

Massachusetts' BioMap2 -- How Manchester Fits Into It

Manchester-by-the-Sea's latest Open Space and Recreation Plan, approved in 2014, is an assessment of Manchester's natural lands. It is also a plan for action to preserve critical unprotected spaces and to promote public awareness, enjoyment and stewardship of our community's natural resources. The Open Space and Recreation Committee, appointed by the Selectmen, is tasked with carrying out steps toward achieving the goals of a Seven-Year Action Plan. One of the Plan's recommended actions is to "promote awareness and recognition of the state **BioMap2**: what it means to biodiversity, and how this relates to Manchester's open space." This article is an attempt by the committee to fulfill that objective.

Massachusetts' extensive natural heritage database serves as the foundation for **Biomap2**. In the late 1970s NHESP (the National Heritage and Endangered Species Program) began gathering and analyzing information about the state's biodiversity for use in the Commonwealth's environmental assessments, conservation planning and research, and issued the first Biomap. In 2011 the data were updated, creating **BioMap2**. This new document includes specific information for each city and town in the state. All the maps and data in BioMap2 are easily available online.

BioMap2 identifies and describes the specific areas essential to the survival of rare species or other species of conservation concern. These are called Core Habitats, and they are chiefly, the forest, wetland and aquatic areas that provide excellent living conditions for a variety of plants and animals.

Forest cores are large, intact and contiguous areas minimally impacted by roads and development. Many species of birds, mammals, reptiles and invertebrates need the

quiet and privacy of the deep woods these large areas provide. The Manchester-Essex Woods north of Route 128 provide excellent habitat for such creatures. Fortunately, most of the area is now largely preserved as a Wilderness Conservation Area; it accounts for most of Manchester's 569 acres of Core Habitat.

Wetland cores are the least-disturbed wetlands that have buffers and are not fragmented by development. They support critical wetland functions such as storage and filtration of water, and provide habitat for diverse plant and animal communities.

Aquatic core identifies core habitat for fish and other species of conservation concern. A prime example in Manchester is the Sawmill Brook ecosystem, which is known to support smelt spawning.

BioMap2 also delineates Critical Natural Landscapes; these support, and to some extent, overlap with Core Habitats. Some are coastal habitats that are particularly vulnerable to potential sea-level rise; some are salt marshes and barrier beaches. Other Critical Natural Landscapes are large upland areas of natural vegetation, consisting of contiguous forests, freshwater wetlands, ponds and streams.

In Manchester 548 acres of Critical Natural Landscapes have been identified, of which only 41.9% are protected. Some of the species of conservation concern that need protection in Manchester are: black-crowned night heron; snowy egret; blue-spotted salamander; sweet bay magnolia; four-toed salamander; spotted turtle; and Hentz's redbelly tiger beetle.

The state's **BioMap2**, in summary, presents a powerful vision of the richness of plants and animals that Manchester, and other Massachusetts communities, can pre-

serve for the welfare and enjoyment of future generations if steps are taken to protect them. It is a valuable planning tool.

By identifying the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, their natural communities, and a diversity of ecosystems, **Biomap2** gives Manchester a remarkable framework for protection and stewardship of our biological heritage. We are most fortunate to have this resource.

To access the detailed report on Manchester's biodiversity, visit:

www.mass.gov/service-details/biomap2-town-reports.

This article is presented by Manchester's Open Space and Recreation Committee

Mike Chapman, Chair