Natural Resources, Open Space, and Recreation

1. Introduction

Chapter Overview

The *Natural Resources, Open Space and Recreation* element of the Hatfield Comprehensive Plan provides: an overview of land, water, vegetation and wildlife resources in Hatfield; issues and opportunities for both natural resource conservation and the provision of active and passive recreation; and examples of ways in which other towns have addressed similar challenges, and goals and recommendations.

This chapter draws on data collection and public input from the extensive efforts the Town undertook in 2022 and 2023 to update the Open Space and Recreation Plan (under the leadership of the Open Space Committee), as well as the larger more recent Comprehensive Planning pubic engagement process.

Connecting Themes

The natural, open space and recreational resources in Hatfield encompass all of the elements that contribute to the community's ecological health, as well as to residents' physical and mental health, and quality of life. The abundant open spaces and natural resources in Hatfield include working farms, forests, rivers and streams, aquifers, wetlands, and scenic vistas.

Hatfield residents highly value these resources and put a high priority on protecting them. Recreational assets such as hiking trails, biking routes, access to water-based recreation, and athletic fields and facilities are also of great value to the community, and residents have expressed a strong desire to expand some of these assets, particularly hiking trails and walking paths.

2. Existing Conditions

Topography and Soils

Hatfield has two different topographic relief forms, one being the fertile lowlands in the eastern two thirds of Town, and the second being Horse Mountain and the Rocks, located in the eastern one third of Town, just west of Interstate 91.

In the densely wooded terrain of West Hatfield, outcroppings of bedrock alternate with pockets of wetlands, most of which flow into Running Gutter Brook, the primary stream draining these western hills. Soils within the Horse Mountain and Rocks region are very thin, generally poorly drained and wet, with shallow bedrock. These soils pose moderate to severe limitations on intensive development. This area is also where the Town's reservoir is located and is the aquifer recharge region for both of the Town's drinking water supply wells.

East of the Interstate, the fertile Connecticut Valley lowlands constitute terrain with very little slope—elevations can be as low as 110 feet above sea level**.** The soils in the lowlands east of Interstate 91 are in sharp contrast to the rugged soils of West Hatfield. Much of this area contains deep, nearly level, well to poorly drained, loamy soils formed in alluvial materials on floodplains. These soils are extremely fertile and exceptionally suited for growing crops. Over one-third of the town's acreage, 3,999 acres, is classified as Prime Farmland, and another 1,601 acres is designated as farmland of statewide importance. Almost all of these soils are located east of I-91.

Watersheds

The entire landmass of the Town (10,000± acres of land) is located in the Middle Connecticut River Watershed Basin. All naturally draining surface water in Hatfield flows into the Connecticut River, with drainage occurring within three sub-watersheds.

One sub-watershed drains through Running Gutter Brook in West Hatfield, which originates in the upper reaches of West Hatfield along Mountain Road. It includes the Hatfield Town Reservoir. The brook is also fed by flows from Whately and Northampton. Broad Brook feeds into Running Gutter Brook from Northampton. Two minor watershed areas in West Hatfield drain into Northampton, one of which includes Mountain Reservoir. About one-third of this 35-acre reservoir is in Hatfield's far northwestern corner.

The second sub-watershed drains through the Mill River, a primary tributary of the Connecticut River with its headwaters in the Town of Conway. Running Gutter Brook joins the Mill River just east of I-91 in south central Hatfield. The dam at Prospect Street, the site of former water-based industry, causes the watercourse to run deep upstream of the dam with wide meanders and broad marshes that have become important wildlife habitats.

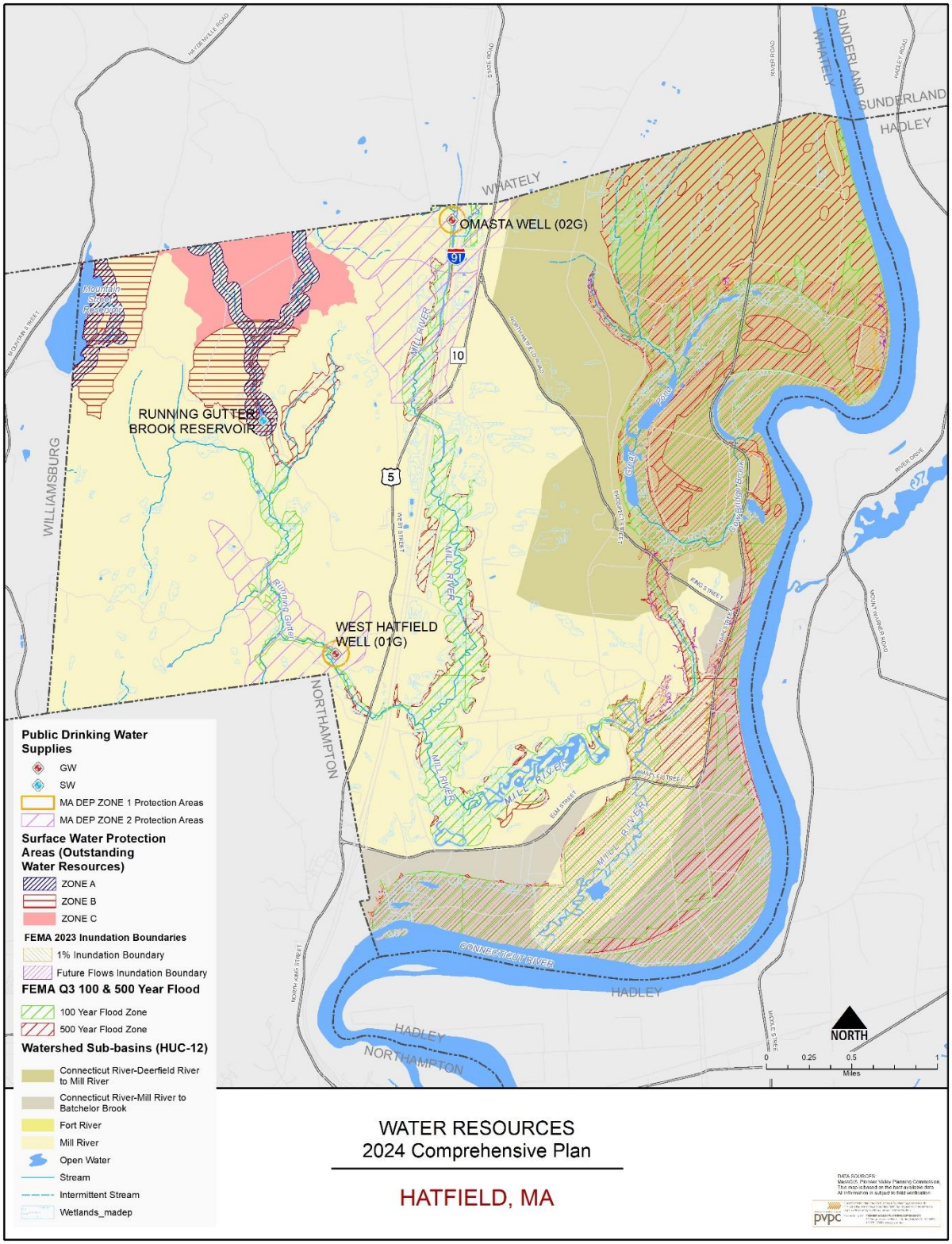
The third major watershed is within the northeast corner of Hatfield. This area drains the remnants of an old Connecticut River meander—once an "oxbow lake"—including Great Pond and Cow Bridge Brook, and eventually drains to the Connecticut River. This area was originally an oxbow lake, which, over the years, has aged due to sedimentation and eutrophication, and the oxbow is now a series of ponds and marshes. It remains a significant wildlife habitat and Connecticut River flood storage area.

Surface Water Resources

Hatfield is heavily influenced by watercourses. There are approximately 35 miles of stream and river channel within the town boundaries, primarily consisting of the Connecticut River, the Mill River, Running Gutter Brook, Mountain Brook, and Broad Brook.

About 7.5 miles of the Connecticut River forms the eastern and part of the southern boundaries of Hatfield, providing approximately 450 acres of open water. The dike, adjacent to the river in the Indian Hollow section of Town, offers 2 miles for hiking, mountain biking,

Figure 1: Water Resources Map



snowshoeing, and cross-country skiing. Access to the river is possible from Old Farms Road, Upper Farms Road, Bashin Road, at the state boat ramp, the dike, the Indian Hollow boat ramp near Kellogg Hill Road, and at the confluence of the Mill and Connecticut rivers.

The Mill River is a central geographic feature within Hatfield, draining from a watershed of five communities. The Mill River enters the Town along the northern boundary with Whately. In the northern portion of Town, the Mill River parallels the west side of Route 91, but then flows in a broadly meandering southeasterly path to its confluence with the Connecticut River. Major tributary streams to the Mill River include Running Gutter Brook and Mountain Brook, which drain much of West Hatfield. Running Gutter Brook drains most of the Rocks and Horse Mountain areas, feeds the Hatfield Reservoir and includes the tributary of Broad Brook, whose watershed extends into Northampton. Mountain Brook drains the northwest portion of Hatfield and extends into Whately. It originates at the Northampton water reservoir system, and a portion of its natural watershed contributions are diverted to other portions of the Northampton water system.

The Mill River is considered one of the most biologically diverse river systems in Massachusetts, supporting four of the state's seven listed species of freshwater mussels, including the Federally endangered dwarf wedgemussel *Alasmidonta heterodon*. There are additional protected flora and fauna that inhabit this river corridor, including the wood turtle *Clemmys insculpta*. River otter live along the brook, the favorable water quality of which also supports brook trout. There are at least five access points to the Mill River (Plain Road, Chestnut Street, Bridge Street, off Elm Street, and off Farm Road) for fishing and other activities.

The D.F. Riley Grist Mill Dam on Prospect Street is close to the mouth of the Mill River at its confluence with the Connecticut River. This is the only dam on the Mill River and blocks the movement of fish (Atlantic salmon, American shad, blueback herring and lamprey) and other aquatic organisms between the Connecticut River and the upper watershed. The D.F. Riley Grist Mill Dam is rated as a Significant Hazard dam by the Office of Dam Safety. This means that structural failure of the dam may cause loss of life and damage to homes, commercial facilities, roads or other critical infrastructure. The last inspection of the dam was completed in May 2019, and it was found to be in unsafe condition. This is a serious potential hazard that the Town will need to address within the next few years.

Most wetlands in Hatfield are located in the Town's eastern and northern sections, bordering and the Connecticut River, the Mill River, Great Pond, and the old oxbow meander. The wetlands in West Hatfield are primarily narrow wetlands bordering Running Gutter Brook and its tributaries, with larger expanses within the Rocks area and at the base of Horse Mountain. Several small, isolated wetlands exist in this area as well, and also provide important wetland wildlife habitat. Wetland areas are home to frogs, fish, freshwater clams and mussels, beaver, muskrats, great blue herons, waterfowl, and bitterns, among other species. In Hatfield, riparian areas exist along the Connecticut River, Mill River, Running

Gutter Brook, and Great Pond. Many of these riparian areas remain intact, aided by the Rivers Protection Act and regulations restricting floodplain development.

Drinking Water Resources

There are three sources of drinking water in the Town of Hatfield. The primary source is the Running Gutter Brook Reservoir. This surface water source provides most of the water reaching homes and businesses in the Town. A filtration plant prepares the water for distribution to users in the Town. Two public wells supplement the supply from the reservoir: the Omasta Well and the West Hatfield Well, neither source of which is treated with filtration or chlorination.

Cost has dictated that the primary water supply come from the reservoir, as the operation of the filtration plant remains less expensive than the electrical power used to operate the two wells. The wells are used primarily in two situations: 1) to provide adequate water supply during peak demand hours (summer months), and 2) to bypass the reservoir supply during times of high turbidity (primarily after heavy rainstorms).

Vegetation

The forest resources and woodlands in Hatfield lie primarily west of the I-91 corridor. An extensive range of forestland encompasses approximately 4,800 acres, which consists of 45 percent of the total land area in the Town. There are approximately 135 species of trees and woody shrubs naturally occurring in Hatfield. Hatfield is located in what is considered a transition zone, with the primary forest types being a mix of southern oak-hickory forests and the northern maple-birch climax forests. Over time as the climate warms, the forests will likely slowly transition to support more of the southern species and fewer of the northern species.

Most of the rare plants in Hatfield are species of riparian areas – river and streamside specialists. Because floodplain areas are also prime agricultural lands, habitat for these species has diminished over the years. The remaining undisturbed and even moderately disturbed lands along the rivers provide important habitat for these rare species and more common native species. Table 1 lists the endangered, threatened, and species of concern found in Hatfield.

BioMap is a tool developed by MassWildlife and the Nature Conservancy to identify critical lands and waters in Massachusetts in need of conservation. A new version was released in 2023, and according to BioMap Data, Hatfield has1,502 acres of permanently conserved land, or 14% of the total area. The BioMap components and their identified acreage in Hatfield are described below.

Core Habitat identified areas critical for the long-term persistence of rare species, exemplary natural communities and resilient ecosystems. The acreage within the BioMap Core Habitats in Hatfield are the following:

- Rare Species Core: 4,581.1 acres
- Wetland Core: 846.1 acres
- Forest Core: 0.0 acres
- Vernal Pool Core: 839.8 acres
- Aquatic Core: l1,734.2 acres
- Priority Natural Communities: 57.5 acres

Critical natural Landscape identifies large landscape blocks that are minimally impacted by development and buffer core habitats, enhancing connectivity and resilience. The acreage within the Critical Natural Landscapes in Hatfield are the following:

- Landscape Blocks: 1,036.1 acres
- Aquatic Core Buffer: 1,517.1 acres
- Wetland Core Buffer: 771.3 acres

Local Components are new additions to BioMap that complement Core Habitat and Critical Natural Landscape and are assessed at the local level, providing data for local conservation efforts.

- Local Landscapes: 936.9 acres
- Local Wetlands: 476.9 acres
- Local Wetlands Buffer: 278.1 acres
- Local Rare Species Core: 156.9 acres
- Local Aquatic Habitat Buffer: 18.3 acres

Regional Components are new addition to BioMap that show areas important for habitat connectivity and regionally important areas for rare species.

- Regional connectivity: 1,803.7 acres
- Regional Rare Species Core: 1,608.2 acres

Fisheries and Wildlife

Hatfield is home to a variety of wildlife due to its many habitat types. The wooded areas of West Hatfield are primary habitat for several upland mammal species including white-tailed deer, black bear, bobcat, eastern coyote, red and gray fox, porcupine, skunk, weasel, red and gray squirrel, flying squirrel, fisher cat, opossum, raccoon, snowshoe hare, cottontail rabbit, mice, voles, moles, shrews, woodchuck, chipmunks and bats. These upland forests are contiguous with vast forest tracts of the Appalachian Range in the American northeast, so sightings of moose that move along these corridors have become more frequent in recent years. Upland birds include ruffed grouse, turkey, woodcock, turkey vulture, several species of hawks and owls, crows and ravens, woodpeckers, and deep wood songbirds such as wood thrush, scarlet tanager, and veery among others.

Lowland wildlife mammals are primarily beaver, muskrat, otter and mink, although mink can also be found in uplands. Lowland birds are primarily Canada geese, several species of

ducks, osprey, green and blue herons and kingfishers. Grasslands and open fields are habitat for grassland birds such as meadowlarks, bobolinks, vesper sparrows, and mammals such as mice.

Fish range from warm water species like bass, pickerel, catfish, sunfish and walleye to cold-water species such as brook, rainbow and brown trout. Trout are found mainly in the Mill River and Running Gutter streams.

Most of the currently known rare animal species in Hatfield are associated with wetlands. A few, such as the Marbled Salamander and Wood Turtle, also use uplands for much of their lives, including for food foraging. Marbled Salamanders breed in vernal pools in the fall and spend most of their time under the leaves in surrounding uplands forests (as a result, they and their relatives are called "mole salamanders"). Wood Turtles spend time in upland and riverside forests, but over-winter in stream banks.

Bald Eagles nest in old trees near water, along rivers and oxbows. Least Bitterns are reclusive marsh bird, nesting in tall grassy marshes in backwaters with patches of open water, where they hide their nests and raise their young in areas of little disturbance. Vesper Sparrows are species of upland grasslands, such as old fields and pastures. Although considered secure globally, they have declined significantly in eastern North America due to changes in agricultural land use.

Invertebrates such as freshwater mussels and dragonflies depend on the rivers and streams for habitat. The Mill River, in particular, provides exceptional habitat and is a hot spot for aquatic biodiversity, with four of the state's seven listed species of freshwater mussels found there. Rare dragonfly species in Hatfield also depend on healthy aquatic conditions, as their young spend several years in streams and ponds (depending on the species) before emerging.

Rare, threatened, and endangered wildlife species in Hatfield are listed in Table 1 below.

Table 1: Threatened, Endangered and Species of Special Concern in Hatfield

Common Name	Taxonomic Group	Scientific Name	Status	Most Recent Year Sighted
Vertebrates				
Marbled Salamander	Amphibian	Ambystoma opacum	Threatened	2010
Wood Turtle	Reptile	Glyptemys insculpta	Special Concern	2012
Jefferson Salamander	Amphibian	Ambystoma jeffersonianum	Special Concern	2009

Bald Eagle	Bird	Haliaeetus leucocephalus	Threatened	2019
Least Bittern	Bird	Ixobrychus exilis	Endangered	1991
Eastern Whip-poor-will	Bird	Antrostomus vociferus	Special Concern	2018
Vesper Sparrow	Bird	Pooecetes gramineus	Threatened	2012
Eastern Silvery Minnow	Fish	Hybognathus regius	Special Concern	1978
Shortnose Sturgeon	Fish	Acipenser brevirostrum	Endangered	2017
Invertebrates				
Spine-crowned Clubtail	Dragonfly/Damselfly	Hylogomphus abbreviatus	Special Concern	2017
Skillet Clubtail	Dragonfly/Damselfly	Gomphurus ventricosus	Threatened	2001
Brook Snaketail	Dragonfly/Damselfly	Ophiogomphus aspersus	Special Concern	1998
Riverine Clubtail	Dragonfly/Damselfly	Stylurus amnicola	Endangered	2016
Creeper	Mussel	Strophitus undulatus	Special Concern	2014
Dwarf Wedgemussel	Mussel	Alasmidonta heterodon	Endangered	2016
Eastern Pondmussel	Mussel	Ligumia nasuta	Special Concern	2016
Yellow lampmussel	Mussel	Lampsilis cariosa	Endangered	2009
Plants				
Frank's Lovegrass	Eragrostis frankii	Vascular Plant	Special Concern	1984
Green Dragon	Arisaema dracontium	Vascular Plant	Threatened	1993
Giant St. Johnswort	Hypericum Ascyron	Vascular Plant	Endangered	1974
Mated Spike-sedge	Eleocharis intermedia	Vascular Plant	Threatened	1984
New England Blazing Star	Liatris novae-angliae	Vascular Plant	Special Concern	1860
Sandbar Willow	Salix exigua ssp. interior	Vascular Plant	Threatened	1984

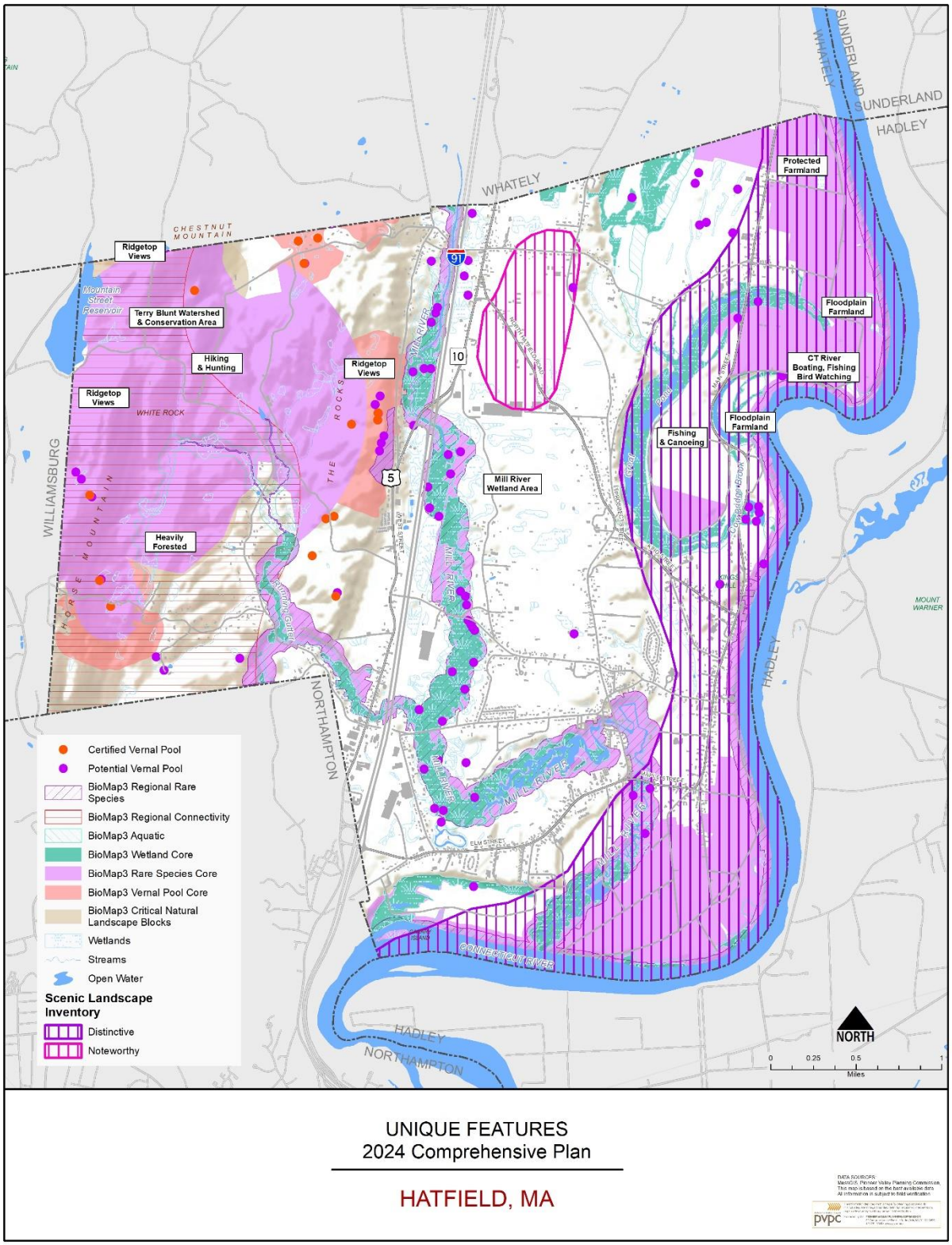
Shore Pygmy-weed	Crassula aquatica	Vascular Plant	Threatened	1984
Tussock Hairgrass	Deschampsia cespitosa ssp. glauca	Vascular Plant	Endangered	1991
Source: Natural Heritage and Endangered Species Program (Rare Species Viewer), 2022				

Scenic Landscapes

Hatfield abounds with landscapes of scenic value. The following landscape viewpoints have particularly good scenic value, and efforts should be maintained to protect these areas:

- Grand open vistas from wooded trails along the peak of Horse Mountain (in particular a location known locally as "White Rock") that look over Hatfield toward Hadley and Amherst to the East, with views of the Holyoke Range to the south, and Mount Sugarloaf and Mt. Toby to the north;
- Similar but less expansive views at lower elevations seen from the northeast corner of Chestnut Mountain Christmas Tree Farm on Mountain Road, and points along Mountain Road as it descends to Pantry Road;
- Banks of the Connecticut River, in particular the areas defined by public access points in the Bashin Beach area and along the dike from the Town center south and then west to the confluence of the Connecticut River with the Mill River;
- Canary Island beach in the Connecticut River near the Northampton Town line that is accessed from Little Neponsett Road.
- The Mill River itself, which has been identified as part of MA DCR's "Commonwealth Connections, A Greenway Vision for Massachusetts."

Figure 2: Unique Features Map



Inventory of Conservation and Recreation Lands

Public recreation and conservation lands may be permanently protected open space, provided that they have been dedicated to such uses as conservation or recreational use by deed. Municipal properties may be protected via Town Meeting vote to acquire them. Private, public and non-profit conservation and recreation lands can be protected under Article 97 of the Articles of Amendment to the State Constitution. Lands acquired for watershed and aquifer protection are often permanently protected open space.

Private lands can be protected in perpetuity through deed restrictions, or conservation easements (yet some easements only run for a period of 30 years and those lands are therefore not permanently protected open space).

A Conservation Restriction (CR), sometimes called a conservation easement, is a legal agreement between a landowner and a qualified conservation organization or government agency that permanently limits a property's uses in order to protect its conservation values. CRs can be flexible and written to meet the particular needs of the landowner while protecting the property's resources. For example, the easement may allow for sustainable forestry practices, recreational uses such as the construction of trails, or management of the land for particular wildlife habitat or control of invasive species. The easement is permanently recorded with the deed, remaining in force when the land changes hand. There are 703.09 acres with Conservation Restrictions in Hatfield.

The Agricultural Preservation Restriction Program (APR) is a voluntary program that offers a non-development alternative to farmland owners for their agricultural lands. The program, operated by the Massachusetts Department of Agricultural Resources (MDAR), offers farmers a payment up to the difference between the "fair market value" and the "fair market agricultural value" of their farmland in exchange for a permanent deed restriction, which precludes any use of the property that will have a negative impact on its agricultural viability. Hatfield is one of 162 cities and towns in Massachusetts with APR protected farms. There are 395.34 privately owned acres under APR held by the Massachusetts Department of Agriculture. These farms are listed below in Table 2.

Table 2: Agricultural Preservation Restrictions (APR)

Fee Owner or Site Name	Acres	Parcel Id
Adamski	11.21	205 -77
Skawski / VLF	19.28	205-61
Burke / Burke William H and Maryann L	14.79	215-21
	24.84	215-20.1
Duda Farm / Duda Robert M	00.93	203-9
	03.15	203-9
	07.74	203-2
	27.40	202-13.2

	16.51	202-13.1
	00.83	203-6
	03.85	203-6
Belden Family Trust	45.00	205-38
	04.80	205-37
Belden / Luther Belden Inc	06.55	211-57
	20.99	212-10
	08.39	206-106
	15.83	205-9
	01.95	205-8
	11.56	205-51
	13.13	205-53
	19.65	213-6
	09.13	204-1
	06.15	204-3
	50.68	204-16
	13.35	204-7
Regish, John	15.54	206-110
Zagrdonik, Joseph	22.11	222-8
TOTAL	395.34	

Lands under special taxation relief programs, Chapter 61, 61A or 61B, qualify based on their active management by owners for forestry, agricultural, horticultural or recreational use. There are 219 acres in Chapter 61 (forestry), 2,309 acres in 61A (agriculture), and 468 acres in 61B (recreation). It is important to recognize that enrollment in the Chapter 61 program is not a permanent form of land protection from development. Towns do have the first right of refusal on lands under Chapter 61 if such lands are sold for residential, commercial, or industrial purposes. In this case, the right of first refusal is a legal interest in the property that grants the town the right to match a bona fide offer for conversion of the property from its forest, agricultural, or recreational use. As such, it is important to prioritize these lands and consider steps the community can take to permanently protect properties of interest.

Municipal Recreation Lands

There are 742 acres of municipally owned land in Hatfield. Below is an abbreviated list of some of the most prominent sites.

Smith Academy Park

The Town has renovated the Smith Academy Park which is a 1± acres parcel next to Town Hall. The park is being used for outdoor concerts and other passive recreation. A plan is in place to construct a pavilion in the park to further enhance passive recreation opportunities.

Hatfield Elementary School Grounds

There are two soccer fields and two baseball/softball fields behind the new school. There are also two playgrounds on school grounds: one for preschool and kindergarten age children and second for older elementary school children.

Smith Academy Fields

The 38 acres around Smith Academy, the Town's public High School, offer the opportunity for field recreational sports. There are 2 baseball diamonds, 2 softball fields, a soccer field, a field hockey field, and an outdoor basketball court. While most heavily used by the school system, which manages the areas, other groups may use the field with permission from the school committee. In the summer the Recreation Department uses the fields for summer programming. Construction has recently been started on a recreational walkway around the playing fields. There is undeveloped land available in this tract for field expansion if the need arises.

Former Center School Grounds

The fields around the former Center School in the center of town offer additional opportunity for field sports. This 6± acres parcel, owned and managed by the Town, has a baseball and softball diamond. The area also connects with the dike and thus is contiguous with the river.

Town Hall Basketball Courts and Playground

Completed in 2013, the new basketball courts and play structure are located next to the Fire Station behind town hall. This facility is managed by the Recreation Commission.

Town of Hatfield, Terry Blunt Watershed and Conservation Area

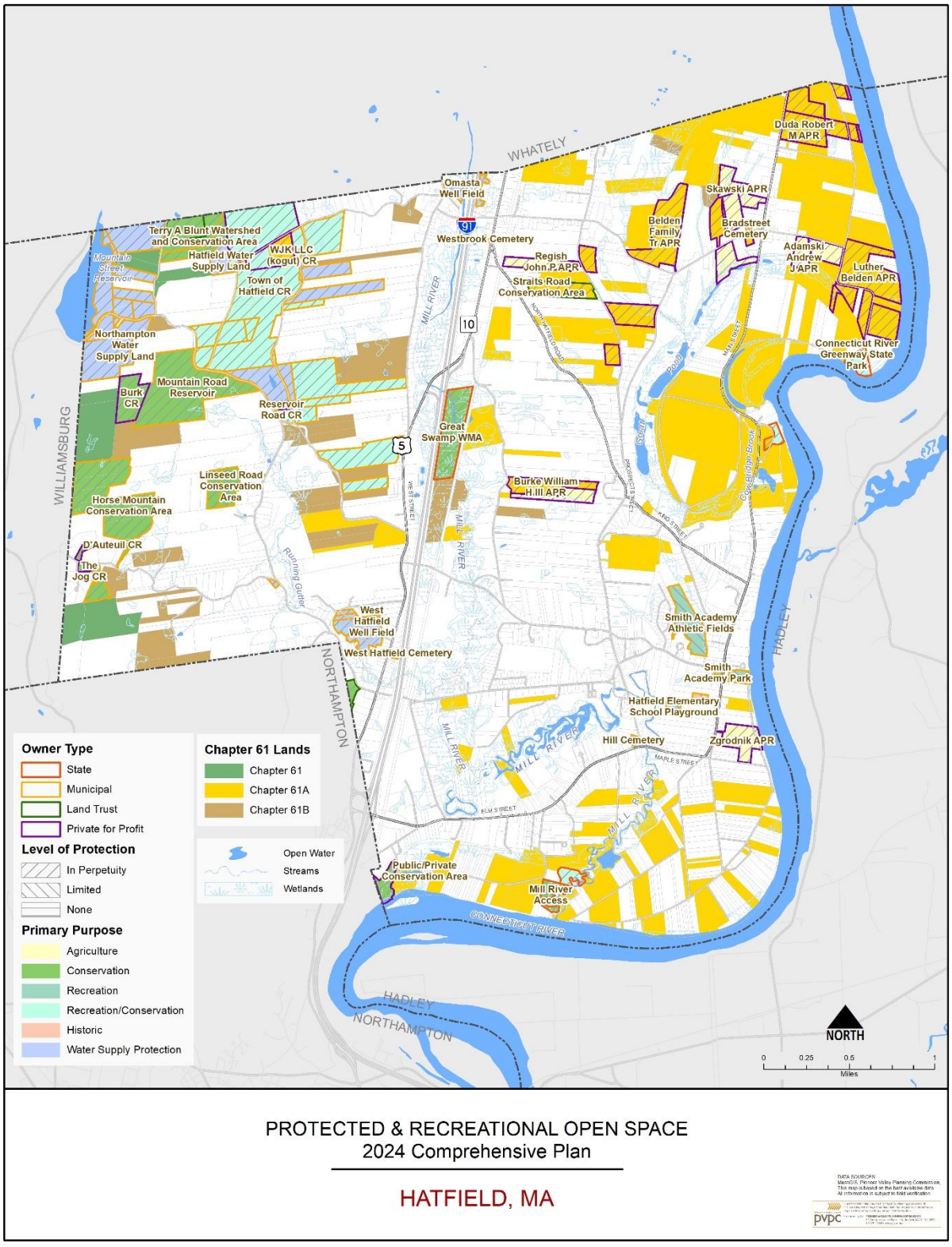
Since the beginning of the 20th century, Hatfield has acquired land in the north-west corner of town for the purposes of maintaining a drinking water reservoir and watershed. In Spring 2013, the area was dedicated as the Hatfield - Terry Blunt Watershed and Conservation Area in memory of the legendary conservationist and Hatfield resident. The conservation area contains approximately 600 acres. An approximately 1-mile long trail was built by the Open Space Committee on the southern portion of the area in 2013 and is open to the public for hiking. Access to the trail is on Rocks Road at the south end, and Reservoir Road at the north end. The unpaved path traverses some of the highest elevation in Hatfield under a high open forest canopy offering a unique outdoor experience in Hatfield.

<u>State Recreation Lands</u>

State Boat Ramp

The Commonwealth of Massachusetts owns 5.7± acres near Kellogg Hill Road for use as a public boat ramp. This ramp serves as one of the few access points to the river from the west

Figure 3: Protected and Recreational Open Space Map



bank in this area, drawing people locally and throughout the region. Parking is provided and the parcel is large enough to accommodate additional picnic or recreational facilities.

Bashin Beach

Owned by the Commonwealth of Massachusetts as part of the Connecticut River Greenway, this beach and swimming area has few amenities but is an important recreational facility in Hatfield. This area is not maintained and shows evidence of litter and the lack of sanitary facilities. Given its lack of development, it is not particularly safe or attractive as a swimming area and does not meet the outdoor recreational needs of many Hatfield families.

Other Public Lands

The City of Northampton owns 150.84 acres of open space in Hatfield. The majority of those acres are for watershed protection of the City's Mountain Road Reservoir located west of Hatfield's Running Gutter Reservoir. A smaller almost 8-acre parcel was recently acquired along the southern boundary of Hatfield with Northampton for development of a rail trail.

3. Challenges and Opportunities

The planning process for both the Comprehensive Plan and the Open Space and Recreation Plan (OSRP) provided an opportunity for Hatfield residents to identify their top concerns and priorities regarding open space, natural resources, and recreation in Hatfield. More than 80% of OSRP survey respondents felt that it was "very important" to conserve surface waters, groundwater and aquifers, wildlife habitat, and working farms and farmland. More than 75% of respondents also ranked farmland, forestland, and floodplains as very important to conserve in order to help the Town prepare for and be more resilient to the impacts of climate change.

In the Comprehensive Plan survey, working farms were ranked as the second most important feature that respondents valued most in Hatfield, and access to open spaces was ranked as fifth important (out of twelve features). Respondents also ranked these in a similar order when asked how the Town should prioritize spending. Finally, when asked what goals are most important for the Town of Hatfield to focus on in the next 10-20 years, respondents chose "protecting open space, natural resources, and environmental quality" as the fourth most important goal out of fifteen.

The narrative below describes challenges and opportunities in two parts: natural resource protection and recreational needs.

Natural Resource Protection

Risk of losing valuable farms and farmland

Protection of farmland in Hatfield is critical for keeping fertile land in agricultural use, ensuring a local food supply, as well as maintaining the scenic views of farm fields and preserving the historic and bucolic character of the town. Much of the farmland in Hatfield is in floodplains as well, so protection of these farmland parcels provides additional value as helping to provide some mitigation of flood flows.

Most farms in Town are currently profitable and the owners have little interest in selling. This could change in the future as farmers age with no identified successors and climate impacts compound the challenges of farming. The Town should continue to work with farmers on strategies to promote farmland protection, including clear internal procedures put in place for assessing and acting on the Town's right of first refusal to purchase land coming out of Chapter 61A.

Need to protect the Town's drinking water supply

Running Gutter Brook watershed is critical to maintaining the integrity of Hatfield's water supply, and the Town has made significant strides in assuring that water quality in Running Gutter Brook is not jeopardized. However, reliance on a surface water reservoir as the primary supply of water to Hatfield presents several challenges:

Vulnerability and sensitivity to land use changes in the watershed

Human-made changes in land use that remove natural cover, such as forest, and replace it with buildings, driveways, parking lots, and roads can directly and quickly impact the quality of drinking water supply. Development in particular, leads to an increased threat of contamination via increased use of lawn chemicals (pesticides, herbicides, and fertilizers), and increased pest waste, hazardous waste spills (even motor oil and gasoline), and failing on-site septic systems. All of these threats can result in contamination of drinking water supply, especially if located near to Zone A and Zone B areas around drinking water supply reservoirs.

Vulnerability to climate change impacts

At the same time, higher rates of storm flows that are occurring with the more frequent larger downpours have been carrying more organic matter than usual into reservoirs. In some communities, including Hatfield, this is presenting certain treatment challenges as disinfection processes can produce Haloacetic Acids (HAAs), a byproduct linked to causing certain cancers over years of exposure. Recent Annual Water Quality Reports for Hatfield show that testing is indicating levels of HAAs below the Maximum Contaminant Level (the highest level allowed in drinking water) of 60 parts per billion (ppb). The HAA amounts reported for Hatfield have been: 47 ppb for 2021, 58.4 ppb for 2020, and 52.4 ppb for 2019.

Capacity for growth

There are limits on the number of gallons that can be affordably and practically provided to users of the water supply system when surface waters are the primary source. The current safe yield of Running Gutter Brook Reservoir is approximately 500,000 gallons per day, and up to 1million gallons per day with the two wells online. Water usage averages 300,000 gallons per day. The metering of all town residences on public water was completed in 2006. Metering generally creates a reduction in usage and can function as conservation or demand management measure. Water users are more likely to use less water when they are paying for their water based on their actual usage versus a flat fee, and don't want to see their water bill go up.

Threats to drinking water resources follow closely those same threats to watershed areas and waterways. They include:

- Residential development in sensitive areas—particularly in the forested water supply area feeding the reservoir
- Clearing of vegetation that borders waterways, and replacement of this natural landscape with human residences increases storm water runoff contaminated by lawn fertilizers, pesticides, de-icers, motor oil, and other damaging substances
- Alteration of stream conditions such as temperature, velocity and volume of flow, and turbidity (amount of particulate matter in the water)
- Non-point source pollution from households, septic systems, roadways, agricultural operations, and industries
- Overuse or misuse of recreational resources
- Poor stewardship of forest lands through inappropriate timbering practices

Two forested parcels in the watershed have recently been permanently protected and protection of the remaining undeveloped land within the watershed to Running Gutter Brook, as well as the primary recharge area for the two wells, continue to be priorities. It is important that the Town review the zoning bylaws to ensure the drinking water supply has adequate protection. In addition, the following is important: review of Zone A, Zone B, and Zone II maps; prioritization of lands for protection, and then working to acquire land or purchase development rights within Zone A and B areas and within the Town well's Zone II area.

<u>Need to reduce invasive plant species growth and improve forest ecosystem health</u>

The health of forested lands in Hatfield is threatened by the proliferation of invasive plant species. The Horse Mountain area is the most problematic, but this issue needs to be addressed in other areas as well. The Town should work with a forest management consultant to develop and implement a plan to combat invasive species, as well as to develop a forest management plan for the large, forested areas in West Hatfield.

Recreational Needs

<u>Need for more active and passive recreational opportunities</u>

Residents would like to see additional hiking trails in Town, particularly more trails that are connected to the existing trails in West Hatfield. It is a high priority of the Open Space Committee to build a new hiking trail that connects the Three Bridges Trail to the Chestnut Mountain Trail. Other high priority projects include completing the recreational walkway at Smith Academy, restoring Day Pond and improving access to the pond for fishing and walking, constructing tennis courts, and completing the construction of a pavilion at Smith Academy Park. There is a lot of interest among residents in access to the Mill River for kayaking or canoeing above the Mill River Dam, and the Town should continue to explore this possibility.

Lack of public information about recreational resources

During outreach for the OSRP and Comprehensive Plan, many Hatfield residents indicated that they would like to see more information about hiking trails as well as trail maps made available. Priority action items for the Open Space Committee area to post hiking trail maps on the Town website, as well as to print trail maps and make them available at Town Hall. The Open Space Committee will also work on improving signage at trail parking areas and along trails.

Need for increased options for non-motorized transportation

In addition to more hiking trails, Hatfield residents also have a strong interest in more paved paths for walking and biking. The Town will continue to work with Northampton to complete the construction of a multi-use pathway connecting Hatfield to the Northampton Connecticut River Greenway. The Town should also work on expanding the sidewalk network in all areas of Town that see a significant amount of pedestrian traffic.

4. Examples from other Communities

Williamsburg Woodland Trails Committee

Two of the main goals that came out of the Hatfield open space planning process in 2022 and 2023 were to build additional trails and to provide more information online and in print about the trails, including trails maps. Williamsburg provides a good example of how a small town can utilize partnerships and volunteer efforts to build, maintain, and publicize a network of trails.

Williamsburg has a smaller population than Hatfield, and like Hatfield it has very limited town staff capacity and relies on volunteers to manage open space resources.

The Williamsburg Woodland Trail project and Trails Committee were formed in 2002 with the goals of: working with public and private landowners to open and improve trails for community use; collaborating with local land preservation organizations and volunteers to promote use and maintenance of the trails; and strengthening community bonds through this shared effort. Working with landowners, organizations such as Hilltown Land Trust, Kestrel Trust, Mass Audubon, and Trustees of Reservations, and volunteers, the committee has

helped to facilitate land purchases, build trails, and maintain trails. The committee also maintains a website that lists all of the trails, with a description of each trail and links to trail maps.

Mountain Waters Project: Partnership between the Town of Southampton and Kestrel Trust to conserve land for drinking water protection and recreation

The Town of Southampton has been working with Kestrel Trust, as well as neighboring communities of Westhampton and Montgomery, to permanently conserve 1,025 acres of wild and working land that will protect drinking water and watershed land that feeds into the Barnes Aquifer. Conserving this land through conservation restrictions will also protect critical wildlife habitat and linkages as well as open space for passive recreation.

Southampton had previously preserved smaller parcels of critical drinking water protection land in partnership with the Kestrel Trust, utilizing funding from the CPA, a LAND grant, and a Drinking Water Supply Protection grant. The funding for the 1,025 acres will come from a MA Executive Office of Energy and Environmental Affairs grant, as well as a match from the CPA. This project provides an excellent example of how a small community such as Hatfield can partner with land trusts and property owners to preserve land critical for drinking water protection.

5. Recommended Goals and Strategies

Goal 1: Protect farmlands

Objectives:

- Promote farmland protection opportunities for all landowners.
- Preserve Farmland that is being converted out of Chapter 61A tax relief program.

Actions:

- Continue to support efforts to protect farmland in Hatfield from development through dialogue with farmers and other means.
- Develop internal procedures for the Town regarding right of first refusal for Chapter 61A lands.

Goal 2: Protect drinking water supply

Objectives:

- Prevent residential and non- agricultural development from occurring within the Running Gutter Reservoir watershed area.
- Permanently protect open space within the primary recharge areas to the Town Wells and Running Gutter Reservoir watershed.

Actions:

- Review zoning to ensure drinking water supply has adequate protection.
- Review Zone A, Zone B, and Zone II maps and prioritize lands for protection.
- Acquire land or purchase development rights within Zone A, Zone B and Zone II areas.

Goal 3: Protect woodlands

Objective:

- Support sustainable forestry practices on private & town-owned lands to ensure healthy forest ecosystems & control of invasive species, and prevent down gradient erosion and flooding.

Actions:

- Contract with forest management consultant to develop and implement a plan to combat invasive plants on Horse Mountain.
- Contract with forest management consultant to develop a forest management plan for the large blocks of forested lands in Hatfield.

Goal 4: Expand the trail system in Hatfield and increase awareness and promotion of trails

Objectives:

- Build additional trails for passive recreation.
- Promote responsible recreational use of Town-owned forested land.

Actions:

- Build hiking trail that connects Three Bridges Trail to Chestnut Mountain Trail
- Expand recently established trail systems to other woodland areas of town-owned land.
- Post hiking trail maps on the Town website.
- Print hiking trail maps and make them available at Town Hall.
- Improve signage at trail parking and along trails.

Goal 5: Expand opportunities for passive and active recreation in Hatfield

Objectives:

- Expand recreational opportunities for walking, jogging, bicycling, non-motorized watercraft, and racquet sports.
- Expand and improve existing recreational facilities.

Actions:

- Provide non-motorized small boat access to the Mill River above the Mill River Dam.
- Work with Northampton to complete construction of the multi-use pathway connecting Hatfield to the Northampton Connecticut River Greenway.
- Expand the sidewalk network in all areas of the Town.

- Construct tennis courts on Town-owned land.
- Complete construction of recreational walkway at Smith Academy.
- Restore Day Pond and improve access for fishing and walking.
- Complete construction of pavilion at Smith Academy Park.