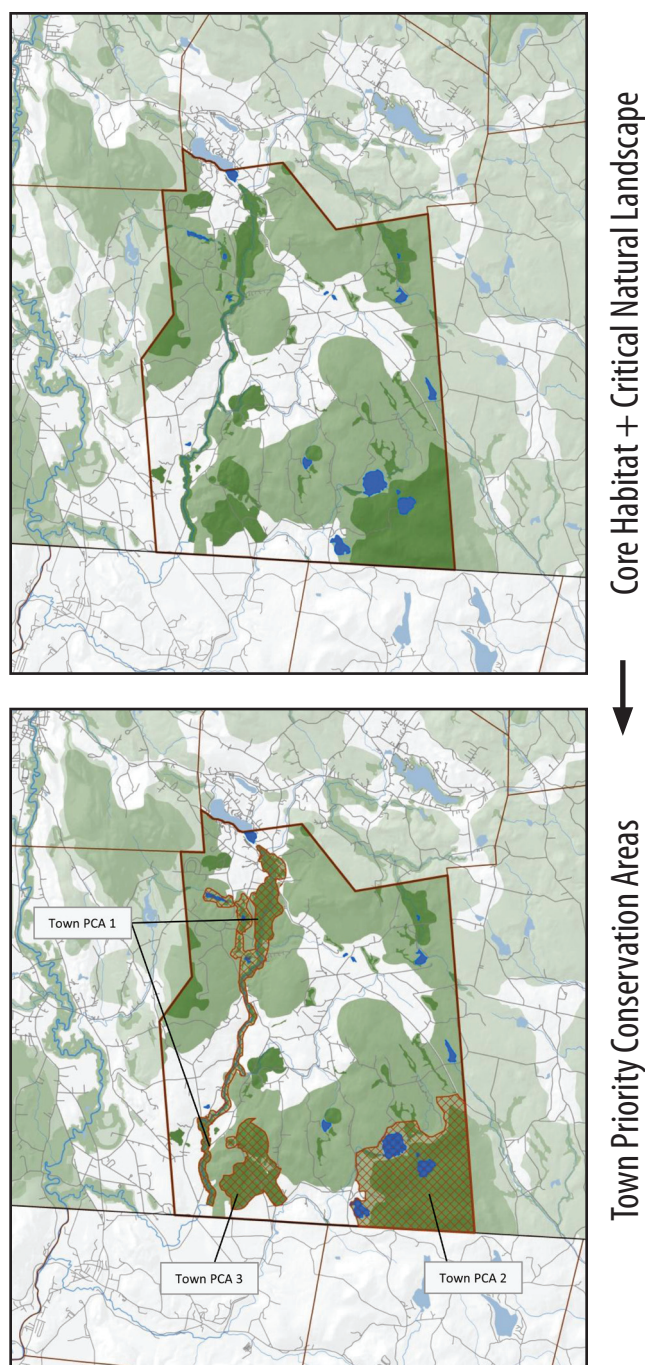
BC1381 is a nearly 1,200-acre core that mostly falls along upper reaches of the Konkapot River in Monterey, but 387 acres of it occur in New Marlborough, along Rawson Brook, a tributary of the Konkapot. It also includes parts of Harmon Brook in New Marlborough, just north of Harnett Pond. This area includes nearly 100 acres of Wetland Core, 17 acres of Aquatic Core, and is surrounded by Upland Buffers and is within the Landscape Blocks of CNL883. One dragonfly and one turtle species, each state-listed, are documented in BC1381.

**Ocellated Darner (*Boyeria grafiana*), Special Concern:** Larvae of this dragonfly species typically inhabit clear, shallow, rocky, swift-flowing streams, as well as large, rocky lakes with little vegetation. Adults inhabit nearby uplands, often preferring forests with mixed coniferous and deciduous trees.

**Wood Turtle (*Glyptemys insculpta*), Special Concern:** This is a medium-sized turtle with a sculpted upper shell and orange coloration on its feet and neck. Ideal habitat for this species includes streams and rivers such as the Konkapot River that have long corridors of undeveloped and interconnected uplands.

#### BC1558 and CNL883

BC1558 is one of the largest cores in the region, extending primarily along the Housatonic River in Great Barrington and Sheffield and including stream corridors of tributaries and their sub-watersheds in these and other towns. It encompasses the rivers and streams themselves, as well as nearby uplands and floodplains. It also includes mountainous areas, such as East Mountain in Great Barrington and Sheffield. These areas are all included as part of BC1558 because they are physically and ecologically connected: the particular ecological value of each part is enhanced by protection of their interconnections within the BC. However, for ease of discussion, arbitrary subdivisions were made within the very large core, resulting in six different sub-areas that are somewhat spatially and ecologically distinct. These areas are given letter sub-labels of BC1558a through BC1558f. A very small, 6.3-acre portion of BC1558b falls within west New Marlborough along Ironwork Brook at the town's boundary with Sheffield. This area includes a Wetland Core, its associated Upland Buffer, and part of CNL883's large Landscape Block.



**Figure 3.** Core habitat (dark green), Critical Natural Landscape (light green), and Town Priority Conservation Areas (PCAs; reddish-brown grid) in New Marlborough. Town PCAs make up 5,816 acres in New Marlborough, or 19.0 percent of the town's total land area.

### ***Priority Conservation Areas in New Marlborough***

New Marlborough contains three areas designated as Town PCAs:

**Town PCA 1:** This PCA is located primarily along the Konkapot River throughout New Marlborough. It also includes upper reaches of Ironwork Brook, this stream's associated wetlands, and areas of open water in Gleason and Juniper Ponds. Extensive wetlands and floodplains in this PCA provide important habitat for state-listed dragonflies, birds, reptiles, and fish; most are associated with BC1308.

**Town PCA 2:** New Marlborough's second Town PCA is its largest in total area, encompassing just over 3,400 acres. It is located in the southeastern portion of the town, and is defined by a large Forest Core embedded within a Landscape Block. It includes the protected lands of Cookson State Forest. This PCA also includes many Wetland Cores along sections of the Whiting River and in the general vicinity of the East Indies Pond and Thousand Acre Swamp Reservoir.

**Town PCA 3:** New Marlborough's third Town PCA includes almost 1,000 acres and is located in the southwest corner of the town, just east of the Konkapot River near the town's boundary with Litchfield, Connecticut. It includes mountainous areas surrounding a small, marshy tributary of the Whiting River that flows through Campbells Falls State Park. This PCA supports many state-listed species, including Jefferson Salamanders that inhabit extensive forested areas and breed in vernal pools.

# Glossary

**Aquatic Cores** (in BioMap2, a component of Core Habitat) include intact river corridors within which important physical and ecological processes of the river or stream occur, delineated using integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern. To identify those areas integrally connected to each river and stream, each river segment was buffered 30 meters. All wetlands wholly or partially contained within this buffer were then included, and the combination of the river channel, the adjacent buffer, and the connected wetlands make up this riverine Core Habitat.

**BioMap2 Cores (BCs)** (called Core Habitats in BioMap2) identify key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. Protection of Core Habitats will contribute to the conservation of specific elements of biodiversity.

**Certified Vernal Pools** are temporary ponds or other fishless wetlands that meet certain biological and physical criteria to be classified as essential breeding habitat for a number of amphibian and invertebrate species, such as Wood Frog, Spotted Salamander, Blue-spotted Salamander, Jefferson Salamander, Marbled Salamander, and Intricate Fairy Shrimp. The certification of vernal pool habitat in The Commonwealth is administered by the Natural Heritage & Endangered Species Program. A number of regulations incorporate protections for certified vernal pools (please see [http://www.mass.gov/dfwele/dfw/nhsp/vernal\\_pools/pdf/vpcert.pdf](http://www.mass.gov/dfwele/dfw/nhsp/vernal_pools/pdf/vpcert.pdf) for more information).

**Critical Natural Landscape (CNL)** (part of BioMap2) identifies large natural landscape areas that are minimally impacted by development. If protected, these areas will provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances in a rapidly changing world. Areas delineated as Critical Natural Landscape also include buffering upland around wetland, coastal, and aquatic Core Habitats to help ensure their long-term integrity.

**Cobbles** are small hills or rocky knolls made of marble and quartzite. The alkaline soils derived from the calcareous rocks support a distinct and diverse flora. Examples include Bartholomew's Cobble in southern Sheffield and Tyringham Cobble in Tyringham.

**Critically Imperiled** natural communities typically have five or fewer documented sites or have very few remain-

ing acres in the state. Natural Community types ranked as Critically Imperiled are in the Priority Natural Communities category.

**Disturbance**, in an ecological sense, is an event that disrupts the normal structure and function of an ecosystem. Disturbances often produce bare soil and openings in forests where rapidly growing, sun-loving species, including invasive exotic species, can grow. Human activities have accelerated the number and types of disturbances in many ecosystems.

**Ecoregions** are areas of relatively homogeneous ecological systems, including vegetation, soils, climate, geology, and patterns of human uses.

**Endangered** species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts. Endangered is a category of state-listed species defined in the Massachusetts Endangered Species Act (M.G.L. c.131A) and listed in its regulations (321 CMR 10.00).

**Exemplary Natural Communities** are the best examples documented of relatively common (Secure) types of natural communities.

**Forest Cores** (in BioMap2, a component of Core Habitat) identify the best examples of large, intact forests that are least impacted by roads and development, providing critical "forest interior" habitat for numerous woodland species.

**Fragmented Landscape**, in ecological and conservation terms, refers to the idea that a large spatial area (the landscape) that in the past might have had connected habitats (for example, unbroken forest, continuous river, or undisturbed grasslands) have become interspersed with artifacts of human development that alter habitat and ecological processes – or that the human influence has come to dominate the land leaving patches, or fragments, of natural habitat surrounded by development.

**Imperiled** communities typically have 6-20 sites or few remaining acres in the state. Natural Community types ranked as Imperiled are included in the Priority Natural Communities category.

**Landscape Blocks** (component of BioMap2 Critical Natural Landscape), the primary component of Critical Natural Landscape, are large areas of intact and predominately natural vegetation, consisting of contiguous forests, wetland, rivers, lakes, and ponds, as well as coastal habitats such as

barrier beaches and salt marshes. Pastures and power-line right-of-way, which are less intensively altered than most developed areas, were also included since they provide habitat and connectivity for many species.

**Landscape Context** refers to taking the broadest view of the ability of ecosystems or species populations to maintain themselves where they are by considering the siting within the larger area. For example, a wooded area within a city park has a very different, urban context than a wooded area on a farm.

**MESA (Massachusetts Endangered Species Act)** (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00) provide regulatory protection of rare species and their habitats. MESA protects rare species and their habitats by prohibiting the “Take” of any plant or animal species listed as Endangered, Threatened, or Special Concern by the MA Division of Fisheries & Wildlife.

**Natural Communities** are assemblages of species that occur together in space and time. These groups of plants and animals are found in recurring patterns that are classified and described by their dominant biological and physical features.

**Nymphs**, sometimes informally referred to as larvae, are the young, immature form of dragonflies and some other invertebrates. Dragonfly nymphs are aquatic. On maturing, they change into the flying terrestrial adults that are seen along rivers and lakes, and nearby uplands.

**Priority Natural Communities** include types of natural communities with limited distribution, or relatively few occurrences, and/or low acreages in Massachusetts.

**Protected in Perpetuity** refers to land owned as conservation land by a public entity in Massachusetts whose lands come under the authority of Massachusetts Constitution Article 97, or federal land owned by a federal conservation agency, or by a non-profit dedicated to land conservation; or for which the conservation values have been protected by legal restrictions on the deed or by a conservation easement (conservation restriction).

**Secure** types of natural communities typically have over 100 sites or abundant acreage across the state; excellent examples are identified as Core Habitat to ensure continued protection and are referred to as Exemplary Natural Communities.

**Special Concern** species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become Threatened in Massachusetts. Special Concern is a category of state-listed species defined in the

Massachusetts Endangered Species Act (M.G.L. c.131A) and listed in its regulations (321 CMR 10.00).

**Species of Conservation Concern** (in BioMap2, a component of Core Habitat) include those species that meet the criteria for listing under the Massachusetts Endangered Species Act, as well as a number of species that do not meet these criteria for listing, but are considered to be of conservation concern within Massachusetts, such as inclusion in the State Wildlife Action Plan (SWAP).

**State-listed Species** are species listed under the Massachusetts Endangered Species Act (M.G.L. c.131A) and its regulations (321 CMR 10.00). – that is, Endangered, Threatened, or Special Concern species.

**SWAP (State Wildlife Action Plan)**, approved in 2006, the Massachusetts Division of Fisheries and Wildlife’s State Wildlife Conservation Strategy, most often referred to as the State Wildlife Action Plan (SWAP), is a comprehensive document to help guide wildlife conservation decision making for Massachusetts’ wildlife for many years.

**SWAP Species** were identified as being those in greatest need of conservation in the Massachusetts Division of Fisheries and Wildlife’s State Wildlife Conservation Strategy, most often referred to as the State Wildlife Action Plan (SWAP).

**Threatened** species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range. Threatened is a category of state-listed species defined in the Massachusetts Endangered Species Act (M.G.L. c.131A) and listed in its regulations (321 CMR 10.00).

**Upland Buffers of Aquatic Cores** (component of BioMap2’s Critical Natural Landscape) identify protective upland areas adjacent to all Aquatic Cores. A variable width buffer, that extends deeper into surrounding unfragmented habitats than into developed areas, was used to include the most intact areas around Aquatic Cores. The conservation of wetland buffers will support habitats and functionality of each aquatic area, and also include adjacent uplands that are important for many species that move between habitat types.

**Upland Buffer of Wetland Cores** (component of BioMap2’s Critical Natural Landscape) identify protective upland areas adjacent to all Wetland Cores. A variable-width buffer, that extends deeper into surrounding unfragmented habitats than into developed areas, was used to include the most intact areas around the Wetland Cores. The conservation of wetland buffers will support habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

**Variant** of a natural community refers to a named subtype of a more broadly defined type of community. In Massachusetts the term is not a formal designation, but rather is intended as an aid for understanding community relationships.

**Vernal Pools**, also known as ephemeral pools, autumnal pools, and temporary woodland ponds, typically fill with water in the autumn or winter due to rainfall and rising groundwater and remain ponded through the spring and into summer. They usually dry completely by the middle or end of summer each year. Vernal pools are unique wildlife habitats best known for the amphibians and invertebrate animals that use them to breed.

**Vernal Pool Cores** (BioMap2, component of Core Habitat) identify, based on a GIS model, the highest quality most interconnected clusters of Potential Vernal Pools (a dataset of likely vernal pools identified from interpretation of aerial photographs) and the habitat between them.

**Vulnerable** communities typically have 21-100 sites or limited acreage across the state. Natural Community types ranked as Vulnerable are in the Priority Natural Communities category.

**Wetland Cores** (BioMap2, component of Core Habitat) identify, based on a GIS model, the least disturbed wetlands within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated 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.

## 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.nhesp.org](http://www.nhesp.org).