BioMap2

Guiding Land Conservation for Biodiversity in Massachusetts

Peru

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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BioMap2: Guiding Land Conservation for Biodiversity in Massachusetts

Peru

Peru is located in east-central Berkshire County on the plateau of the Berkshire Highlands, and lies along the boundary between the Housatonic River and Connecticut River watersheds (see Figure 1). The steep valleys of the upper Westfield River watershed drop from eastern Peru further toward the south and east. In eastern Peru, headwaters of the Middle Branch Westfield River while its tributaries of Fuller and Tuttle Brooks flow to the east. To the south are Gear and Factory Brooks; both flow southeast to join the West Branch of the Westfield River. Areas in the west drain to Cady, Bennett, and Bilodeau Brook, which flow northwest to the East Branch Housatonic River in Dalton, and then to the Housatonic River mainstem further west. North of Peru, the town of Windsor also lies along the Berkshire Plateau. To the west is Hinsdale, which still falls within the Berkshires, but lies at lower elevations and is part of the East Branch Housatonic River valley. Lake Ashmere is a reservoir along the boundary between the two towns; two smaller waterbodies, Garnet Lake and Tracey Pond, lie further to the south. The towns of Cummington, Worthington, and Middlefield lie to the east and south of Peru, along upper reaches of the Westfield River and its tributaries.

In general, human settlement is sparse in Peru, although residential areas are somewhat concentrated in several locations: near the village of Peru, near the intersection of West Main Road (Route 143) and North Road, at Mongue Road, near Lake Ashmere, and along Middlefield Road. Peru also lacks the more intense commercial and industrial development present in other towns in the region like Pittsfield or Lee, and consequently its natural ecosystems remain largely undisturbed. Tracts of forestland are protected in perpetuity from development at properties like MassWildlife's Peru Wildlife Management Area and the New England Forestry Foundation's Dorothy Frances Rice Wildlife Refuge in central Peru, and at Peru and Middlefield State Forests to the south. Parts of the latter two properties comprise one of eight Forest Reserves in the Commonwealth of Massachusetts, containing remaining sections of mature forest that the state aims to preserve and protect from human disturbance.

Peru is a part of the Berkshire Highlands ecological region. The mountains of this ecoregion lie to the east of the Taconic Mountains and Western New England Marble Valleys, running from central Berkshire County in Massachusetts north into Vermont, where they tran-

Peru at a Glance

- Total area: 16,653 acres (26.0 square miles)
- Human Population in 2009: 829 people
- Open space protected in perpetuity: 7,705 acres, or 46.3% of total area*

BioMap2 Components

Core Habitat

- 6 Aquatic Cores: 295 acres
- 3 Forest Cores: 4,744 acres
- 1 Vernal Pool Core: 89 acres
- 7 Wetland Cores: 164 acres
- 1 Priority Natural Community: 50 acres

Species of Conservation Concern**

- 1 reptile, 3 birds, 4 plants

Critical Natural Landscape

- 7 Upland Buffers of Aquatic Cores: 1,077 acres
- 5 Upland Buffers of Wetland Cores: 1,032 acres
- 2 Landscape Blocks: 13,374 acres

*calculated using MassGIS data layer "Protected and Recreational Open Space—November 2010"
**see next page for complete list of species, natural communities, and other biodiversity elements

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

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

Birds
- American Bittern (*Botaurus lentiginosus*), Endangered
- Mourning Warbler (*Oporornis philadelphia*), Special Concern
- Sharp-Shinned Hawk (*Accipiter striatus*), Special Concern

Plants
- Bartram's Shadbush (*Amelanchier bartramiana*), Threatened
- Dwarf Mistletoe (*Arceuthobium pusillum*), Special Concern
- Great Laurel (*Rhododendron maximum*), Threatened
- Thread Rush (*Juncus filiformis*), Endangered

Priority Natural Community
- Spruce – Fir Swamp (Imperiled)

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

sition into the Green Mountains and continue north to the Canadian border. While ecosystems of the Berkshires are not as rich in biodiversity as those in the neighboring lowlands of the Housatonic River valley to the west, these highlands do support an important array of uncommon plants, animals, and natural communities. Throughout Peru's forested highlands, for example, vernal pools provide habitat for breeding amphibian species. Also, the state-endangered marsh bird American Bittern nests and feeds near open waters of a reservoir along uppermost headwaters of Fuller Brook. Several plant species are restricted to these highlands. Dwarf Mistletoe is a native parasite of conifer trees in headwater swamps and bogs, and is quite uncommon in Massachusetts. The rare Thread Rush grows in similar environments. Reptiles and amphibians use these habitats as well. Wood turtles, known to occur near the headwaters of Factory Brook, feed and nest in upland fields and forests during spring and summer months, then hibernate in stream banks or bottoms during the winter.

BIODIVERSITY TARGETS IN PERU: CORE HABITAT, CRITICAL NATURAL LANDSCAPE, AND PRIORITY CONSERVATION AREAS

Overview

In this section, we outline areas in Peru 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 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. Only those BioMap2 components that occur in Peru are described in this report, though a given area of Core Habitat or Critical Natural Landscape listed here may extend outside of the town's boundaries and contain additional components.

To facilitate land protection and stewardship, NHESP further prioritized areas in each of the towns in the watershed based on habitat size and condition as well as 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 containing part of at least one BioMap2 Core. Peru contains three Town PCAs; Figure 3 illustrates how BioMap2 Core Habitat and Critical Natural Landscape relate to their distribution.

A larger scale prioritization was also conducted to select Regional PCAs of the highest conservation and stewardship value among all towns in Massachusetts' portion of the Housatonic River watershed. Regional PCAs often cross town boundaries and can be quite large, ranging from 373 acres to more than 25,000 acres. Ecological connectivity within these Regional PCAs is important to biodiversity conservation, and these large units often include select Town PCAs that are of particular ecological significance to both the town and the region. In this way, biodiversity can be conserved at two scales: locally within each town and within a broader regional context. Peru contains no Regional PCAs – the nearest one, Regional PCA 5, is to the southwest in neighboring towns.

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 state-listed 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.

Core Habitat and Critical Natural Landscape Components in Peru

Areas of Core Habitat in Peru, called BioMap2 Cores (BCs), are summarized here. Also described are the various components of each BC, which may include Species of Conservation Concern, Exemplary and Priority Natural Communities, or Aquatic, Forest, Vernal Pool, or Wetland Cores. Components of Critical Natural Landscape (CNL) associated with each BC are also provided. These include Upland Buffers of both Aquatic and Wetland Cores, as well as Landscape Blocks.

BC2033 and CNL1322

BC2033 covers an area of over 6,500 acres in southwestern Peru as well as parts of Middlefield, Washington, Becket, and Chester. It falls within the headwaters of the West Branch Westfield River, a tributary to the Connecticut River. It includes many acres of Forest Core in the highest reaches of the watershed, and Aquatic Core along riparian areas of the West Branch. The portion in Peru is part of the Hinsdale Flats watershed and includes areas of Forest Core around headwaters of Factory and Geer Brooks. In the northern part of BC2033, Aquatic Core and Upland Buffer also include and surround Bennett Brook, which drains northwest to join the Housatonic River. Over 60 acres of Wetland Cores, plus associated Upland Buffers, and nearly 90 acres of a Vernal Pool Core also occur in this area, providing important habitat for breeding amphibians. All of these areas are part of a Landscape Block of CNL1322. Part of this BC in south-central Peru supports one state-listed turtle species:

Wood Turtle (*Glyptemys insculpta*), Special Concern: Habitat for the Wood Turtle includes streams and rivers, preferably with long corridors of undeveloped, connected uplands extending on both sides of the waterways.

BC2052 and CNL1322

BC2052 encompasses over 9,000 acres in the headwaters of the Westfield River. The portion in Peru contains nearly 1,000 acres and consists primarily of Forest Core that is part of a Landscape Block of CNL1322. BC2052 also contains corridors of an Aquatic Core along Fuller and Pierce Brooks, which are surrounded by an Upland Buffer of CNL1322.

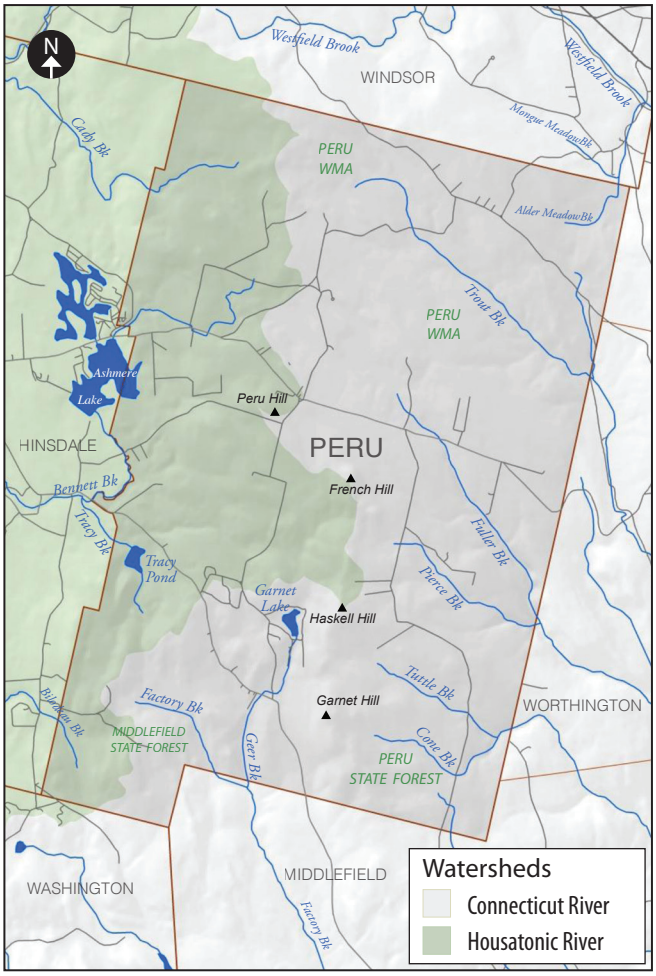

Figure 1. Peru is part of the Berkshire Highlands ecoregion and lies within the headwaters of both the Housatonic and Connecticut River watersheds.

BC2075 and CNL1322

BC2075 is just over 3,000 acres and is part of both Peru and Middlefield. Approximately two-thirds of this BC is in Peru. It contains a large stretch of Forest Core along Garnet Hill and is part of a Landscape Block of CNL1322. BC2075 also supports habitat for three state-listed plant species and a state-listed songbird:

Plants

Bartram's Shadbush (*Amelanchier bartramiana*), Threatened: This is a northern shrub that thrives in mountain thickets and on steep, wooded rocky slopes.

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

Thread Rush (*Juncus filiformis*), Endangered: This is a grass-like perennial that is restricted to springy, wet-to-moist soils along pond shores and in wetlands.

Birds

Mourning Warbler (*Oporornis philadelphia*), Special Concern: This bird is rather secretive and difficult to observe. It nests in brushy patches within forested habitat at higher elevations. It generally prefers areas that have recently undergone natural or human-caused disturbances, such as blowdowns or logging.

BC2106 and CNL1066

BC2106 is a rather small, 85-acre core located in north-central Peru, just north of Route 143 northeast of the village of Peru. It contains Aquatic Core and Upland Buffer along the highest headwaters of Fuller Brook, and is part of Landscape Block of CNL1066.

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

BC2108 and CNL1021

BC2108 is a 50-acre core that lies north of the village of Peru between North and Windsor Roads, and consists of a large forested wetland. It is part of an Upland Buffer of CNL1021, and is just west of BC2106 and the much larger CNL1066. It supports a Priority Natural Community:

Spruce – Fir Swamp (Imperiled): This Priority Natural Community is a forested wetland dominated by the trees Red Spruce and Balsam Fir. It is typically found at stream headwaters or in poorly drained basins in the higher, western and north-central parts of the state. This 50-acre occurrence of Spruce – Fir Swamp is in good condition but is threatened by polluted runoff and other impacts from surrounding developed areas.

BC2165 and CNL1066

This is a small core of only five acres, located just south of Beauman Road in the northern part of Peru. It is surrounded by Upland Buffer and is within a Landscape Block of the much larger CNL1066, and consists of an Aquatic Core and one state-listed plant species.

BC2228 and CNL1066

BC2228 is a 2,580-acre core situated in northwest Peru, south-central Windsor, and northeast Hinsdale. Just over 1,600 acres of it are within Peru. As part of the Peru Wildlife Management Area and Dalton Fire and Water District properties, much of this area is designated as conserva-

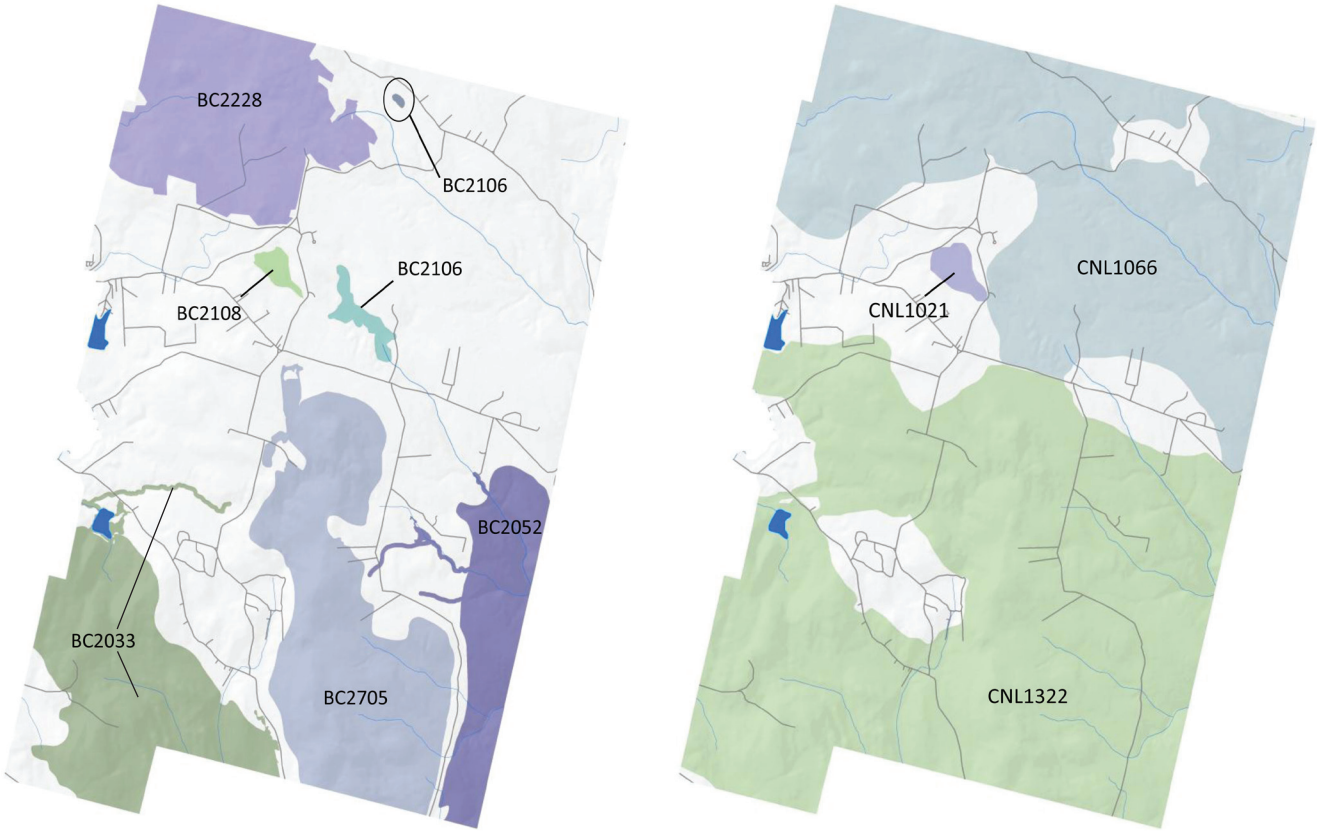

Figure 2. Peru includes a total of six BioMap2 Cores (BCs; left) and three areas of Critical Natural Landscape (CNL; right). Overlap between these two layers is shown in Figure 3.

tion land. This portion falls within a Landscape Block of CNL1066 and contains nearly 100 acres of Wetland Cores Plus their associated Upland Buffers. CNL1066's Landscape Block extends into Hinsdale and Windsor. Three state-listed species occur in BC2228.

Plants

Bartram's Shadbush (*Amelanchier bartramiana*), Threatened: This species is a northern shrub that thrives in mountain thickets and on steep wooded rocky slopes.

Birds

Sharp-shinned Hawk (*Accipiter striatus*), Special Concern: Sharp-shinned Hawks nest in mixed woodlands and coniferous forests, often with nearby open areas. Although they are sensitive to disturbance around their nests, they occasionally nest near developed areas.

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

Priority Conservation Areas in Peru

The town of Peru contains three areas identified as Town Priority Conservation Areas (PCAs) by NHESP:

Town PCA 1: At just over 7,000 acres, Town PCA 1 is the largest Priority Conservation Area in Peru. It is made up of BC2075, BC2052, and much of BC2033, all of which are within CNL1322. These BCs are located in central and southern Peru and include parts of the headwaters of the Westfield River as well as Aquatic Cores along these low order streams. These areas in Town PCA 1 also include large parts of Peru and Middlefield State Forests. They support a variety of state-listed plant and bird species associated with headwater wetlands.

Town PCA 2: This Town PCA includes a 50-acre Spruce – Fir Swamp in BC2108, as well as its surrounding Upland Buffer. Town PCA 2 is 86 acres in total, the smallest of Peru's three PCAs. It is located just northwest of the village of Peru.

Town PCA 3: Peru's third Town PCA is along the headwaters of Fuller Brook in north-central Peru, just east of

Town PCA 2. It contains an Aquatic Core that is part of BC2106, and its Upland Buffer also includes habitat of the American Bittern, a state-listed marshbird species.

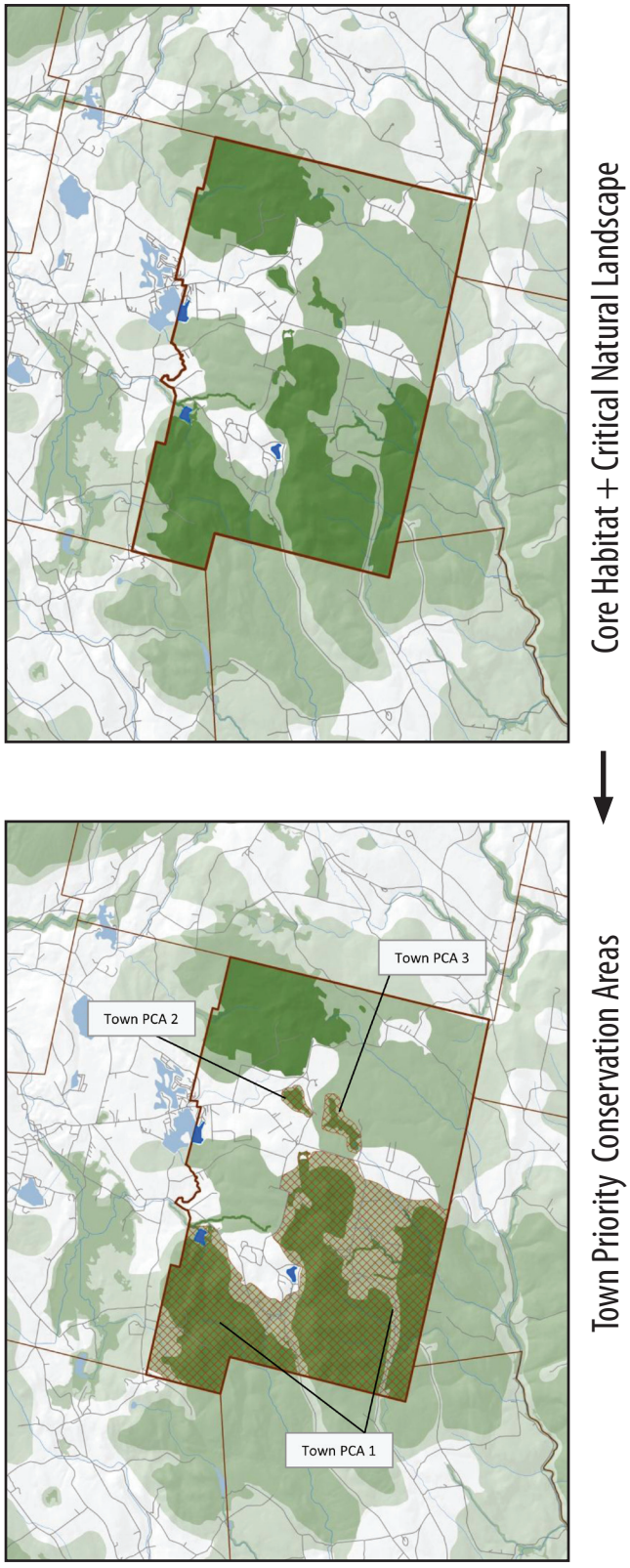

Figure 3. Core Habitat (dark green), Critical Natural Landscape (light green), and Town Priority Conservation Areas (PCAs; reddish-brown grid) in Peru.

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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