D. Wildlife: Vegetation

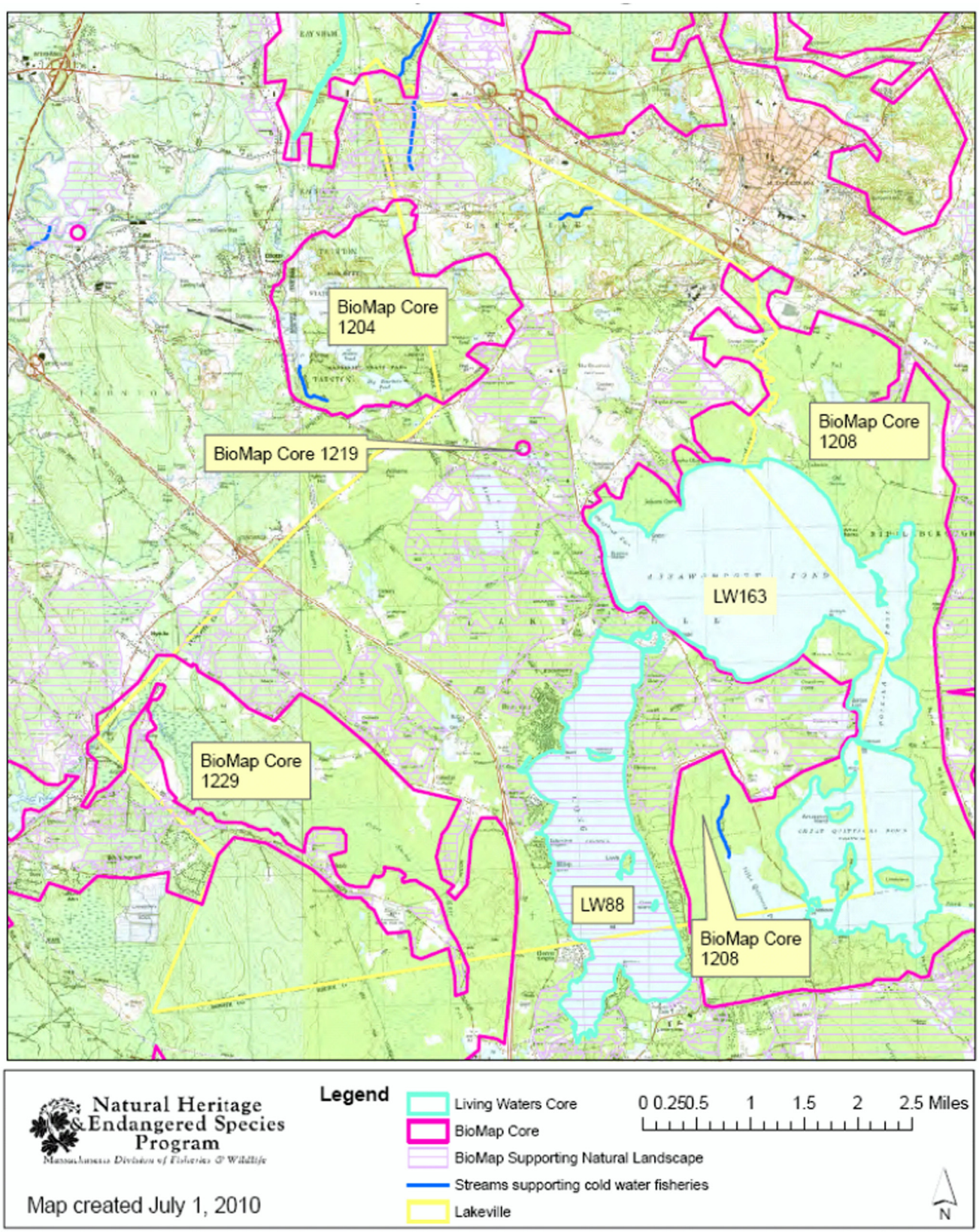
Because of accelerating loss of open land and the concomitant loss of wildlife in recent years, state government, environmental and land protection organizations have been working to inventory and map wildlife and its required habitat in order to guide communities in efforts such as this Open Space Plan. The Division of Fisheries and Wildlife's Natural Heritage and Endangered Species Program created the BioMap, which illustrated verified habitat for terrestrial rare and endangered species and exemplary natural communities as well as the landscape needed to support these resources. The Living Waters project created a similar map for the state's waters and supporting watersheds. Both of these map projects put our wildlife resources in an essential regional context, as plants and animals, like water resources, have no respect for political boundaries. See the map entitled "Lakeville - BioMap and Living Water Cores." (A satellite version can be found in Map Section.) The outlined areas, the core exemplary habitats, are the richest and most valuable. However, they can be degraded by alterations, such as clearing, grading, draining, or paving, to the supporting landscapes. The supporting landscapes are the contiguous relatively-undisturbed areas, indicated with striping. In addition, NHESP has created and regularly revises a map of Priority and Estimated Habitat that delineates those areas that it regulates under the provisions of the Wetlands Protection Act and the Massachusetts Endangered Species Act. See map entitled "Lakeville- Priority and Estimated Habitats." (A satellite version of this map can be found in the Map Section.) The white tags on these maps mark the known presence of a particular protected species. The Nature Conservancy has used all the above resources to create its own map of Habitat Protection Priorities in the Taunton River Watershed, which adds protected open space and large areas of still unfragmented (over 1000 acres) habitat to the NHESP maps. See Nature Conservancy map following NHESP maps. Manomet Center for Conservation Sciences and Wildlands Trust have been involved in the creation of these maps and have focused on defining, mapping and inventorying the plant communities of southeastern Massachusetts. Their online tool, CommunityMapper (Communitymapper.org), locates some of the exemplary natural communities in Lakeville.

While these agencies and organizations work to preserve the diversity of our wildlife, residents give indispensible assistance in this process when they learn to identify rare species and report sightings of them to NHESP. The forms used to report such sightings are available on line at NHESP.org. (See Appendix G for correspondence from NHESP describing Lakeville's rare species and natural communities and Appendix H for a list of current state-listed rare plant species occurring in Lakeville. See also E. Fisheries and Wildlife Fauna.)

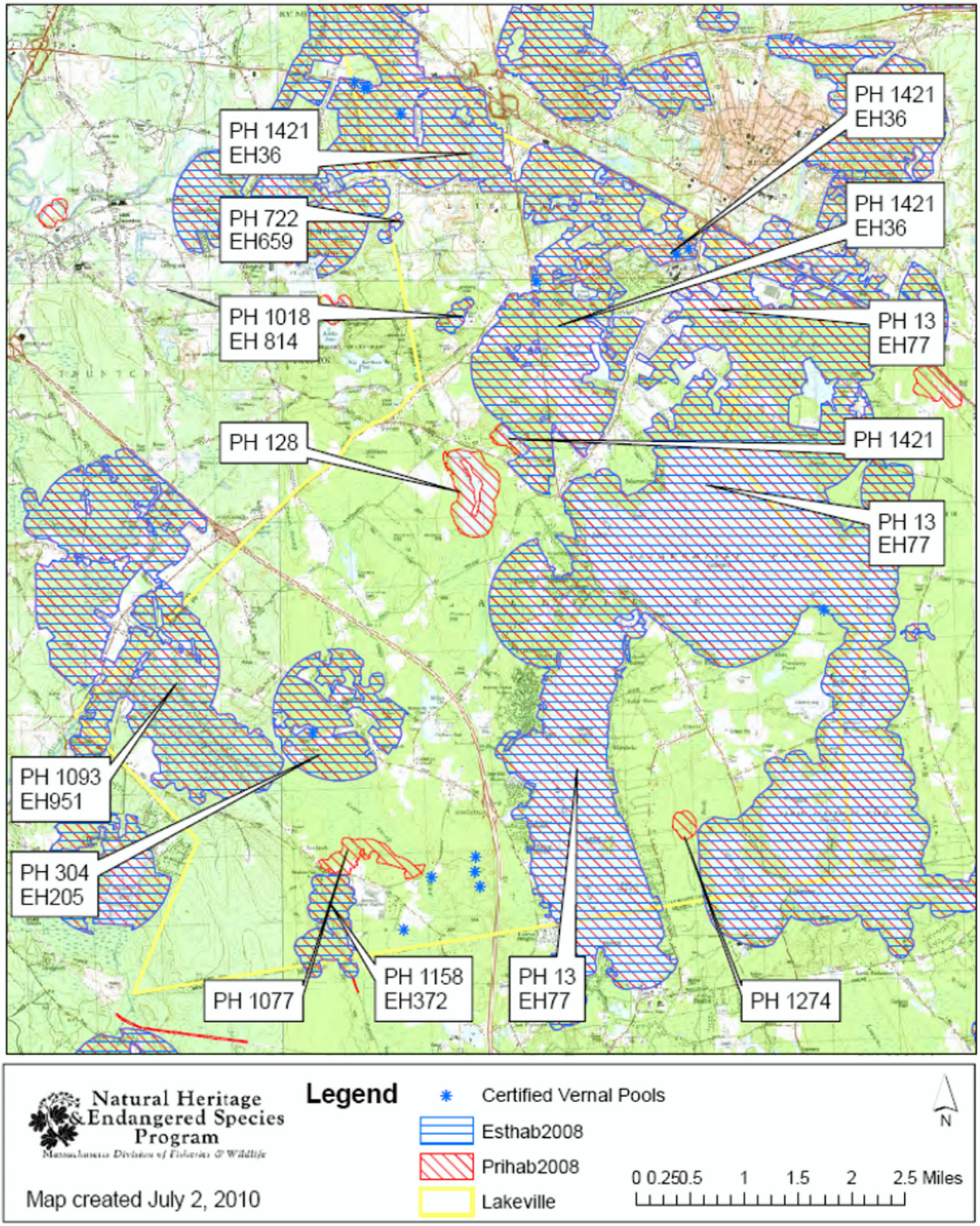
Vegetation History

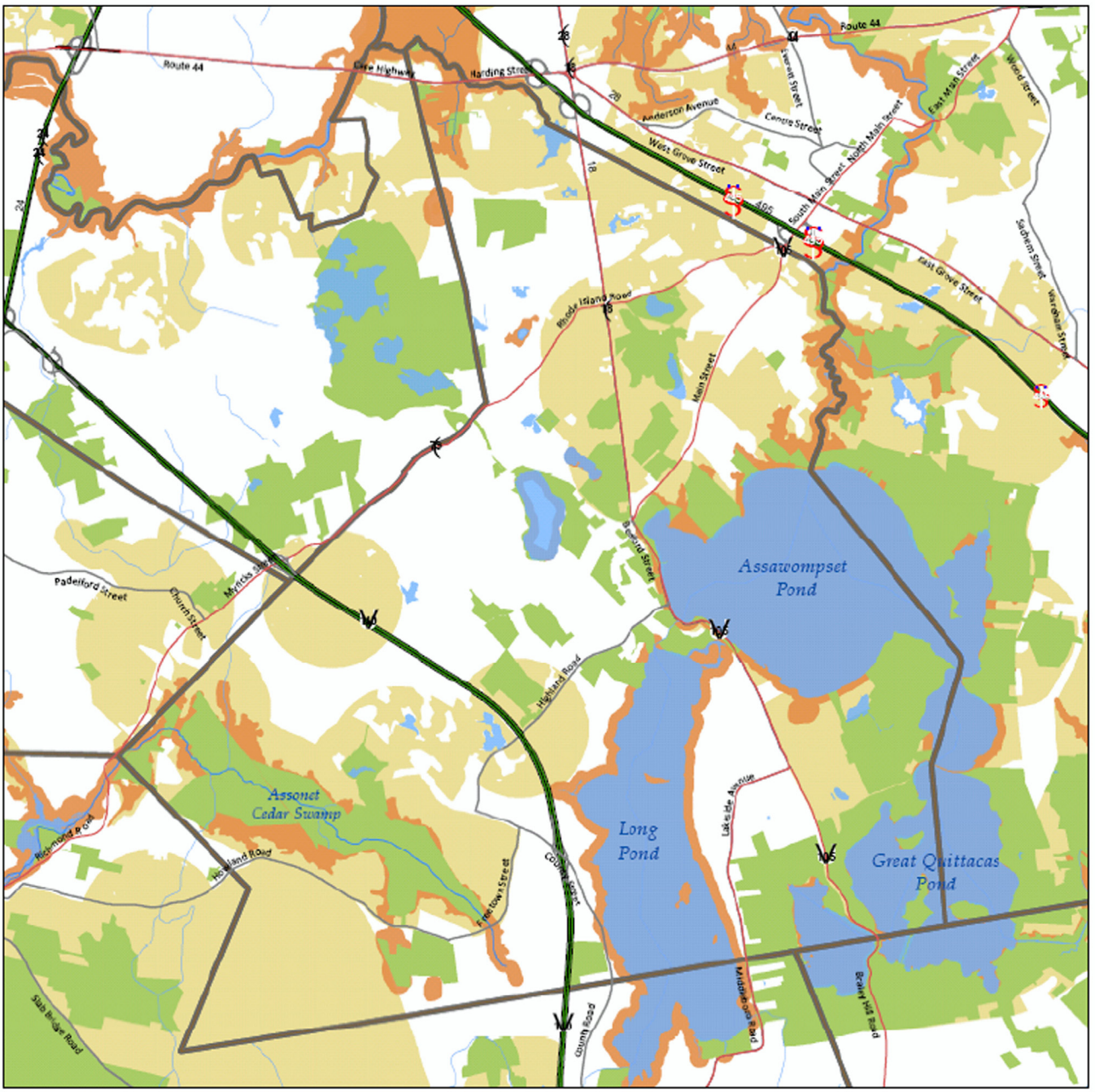
The National Park Service has reconstructed the vegetation history of the Pocksha marsh and environs through pollen analysis of a sediment core (Kelso, no date). Vegetational changes were the result of gradual post-glacial warming. From about 15,000 to 13,000 years before present (ybp), this area was open tundra.

Lakeville - BioMap and Living Waters Cores



Lakeville - NHESP Priority and Estimated Habitats





Habitat Protection Priorities in the Taunton River Watershed:
Town of Lakeville

- Highest Priority Areas for Habitat Protection: these include the riparian zone of the Taunton River and its healthiest tributaries, plus important habitat for globally rare species and natural communities
- Additional Priority Areas for Habitat Protection: these include important habitat for other ecoregionally important state-listed species, identified by TNC, plus large areas (>1,000 acres) of unfragmented habitat
- Recreational and/or Protected Open Space

N

The Nature Conservancy
Protecting nature. Preserving life.

Data sources: Natural Heritage and Endangered Species Program; Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Energy and Environmental Affairs; and The Nature Conservancy (TNC)

Map produced by TNC, February 2010.

Gradually spruce and later jack pine were established, until about 11,000 ybp, when temperate zone conifers such as white pine and hemlock arrived, along with birch, elm, ash, and red maple. 10,000 ybp marks the start of the oak period. Oak associations proceeded from oak-hemlock (ca. 10,000 - 4,700 ybp), through oak-hickory (to 2,000 ybp), and finally to oak-chestnut. In the twentieth century, native chestnuts were widely eradicated by disease; in recent years hemlocks are disappearing due to the wooly adelgid and a large number of trees including many of Lakeville's majestic oaks have been lost to the combined destruction of the Winter Moth, Gypsy Moth, Eastern Forest and Tent caterpillars and bark borer.

Plant Communities

Although, like most of New England, Lakeville is largely forested, a variety of intact upland and wetland plant communities occur throughout the town. These plant communities maintain our ecosystem by filtering air, purifying and storing water, recycling nutrients, stabilizing soil, and regulating our climate. They offer the human population recreational opportunities, aesthetic relief, visual screens, and noise abatement. Just as essential, they provide critical habitat for a wide array of animal wildlife.

Diversity of plant communities (such as oak-hickory forest, grassland, or shrub marsh) is a measure of an area's biological diversity. An effective approach to the preservation of biological resources is the protection of an array of plant communities, both rare and common, "the last of the least and the best of the rest" (Jenkins). Land protection using the community, or "coarse filter" approach, will target unique as well as representative plant associations, and often serves to maintain biological diversity at the same time by capturing overall species diversity.

The following accounts by Reid (2001), with additional comments as noted, summarize Lakeville's plant communities. These accounts are part of a work in progress to catalog the full range of plant community diversity and composition in the Commonwealth, based on fieldwork by the Wildlands Trust, the Manomet Center for Conservation Sciences, and the MA Natural Heritage and Endangered Species Program. Descriptions attributed to Sorrie (2000) are a result of fieldwork to prepare the Vascular Plants of Massachusetts checklist (Sorrie and Somers, 1999).

Acidic Rock Outcrop

Small examples of this plant community type occur on the extensive granite outcrops west of Long Pond. The outcrops are sparsely forested with Oaks and White Pine, with very infrequent openings of grasses and lichens. Unusual plants inhabiting this area include columbine and rockcap fern (Sorrie).

Cultural Grassland

Cultural grasslands frequently occur in hayfields and recently abandoned fields throughout town. Vegetation

is typically naturalized grasses and goldenrods. This community may support butterflies and other insects, and larger fields in Lakeville (>5 acres) are known to support uncommon grassland birds such as bobolinks. For fields to function as habitat for butterflies, nesting birds or turtles, the disturbance must follow a seasonal regime. This is a successional community that requires regular disturbance, such as mowing or burning, to prevent filling in with shrubs and trees. Many of the fields observed for the 2001 Open Space Plan have indeed filled in, often with the invasive exotic, Autumn Olive. Others have been developed as housing lots.

Scrub Oak Shrubland/Pitch Pine Scrub Oak Community

Small patches (<5 acres) occasionally occur in the southwest corner of town, in areas with a history of fire (such as along the railroad tracks). This community is typically open, with sparse Pitch Pines (and Oaks in the Lakeville example), and a dense understory of Scrub Oak. This is a globally rare community type that is known to support a number of rare insects, plants and birds. The examples in Lakeville may be too small and isolated from the large Plymouth barrens to support many of the rare species; however, the community appears distinctly different from the typical examples, and the Lakeville sites have never been surveyed for rare species. The largest example, south of the Howland Road public school campuses, has recently experienced substantial development, and it is unknown how much of this community remains at this site.

Pitch Pine/Oak Forest

This community occurs west of the Howland Road public school campuses and near North Precinct Street, in the vicinity of the railroad line, where a history of fire may have favored the establishment of fire adapted species. Pitch Pine and Oak occur in the canopy, with a sparse to dense understory of Scrub Oak, Huckleberry, Lowbush Blueberry, and Viburnum. This community sometimes occurs with and grades into the Scrub Oak Shrubland community.

White Pine/Oak Forest

This is probably the most widespread community type in Lakeville and throughout the region. White Pine and Oaks are dominant in the canopy, with a sparse to dense understory of Huckleberry and Lowbush Blueberry.

Oak/Hemlock/White Pine Forest

This community is similar to the preceding community type, but with American Hemlock occurring in significant numbers. The understory is also similar, although usually less dense due to the shading by hemlock, with some species typical of northern areas such as Goldthread and Starflower. This type is more common on cooler north facing slopes, and until recently was frequent in the New Bedford Watershed Lands and along parts of Long Pond. However, Hemlock has declined greatly with the spread of the Wooly Adelgid parasite, meaning that this type of community will likely soon resemble the preceding type.

Succession White Pine Forest

White Pine occurs in exclusive stands, frequently in areas of abandoned old fields (hence the term succession). The understory is usually very sparse due to the dense shading, and wildlife values are often limited.

Mixed Oak Forest

Another widespread natural community, a mix of Black, Red, White and Scarlet Oak may occur in various combinations. This type occurs with the Oak/White Pine Forest, usually in drier areas. The understory is similar, although pine often occurs as a sapling.

Black Oak/Scarlet Oak Woodland

A large high quality example of this uncommon community type occurs on a drumlin in the southwest corner of the town. The canopy of Black and Scarlet Oak is usually stunted and more open approaching the drier crests of drumlin, and a history of fire is also likely here. Patches of Scrub Oak Shrubland also occur with this type. This may be among the best examples in Massachusetts.

Oak/Hickory Forest

Although this is one of the dominant community types in Massachusetts, Hickory is rather infrequent in southeastern Massachusetts, possibly due to a history of more intense cutting, burning, or impacts to soils coupled with poor ability to disperse (due to the very large seeds). A few small stands of Hickory occur in Lakeville, with Oaks and an understory typical of other woodlands and forests in this area.

Forest Seep Community

These are usually small areas where groundwater occurs at or near the surface, usually on slopes or stream headwaters. White Ash, Red Oak, and sometimes Swamp White Oak may occur, along with a rich understory of sedges and forbs, including several uncommon and rare species. A seep in Lakeville supports the rare Canadian Sanicle and Southern Lady-fern. Although many wetland species occur in these small seeps, aeration of the water often prevents formation of hydric soils, and this community is not well protected under the existing wetland regulations.

Hemlock/Hardwood Swamp

Widespread in Massachusetts, only small examples occur in southeastern Massachusetts at the edges of swamps. Hemlock, Red Maple and Yellow Birch occur, with a sparse to dense understory of shrubs, typically Sweet Pepperbush. Herbs are often sparse due to shading, and Sphagnum moss is occasional to continuous. This community occurred in wetlands near the Assawompset Ponds. With the previously mentioned decline of the Hemlocks, it is not known if any of this community still exists.

Coastal Atlantic White Cedar Swamp

Massachusetts has some of the best examples of this globally rare community type. Massachusetts Audubon Society's Assonet Cedar Swamp preserve in Lakeville, roughly 1,000 acres in size, contains four Atlantic white cedar-dominated stands totaling about 50 acres; most of the remainder of the wetlands preserve is dominated by Red Maple with co-occurring Cedar (Benjamin, 1986), Hemlock and Yellow Birch. There is a sparse to dense understory of shrubs, typically Sweet Pepperbush, and occasional Mountain Holly. Herbs are often sparse due to shading, and Sphagnum moss is occasional to continuous. Sorrie reports pitcher plants, cowslips, and Smilacina trifolium, the latter very rare in southeastern Massachusetts.

Atlantic White Cedar is restricted to a very narrow distribution along the Atlantic and Gulf coasts, with only about a dozen known stands of significant size in southeastern Massachusetts (MA NHESP fact sheet). In Southern New England, Atlantic White Cedar occurs in mixed or pure stands in varied situations including wooded basins, seepage swamps, riversides, and bog mats. Other stands in Lakeville can be found along the Freetown line between County Street and Rt. 140 (Wolanin), bordering Cranberry Pond on Betty's Neck, near Bedford Street (Turner), between Crooked Lane and the Residences at Le Baron Hills, and along Clear Pond Road. Lakeville place names and anecdotal evidence suggest additional cedar swamps that have been eliminated or reduced to remnants. Alteration of hydrologic regime (damming, culverting, berming, draining, excavating, mining for gravel, etc.) and inappropriate timber removal practices have changed the species composition of cedar swamps rangewide, and at many sites white cedar is becoming increasingly underrepresented and recruitment is low. The mature stand between T. L. Edwards and Cedar Pond Preserve subdivision has recently died. The stand adjacent to Le Baron Hills development is in decline due to hydrology and nutrient changes. A 2004 report by Atlantic White Cedar specialist Aimlee Laderman (Laderman) indicated the decline might possibly be reversed by correcting the improper drainage from a neighboring development and restoring the swamp's connection to Thompson's Brook. Without comprehensive protection and eventual management, Atlantic White Cedar swamps may gradually and irrevocably disappear from the landscape.

Red Maple Swamp

Widespread in Massachusetts, this is the most common wetland community type in Lakeville and the surrounding area. Red Maple is usually dominant, with occasional Yellow Birch occurring, and a sparse to dense understory of shrubs, typically Sweet Pepperbush. Herbs are often sparse due to shading, and Sphagnum moss is occasional to continuous.

Alluvial Red Maple Swamp

Small marginal examples (they are not truly alluvial) of this type may occur along streams such as the Cedar Swamp River. These wetlands are richer, often with a dense understory of herbs and shrubs such as Spicebush and Elderberry. High quality examples of alluvial wetlands are considered uncommon in Massachusetts.

Emergent Marsh

Both shallow and deep emergent marsh habitats occur along the Nemasket River. Grasses dominate the former, and the latter supports plants adapted to more prolonged flooding, such as Water-lily, Pickerel Weed and Cat-tail. The marshes along the Nemasket are good habitat for waterfowl and several uncommon birds such as Rails, Sora and Bittern.

Wet Meadow

Not as flooded as marshes, wet meadows have water near the surface during part of the year, and support a very rich assortment of grasses, sedges and herbs. In Lakeville they are known to occur in wetter areas along old woods roads and utility right of way, and are probably frequent in agricultural areas. Wet meadows in the southwest of Lakeville are known to support uncommon or rare plants such as Mattamuskeet Panic Grass, Philadelphia Panic-grass, and Nuttall's Milkwort.

Kettlehole Wet Meadow

Wet meadow habitat may occur in the sandy bottoms of shallow kettle ponds; the occurrence of this habitat is not well known for Massachusetts. Examples in Lakeville include the Howland Ponds west of the Howland Road public school campuses. This area is of historical significance, referenced in deeds back to the 18th century, when it was considered choice land because of its naturally open character. Sorrie visited this site in the 1980s and found it somewhat disturbed but still of significant botanical interest with several rare or uncommon coastal plain species present. The site is currently bordered by a 78-unit subdivision, a 72,000-gallon/day school well, and the proposed MBTA rail line from Boston to New Bedford. Despite partial ownership by the school district and designation as both a rare species habitat and a tributary to a drinking water supply, the natural community and its associated open water and wet woods face a potentially serious suite of threats.

The Freetown/Lakeville Middle School science teachers have begun a project to develop trails to a kettlehole on school property to include its study in their curriculum.

Coastal Plain Pondshore

Massachusetts has some of the best examples in the world of this globally rare natural community. Dozens of rare plants and animals occur in these unique shallow sandy ponds, thriving on the clean waters and fluctuating water levels. Loon Pond and Elders Pond are coastal plain ponds, and very high quality patches of this habitat occur on Assawompset, Quittacas, Great Quittacas and Pocksha Ponds.

In high water periods, the shorelines of coastal plain ponds are completely inundated, preventing encroachment by woody shrubs. When ground- and surface-water recharge is low, as in drought years or during the

late summer months, the shoreline is exposed, enabling perennial and annual growth resulting in a signature array of herbaceous flowering plants.

State-listed plants found in this natural community in Lakeville include *Eupatorium leucolepis* var. *novae-angliae* (New England boneset) and *Sabatia kennedyana* (Plymouth gentian). These plants have very limited global distributions, with the New England boneset known only from southeastern Massachusetts and southern Rhode Island, and the Plymouth gentian known only from southern Nova Scotia, southeastern Massachusetts, southern Rhode Island, and the Carolinas.

Panicum longifolium and *Ludwigia sphaerocarpa*, other state-listed Atlantic coastal plain species, occur here at the northern edges of their ranges; the latter is known from only two current sites in Massachusetts.

Rangewide, coastal plain pondshores are increasingly threatened by hydrologic manipulation, including excessive groundwater drawdown; development of shorelines and subsequent vegetation removal or alteration; and physical disturbance (MA NHESP fact sheets). In Lakeville, the pondshore habitat of the water supply ponds is threatened by excessive surface water drawdown, particularly at Elders Pond (Sorrie), which, if sustained, may encourage shrub growth. Thatcher's Pond, largely occurring in neighboring Taunton, has a unique intermittent pond hydrology very rare in New England (Sorrie), making it vulnerable to considerable disturbance by off-road vehicles. Loon Pond's town-owned shore line has an excellent example of this plant community, unfortunately in an area of very heavy use.

Plans to upgrade the facilities at Ted Williams Camp may include some protection for the unique plant life found on the grounds.

Shrub Swamp

Shrub swamp wetlands occur where water levels or disturbance such as logging prevents the establishment of trees. These habitats are very variable, and are often mixed with emergent marshes. A large example dominated by Buttonbush occurs between Long Pond and Assawompset Pond.

Kettlehole Level Bog

Bog communities are very acidic and low in nutrients and support a unique component of shrubs and herbs. Bogs in Lakeville occur in small kettlehole depressions and are dominated by Leatherleaf and Water Willow, with occasional taller shrubs, Atlantic White Cedar, and floating sphagnum mats.

Forest Cover

Nearly 12,000 acres, or about 63% of the town's land area, was forested in 1991 (MassGIS land use/land

cover data layer). Based on interpretation of 1993 aerial photography, about 2,423 acres, or 13% of the town's land area, was in wetland forest cover (MassGIS wetlands data layer).

Forested land occurs throughout the town largely in a patchy mosaic interspersed with open water, built areas, farmland, and land in other uses. However, nearly 2,000 acres of forest broken only by a few roads and sparse development occurs in the southwestern corner of Lakeville, anchored by the Audubon's Assonet Cedar Swamp Wildlife Sanctuary, and including several largely forested Chapter 61 properties and a town-owned open space parcel, currently zoned industrial with a 23-acre parcel under a conservation restriction for turtle habitat. Several hundred acres of adjacent land in Freetown currently remain undeveloped, but are in private ownership. These areas in Freetown and Lakeville are nearly adjacent to the 6,000-acre Freetown-Fall River State Forest, which in turn is part of and contiguous to the Southeastern Massachusetts Bioreserve. The Bioreserve, 13,600 acres of publicly owned forest, was created to help preserve both biodiversity and opportunities for people to enjoy hiking and wildlife observation.

The dense forest cover of the Assonet Cedar Swamp and the Poquoy/Leonard Washburn Brook protects the Town's cold water native brook trout habitats. The wild brook trout population in Massachusetts has been decimated due, in part, to a decrease of forest cover that allows for an increase in water temperature. Even the slightest increase in water temperature will destroy these sensitive coldwater habitats.

Several of Lakeville's Town-owned parcels are richly forested, most notably Betty's Neck and the Vigers Conservation Area. Many other Town properties are park-like with pleasant shade trees. There is however no inventory of significant trees or tree species on any of the Town properties. Lakeville has a Town Tree Warden and a Forest Committee, but beyond the designation of some scenic roads, it currently has no programs for tree preservation or tree planting. If the Town inventoried the trees on its public lands, both conservation land and land used for active recreation and municipal purposes, it would be better able to protect and promote enjoyment of these resources.

Lakeville's Shade Trees

Perhaps because of its history as having split from another town, Lakeville has few significant trees, meaning trees with spreading canopies or extraordinary height and a dbh (diameter at breast height) of more than two-and-a-half feet in its public spaces.

At Tamarack Park, near the road, there are two spreading black oaks with dbh of approximately three feet, which may be its only significant public shade trees. One has been damaged by a motorcycle, the other is improperly pruned. At Tamarack there are also two red oaks with dbh of two feet and two Norway spruce. At the eastern edge of the park there is a large cluster of red oaks, one to two feet dbh, that a group of local

volunteers has been keeping clear of bittersweet vines. The same group has been trying to rescue other trees on the property including a very tall white ash. They are also trying to plant shade trees for the future.

The small park Dickran Diran Square has three Norway maples, unfortunately of an exotic invasive nature, which are situated so as eventually to become sizeable. More significant are four sycamores at the edge of the woods, two that are two-and-a-half feet dbh and two that are two feet dbh. Fred Shaw Park has no shade trees in the park itself, but at its southern edge a bank of black cherry, tupelo, ash, and red maple between 12 and 18 inches dbh arch out over the park. Unfortunately, the trunks are all entangled with bittersweet vines.

In the large open park area surrounding the Town Library and the Old Town Hall, there are only five shade trees, with the potential to become significant trees: a Liberty Elm well situated, a red maple crowded against an out building, and three street trees (species unknown at this time).

Ted Williams Camp has a children's playground shaded by a number of pruned red cedars and black cherry trees, the latter under assault by poison ivy vines. There is an oak (species uncertain but in the white oak group) that appears to have been planted for shade, but it has been damaged and improperly pruned. Most of Ted Williams Camp is open playing fields and forest, but opposite the commissary building there are groups of red and black oaks, black cherries, Norway spruces, white pine, and red cedars that shade the surrounding lawn. There is also a free-standing tupelo. Behind and beside the commissary building, where the underbrush has been cleared under the forest trees, a mix of red, black, and white oak and white pine shade the grills and gazebo. In front of the commissary building there are red maples in the lawn and several Norway maples along the road, two of which are approximately two feet dbh.

The Town's oldest cemetery, Thompson Hill, is rimmed with forest trees, oaks, and pines. The once grand sugar maples that lined its street front are all in serious decline. The only potential shade tree within the cemetery is a healthy young hickory.

There is a need in all the parks for planting native species of trees that will be shade trees for future generations.

Lakeville has little in the way of significant street trees, but it does have many old roads that have not been widened. Long stretches of these are lined with forest trees, which, where there are no utility wires, arch out over the road. Along these roads many homeowners have maintained what were likely originally forest trees as specimen trees at the edge of their lawns, close enough to the road to be in the public right of way. On Vaughan Street, there is one spreading tree along the street, a black oak, three feet dbh, sole survivor of four

in a row, after the last caterpillar onslaught. It is hoped that the Town will value all of these trees and strive to maintain them, which in many places would mean the removal of bittersweet vines.

There is a need for more planting of long-lived native trees in the Town's park areas and even greater need to address the vines that are destroying trees along roadsides and in the Town's parks.

Agriculture

In 1991, 1,813 acres, or 9.6% of the town's land area, was in agriculture. Of this, 561 acres were pasture, 752 acres were cropland, and 500 acres were cranberry bogs, orchards, and nurseries (MassGIS land use/land cover data layer). Although current land use acreage figures are not available, it is widely acknowledged that we are continuing to lose farmland to residential development. Between 1991 and 2001, seven agricultural areas were converted, including Lakeville's last orchard, on Vaughan Street. Since 2001, fields along 105 in north Lakeville, Highland Road and Vaughan Street and several bogs have been converted to housing or commercial development.

In addition to many remaining hay fields and cranberry operations, some newly created or reestablished, scattered vegetable production continues in town. The most noticeable is the Eliot Farm on Route 105 which also utilizes some acreage on the Wilkie APR. The Standish farm and State-owned fields on Bridge Street and the Freitas property on Vaughan Street are still in production.

When we lose farmland, we lose an integral part of our cultural and historical heritage, areas of scenic beauty and diversity, and valuable wildlife habitat. In particular, as discussed above, hayfields mimic natural grassland systems, providing critical habitat for rare and declining birds and insects.

Once a historical center of grain production, Lakeville is now heavily wooded, with only remnant fields and frequent cranberry bogs. Although our soils are exceptionally well suited for agriculture, housing pressures will easily take precedence. We need to make a concerted effort to protect our remaining farmland as we may be left in the future with only the farms under Agricultural Preservation Restrictions. Current data, more accurate than MassGIS, is needed to assist in this effort.

Invasive Plants

In Lakeville, as in most towns, our open spaces are under assault from invasive exotic plants that could alter the existing natural communities. Purple loosestrife, with its prodigious seed production and tenacious root system established within a year of seed germination, can transform the diverse flora of a marsh into a monoculture. This plant, valuable to honey bees, but useless to any of our native fauna, has begun to

colonize various wetlands in Lakeville, including those along Pickens Street, Bedford Street, Highland Road, Pocksha Pond, and Assawompset. Oriental Bittersweet, ubiquitous along our wooded roads and field sides, strangles and smothers trees in open environments, leaving wildlife with a limited diet of its own berries. Multiflora Rose and Autumn Olive, which grow rapidly in abandoned fields and can spread even into shady woods, are also very common species in town, leafing out early in spring and crowding out native shrubs and wildflowers. Large stands of Autumn Olive exist along Route 79 at the Industrial Park and in the fields north of the old Lakeville Hospital. Autumn Olive and Oriental Bittersweet in particular combine to ruin the aesthetics of our roadsides. Burning Bush, an invasive exotic, much favored in town, has not yet taken over our wild areas, but seedlings are appearing far from where it has been planted.

Garlic Mustard, noted along County Road and at Tamarack, and Japanese Knotweed, noted on Highland Road, County Road, the Industrial Park on Route 44, and at the Vaughan Street canoe launch, among other places, are two relative newcomers, but they have shown in other parts of Massachusetts that they have the potential to take over large areas.

Aquatic weeds, spread primarily by motorboats, have invaded Long Pond and Assawompset Pond. Cabomba and Variable Milfoil, native to other regions of the United States but invasive here in New England, grow rapidly and can completely clog waterways, seriously threatening the aquatic habitat and impeding recreational use. Mechanical removal is difficult as these weeds re-sprout from fragments, and there is concern that the continued use of herbicides, employed periodically in discrete sections of Long Pond since 1998, may threaten non-target plants as well as the aquatic fauna. The problem is compounded by increased leaching of nutrients from inadequate septic systems and lawn fertilizing by shoreside residents. In an effort to control the spread of aquatic invasives, signs have been posted at the Long Pond public boat launch instructing boaters to clean weeds from their motors and trailers before putting them in the water. Maps are also available indicating the areas of heaviest infestation; boaters are urged to avoid these areas. The Long Pond Association has used benthic mats to suppress invasive aquatic plants in some limited areas and has hopes to get state money to apply, on a larger scale, the techniques they have learned. A boat wash at the launch area would be helpful in minimizing the problem.

These are but some of the problem species that are in town doing their mischief in varying degrees. Their presence is an issue we need to address through education, prevention, and removal. See New England Wildflower Society's website, NEWFS.org, for further accounts of invasive plant species.

Rare Species

See Appendix H for a list of current state-listed rare plant species occurring in Lakeville, and an explanation of state rarity ranks.