This report and associated map 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.
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Introduction

The Massachusetts Department of Fish & Game, through the Division of Fisheries and Wildlife’s Natural Heritage & Endangered Species Program (NHESP), and The Nature Conservancy’s Massachusetts Program developed BioMap2 to protect the state’s biodiversity in the context of climate change.

BioMap2 combines NHESP’s 30 years of rigorously documented rare species and natural community data with spatial data identifying wildlife species and habitats that were the focus of the Division of Fisheries and Wildlife’s 2005 State Wildlife Action Plan (SWAP). BioMap2 also integrates The Nature Conservancy’s assessment of large, well-connected, and intact ecosystems and landscapes across the Commonwealth, incorporating concepts of ecosystem resilience to address anticipated climate change impacts.

Protection and stewardship of BioMap2 Core Habitat and Critical Natural Landscape is essential to safeguard the diversity of species and their habitats, intact ecosystems, and resilient natural landscapes across Massachusetts.

What Does Status Mean?

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act (MESA), M.G.L. c.131A, and its implementing regulations 321 CMR 10.00. Rare species are categorized as Endangered, Threatened or of Special Concern according to the following:

- Endangered species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.

- Threatened species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range.

- 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.

In addition NHESP maintains an unofficial watch list of plants that are tracked due to potential conservation interest or concern, but are not regulated under the Massachusetts Endangered Species Act or other laws or regulations. Likewise, described natural communities are not regulated by any law or regulations, but they can help to identify ecologically important areas that are worthy of...
BioMap2
Conserving the Biodiversity of Massachusetts in a Changing World

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 natural 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.

The long-term persistence of Massachusetts biological resources requires a determined commitment to land and water conservation. Protection and stewardship of both Critical Natural Landscapes and Core Habitats are needed to realize the biodiversity conservation vision of BioMap2.

Components of Core Habitat
Core Habitat identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, exemplary natural communities, and intact ecosystems.

Rare Species
There are 432 native plant and animal species listed as Endangered, Threatened or Special Concern under the Massachusetts Endangered Species Act (MESA) based on their rarity, population trends, and threats to survival. For
BioMap2, NHESP staff identified the highest quality habitat sites for each non-marine species based on size, condition, and landscape context.

Other Species of Conservation Concern

In addition to species on the MESA List described previously, the State Wildlife Action Plan (SWAP) identifies 257 wildlife species and 22 natural habitats most in need of conservation within the Commonwealth. BioMap2 includes species-specific habitat areas for 45 of these species and habitat for 17 additional species which was mapped with other coarse-filter and fine-filter approaches.

Priority Natural Communities

Natural communities are assemblages of plant and animal species that share a common environment and occur together repeatedly on the landscape. BioMap2 gives conservation priority to natural communities with limited distribution and to the best examples of more common types.

Vernal Pools

Vernal pools are small, seasonal wetlands that provide important wildlife habitat, especially for amphibians and invertebrate animals that use them to breed. BioMap2 identifies the top 5 percent most interconnected clusters of Potential Vernal Pools in the state.

Forest Cores

In BioMap2, Core Habitat includes the best examples of large, intact forests that are least impacted by roads and development, providing critical habitat for numerous woodland species. For example, the interior forest habitat defined by Forest Cores supports many bird species sensitive to the impacts of roads and development, such as the Black-throated Green Warbler, and helps maintain ecological processes found only in unfragmented forest patches.

Wetland Cores

BioMap2 used an assessment of Ecological Integrity to identify 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.

Aquatic Cores

To delineate integrated and functional ecosystems for fish species and other aquatic...
Species of Conservation Concern, beyond the species and exemplary habitats described above, BioMap2 identifies intact river corridors within which important physical and ecological processes of the river or stream occur.

Components of Critical Natural Landscape

Critical Natural Landscape identifies intact landscapes in Massachusetts that are better able to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames.

Landscape Blocks

BioMap2 identifies the most intact large areas of predominately natural vegetation, consisting of contiguous forests, wetlands, rivers, lakes, and ponds, as well as coastal habitats such as barrier beaches and salt marshes.

Upland Buffers of Wetland and Aquatic Cores

A variety of analyses were used to identify protective upland buffers around wetlands and rivers.

Upland Habitat to Support Coastal Adaptation

BioMap2 identifies undeveloped lands adjacent to and up to one and a half meters above existing salt marshes as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

The conservation areas identified by BioMap2 are based on breadth and depth of data, scientific expertise, and understanding of Massachusetts’ biodiversity. The numerous sources of information and analyses used to create Core Habitat and Critical Natural Landscape are complementary, and outline a comprehensive conservation vision for Massachusetts, from rare species to intact landscapes. In total, these robust analyses define a suite of priority lands and waters that, if permanently protected, will support Massachusetts’ natural systems for generations to come.

Legal Protection of Biodiversity

BioMap2 presents a powerful vision of what Massachusetts would look like with full protection of the land most important for supporting the Commonwealth’s biodiversity. While BioMap2 is a planning tool with no regulatory function, all state-listed species enjoy legal protection under the Massachusetts Endangered Species Act (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00). Wetland habitat of state-listed wildlife is also protected under the Wetlands Protection Act Regulations (310 CMR 10.00). The Natural Heritage Atlas contains maps of Priority Habitats and Estimated Habitats, which are used, respectively, for regulation under the Massachusetts Endangered Species Act and the Wetlands Protection Act. For more information on rare species regulations, and to view Priority and Estimated Habitat maps, please see the Regulatory Review page at http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/.

BioMap2 is a conservation planning tool that does not, in any way, supplant the Estimated and Priority Habitat Maps which have regulatory significance. Unless and until the BioMap2 vision is fully realized, we must continue to protect our most imperiled species and their habitats.
Understanding Core Habitat Summaries

Following the Town Overview, there is a descriptive summary of each Core Habitat and Critical Natural Landscape that occurs in your city or town. These summaries highlight some of the outstanding characteristics of each Core Habitat and Critical Natural Landscape, and will help you learn more about your city or town’s biodiversity. You can find out more information about many of these species and natural communities by looking at specific fact sheets at www.mass.gov/nhesp.

Additional Information

For copies of the full BioMap2 report, the Technical Report, and an interactive mapping tool, visit the BioMap2 website via the Land Protection and Planning tab at www.mass.gov/nhesp. If you have any questions about this report, or if you need help protecting land for biodiversity in your community, the Natural Heritage & Endangered Species Program staff looks forward to working with you.

Contact the Natural Heritage & Endangered Species Program

By phone  508-389-6360
By fax  508-389-7890
By email  natural.heritage@state.ma.us
By Mail  100 Hartwell Street, Suite 230
          West Boylston, MA 01583

The GIS datalayers of BioMap2 are available for download from MassGIS at www.mass.gov/mgis.
Town Overview

Mansfield lies on the border of the Bristol Lowland/Narragansett Lowland and the Southern New England Coastal Plains and Hills Ecoregions. The Bristol Lowland/Narragansett Lowland Ecoregion is an area of flat, gently rolling plains. Forests are mostly central hardwoods and some elm-ash-red maple and red and white pine. There are numerous wetlands, some cropland/pasture, and many cranberry bogs. Many rivers drain this area. The Southern New England Coastal Plains and Hills Ecoregion is comprised of plains with a few low hills. Forests are mainly central hardwoods with some transition hardwoods and some elm-ash-red maple and red and white pine. Many major rivers drain this area.

Mansfield at a Glance

- Total Area: 13,072 acres (20.4 square miles)
- Human Population in 2010: 23,184
- Open space protected in perpetuity: 2,121 acres, or 16.2% percent of total area*
- BioMap2 Core Habitat: 1,608 acres
- BioMap2 Core Habitat Protected: 439 acres or 27.3%
- BioMap2 Critical Natural Landscape: 1,088 acres
- BioMap2 Critical Natural Landscape Protected: 583 acres or 53.6%.

BioMap2 Components

Core Habitat
- 1 Exemplary or Priority Natural Community
- 3 Wetland Cores
- 4 Aquatic Cores
- 1 Vernal Pool Core
- 7 Species of Conservation Concern Cores**
  - 2 reptiles, 3 amphibians, 1 fish, 1 insect, 1 plant

Critical Natural Landscape
- 3 Wetland Core Buffers
- 3 Aquatic Core Buffers

* Calculated using MassGIS data layer “Protected and Recreational Open Space—March, 2012”.
** See next pages for complete list of species, natural communities and other biodiversity elements.
BioMap2 Core Habitat and Critical Natural Landscape in Mansfield

BioMap2 Core Habitat
BioMap2 Critical Natural Landscape

1 Mile

For more information on rare species and natural communities, please see our fact sheets online at www.mass.gov/nhesp.
Species of Conservation Concern, Priority and Exemplary Natural Communities, and Other Elements of Biodiversity in Mansfield

Insects

Butterflies

Hessel's Hairstreak, (Callophrys hesseli), SC

Amphibians

Blue-spotted Salamander, (Ambystoma laterale), SC
Marbled Salamander, (Ambystoma opacum), T
Four-toed Salamander, (Hemidactylium scutatum), Non-listed SWAP

Fishes

Bridle Shiner, (Notropis bifrenatus), SC

Reptiles

Northern Black Racer, (Coluber constrictor), Non-listed SWAP
Spotted Turtle, (Clemmys guttata), Non-listed SWAP

Plants

Philadelphia Panic-grass, (Panicum philadelphicum ssp. philadelphicum), SC

Priority Natural Communities

Alluvial Atlantic White Cedar Swamp, S2

Other BioMap2 Components

Aquatic Core
Wetland Core
Vernal Pool Core
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 Mansfield

Core IDs correspond with the following element lists and summaries.
Elements of BioMap2 Cores

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

Core 810
- Wetland Core
- Species of Conservation Concern
  - Four-toed Salamander: *Hemidactylium scutatum*
  - Northern Black Racer: *Coluber constrictor*
  - Spotted Turtle: *Clemmys guttata*

Core 813
- Wetland Core

Core 816
- Aquatic Core
- Species of Conservation Concern
  - Bridle Shiner: *Notropis bifrenatus*

Core 825
- Wetland Core

Core 852
- Aquatic Core

Core 862
- Species of Conservation Concern
  - Blue-spotted Salamander: *Ambystoma laterale*

Core 874
- Aquatic Core
- Species of Conservation Concern
  - Hessel’s Hairstreak: *Callophrys hesseli*
  - Bridle Shiner: *Notropis bifrenatus*

Core 884
- Aquatic Core
- Species of Conservation Concern
  - Philadelphia Panic-grass: *Panicum philadelphicum ssp. philadelphicum*
### Core 886

Aquatic Core
Species of Conservation Concern

| Philadelphia Panic-grass | Panicum philadelphicum ssp. philadelphicum | SC |

### Core 887

Priority & Exemplary Natural Communities

| Alluvial Atlantic White Cedar Swamp | S2 |

### Core 900

Priority & Exemplary Natural Communities

| Alluvial Atlantic White Cedar Swamp | S2 |

### Core 1100

Forest Core

| Eastern Whip-poor-will | Caprimulgus vociferus | SC |

| Eastern Box Turtle | Terrapene carolina | SC |

| Northern Black Racer | Coluber constrictor | Non-listed SWAP |

| Eastern Ribbon Snake | Thamnophis sauritus | Non-listed SWAP |

| Blanding’s Turtle | Ambystoma opacum | T |

| Four-toed Salamander | Hemidactylium scutatum | Non-listed SWAP |

| Blue-spotted Salamander | Ambystoma laterale | SC |

| Marbled Salamander | Ambystoma opacum | T |

| Vernal Pool Core |

| Wetland Core |

| Species of Conservation Concern |

| Blue-spotted Salamander | Ambystoma laterale | SC |

| Four-toed Salamander | Hemidactylium scutatum | Non-listed SWAP |

| Marbled Salamander | Ambystoma opacum | T |

| Blanding’s Turtle | Ambystoma opacum | T |

| Eastern Box Turtle | Terrapene carolina | SC |

| Eastern Ribbon Snake | Thamnophis sauritus | Non-listed SWAP |

| Northern Black Racer | Coluber constrictor | Non-listed SWAP |

| Eastern Whip-poor-will | Caprimulgus vociferus | SC |
Core Habitat Summaries

Core 810

A 712-acre Core Habitat featuring Wetland Core and Species of Conservation Concern.

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.

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.

The Northern Black Racer is a snake of young upland forests, shrublands such as pitch pine/scrub oak communities and rock cliffs. Although relatively common, its range appears to be constricting and its abundance has been declining.

Strong populations of Spotted Turtles in good habitat - large, unfragmented, protected open space - continue to be of interest for the conservation of this species. This small, dark-colored turtle with yellow spots on its carapace inhabits a variety of wetlands year-round and nests in nearby uplands during spring. Road and collection are the primary conservation concerns.

Core 813

A 95-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.

The 95-acre Wetland Core is among the largest 20% of Wetland Cores statewide.

Core 816

A 38-acre Core Habitat featuring Aquatic Core and a 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.
Bridle Shiners are small (<5 cm) minnows that are found in clear water in slack areas of streams and rivers and are also found in lakes and ponds.

Core 825
A 91-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 852
A 158-acre Core Habitat featuring Aquatic Core.

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.

Core 862
A 173-acre Core Habitat featuring a Species of Conservation Concern.

Adult and juvenile Blue-spotted Salamanders inhabit upland forests 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, whereupon they disperse into upland forest.

Core 874
A 381-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.

Hessel’s Hairstreak, a butterfly, is restricted to Atlantic White Cedar Swamps and Bogs, where the larvae develop on new foliage of the Atlantic White Cedar trees.

Bridle Shiners are small (<5 cm) minnows that are found in clear water in slack areas of streams and rivers and are also found in lakes and ponds.

Core 884
An 8-acre Core Habitat featuring Aquatic Core and a 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.

Philadelphia Panic-grass, a member of the Grass family, is a slender, hairy, herbaceous, annual grass with yellow-green leaves. Philadelphia Panic-grass subspecies philadelphicum grows primarily on sandy shores of lakes and streams.

**Core 886**

A 6-acre Core Habitat featuring Aquatic Core and a 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.

Philadelphia Panic-grass, a member of the Grass family, is a slender, hairy, herbaceous, annual grass with yellow-green leaves. Philadelphia Panic-grass subspecies philadelphicum grows primarily on sandy shores of lakes and streams.

**Core 887**

A 1-acre Core Habitat featuring a Priority Natural Community.

Alluvial Atlantic White Cedar Swamps occur along smaller rivers and ponds where Atlantic white cedar is co-dominant with red maple. They receive annual flooding, making them more mineral-rich than other Atlantic white cedar wetlands. This example of Alluvial Atlantic White Cedar Swamp is the largest and highest-quality recorded in the state. Its 76 acres are largely buffered by natural vegetation.

**Core 900**

A 75-acre Core Habitat featuring a Priority Natural Community.

Alluvial Atlantic White Cedar Swamps occur along smaller rivers and ponds where Atlantic white cedar is co-dominant with red maple. They receive annual flooding, making them more mineral-rich than other Atlantic white cedar wetlands. This example of Alluvial Atlantic White Cedar Swamp is the largest and highest-quality recorded in the state. Its 76 acres are largely buffered by natural vegetation.

**Core 1100**

A 4,424-acre Core Habitat featuring Forest Core, Wetland Core, Vernal Pool Core, and Species of Conservation Concern.

Forest Cores are the best examples of large, intact forests that are least impacted by roads and development. Forest Cores support many bird species sensitive to the impacts of roads and development and help maintain ecological processes found only in unfragmented forest patches.
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.

Vernal pools are small, seasonal wetlands that provide important wildlife habitat, especially for amphibians and invertebrate animals that use them to breed. BioMap2 identifies the top 5 percent most interconnected clusters of Potential Vernal Pools in the state.

Adult and juvenile Blue-spotted Salamanders inhabit upland forests 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, whereupon they disperse into upland forest.

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.

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.

Blanding’s Turtle is a medium sized turtle. It inhabits a mix of seasonal pools, marshes, shrub swamps, forest, and open uplands. After overwintering in the deep muds of wetlands, Blanding’s Turtles move overland to vernal pools and shrub swamps to feed and mate. Loss of only a few adults annually can cause populations to decline as they do not reproduce until late in life (14-20 yrs), and have low replacement rates due to low nest and juvenile survivorship. Roads are the primary cause of adult mortality.

The Eastern Box Turtle is a terrestrial turtle, inhabiting many dry and moist woodland and early successional habitat. Development, roads, collection, and disease are the primary conservation concerns.

Eastern Ribbon Snakes are a medium-sized, very thin snake ranging from 7 to 34 inches long at maturity. They are active during the day and live in wetlands and edges of open water being comfortable in water and on land, eating amphibians, insects, and occasional fish. This species hibernates in ant mounds, rodent burrows, crayfish burrows, and bank burrows.
The Northern Black Racer is a snake of young upland forests, shrublands such as pitch pine/scrub oak communities and rock cliffs. Although relatively common, its range appears to be constricting and its abundance has been declining.

Eastern Whip-poor-wills are nocturnal, ground-nesting birds of open dry oak woodlands and pine barrens. Their diet consists primarily of moths taken on the wing. Though seldom seen, their call was once a common nighttime sound of summer nights across Massachusetts. Whip-poor-wills have experienced a dramatic range contraction in Massachusetts over the past few decades, and are now mostly relegated to a handful of large pine barrens. This range contraction is believed to the result of development and the habitat succession caused fire suppression. Whip-poor-wills often reclaim their former haunts following active habitat management, such as prescribed fire and targeted logging.
BioMap2 Critical Natural Landscape in Mansfield

Critical Natural Landscape IDs correspond with the following element lists and summaries.
Elements of BioMap2 Critical Natural Landscapes

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

CNL 463
  Wetland Core Buffer

CNL 466
  Aquatic Core Buffer

CNL 484
  Aquatic Core Buffer
  Wetland Core Buffer

CNL 499
  Aquatic Core Buffer
  Wetland Core Buffer
Critical Natural Landscape Summaries

CNL 463
A 45-acre Critical Natural Landscape featuring Wetland Core Buffer.
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.

CNL 466
A 78-acre Critical Natural Landscape featuring Aquatic Core Buffer.
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.

CNL 484
An 819-acre Critical Natural Landscape featuring Aquatic Core Buffer and Wetland Core Buffer.
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.

CNL 499
A 171-acre Critical Natural Landscape featuring Aquatic Core Buffer and Wetland Core Buffer.
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.
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.