BioMap2

CONSERVING THE BIODIVERSITY OF MASSACHUSETTS IN A CHANGING WORLD

Sandisfield

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 <u>not</u> intended for use in state regulations.

Commonwealth of Massachusetts Department of Fish & Game

Commonwealth of Massachusetts Division of Fisheries & Wildlife

Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries & Wildlife

The Nature Conservancy
Protecting nature. Preserving life.™

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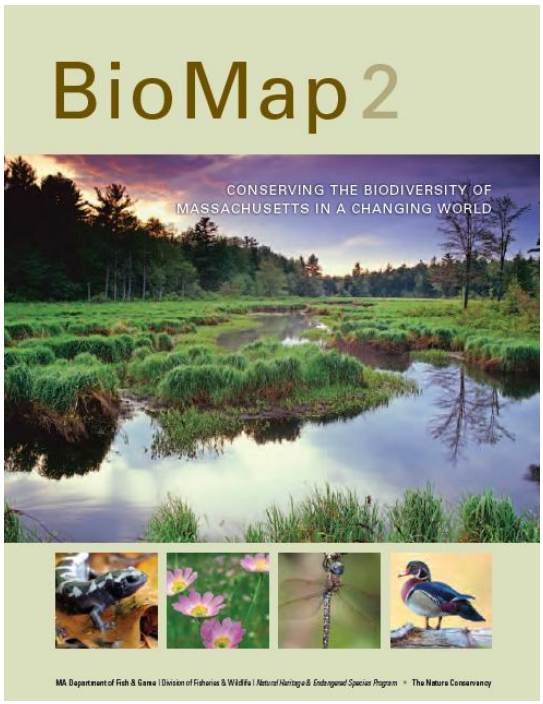
Introduction

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.



Get your copy of the *BioMap2* report! Download from www.mass.gov/nhesp or contact Natural Heritage at 508-389-6360 or natural.heritage@state.ma.us.

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

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ecologically important areas that are worthy of protection. 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 Habit 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

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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*.

Taxonomic Group	MESA-listed Species	Non-listed Species of Conservation Concern
Mammals	4	5
Birds	27	23
Reptiles	10	5
Amphibians	4	3
Fish	10	17
Invertebrates	102	9
Plants	256	0
Total	**413**	**62**

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

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Species of Conservation Concern, beyond the species and exemplary habitats described above, *BioMap2* identifies intact river corridors within which important physical and ecological processes of the river or stream occur.

Components of Critical Natural Landscape

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

Landscape Blocks

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

Upland Buffers of Wetland and Aquatic Cores

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

Upland Habitat to Support Coastal Adaptation

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

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

Legal Protection of Biodiversity

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

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

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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

Sandisfield lies within the Lower Berkshire Hills Ecoregion, an area similar to the Berkshire Highlands Ecoregion, with its common northern hardwoods, but lacks spruce-fir and harbors transition hardwoods. Lakes and ponds are relatively abundant.

Sandisfield at a Glance

- Total Area: 33,889 acres (53.0 square miles)
- Human Population in 2010: 915
- Open space protected in perpetuity: 11,169 acres, or 33.0% percent of total area*
- *BioMap2* Core Habitat: 3,281 acres
- *BioMap2* Core Habitat Protected: 1,435 acres or 43.7%
- *BioMap2* Critical Natural Landscape: 29,488 acres
- *BioMap2* Critical Natural Landscape Protected: 10,994 acres or 37.3%.

BioMap2 Components

Core Habitat

- 7 Exemplary or Priority Natural Community Cores
- 1 Forest Core
- 14 Wetland Cores
- 7 Aquatic Cores
- 7 Species of Conservation Concern Cores**
  - 2 birds, 2 reptiles, 1 fish, 7 insects, 1 mussel, 2 plants

Critical Natural Landscape

- 5 Landscape Blocks
- 13 Wetland Core Buffers
- 6 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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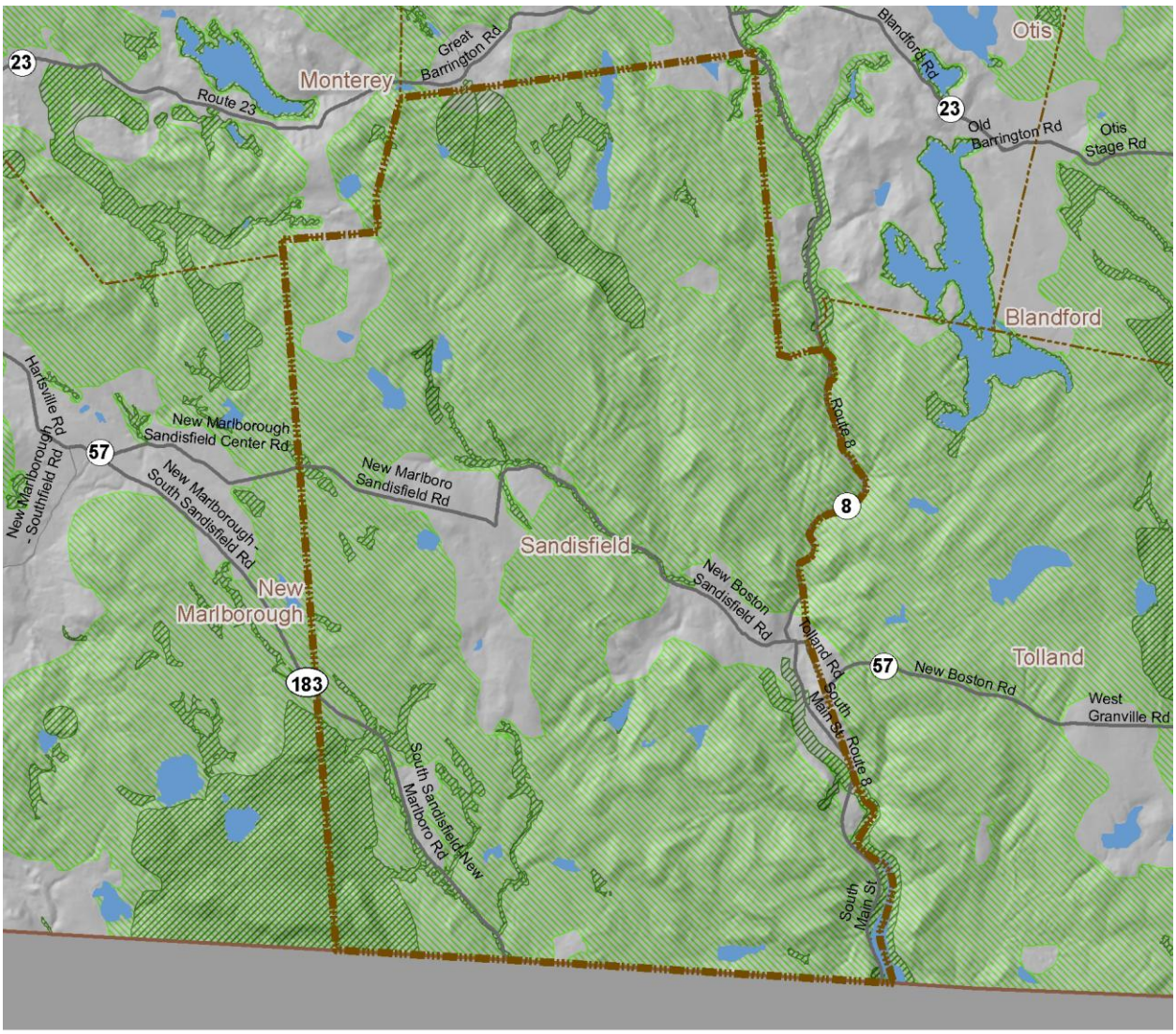
BioMap2 Core Habitat and Critical Natural Landscape in Sandisfield



BioMap2 Core Habitat

BioMap2 Critical Natural Landscape

1 Mile

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

Mussels

Brook Floater (Swollen Wedgemussel), (*Alasmidonta varicosa*), E

Insects

Damselflies

Tule Bluet, (*Enallagma carunculatum*), SC

Dragonflies

Ocellated Darner, (*Boyeria grafiana*), SC
Spine-crowned Clubtail, (*Gomphus abbreviatus*), SC
Harpoon Clubtail, (*Gomphus descriptus*), E
Brook Snaketail, (*Ophiogomphus aspersus*), SC
Riffle Snaketail, (*Ophiogomphus carolus*), T
Zebra Clubtail, (*Stylurus scudderi*), Non-listed SWAP

Fishes

Bridle Shiner, (*Notropis bifrenatus*), SC

Reptiles

Wood Turtle, (*Glyptemys insculpta*), SC
Spotted Turtle, (*Clemmys guttata*), Non-listed SWAP

Birds

American Bittern, (*Botaurus lentiginosus*), E
Bald Eagle, (*Haliaeetus leucocephalus*), T

Plants

Lyre-leaved Rock-cress, (*Arabidopsis lyrata*), E
Toothcup, (*Rotala ramosior*), E

Priority Natural Communities

High-terrace Floodplain Forest, S2
High-energy Riverbank, S3
Rich, Mesic Forest Community, S3
Riverine Pointbar and Beach, S3
Spruce-Tamarack Bog, S2

Exemplary Natural Communities

Hemlock Ravine Community
Hemlock-Hardwood Swamp

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Other *BioMap2* Components

Forest Core
Aquatic Core
Wetland Core
Landscape Block
Aquatic Core Buffer
Wetland Core Buffer

E = Endangered
T = Threatened
SC = Special Concern
S1 = Critically Imperiled communities, typically 5 or fewer documented sites or very few remaining acres in the state.
S2 = Imperiled communities, typically 6-20 sites or few remaining acres in the state.
S3 = Vulnerable communities, typically have 21-100 sites or limited acreage across the state.

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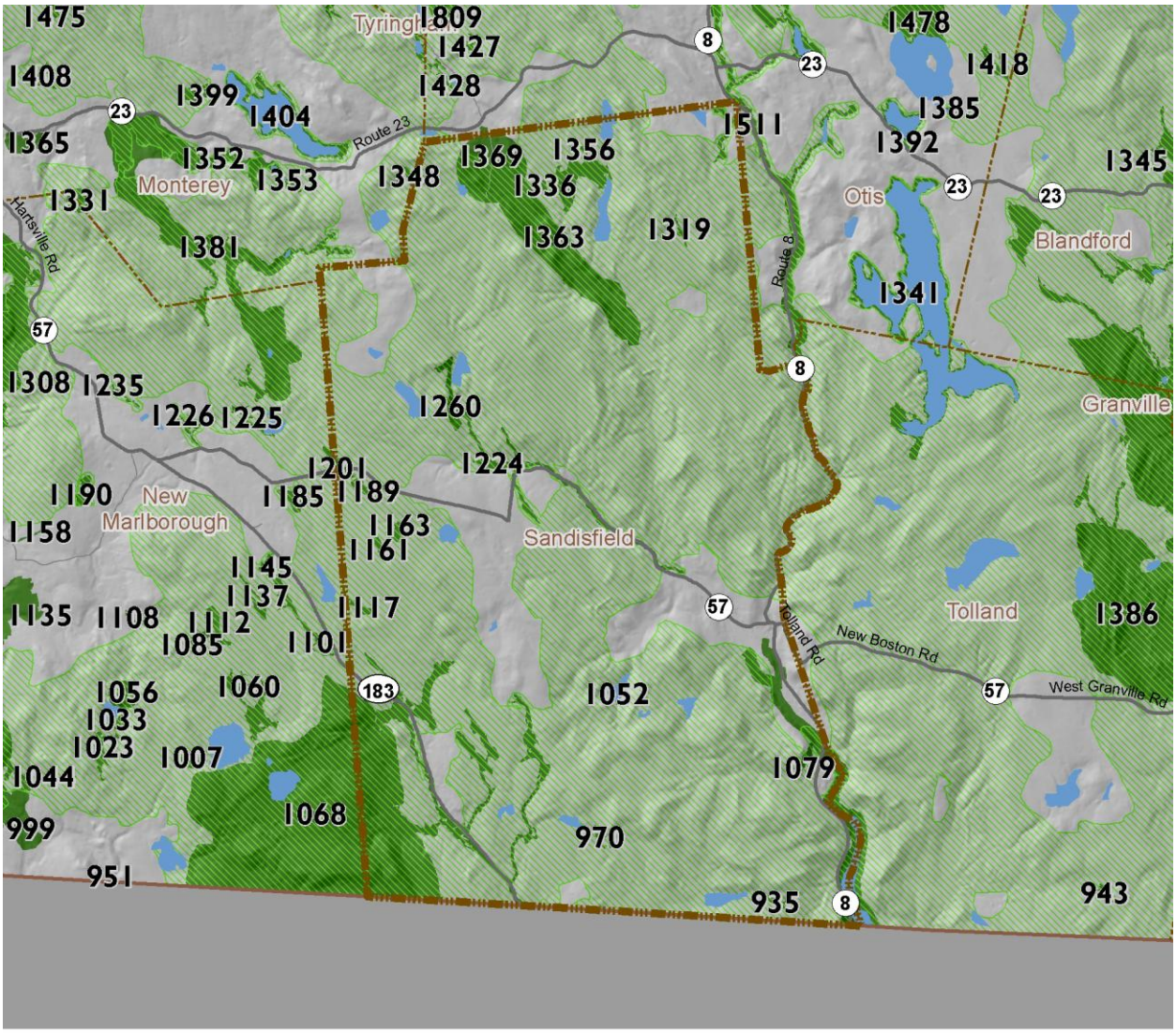
BioMap2 Core Habitat in Sandisfield

Core IDs correspond with the following element lists and summaries.



BioMap2 Core Habitat

BioMap2 Critical Natural Landscape

1 Mile

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Elements of *BioMap2* Cores

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

Core 935

Wetland Core

Core 962

Wetland Core

Core 970

Wetland Core

Core 1052

Wetland Core

Core 1068

Forest Core		
Wetland Core		
Aquatic Core		
Priority & Exemplary Natural Communities		
Spruce-Fir Swamp		S3
Spruce-Tamarack Bog		S2
Species of Conservation Concern		
Dwarf Mistletoe	*Arceuthobium pusillum*	SC

Core 1079

Aquatic Core		
Priority & Exemplary Natural Communities		
High-terrace Floodplain Forest		S2
Riverine Pointbar and Beach		S3
Species of Conservation Concern		
Lyre-leaved Rock-cress	*Arabidopsis lyrata*	E
Toothcup	*Rotala ramosior*	E
Tule Bluet	*Enallagma carunculatum*	SC
Brook Snaketail	*Ophiogomphus aspersus*	SC
Harpoon Clubtail	*Gomphus descriptus*	E
Riffle Snaketail	*Ophiogomphus carolus*	T
Spine-crowned Clubtail	*Gomphus abbreviatus*	SC
Zebra Clubtail	*Stylurus scudderi*	Non-listed SWAP

Bald Eagle	*Haliaeetus leucocephalus*	T

Core 1117

Wetland Core

Core 1161

Wetland Core

Core 1163

Priority & Exemplary Natural Communities

Rich, Mesic Forest Community		S3

Core 1189

Aquatic Core
Species of Conservation Concern

American Bittern	*Botaurus lentiginosus*	E

Core 1201

Aquatic Core
Species of Conservation Concern

American Bittern	*Botaurus lentiginosus*	E

Core 1224

Aquatic Core

Core 1260

Species of Conservation Concern
A data-sensitive species

Core 1319

Wetland Core

Core 1336

Priority & Exemplary Natural Communities

Spruce-Tamarack Bog		S2

Core 1348

Wetland Core

Core 1356

Wetland Core
Priority & Exemplary Natural Communities
- Hemlock-Hardwood Swamp

Core 1363

Priority & Exemplary Natural Communities
- Hemlock Ravine Community

Species of Conservation Concern

Ocellated Darner	*Boyeria grafiana*	SC
Zebra Clubtail	*Stylurus scudderi*	Non-listed SWAP
Spotted Turtle	*Clemmys guttata*	Non-listed SWAP
Wood Turtle	*Glyptemys insculpta*	SC

Core 1369

Species of Conservation Concern

Spotted Turtle	*Clemmys guttata*	Non-listed SWAP

Core 1511

Wetland Core
Aquatic Core
Priority & Exemplary Natural Communities

High-energy Riverbank		S3

Species of Conservation Concern

Crooked-stem Aster	*Symphyotrichum prenanthoides*	SC
Brook Floater (Swollen Wedgemussel)	*Alasmidonta varicosa*	E
Triangle Floater	*Alasmidonta undulata*	Non-listed SWAP
Harpoon Clubtail	*Gomphus descriptus*	E
Bridle Shiner	*Notropis bifrenatus*	SC

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Core Habitat Summaries

Core 935

A 10-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 962

A <1-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 970

A 13-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 1052

A 16-acre Core Habitat featuring Wetland Core.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

The Wetland Core occurs on mid-elevation mafic bedrock (rich in minerals like iron and magnesium), one of the least common ecological settings for Wetland Cores in the state.

Core 1068

A 3,942-acre Core Habitat featuring Forest Core, Wetland Core, Aquatic Core, Priority Natural Communities, and a 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.

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This 3,424-acre Forest Core is among the largest 20% of Forest Cores in the state and provides important forest interior habitat. It is partially protected, primarily through Cookson State Forest.

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.

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.

Spruce-Fir Boreal Swamps are forested wetlands dominated by red spruce and balsam fir. These swamps are typically found at stream headwaters or in poorly drained basins in the higher, western and north-central parts of the state. This exemplary Spruce-Fir Swamp is part of an extensive wetland complex, in a wooded landscape with little evidence of human disturbance.

Spruce-Tamarack Bog communities are acidic forested peatlands with an overstory of black spruce and tamarack and an understory of heath shrubs on sphagnum moss. They occur in kettlehole depressions, watershed divides, and along pond margins. This large Spruce-Tamarack Bog Forest occurs along a stream and is underlain by sphagnum moss. The tree canopy is open, shrubs dense, and an herb layer that exhibits high cover and diversity. Beaver occasionally flood parts of the community.

A member of the Christmas Mistletoe family, Dwarf Mistletoe is a very small fleshy shrub, usually no more than 0.8 inch tall, that parasitizes conifer trees. In Massachusetts, Dwarf Mistletoe occurs in peatlands varying from kettlehole peat bogs to spruce-fir-birch headwater swamps, generally on the branches of black spruce (*Picea mariana*).

Core 1079

A 550-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.

High-Terrace Floodplain Forests are deciduous hardwood forests that occur along riverbanks, above the zone of annual flooding. Although they do not flood annually, they flood often enough for the soil to be moderately enriched. This excellent but small High-Terrace Floodplain Forest has good species diversity. It is upstream from obvious effects of a dam and no exotics were seen in the occurrence. The size may have been reduced by old land use and highway building.

Riverine Pointbar and Beach communities are on exposed sandy beaches of major rivers. This sparsely vegetated community is a subtype of the High-Energy Riverbank community with similarities to Riverside Rock Outcrops. This Riverine Point Bar and Beach Community is in very good condition with few invasive species, which is unusual for the community type. It has a diversity of species reflecting differences in substrate and levels of disturbance from ice scour and flooding.

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In Massachusetts, Lyre-leaved Rock-cress, a member of the mustard family, inhabits thin soils and crevices of calcareous rocky cliffs, outcrops, and ledges, in full to filtered sun.

Toothcup is a small, delicate, inconspicuous, wetland annual in the Loosestrife family. In Massachusetts, Toothcup occurs on the exposed shores of freshwater lakes and ponds similar to coastal plain ponds.

Tule Bluets are damselflies whose nymphs are aquatic and live among aquatic vegetation and debris in a variety of wetland types including sluggish river sections and large lakes. The adults inhabit emergent vegetation along the shore and nearby uplands.

Brook Snaketails are dragonflies whose nymphs can be found in clear, sand-bottomed streams with intermittent rapids, often flowing through dense woodland.

Harpoon Clubtails are dragonflies that inhabit clear, cold streams with intermittent sections of rocks and rapids.

Riffle Snaketails are dragonflies whose larvae inhabit clear, cold, and rocky streams that are fast-flowing with relatively few pools.

Larvae of Spine-crowned Clubtail dragonflies are aquatic and burrow just under the top of silty to sandy bottom sediments in medium to large rivers.

The Zebra Clubtail dragonfly inhabits sand-bottomed streams and small rivers with riffles as larvae. Adults feed over the same streams. Surrounding upland forests provide protection while adults reach sexual maturity.

Bald Eagles nest in tall trees along large lakes and rivers. The bulk of their diet consists of fish. Large lakes and rivers also support important winter congregations of Bald Eagles.

Core 1117

A 14-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 1161

A 13-acre Core Habitat featuring Wetland Core.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

The Wetland Core occurs on high-elevation granite, one of the least common ecological settings for Wetland Cores in the state.

Core 1163

A 17-acre Core Habitat featuring a Priority Natural Community.

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Rich, Mesic Forests are a variant of northern hardwood forests, dominated by sugar maple with a diverse herbaceous layer that includes many spring wild flowers, in a moist, nutrient-rich environment. This moderate-sized Rich, Mesic Forest community is surrounded by a working northern hardwoods forest with intermittent streams and a beaver pond. Diversity is good with a few scattered invasives near the edge.

Core 1189

A 15-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.

American Bitterns are heron-like birds that nest primarily in large cattail, tussock or shrub marshes and are very sensitive to disturbance.

Core 1201

A 36-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.

American Bitterns are heron-like birds that nest primarily in large cattail, tussock or shrub marshes and are very sensitive to disturbance.

Core 1224

A 148-acre Core Habitat featuring Aquatic Core.

Aquatic Cores are intact river corridors within which important physical and ecological processes of the river or stream occur. They delineate integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern.

Core 1260

A 55-acre Core Habitat featuring a data-sensitive Species of Conservation Concern.

The Natural Heritage & Endangered Species Program does not release information on particularly vulnerable species.

Core 1319

A 15-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.

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Core 1336

A 5-acre Core Habitat featuring a Priority Natural Community.

Spruce-Tamarack Bog communities are acidic forested peatlands with an overstory of black spruce and tamarack and an understory of heath shrubs on sphagnum moss. They occur in kettlehole depressions, watershed divides, and along pond margins. This moderate-sized Spruce-Tamarack Bog is on the edge of a large area, but abuts a road. It has good species diversity and few exotics.

Core 1348

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 1356

A 146-acre Core Habitat featuring Wetland Core and a Priority Natural Community.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

The 146-acre Wetland Core is among the largest 20% of Wetland Cores statewide and in this ecoregion.

Hemlock-Hardwood Swamps are acidic forested swamps that have hemlock as the dominant canopy species. These forested wetlands occur on saturated soils in poorly drained basins throughout the state. This Hemlock-Hardwood Swamp is very park-like with a scattered understory and areas of dense shrubs. There is good habitat variability and no exotics were seen.

Core 1363

A 777-acre Core Habitat featuring Priority Natural Communities and Species of Conservation Concern.

Hemlock Ravine Communities are evergreen forests made up primarily of hemlocks, with dense, nearly closed canopies that cast deep shade so that very few plants grow below. They occur on moist, north-facing slopes, or along north-facing ravines. This excellent but small example of Hemlock Ravine community is in a very rocky area on the edge of a gorge. Mostly open understory with patches of young trees growing around tip-ups and large downed logs.

Ocellated Darners are dragonflies whose nymphs inhabit clear, shallow, rocky, swift-flowing streams and large, rocky, poorly vegetated lakes. Adults also inhabit nearby uplands, often forests with mixed coniferous and deciduous trees.

The Zebra Clubtail dragonfly inhabits sand-bottomed streams and small rivers with riffles as larvae. Adults feed over the same streams. Surrounding upland forests provide protection while adults reach sexual maturity.

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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.

Wood Turtle habitat is streams and rivers, preferably with long corridors of undeveloped, connected uplands. They also use fields and early succesional habitat extending up to 500 meters on both sides of the waterways. Mowing and roads are the primary causes of mortality. Collection is also a conservation concern.

Core 1369

A 186-acre Core Habitat featuring a Species of Conservation Concern.

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

Core 1511

A 954-acre Core Habitat featuring Wetland Core, Aquatic Core, Priority Natural Communities, and Species of Conservation Concern.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

A 66-acre Wetland Core and an 87-acre Wetland Core are among the largest 20% of Wetland Cores in this ecoregion.

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.

High-Energy Riverbank communities are sparse, open graminoid communities found on cobble and sand deposits along fast-flowing rivers that experience severe flooding and ice scour. This example of High-Energy Riverbank is in good condition, with natural processes of flood and scour that perpetuate the community, but is not well buffered on one side of the river.

Crooked-stem Aster is a perennial herbaceous plant that occurs in open to semi-open conditions along rich rivers, streams, and seeps and along open and semi-open roadsides in the areas of rich streams.

The Brook Floater, a medium-sized freshwater mussel, is found in small to medium-sized streams with moderate to slow flow. These streams have stable substrates such as rough sand, cobble, and gravel; rooted aquatic vegetation is usually present.

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.

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Harpoon Clubtails are dragonflies that inhabit clear, cold streams with intermittent sections of rocks and rapids.

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.

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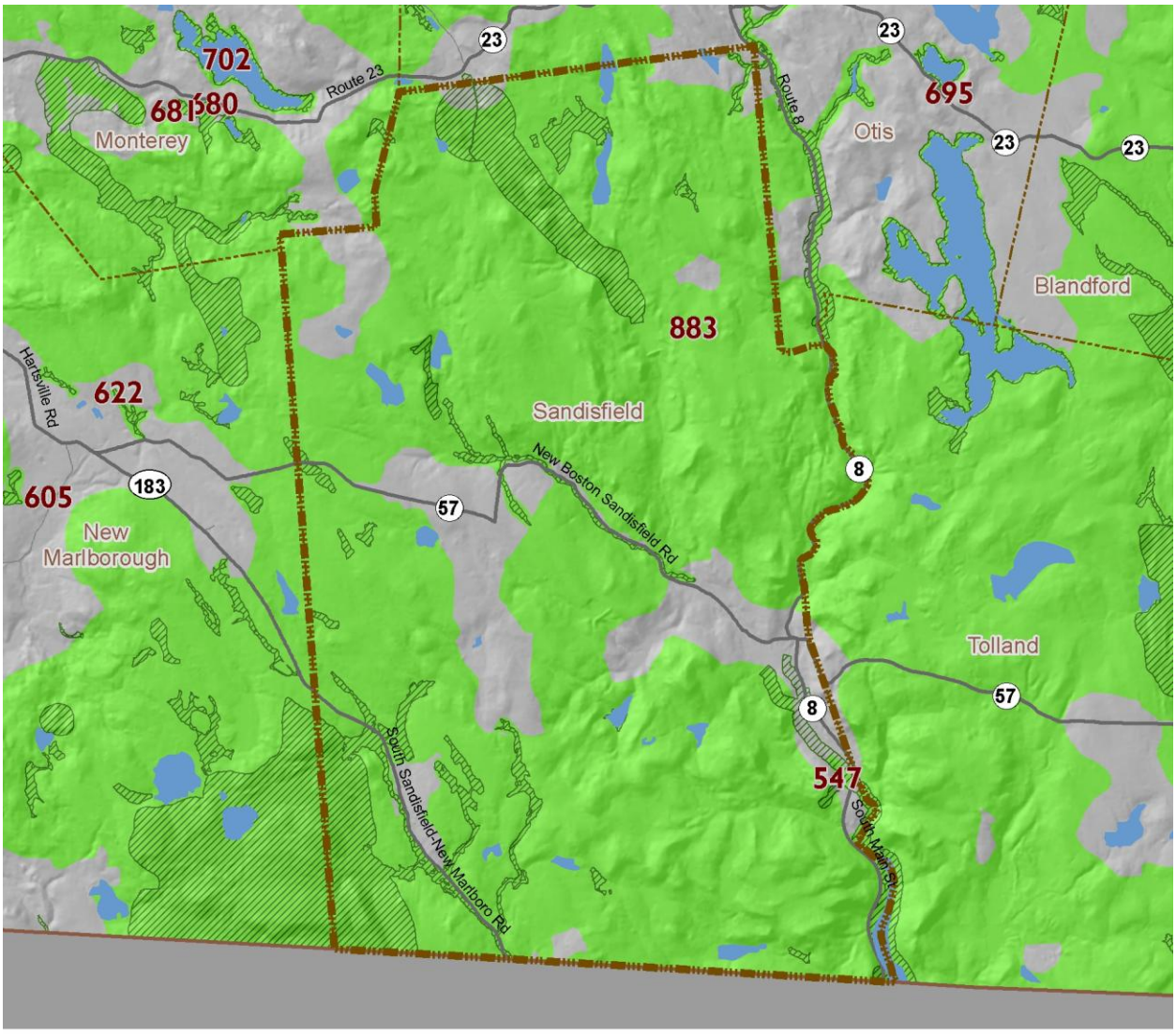
BioMap2 Critical Natural Landscape in Sandisfield

Critical Natural Landscape IDs correspond with the following element lists and summaries.



BioMap2 Core Habitat

BioMap2 Critical Natural Landscape

1 Mile

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Elements of *BioMap2* Critical Natural Landscapes

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

CNL 547

Aquatic Core Buffer

CNL 883

Aquatic Core Buffer
Landscape Block
Wetland Core Buffer

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Critical Natural Landscape Summaries

CNL 547

A 33-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 883

A 179,293-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.

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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