BioMap2

Guiding Land Conservation for Biodiversity in Massachusetts

Hancock

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.

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Massachusetts Division of Fisheries and Wildlife

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BioMap2:
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For more information on rare species and natural communities, please see our fact sheets online at **www.nhesp.org**

BioMap2: Guiding Land Conservation for Biodiversity in Massachusetts

Hancock

Hancock is located among the Taconic Mountains along the New York border in northwestern Berkshire County, and is part of both the Hudson and Housatonic River watersheds (see Figure 1). A central valley neatly divides the northern half of town and is the primary populated area. Route 43 runs through this valley. The northern half of town contains the headwater reaches of both the West Branch Green River, which runs north to join the Hoosic and then Hudson Rivers, and Kinderhook Creek, which flows south and then west to also join the Hudson. In the northwestern part of town, an escarpment of the Taconic Range rises up from the central valley. The peaks of Misery and Rounds Mountains, each standing well over 2,000 feet above sea level, occur just on the other side of the state boundary. Across the valley to the east is another Taconic escarpment that more or less defines Hancock's boundary with the towns of New Ashford and Lanesborough, and includes several peaks on Brodie Mountain. Much of southern Hancock is part of Pittsfield State Forest, which includes several mountain peaks slightly lower in elevation than those to the north. The western slopes of these mountains drain to Kinderhook Creek. On the east side of the mountains, several headwater streams, including Mount Lebanon Brook, Shaker Brook, Lilly Brook, and Smith Brook, flow east to the Southwest Branch Housatonic River, which ultimately joins the mainstem of the Housatonic River in Pittsfield.

Due to its mountainous topography, Hancock is somewhat isolated from large urban centers like Pittsfield, which lies to the east in the Housatonic River Valley, and mid-sized towns like Adams and Williamstown which lie to the north and northeast. It is also far from developed areas to the west, in the Hudson Valley of New York State. The town lacks the intensive commercial and industrial development found in those more populated areas, and its lands have remained relatively undisturbed. The small degree of development currently present in Hancock lies mostly within the valley in the north, and includes the village of Hancock, Jiminy Peak Ski Area, and various residential and agricultural areas scattered throughout the valley. U.S. Rte. 20 passes through the very southern part of Hancock, and some residential and commercial areas are associated with this highway in the far southeastern corner of the town, near its joint boundary with Richmond and Pittsfield. The remainder of Hancock – over

Hancock at a Glance

- Total area: 22,876 acres
- Human Population in 2009: 1,264 people
- Open space protected in perpetuity: 11,982 acres, or 52.4% of total area*

BioMap2 Components

Core Habitat

- 5 Aquatic Cores: 574 acres
- 4 Forest Cores: 13,284 acres
- 10 Wetland Cores: 142 acres
- 1 Vernal Pool Core: 85 acres
- 2 occurrences of 1 Priority Natural Community: 7 acres

Species of Conservation Concern**

- 1 fish, 2 amphibians, 1 reptile, 1 bird, 4 plants

Critical Natural Landscape

- 6 Upland Buffers of Aquatic Cores: 2,209 acres
- 7 Upland Buffers of Wetland Cores: 852 acres
- 3 Landscape Blocks: 17,905 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 Natural Communities, and Other Elements of Biodiversity in Hancock

Fish
- Longnose Sucker (*Catostomus catostomus*), Special Concern

Amphibians
- Jefferson Salamander (*Ambystoma jeffersonianum*), Special Concern
- Spring Salamander (*Gyrinophilus porphyriticus*), SWAP

Reptiles
- Wood Turtle (*Glyptemys insculpta*), Special Concern

Birds
- Least Bittern (*Ixobrychus exilis*), Endangered

Plants
- Bristly Black Currant (*Ribes lacustre*), Special Concern
- Crooked-stem Aster (*Symphyotrichum prenanthoides*), Endangered
- Hill's Pondweed (*Potamogeton hillii*), Special Concern
- Ogden's Pondweed (*Potamogeton ogdenii*), Endangered

Priority Natural Community
- Rich, Mesic Forest

Other BioMap2 Components
- Aquatic Cores
- Forest Cores
- Landscape Blocks
- Upland Buffers of Aquatic Cores
- Upland Buffers of Aquatic Cores
- Vernal Pool Cores
- Wetland Cores

52,000 acres, or 89 percent of the town's land area – is forested and accessed relatively infrequently by people.

Mountainous and forested areas of Hancock are less rich in uncommon aspects of biodiversity than areas that lie within the marble valleys to the east and south, yet these highlands support their own suite of ecologically important species and natural communities. For example, a cluster of vernal pools in southern Hancock provides breeding habitat for the state-listed Jefferson Salamander. Spring Salamanders are also found nearby, along headwater streams and in areas with steep slopes. Areas of the natural community Rich, Mesic Forest are found along Lilly Brook; these support extensive stands of sugar maples and a diverse understory of fern, sedge, lily, and buttercup species. Along Route 43 near Whitman Road, toward the uppermost reaches of Kinderhook Creek, the open waters of a small reservoir and its associated wetland areas support nesting and breeding habitat for the state-listed marshbird Least Bittern. To the north, along the upper reaches of the West Branch Green River, Longnose Suckers live and feed along rocky areas of the stream bottom.

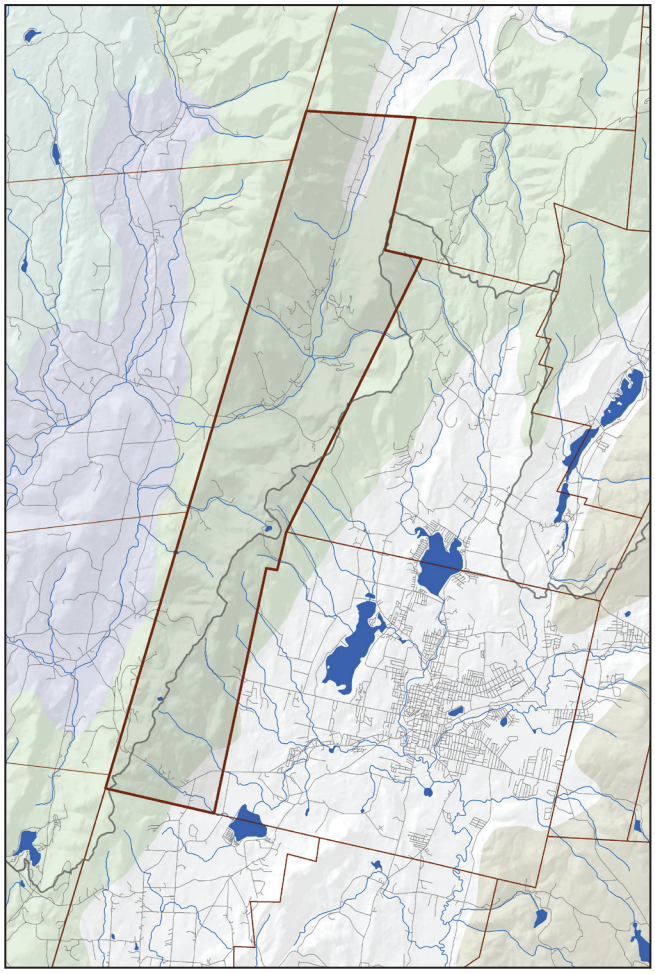


Figure 1. Town boundaries and ecoregions for Hancock. Hancock is in the Hudson and Housatonic watersheds.

BIODIVERSITY CONSERVATION TARGETS IN HANCOCK: CORE HABITAT, CRITICAL NATURAL LANDSCAPE, & PRIORITY CONSERVATION AREAS

Overview

In this section, we outline areas in Hancock 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 Restoration 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

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.

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 Hancock, although a given area of Core Habitat or Critical Natural Landscape listed here may extend outside the town boundaries of Hancock 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 selected. Each Town PCA contains part of at least one BioMap2 Core; in Hancock three Town PCAs were selected. Figure 3 illustrates how BioMap2 Core Habitat and Critical Natural Landscape relate to the distribution of Town PCAs in Hancock.

In addition to the Town PCAs, a larger scale prioritization was 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 biodiversity value 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. In Hancock, Regional PCA 7 encompasses much of the northeastern and southern portions of the town, including Town PCA 1 and Town PCA 3, which together contain thousands of acres of state forest in the Taconic Mountains.

Core Habitat and Critical Natural Landscape Components in Hancock

Areas of Core Habitat in Hancock, called BioMap2 Cores (BCs), are summarized here, as are the various components of each BC, which may include Species of Conservation Concern, Exemplary and Priority Natural Communities, and 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 Aquatic and Wetland Cores, as well as Landscape Blocks.

Overview of CNLs in Hancock

Most BioMap2 Cores in Hancock, Lanesborough, and the northern areas of Pittsfield, Dalton, and Windsor are part of CNL1332. This CNL totals nearly 85,000 acres and falls almost entirely within the Taconic Mountains and Berkshire Highlands ecoregions. Elevations in these regions are typically well above 1,000 feet, with peaks reaching higher than 2,000 feet. The land is largely forested, and aquatic ecosystems consist primarily of headwater wetlands and streams. Like other CNLs, CNL1332 consists of large Landscape Blocks, as well as Upland Buffers of Wetland and Aquatic Cores in certain areas. At 1,104 acres, CNL1169 is relatively small compared to other CNLs in the region and consists of only one BioMap2 core: BC2437. It falls on the eastern slopes of Rounds Mountain, along the boundary with New York State, and supports a moderate-size Forest Core.

BC2191 and CNL1332

BC2191 is a 2.3-acre area bordering west Main Street, just across the state line from New Lebanon, NY. It is part of an Upland Buffer of Aquatic Core and Landscape Block in CNL1332. BC2191 includes one state-listed plant.

BC2341 and CNL1332

BC2341 lies mostly in Hancock, although parts of this BC are also in Lanesborough and Pittsfield, with a very small extension south into Richmond. In Hancock, this core contains a variety of important biodiversity elements characteristic of many highland areas in the Housatonic River watershed. It is heavily forested, with a large area of Forest Core (8,239 acres), and includes six Wetland Cores that cover an area of 73 total acres. It includes Aquatic Cores along Kinderhook Creek and its tributaries, and Mount Lebanon Brook in the very southern part of the town. CNL1332 has Upland Buffers around the Aquatic and Wetland Cores. An 85-acre Vernal Pool Core is also part of this BC. In Hancock, BC2341 supports two uncommon salamander species, two state-listed plant species, and one Priority Natural Community.

Amphibians

Spring Salamander (*Gyrinophilus porphyriticus*), SWAP: Spring Salamanders inhabit clean, cold, high-gradient brooks and headwater seeps in forest habitat, usually at elevations above 300 feet. Larvae are entirely aquatic and largely nocturnal, spending daylight hours buried below the streambed or hidden under stones. Adults are semi-aquatic and spend most of their time under cover objects along the margins of brooks, springs, and seeps; however, they will venture into upland forest during rainy weather. In BC2341, this salamander is documented along the upper reaches of Parker and Lulu Brooks.

Jefferson Salamander (*Ambystoma jeffersonianum*), Special Concern: 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 forest. These salamanders are documented from a 395-acre area in the southern portion of BC2341, close to Certified Vernal Pools along the headwaters of Shaker Brook.

Plants

Bristly Black Currant (*Ribes lacustre*), Special Concern: This short shrub grows at fairly high elevations near streams, seeps, and swamps in rich, cool, and moist woods, and sometimes on ledges.

Crooked-stem Aster (*Symphyotrichum prenanthoides*), Threatened (recommended rank change to Special Concern in 2011): This perennial herbaceous plant grows in rich soils, in open to semi-open conditions along rivers, streams, and seeps. In BC2341, it occurs just north of BC2191 (where it is also documented).

Priority Natural Community

Rich, Mesic Forest Community (Vulnerable): This Priority Natural Community is a variant of northern hardwood forest that is dominated by sugar maple with diverse herbaceous plants. It typically includes many spring wild flowers and occurs in moist, nutrient-rich environments. It occurs in the western part of BC2341, in two small areas that total seven acres along Lily Brook.

BC2437 and CNL1169

BC2437 lies within a 1,102-acre Landscape Block in CNL1169. This area is in west-central Hancock, along the town's boundary with New York. The core consists of one moderate-sized (595-acre) Forest Core, as well as the upper reaches of Whitman Brook watershed, which drains into Kinderhook Creek.

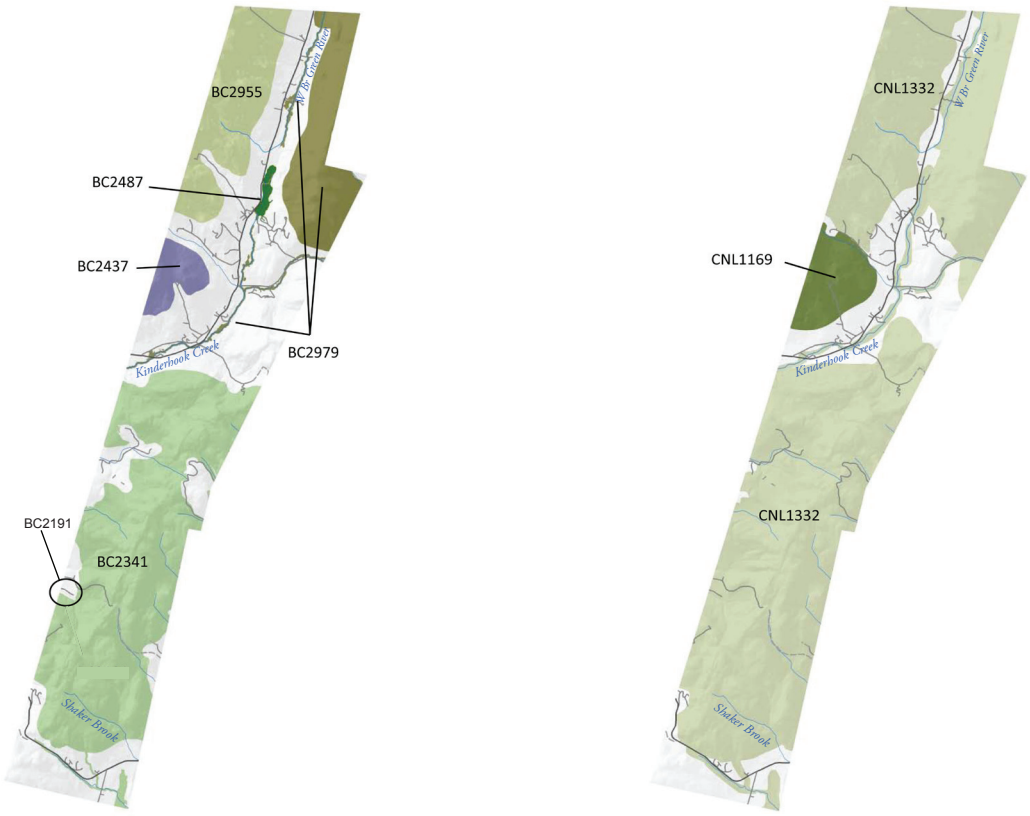


Figure 2. Hancock includes a total of six BioMap2 Cores (BCs; left) and two areas of Critical Natural Landscape (CNL; right).

BC2487 and CNL1332

BC2487 includes a small part of Hancock's northern valley and the headwaters of Kinderhook Creek. It falls within Aquatic and Upland Buffers of CNL1332, and is also part of a large Landscape Block. This BC includes many BioMap2 core components, including a 97-acre Aquatic Core and three adjacent Wetland Cores that make up 66 acres. These components encompass a reservoir that is formed by a dam at the downstream end of the core, near Whitman Road. BC2487 includes two aquatic plants and one marsh bird species:

Plants

Hill's Pondweed (*Potamogeton hillii*), Special Concern: This submersed aquatic plant grows best in cold, shallow, slow-moving, and clean alkaline bodies of water on muddy substrates. It occurs throughout aquatic areas in BC2487, as well as in adjacent wetlands.

Ogden's Pondweed (*Potamogeton ogdenii*), Endangered: This species is an annual aquatic herb with submersed leaves that grows in shallow, alkaline, still or very slow-moving waters. Like Hill's Pondweed, it grows in aquatic and wetland areas throughout BC2487.

Bird

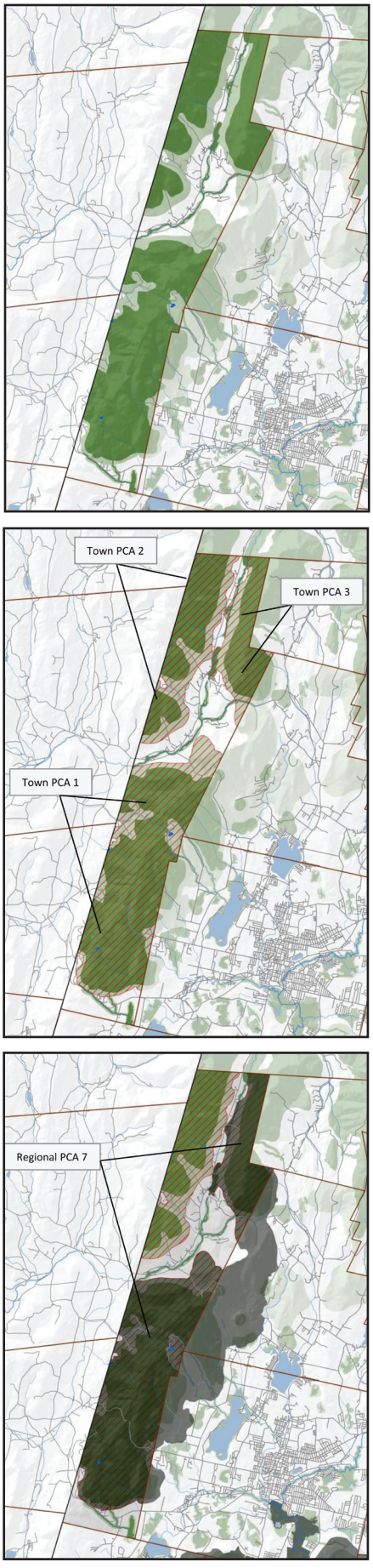
Least Bittern (*Ixobrychus exilis*), Endangered: Least Bitterns are wading, heron-like birds that typically nest in cattail marshes interspersed with open water. They are very sensitive to disturbances from pollution, such as siltation and chemical insecticides, and to the establishment of invasive plants like Phragmites and Purple Loosestrife that do well in disturbed areas.

BC2955 and CNL1332

BC2955 consists of a single 2,433 acre Forest Core and lies in northwest Hancock, within a Landscape Block of CNL1332.

BC2979 and CNL1332

BC2979 includes the West Branch Green River and much of the upper reaches of Kinderhook Creek. These streams and their riparian areas each form an Aquatic Core and are surrounded by Upland Buffers of CNL1332. This core also includes a Forest Core in CNL1332's Landscape Block that covers Brodie Mountain in northeast Hancock; its land drains west into both the West Branch Green River and Kinderhook Creek. BC2979 also includes a small



Wetland Core at its very northern edge, near the boundary with Williamstown. Two state-listed animal species, one fish and one turtle, are documented in BC2979:

Fish

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

Reptiles

Wood Turtle (*Glyptemys insculpta*), Special Concern: Wood Turtle habitat consists of streams and rivers, preferably with long corridors of undeveloped, connected uplands extending on both sides of the waterways. Riparian areas in this core are both large and interconnected, thus providing excellent habitat for this species.

Priority Conservation Areas in Hancock

The town of Hancock contains three areas identified as Priority Conservation Areas (PCAs) by NHESP. All three are Town PCAs and two are part of a larger Regional PCA:

Town PCA 1/Regional PCA 7: Town PCA 1 in Hancock is part of Regional PCA 7, which includes over 20,000 acres in Hancock and western Pittsfield and Lanesborough. This Regional PCA contains areas of extensive and relatively undisturbed forest habitat. It also includes the watersheds of several headwater streams: those that flow to Kinderhook Creek and the West Branch Green River in Hancock, to the Southwest Branch Housatonic River and Onota Brook in Pittsfield, and to Secum Brook in Lanesborough. Town PCA 1 includes both the mountains of BC2341 and a portion of CNL1332. At approximately 16.4 square miles in size, it is Hancock's largest Town PCA and encompasses a large area of Forest Core and Wetland Cores, all embedded in a Landscape Block. It also supports populations of two state-listed salamanders and two state-listed plant species, as well as areas of the Priority Natural Community Rich, Mesic Forest along Lilly Brook. Several

Figure 3. Core Habitat (dark green), Critical Natural Landscape (light green), Town Priority Conservation Areas (PCAs; reddish-brown grid), and Regional Priority Conservation Areas (black) in Hancock. Town PCAs make up 17,963 acres, or 78.5 percent of the town's total area. Regional PCAs make up 13,461 acres, or 58.8 percent of the town's total area.

headwater streams of the Housatonic River flow east from this area and eventually meet the mainstem of that river in Pittsfield. A total of 9,609 acres of this Town PCA (91.7 percent of it) is protected in perpetuity, primarily as part of Pittsfield State Forest.

Town PCA 2: Hancock's second Town PCA is located in the northwest portion of the town, and is defined by two Forest Cores embedded within Landscape Blocks in CNL1169 and CNL1332. It includes headwaters of the Green River in the north, and headwaters of Kinderhook Creek in the south. In this Town PCA, 1,716 acres, or 38 percent of its area, is protected by various land holdings, including the Taconic Train State Forest and Hancock Wildlife Management Area.

Town PCA 3/Regional PCA 7: Hancock's third Town PCA is located in the northeast part of the town. Like Town PCA 1, it is part of the larger Regional PCA 7, described above. It encompasses 2,965 acres on Brodie Mountain and its western slopes that drain to the Green River and Kinderhook Creek in Hancock. It also includes BC2979 and its fairly extensive Forest Core. The reservoir and associated wetland areas in upper Kinderhook Creek, as well as sections of the Green River, are also part of this PCA. Of Hancock's three Town PCAs, this one contains the smallest amount of protected land; only 723 acres, or 24 percent of its area, is protected in perpetuity.

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/nhesp/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 remaining 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 undisrupted 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' 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.

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