Easton
Produced in 2012

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...
The status of natural communities reflects the documented number and acreages of each community type in the state:

- Critically Imperiled communities typically have 5 or fewer documented good sites or have very few remaining acres in the state.
- Imperiled communities typically have 6-20 good sites or few remaining acres in the state.
- Vulnerable communities typically have 21-100 good sites or limited acreage across the state.
- Secure communities typically have over 100 sites or abundant acreage across the state; however, excellent examples are identified as Core Habitats to ensure continued protection.

In 2005 the Massachusetts Division of Fisheries and Wildlife completed a comprehensive State Wildlife Action Plan (SWAP) documenting the status of Massachusetts wildlife and providing recommendations to help guide wildlife conservation decision-making. SWAP includes all the wildlife species listed under the Massachusetts Endangered Species Act (MESA), as well as more than 80 species that need conservation attention but do not meet the requirements for inclusion under MESA. The SWAP document is organized around habitat types in need of conservation within the Commonwealth. While the original BioMap focused primarily on rare species protected under MESA, BioMap2 also addresses other Species of Conservation Concern, their habitats, and the ecosystems that support them to create a spatial representation of most of the elements of SWAP.

**BioMap2: One Plan, Two Components**

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 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
Table 1. Species of Conservation Concern described in the State Wildlife Action Plan and/or included on the MESA List and for which habitat was mapped in BioMap2. Note that plants are not included in SWAP, and that marine species such as whales and sea turtles are not included in BioMap2.

<table>
<thead>
<tr>
<th>Taxonomic Group</th>
<th>MESA-listed Species</th>
<th>Non-listed Species of Conservation Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammals</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Birds</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>Reptiles</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Amphibians</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Fish</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Invertebrates</td>
<td>102</td>
<td>9</td>
</tr>
<tr>
<td>Plants</td>
<td>256</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>413</strong></td>
<td><strong>62</strong></td>
</tr>
</tbody>
</table>

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
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**

Easton 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.

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**BioMap2 Components**

**Core Habitat**
- 3 Exemplary or Priority Natural Community Cores
- 1 Forest Core
- 1 Wetland Core
- 7 Aquatic Cores
- 2 Vernal Pool Cores
- 7 Species of Conservation Concern Cores**
  - 3 reptiles, 3 amphibians, 6 insects, 5 plants

**Critical Natural Landscape**
- 4 Landscape Blocks
- 5 Wetland Core Buffers
- 7 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.

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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).
BioMap2 Core Habitat and Critical Natural Landscape in Easton

BioMap2 Core Habitat

BioMap2 Critical Natural Landscape

1 Mile
Species of Conservation Concern, Priority and Exemplary Natural Communities, and Other Elements of Biodiversity in Easton

Insects

Moths
- Pale Green Pinion Moth, (Lithophane viridipallens), SC
- Chain Fern Borer, (Papaipema stenocelis), T
- Two-striped Cord Grass Moth, (Macrochilo bivittata), Non-listed SWAP

Butterflies
- Hessel’s Hairstreak, (Callophrys hesseli), SC

Dragonflies
- Kennedy’s Emerald, (Somatochlora kennedyi), E
- Mocha Emerald, (Somatochlora linearis), SC

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

Reptiles
- Blanding’s Turtle, (Emydoidea blandingii), T
- Eastern Box Turtle, (Terrapene carolina), SC
- Northern Black Racer, (Coluber constrictor), Non-listed SWAP

Plants
- Rigid Flax, (Linum medium var. texanum), T
- Gypsywort, (Lycopus rubellus), E
- Philadelphia Panic-grass, (Panicum philadelphicum ssp. philadelphicum), SC
- Pale Green Orchis, (Platanthera flava var. herbiola), T
- Long’s Bulrush, (Scirpus longii), T

Priority Natural Communities
- Coastal Atlantic White Cedar Swamp, S2
- Acidic Graminoid Fen, S3
- Acidic Shrub Fen, S3

Other BioMap2 Components
- Forest Core
- Aquatic Core
- Wetland Core
- Vernal Pool Core
- Landscape Block
- Aquatic Core Buffer
- Wetland Core Buffer

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).
BioMap2
Conserving the Biodiversity of Massachusetts in a Changing World

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 Easton

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 Easton. The elements listed here may not occur within the bounds of Easton.

Core 822

Aquatic Core
Priority & Exemplary Natural Communities
Alluvial Red Maple Swamp
Forest Seep Community
Species of Conservation Concern
Eastern Pondmussel
Triangle Floater
Spotted Turtle
Bridle Shiner

Core 835

Aquatic Core
Species of Conservation Concern
Philadelphia Panic-grass

Core 868

Forest Core
Wetland Core
Aquatic Core
Priority & Exemplary Natural Communities
Acidic Graminoid Fen
Acidic Shrub Fen
Atlantic White Cedar Bog
Coastal Atlantic White Cedar Swamp
Red Maple Swamp
Species of Conservation Concern
Gypsywort
Long’s Bulrush
Plymouth Gentian
Rigid Flax
Round-fruited False-loosestrife
Chain Fern Borer Moth
Pale Green Pinion Moth
Two-striped Cord Grass Moth
Water-willow Stem Borer
Hessel’s Hairstreak

For more information on rare species and natural communities, please see our fact sheets online at www.mass.gov/nhesp.
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<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
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<td>Scarlet Bluet</td>
<td>Enallagma pictum</td>
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<td>Kennedy’s Emerald</td>
<td>Somatochlora kennedyi</td>
<td>E</td>
</tr>
<tr>
<td>Mocha Emerald</td>
<td>Somatochlora linearis</td>
<td>SC</td>
</tr>
<tr>
<td>Blue-spotted Salamander</td>
<td>Ambystoma laterale</td>
<td>SC</td>
</tr>
<tr>
<td>Four-toed Salamander</td>
<td>Hemidactylium scutatum</td>
<td>Non-listed SWAP</td>
</tr>
<tr>
<td>Blanding’s Turtle</td>
<td>Emydoidea blandingii</td>
<td>T</td>
</tr>
<tr>
<td>Eastern Box Turtle</td>
<td>Terrapene carolina</td>
<td>SC</td>
</tr>
<tr>
<td>Northern Black Racer</td>
<td>Coluber constrictor</td>
<td>Non-listed SWAP</td>
</tr>
</tbody>
</table>

**Core 958**

Vernal Pool Core

**Core 961**

Aquatic Core

Species of Conservation Concern

Pale Green Orchis

Platanthera flava var. herbiola

**Core 990**

Aquatic Core

Species of Conservation Concern

Pale Green Orchis

Platanthera flava var. herbiola

**Core 1006**

Aquatic Core

Species of Conservation Concern

Pale Green Orchis

Platanthera flava var. herbiola

**Core 1009**

Wetland Core

**Core 1049**

Species of Conservation Concern

Four-toed Salamander

Hemidactylium scutatum

Non-listed SWAP

**Core 1100**

Forest Core

Wetland Core

Vernal Pool Core

Species of Conservation Concern

Blue-spotted Salamander

Ambystoma laterale

SC

Four-toed Salamander

Hemidactylium scutatum

Non-listed SWAP

Marbled Salamander

Ambystoma opacum

T
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<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
<th>Status</th>
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<tr>
<td>Blanding's Turtle</td>
<td><em>Emydoidea blandingii</em></td>
<td>T</td>
</tr>
<tr>
<td>Eastern Box Turtle</td>
<td><em>Terrapene carolina</em></td>
<td>SC</td>
</tr>
<tr>
<td>Eastern Ribbon Snake</td>
<td><em>Thamnophis sauritus</em></td>
<td>Non-listed SWAP</td>
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<tr>
<td>Northern Black Racer</td>
<td><em>Coluber constrictor</em></td>
<td>Non-listed SWAP</td>
</tr>
<tr>
<td>Eastern Whip-poor-will</td>
<td><em>Caprimulgus vociferus</em></td>
<td>SC</td>
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</table>
Core Habitat Summaries

Core 822
A 169-acre Core Habitat featuring Aquatic Core, Priority Natural Communities, 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.

Alluvial Red Maple Swamps are a type of red maple swamp that occurs in low areas along rivers and streams. Regular flooding enriches the soil with nutrients, resulting in an unusual set of associated trees and plants. This example of Alluvial Red Maple Swamp is of moderate size and quality, with a moderate level of disturbance, resulting from alterations to the hydrology of the surrounding area.

Forest Seeps are in areas on wet slopes in hardwood forests where groundwater seeps out of the earth. The overstory is similar to that of the surrounding forest, but many typical wetland ferns, herbs, and shrubs occur as well. This example of this community is of moderate size and maturity. It has good species diversity and is well buffered within a naturally vegetated landscape.

Eastern Pondmussels, large freshwater mussels, are most abundant in southeastern Massachusetts. They inhabit streams, rivers, and small to large lakes and ponds; they show no preference for substrate, depth, or flow conditions. As sedentary filter feeders they are vulnerable to the alterations of water bodies.

Triangle Floaters are freshwater mussels commonly found in low-gradient river reaches with sand and gravel substrates and low to moderate water velocities, although they are found in a wide range of substrate and flow conditions.

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.

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 835
A 5-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 868**

An 11,192-acre Core Habitat featuring Forest Core, Wetland Core, Aquatic Core, Priority Natural Communities, and Species of Conservation Concern.

The Hockomock Swamp, the largest freshwater swamp in Massachusetts, is home to 18 rare and uncommon species. Its lakes, ponds, and boggy wetlands support five rare dragonflies and damselflies, including the globally rare Scarlet Bluet and Ringed Boghaunter. Of statewide importance is a vigorous population of Blue-spotted Salamanders. Caterpillars of the globally rare Hessel’s Hairstreak butterfly feed on the needles of Atlantic White Cedar in the several large cedar swamps of this complex wetland. Other globally rare species found here include the Water-willow Borer Moth, Plymouth Gentian, and Long’s Bulrush.

Acidic Graminoid Fens are sedge- and sphagnum-dominated acidic peatlands that experience some groundwater and/or surface water flow but no calcareous seepage. Standing water is often present throughout much of the growing season. This Core has two very nice Acidic Graminoid Fen including the largest example in the state. The other is near the western edge of the five thousand acre Hockomock Swamp. It is adjacent to patches of Coastal Atlantic White Cedar Swamp and extremely dense Acidic Shrub Swamp, with all surrounded by Red Maple Swamp.

Acidic Shrub Fens are shrub-dominated acidic peatlands found primarily along pond margins in the eastern and central part of the state. These wetland communities experience some groundwater and/or surface water inputs, but no calcareous seepage. This example of Acidic Shrub Fen is large and well-buffered by natural vegetation. It is in very good to excellent condition, with good species diversity, few exotics and little evidence of current human disturbance.

Atlantic White Cedar Bogs are characterized by a nearly continuous heath shrub layer and an open canopy dominated by Atlantic white cedar. This community type occurs in kettlehole depressions overlain with waterlogged peat soils and sphagnum moss. This excellent representation of the type occurs as patches within the large Hockomock Swamp. The patches are variable in types of locations: pond margins, basins, and parts of gradients from open peat, through shrub fens to swamp forest.

Coastal Atlantic White Cedar Swamps are acidic, low-nutrient basin swamps dominated by Atlantic white cedar in the overstory and a mixture of species in the understory. This community type typically occurs in basins on the Atlantic Coastal Plain. This large Coastal Atlantic White Cedar Swamp is part of an extensive mosaic of wetland types, and is well buffered within this natural vegetation.

Red Maple Swamps are acidic forested wetlands that are dominated by red maple. They are the most common forested wetlands in Massachusetts. This community type is highly variable in its species composition. This example of Red Maple Swamp is both mature and large, and is part of a much larger wetland complex in a 2300 acre roadless block.
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.

Wetlands 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.

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 958

A 61-acre Core Habitat featuring Vernal Pool Core.

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.

Core 961

A 14-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.

In Massachusetts, Pale Green Orchis inhabits open to semi-shaded habitats in rich, moderately acidic, wet areas subject to seepage, intermittent flooding, or water level fluctuation.

Core 990

A 10-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.

In Massachusetts, Pale Green Orchis inhabits open to semi-shaded habitats in rich, moderately acidic, wet areas subject to seepage, intermittent flooding, or water level fluctuation.

Core 1006

A 24-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.

In Massachusetts, Pale Green Orchis inhabits open to semi-shaded habitats in rich, moderately acidic, wet areas subject to seepage, intermittent flooding, or water level fluctuation.

**Core 1009**

A 20-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 1049**

A 51-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 Massachusetts 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 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 Massachusetts 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 Turtles are medium-sized turtles. 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 Easton

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 Easton. The elements listed here may not occur within the bounds of Easton.

CNL 469
- Aquatic Core Buffer
- Wetland Core Buffer

CNL 482
- Aquatic Core Buffer
- Landscape Block

CNL 485
- Aquatic Core Buffer
- Landscape Block
- Wetland Core Buffer

CNL 515
- Aquatic Core Buffer

CNL 532
- Aquatic Core Buffer

CNL 540
- Aquatic Core Buffer

CNL 563
- Landscape Block
- Wetland Core Buffer
Critical Natural Landscape Summaries

**CNL 469**

A 236-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 482**

A 1,526-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.

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 485**

A 10,770-acre Critical Natural Landscape featuring Aquatic Core Buffer, 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.

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**CNL 515**

A 34-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 532**

A 16-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 540**

A 52-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 563**

A 4,177-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.
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Endangered Species Fund

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