

GLOSSARY OF NATURAL RESOURCES TERMS

This is an overview of the various types of information we use when evaluating a property's natural resources, which we also refer to as "conservation values." We access most of this information through the Mass. Office of Geographic Information (Mass GIS). For more information, Google "MassGIS Datalayers" or follow other links below.

Areas of Critical Environmental Concern (ACEC) - Areas of Critical Environmental Concern (ACECs) are zones that receive special recognition because of the quality, uniqueness and significance of their natural and cultural resources. In Essex County, there is the Great March ACEC which encompasses land in Newbury, Rowley, Ipswich, Essex and Gloucester. ACECs are identified and nominated at the community level and are reviewed and designated by the Massachusetts's Office of Energy and Environmental Affairs Secretary. ACEC designation creates a framework for local and regional stewardship of these critical resource areas and ecosystems. ACEC designation also requires stricter environmental review of certain kinds of proposed development under state jurisdiction within the ACEC boundaries.

BioMap2 Core Habitat - BioMap2 Core Habitat identifies specific areas necessary to promote the long-term persistence of Species of Conservation Concern, exemplary natural communities, and intact ecosystems. Species of Conservation Concern includes species listed under the Massachusetts Endangered Species Act as well as additional species identified in the State Wildlife Action Plan.

BioMap2 Critical Natural Landscape - Identifies and prioritizes intact landscapes in Massachusetts that are more equipped to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames.

Conservation Assessment and Prioritization System (CAPS) - The Conservation Assessment and Prioritization System (CAPS) is an ecosystem-based approach for assessing the ecological integrity of lands and waters which allows users to identify and prioritize land for habitat and biodiversity conservation. If an area has the ecosystem processes necessary to sustain biodiversity over the long term it has ecological integrity. CAPS prioritizes land for conservation based on the assessment of ecological integrity for various ecological communities (e.g., forest, shrub swamp, headwater stream) within an area. This process results in an Index of Ecological Integrity (IEI) for each point in the landscape based on models constructed separately for each ecological community. <http://www.umasscaps.org/>

Drinking water

Wellhead Protection Areas

Interim Wellhead Protection Area – In cases where studies have not been performed and there is no approved Zone II (see below), an Interim Wellhead Protection Area (IWPA) is established based on the Department of Environmental Protection's Drinking Water Program's (DEP DWP) well pumping rates or default values. Certain land uses may be either prohibited or restricted in both approved (Zone II) and interim (IWPA) wellhead protection areas.

Zone I – Zone I is the protective radius required around a public water supply well or wellfield. For public water system wells with approved yields of 100,000 gpd or greater, the protective radius is 400 feet. Tubular wellfields require a 250-foot protective radius. Protective radii for all other public water system wells are determined by the gallons per day extracted from the well. In no case is the Zone I radius less than 100 feet.

Zone II - Wellhead protection areas are important for protecting the recharge area around public water supply groundwater sources. A Zone II wellhead protection area that has been determined by hydro-geologic modeling and approved by the Department of Environmental Protection's Drinking Water Program.

Surface Water Protection Areas

Zone A- represents the land area within 400 feet of the upper boundary of the bank of a public water supply reservoir, as defined in 314 CMR 4.05(3)(a); and the land area within 200 ft of the upper boundary of the bank of a tributary or associated surface water body to the water supply.

Zone B- represents the land area within one-half mile of the upper boundary of the bank of a public water supply reservoir, as defined in 314 CMR 4.05(3)(a), or edge of watershed, whichever is less. Zone B also includes all of Zone A lands.

Zone C - represents the land area not designated as Zone A or B within the watershed of a public water supply reservoir, as defined in 314 CMR 4.05(3)(a).

FEMA National Flood Hazard Layer - The National Flood Hazard Layer provides users with the ability to determine the flood zone, base flood elevation and floodway status for a particular location. It also has National Flood Insurance Program (NFIP) community information, map panel information, cross section and hydraulic structure information, and Coastal Barrier Resource System information (if applicable).

Merrimack Conservation Partnership & Plan - Merrimack Conservation Partnership is the product of two years of effort by a dedicated group of conservation and planning professionals representing 33 private organizations and public agencies in New Hampshire and Massachusetts. The Partnership is a collaborative, landscape-scale effort. Working together, the group has developed a science driven, consensus-based land conservation plan that integrates the best available natural resource data with expert judgment to prioritize land protection to protect water quality (especially drinking water supplies), preserve aquatic and terrestrial ecosystems, conserve the region's working farms and forests, and provide recreational open space. The Merrimack plan identifies 1.3 million acres of land, representing about 54% of the watershed's total land area, as a priority for conservation. As of the completion of the plan, only 23% of these priority acres are permanently conserved. The resulting plan and maps use **Conservation Focus Areas (CFA)** that track geographic areas where undeveloped land provides a combination of three core natural values: clean water, wildlife habitat, and good soils for growing food and forests. The Highest Scoring CFAs are the "Best of the best" and Higher Scoring CFAs are the "next best." Lastly, the High Scoring CFAs would support the landscape via buffering and connecting the higher scoring areas.

Natural Heritage and Endangered Species Program

Priority Habitat – the geographic extent of habitat of state-listed rare species in Massachusetts based on observations documented within the last 25 years in the database of the Massachusetts Natural Heritage & Endangered Species Program (NHESP).

Estimated Habitat - a subset of the Priority Habitats of Rare Species. They are based on occurrences of rare wetland wildlife observed within the last 25 years and documented in the NHESP database.

Northeast Resilience Analysis: Climate Change Resiliency - The Nature Conservancy's Northeast Resilience Project identified places that will be more resilient to climate change and serve as natural strongholds for diversity into the future. To locate and map resilient places, the science team examined 29 different physical environments, such as granite mountains, limestone valleys, and sandplains. Within each environment, they found land where the direct effects of climate change are moderated by complex topography, dense wetlands, and permeable natural cover. They compared these climate-resilient places with places known for their high quality biodiversity to pinpoint lasting strongholds for diversity.

Scenic Landscape Inventory – This is a state-wide overview of scenic areas as identified in the Massachusetts Landscape Inventory Project, 1982. The data is general in nature and is intended for general planning purposes only.

Distinctive - Areas of the highest visual quality. Typically consists of openness, low population density, high relative relief, historical structures and land uses, agriculture, surface water, significant vegetation, important geological features, and lack of contemporary development.

Noteworthy - Areas of lesser, but nevertheless important, visual quality. Typically contains the same factors as 'Distinctive' landscapes but in lesser amounts or in lower quality. Region specific descriptions can be found in the Massachusetts Landscape Inventory report.

Distinctive/Noteworthy - This landscape may be either Distinctive or Noteworthy, but the original data was not labeled.

Soils

Prime Farmland Soils –Land that has the best combination of physical and chemical characteristics for economically producing sustained high yields of food, feed, forage, fiber, and oilseed crops, when treated and managed according to acceptable farming methods as designated by the USDA Natural Resources Conservation Service.

Farmland of Statewide Importance – Land that is of statewide importance for the production of food, feed, fiber, forage, and oil seed crops, as determined by the appropriate state agency or agencies. Generally, these include lands that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods.

Prime Forest Land - Using “Soil Productivity Mapping for Use in Forest Management” as a data source, this is a digital representation of work done previously in the Department of Natural Resources Conservation at the University of Massachusetts at Amherst. Using primarily the NRCS/MassGIS Soils data, the basic procedure was to classify potentially forested land into nine different categories based on potential average timber productivity of white pine and red oak.

Wetlands

DEP Mapped wetlands- Wetlands are interpreted from stereo color-infrared (CIR) photography by staff at UMASS Amherst. The photography was captured in 1990, 1991, 1992, 1993, 1999 and 2000. The interpretation is field checked by Department of Environmental Protection (DEP) Wetlands Conservancy Program (WCP). Completed interpretations are then scanned and converted. Wetlands are broken into 27 subtypes including barrier beaches, shrub wetlands, and cranberry bogs.

Vernal Pools - Vernal pools are small, shallow ponds characterized by lack of fish and by periods of dryness. Vernal pool habitat is extremely important to a variety of wildlife species including some amphibians that breed exclusively in vernal pools, and other organisms such as fairy shrimp, which spend their entire life cycles confined to vernal pool habitat. Many additional wildlife species utilize vernal pools for breeding, feeding and other important functions. Certified vernal pools are protected if they fall under the jurisdiction of the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00). However, the certification of a pool only establishes that it functions biologically as a vernal pool. Certification does not determine that the pool is within a resource area protected by the Wetlands Protection Act. Certified vernal pools are also afforded protection under the state Water Quality Certification regulations (401 Program), the state Title 5 regulations, and the Forest Cutting Practices Act regulations.