

Introduction

Arlington's landscape is defined by natural features that influence the location and intensity of development. Lakes and ponds, brooks, wetlands, and protected open space provide important public health and ecological benefits, as well as recreational opportunities. Activities in Arlington also affect neighboring towns, so local policies and practices relating to water and other natural resources have regional consequences. This master plan element focuses on irreplaceable land and water resources that must be considered in decisions about where, what, and how much to build as Arlington continues to evolve.



Menotomy Rocks Park trail.

A. GOALS FOR OPEN SPACE AND NATURAL RESOURCES

- Ensure that Arlington's neighborhoods, commercial areas, and infrastructure are developed in harmony with natural resource concerns.
- Value, protect, and maintain the Town's physical beauty, natural habitats, water bodies, parks, and other open spaces.
- Use sustainable planning and engineering approaches to improve air and water quality, reduce flooding, and enhance ecological diversity by managing our natural resources.
- Mitigate and adapt to climate change.

B. KEY FINDINGS

- Arlington's beauty is influenced by many factors – its varied landscape and topography, the presence of water resources along its borders, and its historic architecture. Arlington's distinctive street trees and urban woodlands also play a critical role in Arlington's appearance, walkability, and environmental health. Increased investments in tree maintenance and replacement, including enough personnel to carry out a comprehensive tree and streetscape management program, will be important for Arlington's future quality of life.
- Arlington's ability to address critical environmental challenges will hinge, in part, on the policies it adopts to guide and regulate future development, and in particular along the corridor encompassing Massachusetts Avenue and the Mill Brook.

- Arlington has done more than many Massachusetts communities to promote sustainability. Its early adoption of a climate action plan, its designation by the Massachusetts Green Communities Program, and impressive stormwater awareness programs all suggest a sense of environmental stewardship.

C. EXISTING CONDITIONS

1. Topography, Geology, and Soils

Arlington is physically divided by geologic and watershed boundaries that contribute to its varied landscape. The west side of town lies within the Coastal Lowlands (also known as the Eastern Plateau), a **physiographic area** that includes large portions of Middlesex County, with elevations ranging from 100 feet to nearly 400 feet above mean sea level (MSL). Arlington’s highest elevation, Turkey Hill (380 feet), along with Mount Gilboa and Symmes Hill, are all located in this part of town. The Mill Brook flows from west to east through the valley below these hills, and another band of hilly terrain runs along the south and west sides of Arlington. A **watershed divide** exists in the town’s southwest corner, which is part of the Charles River watershed. Following the contours of an end moraine, most of the water that falls on Arlington flows toward low-lying areas to the east and south parts of Arlington, which lie within the Boston Basin, bound by shared bedrock characteristics and waterways that discharge into Massachusetts Bay. In Arlington, the Boston Basin consists of the low-lying, relatively flat floodplain bordering the Alewife Brook between Lower Mystic Lake and Spy Pond.¹ Here, elevations range between 10 and 40 feet above MSL.

Neither topography nor soil conditions have materially affected the amount of development that occurred in Arlington over the past century. As a result, much of the town is covered with impervious surfaces – mainly buildings and pavement – which impede the land’s ability to absorb and disperse rainwater. The EPA estimates that impervious surfaces cover 41.4 percent of the town.² Arlington’s geology affects infiltration, too, for the town has large areas of ledge and rocky soils.

Most of Arlington’s soils have been disrupted due to the intense development that occurred here over past centuries. The U.S. Natural Resource Conservation Service (NRCS) classifies these kinds of soils as **urban land**. In Arlington and virtually all cities and towns in the Greater Boston area, urban land occurs in a **soils complex**, or an intricate mix of two or more soil series, i.e., urban (disturbed) land mixed with soils that still retain their original characteristics. Table 7.1 describes specific information about Arlington’s soils.

Soil Type	Description	Location in Arlington
-----------	-------------	-----------------------

¹ U.S. Natural Resource Conservation Service (NRCS), *Soil Survey of Middlesex County* (2009), 5-6.

² U.S. Environmental Protection Agency (EPA), Region 1, “Impervious Cover & Watershed Delineation by Subbasin or GWCA Arlington, MA” (March 30, 2010).

Charlton-Hollis-Urban Land Complex	<i>Charlton Soils:</i> well-drained, upland soils. Stony, with 60 inches or more of friable fine sandy loam (a silt-sand-clay mixture). <i>Hollis soils:</i> shallow (less than 20 inches), excessively drained on bedrock uplands. Friable fine sandy loam.	Western areas on slopes of 3 to 5 percent
Newport-Urban Land Complex	<i>Newport Soils:</i> found on 3 to 15 percent slopes, tends to be silty loam.	West and northwest of Park Circle, east of Turkey Hill, and west of Winchester Country Club
Merrimac-Urban Land Complex	<i>Merrimac Soils:</i> excessively drained soils on glacial outwash plains, sandy loams over a loose sand and gravel layer at 18 to 30 inches. Soils contain approximately 75 percent urban land/disturbed soils.	East Arlington
Sandy Udorthents and Udorthents Wet Substratum	<i>Udorthent Soils:</i> excavated and/or deposited due to construction operations.	East Arlington by lakes, streams and wet areas
Source: Arlington Open Space and Recreation Plan 2007-2012.		

2. Water Resources

Approximately 226 acres of Arlington’s total area (6.4 percent) is covered by surface water, including two lakes, two ponds, one reservoir, one river, and several brooks. (Map 7-1). Most of Arlington is located in the Mystic River watershed, which covers about 76 sq. mi. and includes portions of twenty-two communities in the Greater Boston area. All of the surface waters in Arlington directly or indirectly affect the Mystic River, which flows from Arlington to Boston Harbor. The Charles River watershed extends into the southwest part of the town, including Poet’s Corner and the Arlmont Village neighborhoods. Arlington shares most of its water resources with neighboring communities, and all of its large water bodies are located on or near the town boundaries. Together, Arlington, its neighbors, and nonprofit advocacy groups have collaborated to protect and improve the quality of their water resources.

LAKES, PONDS, AND RESERVOIRS

Mystic Lakes. The Upper and Lower Mystic Lakes form Arlington’s northeast boundary with Winchester and Medford. Each water body qualifies as a **Great Pond** under state law.³ The Mystic Lakes are regionally significant water bodies that support a variety of fish, year-round and migrating birds, and outdoor recreation such as swimming, boating, and fishing. State-owned park land provides public access to the water along the eastern shores of the Mystic Lakes, but access in Arlington is limited because most of its shoreline is privately owned. The Town owns only three acres of steeply-sloped

³ “Great Pond” is a pond or lake that contained more than 10 acres in its natural state, or a water body that once measured 10 or more acres in its natural state, but which is now smaller. Ponds or lakes classified as Great Ponds trigger Chapter 91 licensing requirements for piers, wharves, floats, retaining walls, revetments, pilings, bridges, and dams, and waterfront buildings constructed on filled land or over water. See Mass. Department of Environmental Protection (DEP), Wetlands and Waterways, Massachusetts Great Pond List.

conservation land with a shoreline on the Upper Mystic Lake, known as Window on the Mystic, which is owned and managed by the Conservation Commission.

Spy Pond. Spy Pond, also a state-designated Great Pond, is located near Arlington's southeast boundary with Belmont and forms part of the headwaters of Alewife Brook. Spy Pond supports a limited fish population and it is an important resting and feeding area for migrating and year-round birds. According to the Natural Heritage and Endangered Species Program (NHESP), Spy Pond has ecological significance as aquatic core habitat and a natural landscape that supports at least one Species of Special Conservation Concern (Engelmann's Umbrella-sedge).⁴ The two-acre Elizabeth Island is owned by the Arlington Land Trust and is permanently protected with a conservation restriction held by the Arlington Conservation Commission and Mass Audubon.

Spy Pond is also a popular recreational spot for fishing, boating, bird watching, and ice skating, although swimming is not officially permitted and public access to the pond is limited to several short paths and Spy Pond Park. The Arlington Boys and Girls Club, located on the northwestern shore, uses Spy Pond for summer boating programs. The Arlington-Belmont Crew also uses the pond for its practices and meets, and the Arlington Recreation Departments rents canoes and kayaks for public use during the summer.

Spy Pond is a beloved community resource with well-organized advocates, e.g., the Spy Pond Committee of Vision 2020 and Friends of Spy Pond Park, Inc. Over the past decade, the Town has made improvements at Spy Pond and within Spy Pond Park, including major park improvements in 2005 and a joint project with the Appalachian Mountain Club Trail Team and MassDOT to reconstruct the multi-use path along Route 2. In addition, the Town has been working with consultants to remove invasive and nuisance plant species and replace them with native vegetation along the shoreline.⁵ Water quality and environmental degradation of Spy Pond is an ongoing concern, and the Town has received state assistance with environmental remediation efforts.



Spy Pond (Photo by Joan Roman, Town of Arlington)

Hill's Pond (Menotomy Pond). Located in Menotomy Rocks Park, Hill's Pond is a 2.6-acre man-made water body that provides habitat for common species of fish, frogs, birds, and insects. Accessible by footpaths from Jason Street and other adjacent roads, Hill's

⁴ NHESP, BioMap 2 Arlington Report (2012).

⁵ Aquatic Control Technology, Inc., to Arlington Department of Public Works, "2012 Aquatic Management Program

Pond offers scenic vistas and recreational opportunities for fishing and bird watching, and ice skating during the winter months. In the mid-1990s, Arlington completed an award-winning improvements project that involved draining, dredging, and redesigning the pond. In 2007, the Town installed aerators to improve water quality and re-graded and edged the pond to minimize erosion and run-off. Hill's Pond is monitored, tested, and treated for invasive plant species each year.

Arlington Reservoir. The 65-acre Arlington Reservoir site, including 29 acres of water, is located at Arlington's western border with Lexington. It served as Arlington's public water supply from the early 1870s until the Town joined the then-new Metropolitan Water District (now the MWRA) in 1899. Only about half of the Reservoir's surface water area lies within Arlington, but the entire perimeter is owned by the Town and managed by the Arlington DPW and Parks and Recreation Commission. The Arlington Reservoir Committee, a subcommittee of Vision 2020, provides advocacy for protecting and improving Arlington Reservoir's water quality and surrounding landscape.

The Arlington Reservoir supports diverse wildlife habitats and includes Arlington's largest collection of aquatic species. It also serves as a recreational resource, with a mile-long perimeter walking trail and swimming at a sandy beach on the northeastern shore. The Town has made some improvements at Reservoir Beach, including the installation of an access ramp for people with disabilities.

An earthen dam along the southern edge maintains the Arlington Reservoir's water level. Water can be released into the Mill Brook by way of a sluice gate in the dam. In 1999, the state notified Arlington that the dam was failing and needed to be repaired in order to protect downstream properties. Town officials, engineers, and members of Vision 2020 collaborated to design a plan that would protect public safety, preserve and enhance recreation facilities, and protect the wooded landscape around the Reservoir. That award-winning rehabilitation project was started in 2005 and completed in 2006. A Wildlife Habitat Garden surrounding the new bridge and spillway was established in 2011 and is maintained by the Vision 2020 Reservoir Committee.

RIVERS AND BROOKS

Mystic River. The Mystic River is a regional resource that provides recreational and scenic benefits as well as habitat for many species of birds, fish, and other fauna. It begins in Reading as the Aberjona River, which discharges to the Upper Mystic Lake in Winchester. From the Lower Mystic Lake, the Mystic River flows along Arlington's eastern border, then through Medford, Somerville, Everett, Charlestown (Boston), and Chelsea until it merges with the Chelsea River and empties into Boston Harbor. One of five sub-watersheds of the much larger Boston Harbor watershed, the Mystic River watershed is urban and densely populated, and it has significant environmental challenges.

The Mystic River is historically significant as the site of industrial and maritime activities during the eighteenth and nineteenth centuries. This industrial legacy has contributed to the river's water quality problems. Several organizations have worked to

improve water quality and educate the public about the Mystic River's ecological and public health significance to the region. Formed in 1972, the nonprofit Mystic River Watershed Association (MyRWA) is dedicated to restoring and protecting the river, organizing stewardship programs, promoting public access, monitoring water quality, and sponsoring clean-up activities. The EPA's Mystic River Watershed Initiative (2009) is a partnership of federal, state, and local agencies, nonprofit organizations, and U-Mass Boston to improve environmental conditions in the Mystic River and its tributaries, support marine science research, protect open space, and provide public access to the water.⁶ In addition, the Massachusetts Department of Conservation and Recreation, which owns the land abutting the river, is conducting a Mystic River Master Plan to address various recreational improvements and maintenance needs along the river and the Mystic River Reservation.

Mill Brook. The Mill Brook flows from west to east through town, roughly parallel to both Massachusetts Avenue and the Minuteman Bikeway from the Arlington Reservoir to Arlington Center, where it turns northward and flows through Mt. Pleasant Cemetery and into the Lower Mystic Lake. It functions as part of a larger drainage system that transports water from Great Meadows in Lexington to the Arlington Reservoir, along the Mill Brook to the Mystic River, and ultimately to Boston Harbor. As the water source for several mills and mill ponds during the eighteenth and nineteenth century, the Mill Brook is a significant cultural landscape with an inextricable link to Arlington's industrial past. In 2014, much of the Mill Brook is channeled, with segments running through underground culverts and only limited views to the exposed sections of the waterway. Access points exist in several town-owned parks and cultural sites, including Meadowbrook Park, Mt. Pleasant Cemetery, Cooke's Hollow Conservation Area, Wellington Park, the Old Schwamb Mill, Hurd Field, and the Arlington Reservoir. In 2010, the Town's Open Space Committee prepared a preliminary study for a linear park abutting the Mill Brook. According to that report, the Mill Brook needs "restoration and remediation to improve biodiversity, water quality, drainage and flood control."⁷ Portions of the Mill Brook are subject to "chronic flooding," largely because so much of it is channelized.

Alewife Brook. A Mystic River tributary, the Alewife Brook forms Arlington's eastern boundary with Cambridge and Somerville, and is completely channelized. It is located within the state-owned Alewife Brook Reservation, a 120-acre conservation area that is one of the region's largest urban parks. Managed by the Department of Conservation and Recreation (DCR), the Alewife Brook Reservation includes land in Arlington, Cambridge, and Somerville. In 2012, DCR completed the Alewife Greenway Bike Path, a \$3.8 million dollar federally funded project to develop a paved path along the Alewife Brook.

⁶ U.S. Environmental Protection Agency, *Mystic River Watershed Initiative* (undated publication).

⁷ Mill Brook Linear Park Study Group, "Mill Brook Linear Park Report" (2010).

The Alewife Brook continues to be the site of significant flooding concern for neighborhoods in East Arlington, Belmont, and Cambridge. Its urban setting and surrounding land use patterns make the Alewife Brook highly vulnerable to flooding, combined sewer overflows (CSOs), and high nutrient saturation.⁸ There is concern in Arlington that large-scale development projects completed or proposed near the Alewife Brook and the Alewife MBTA station could exacerbate the area's flooding problems.

Reed's Brook. This small brook, including a retention pond to control flooding, flows through McClennen Park in the northwest corner of Arlington on the Lexington border. It meanders through both towns before feeding into Munroe Brook and entering the Arlington Reservoir. Before 1959, Reed's Brook was surrounded by agricultural land, and from 1959 to 1969 Arlington operated a landfill in this area. McClennen Park was redeveloped by the town during the early 2000s and dedicated in 2006.

3. Wetlands

Wetlands perform basic functions such as flood storage, flood damage control, pollution filtration, and groundwater recharge. They are also essential habitat for many birds, animals, insects, and native plants, whether common, threatened, or endangered. In Arlington, wetlands can be found in scattered sites along the Alewife Brook, around Spy Pond, Hill's Pond, and the Arlington Reservoir, at Meadowbrook Park and the Mugar property, and in several sites in the northwest corner of town near Reed's Brook. Most of the mapped wetlands in Arlington are shallow marshes and shrub swamps bordering a water body, river, brook, or stream.

Wetlands are sensitive, scenic, and ecologically valuable resources. The regulations that protect them comprise some of the strongest controls over land development in Massachusetts. Wetlands protection laws and regulations do not directly control land use, but they do affect where construction can occur, how construction activities can be carried out, and what types of mitigation may be required for construction near wetland resource areas. Wetland impacts are regulated by the federal Clean Water Act, the Massachusetts Wetlands Protection Act (WPA), the Massachusetts Rivers Protection Act, and the Town of Arlington's Wetlands Protection Bylaw and Regulations. The Clean Water Act requires a permit for dredging or filling of any "waters of the United States," including most wetlands. The Massachusetts WPA requires Conservation Commission review and approval for work in and within 100 feet of wetlands and within 200 feet of perennial rivers. Arlington's local wetlands bylaw imposes some additional restrictions.

4. Floodplains

Several areas in Arlington experience major flooding problems every few years, including the areas around Reed's Brook, Mill Brook, and Alewife Brook. The Federal

⁸ Blankenship, et al., *Quality and Quantity: Stormwater Management in Alewife Brook* (Tufts University WSSS and Mystic River Watershed Association, 2011), 9.

Emergency Management Agency (FEMA) released new floodplain maps for Arlington in 2010 and Town Meeting adopted them in 2010. Virtually all of Arlington's easterly boundary – from the Mystic Lakes to the Mystic River, the Alewife Brook, and Spy Pond – falls within federally designated floodplains. The Arlington Reservoir and portions of the Mill Brook are also in floodplains. Since construction in a 100-year floodplain is strictly regulated by both state and local bylaws, and has to be permitted by the Conservation Commission, changes to floodplain boundaries may have an impact on future development not only within Arlington but the greater flood-prone region along the Alewife Brook. Moreover, changes in the flood risk assessment (flood zone) for a given property could have a significant impact on the homeowner's cost of flood insurance. The Arlington-Belmont-Cambridge (ABC) Tri-Community Group has recently been reauthorized by the state to address flooding in the Alewife Brook watershed region and to monitor combined sewer overflows (CSOs) along the brook.

5. Vegetation

Vegetation reveals much about a community's soil conditions, climate, and density of development, and it plays a critical role in hydrologic cycles, stormwater management, heat management, adaptation to climate change, and quality of life.

Native and Invasive Plants. Arlington's waterways are home to numerous species of native trees, bushes, and plants that thrive in wet soils. These include Green Ash, Silver, Red, and Ashleaf Maples; Cottonwood; and Willow trees. Cattail, Silky and Red Osier Dogwoods, and Buttonbush are also commonly found. Reed pads and aquatic weeds can be found in and around the town's water bodies, including Mystic Lake and Spy Pond.⁹

The Town encourages landscaping and gardening with native plants. For example, the Department of Public Works (DPW) uses native species in its landscaping work, and the Conservation Commission publishes a list of native plants as a guide for property owners and developers. As part of the Arlington Reservoir dam reconstruction project, the Town's Vision 2020 Reservoir Committee installed a Wildlife Habitat Garden, planted with native shrubs, trees, and perennials.¹⁰ The Town also used native plant species in rain gardens established in 2012 and 2013 at Spy Pond, Hardy School, and Hurd Field. These gardens are designed to collect, absorb, and clean stormwater runoff.

Numerous species of non-native and invasive trees, shrubs, and plants exist throughout Arlington. An **invasive species** is defined by the National Invasive Species Council as "... an alien (or non-native) species whose introduction does, or is likely to cause economic or environmental harm or harm to human health."¹¹ Non-native species in Arlington include Norway and Sycamore Maples, Tree-of-Heaven, and Mountain Ash trees, as

⁹ Ibid.

¹⁰ Arlington Reservoir Committee, "Wildlife Habitat Garden," http://www.arlington2020.org/reservoir/Habitat_Garden.htm.

¹¹ National Invasive Species Council, <http://www.invasivespecies.gov>.

well as Common and European Buckhorns, Forsythia, Winged Euonymus, some Honeysuckles, Multiflora Rose, Oriental Bittersweet, Barberry, and Japanese Knotweed shrubs. Purple Loosestrife, Phragmites reed, and water chestnut are also found in and near many of the town's wetlands and water bodies. All of these are fairly typical of the invasives found in Massachusetts cities and towns.

Using the Town's Water Bodies Fund, Arlington tries to control and remove invasive plants and aquatic weeds at its conservation lands, including the water chestnut growing at the Arlington Reservoir.¹² The Mystic River Watershed Association has also worked to remove water chestnut from the Mystic River. Water chestnut, which grows in dense floating mats, limits the amount of light that can reach below the water's surface. It reduces oxygen levels in the water, increases the potential for fish kills, and limits recreational activities such as boating, fishing, and swimming.¹³

Street Trees and Woodlands. One of the most important elements of Arlington's well-developed streetscape and the environmental quality of the town is the abundance of trees and shrubs. Though largely built-out, Arlington has a significant urban tree cover. Trees cool and improve air quality, filter pollutants, and help with flood control and erosion. Street trees also provide shade and shelter from adjacent traffic. They offer some relief from the effects of heat islands and global warming on one hand, and shelter from the extreme cold of winter on the other hand. Trees and plants play a critical role in the hydrologic cycle, stormwater management, heat management, and adaptation to climate change. Despite Arlington's urban development, it still has many wooded areas: Menotomy Rocks Park, Turkey Hill, Mount Gilboa, Arlington Reservoir, portions of the Symmes property, Hill's Hill, and the Crusher Lot at the Ottoson School.

According to the Town's *Open Space and Recreation Plan*, these woodlands include White Ash, several species of Oaks and Hickories, White Pine, Sassafras, Staghorn Sumac, Grey and Paper Birches, and more limited examples of Sugar Maple, Black Cherry, and Linden trees. Native shrubs and plants found in these woodland areas include Blueberry, Currant, Dangleberry, Deerberry, Maple Leaf Viburnum, Whorled Loosestrife, and False Solomon's Seal.¹⁴

The Town's commitment to protecting its trees helps to explain Arlington's continued designation as a Tree City USA community.¹⁵ Cities and towns become eligible for designation if they meet four key requirements: having a tree warden, following state law for regulating the forest, celebrating Arbor Day, and spending at least \$2 per capita on forestry preservation and maintenance. Arlington has instituted policies for

¹² See Aquatic Control Technology, Inc., to Arlington DPW, 2012 Report.

¹³U.S. Department of the Interior, National Park Service, "Aquatic Plants: Water Chestnut," <http://www.nps.gov/plants/alien/pubs/midatlantic/trna.htm>.

¹⁴ *Open Space and Recreation Plan Update 2007-2012* (2007), 54-59.

¹⁵ The Tree City USA® program is sponsored by The National Arbor Day Foundation, in cooperation with the U.S. Department of Agriculture Forest Service and the National Association of State Foresters. It provides technical assistance and national recognition for urban and community forestry programs.

responding to request from residents to remove or add street trees. The Town does its best to address problems with dead or dying trees and hazardous tree limbs on public property, but it will not remove healthy trees. Residents who want to remove healthy street trees have to accept financial responsibility for public notification, a public hearing, taking down the tree, and planting a replacement. Although the Town plants eighty to ninety trees every year, local officials report that Arlington is losing more trees than it gains, in part due to microbursts and winter storms. Arlington Town Meeting established the Tree Committee to work on programs to identify areas needing more trees and to promote better tree care by residents.

Town-supported Gardens. The Arlington Garden Club, in coordination with the Department of Public Works, sponsors the adoption of more than sixty traffic islands throughout town and post signs indicating the name of the island adopter. Volunteers plant flowers and shrubs and water and maintain them around the year. The Garden Club presents awards, noted on small signs, for the "best" islands each year. The Town also has collaborated with various groups on building three rain gardens - at the Hardy School, Spy Pond Park, and near Hurd Field next to the Arlington Reservoir. Two volunteer-managed community gardens are located on Town-owned land at Robbins Farm Park and Magnolia Field.

6. Open Space

Arlington has 554.6 acres of publicly owned open space, including conservation land (162 acres), land in schools, parks, and recreational uses other Town-owned land and state-owned open land (32 acres)(MAP 7.X and Appendix X). In urban communities like Arlington, residents generally value open space of all kinds, from pocket parks to protected wetlands, for there is very little unused land in the town.

This section of the master plan focuses on **conservation land** and other open space whose primary value is ecological and whose primary function is to protect natural resources: soil, water, vegetation, and wildlife. **Protected open space** is land set aside and restricted for conservation, protection of surface waters, groundwater, and natural diversity, or passive recreation. According to state records, Arlington has 162 acres of protected open space, including town conservation land and other land with long-term or perpetual protection through other means, e.g., a conservation restriction (CR).¹⁶

By contrast, public parks and recreational facilities often serve other needs, e.g., team sports, playgrounds, or neighborhood gathering places.¹⁷ They are described in the Recreation section of the Public Facilities and Services chapter.

TOWN CONSERVATION LAND

The Arlington Conservation Commission (ACC) oversees and manages twenty-five land parcels with a combined total of 47.96 acres (Table 7.2). Except for a few relatively large

¹⁶ NHESP, BioMap 2: Arlington Report (2012).

¹⁷ See Chapter 9 for discussion of Arlington's parks, playgrounds, and other developed recreation facilities.

conservation areas and Cooke's Hollow, most are small, scattered-site holdings of less than one acre that Arlington acquired as tax title takings before the 1970s.¹⁸ Many are unmaintained woodlands with limited access and visibility.

Table 7.2. Arlington Conservation Land

Site Name	Location	Acres
Meadowbrook Park	Mouth of Mill Brook; surrounded by Mt. Pleasant Cemetery	17.50
Mt. Gilboa	North of Mass. Ave. (parking at Park Place, off Crescent Hill Avenue)	10.20
Turkey Hill	Above Forest and Washington Sts., northwest Arlington	12.00
Window-on-the Mystic	East of Mystic Street near Beverly Road on Upper Mystic Lake	3.00
Forest Street	Opposite intersection of Forest/Dunster Lane, Winchester town line	1.00
Cooke's Hollow	Off Mystic Street, south of the Community Safety Building	0.80
Ridge Street	North end of Ridge Street	0.60
Woodside Lane	Across from 26, 30 and 34 Woodside Lane	0.60
Brattle Street	Surrounding 54 Brattle Street	0.50
Stone Road	Across from 24 Stone Road	0.36
Madison Avenue	Adjacent to Mt. Gilboa lands	0.30
Philemon Street	South side of 32 Philemon Street	0.13
Concord Turnpike	Between Scituate and Newport Streets, Concord Turnpike and Arlmont Streets	0.13
Mohawk Road	2 parcels; intersection of Washington and Mohawk Streets	0.13
Hemlock Street	Uphill from 5 Hemlock Street, near former Symmes Hospital	0.13
Short Street	Between 8 Short and 11 West Streets	0.11
Inverness Road	Next to 36 Inverness Street	0.10
Rublee Street	Intersection of Rublee and Udine; entrance to Sutherland Woods in Lexington	0.10
Kilsythe Road	Landlocked behind 44 and 48 Kilsythe Road	0.09
Water Street	Area with two benches north of Bike path next to Buzzell Field	0.05
Brand Street	2 parcels, left of 72 Brand Street and right of 36 Brand Street	0.05
Spring Street	Across from 120 Spring Street	0.04
53 Park Avenue, rear	Access through left side of 53 Park Avenue	0.02
Central Street	Adamian property, end of Central Street	0.02
TOTAL		47.96

Source: Arlington Conservation Commission,

http://www.town.arlington.ma.us/Public_Documents/ArlingtonMA_ConComm/misc/conservationlands

The ACC has adopted general use regulations for its properties and tries to address issues with encroachment and landscape dumping. It relies on its partner, the Conservation Land Stewards, to identify management needs. A significant portion of the ACC's small land acquisition fund was contributed to help fund the Arlington Land Trust's purchase of Elizabeth Island and establish a conservation restriction coheld by ACC and Mass Audubon. The ACC's key holdings include:

- **Meadowbrook Park.** This 17.5 acre parcel is adjacent to Mt. Pleasant Cemetery. Primarily wetlands, the site encompasses land where Mill Brook enters the Lower Mystic Lake. The ACC has carried out several stewardship projects here: stabilizing

¹⁸ Cori Beckwith, Conservation Administrator, Interview with Community Opportunities Group, Inc., August 1, 2013.

the banks of the brook and improving public access, removing invasive reeds, and planting native wetland and aquatic plants along the brook.

- **Mount Gilboa Conservation Area.** This ten-acre conservation site in northwest Arlington is a steep, tree-covered hill with one house, large rock outcroppings, and a network of woodland trails. The Town rents the house to private individuals.
- **Windows-on-the-Mystic.** Located off Mystic Street (Route 3) near the Winchester line, this three-acre conservation parcel is Arlington's only public waterfront on the Mystic Lakes. It offers scenic views of the lakes and it is the primary public access point to the Upper Mystic Lake. The property's rugged landscape has made it difficult for the ACC to manage and maintain the site, resulting in limited use by visitors. Over the years, representatives of Arlington Boy Scouts and other volunteers have installed a trail and steps at the property, but there is no public boat launch or beach at the site.¹⁹
- **Cooke's Hollow.** This small parcel is a long, narrow, partially landscaped area located along both sides of Mill Brook near Mystic Street. The park provides scenic vistas and includes park benches and interpretive signage about the area's historic significance as the site of the first mill the area in the 1630s. The Arlington Garden Club installed gardens and public access at the site, and the Town renovated the park in 2008.

OTHER TOWN-OWNED OPEN SPACE

Arlington also owns open space that is not under the ACC's direct purview. The most notable is the 183-acre **Great Meadows**, Arlington's largest open space holding, though it is located entirely in Lexington. While generally thought of as conservation land, Great Meadows is not protected in perpetuity. The Arlington Board of Selectmen has jurisdiction over the land, most of which is a flat, marshy plain surrounded by wooded uplands with hiking trails. The Minuteman Bikeway forms the southern border of Great Meadows and offers the most direct access to the trails. Local officials and citizen groups in Arlington and Lexington have worked to preserve the natural resources at Great Meadows. In 1999, the ACC commissioned a Natural Resource Inventory and Stewardship Plan for this property. Thereafter, Arlington and Lexington residents formed the Friends of Arlington's Great Meadows (FoAGM) to serve as stewards of the property. FoAGM has surveyed plants and animals in the Meadow, organized regular bird watching and geology walks, and built a series of boardwalks to improve the visitor's experience and protect natural resources.

STATE-OWNED OPEN SPACE

The Commonwealth of Massachusetts owns several parcels in Arlington. The largest state-owned parcel in town is part of the Alewife Reservation, managed by the Department of Conservation and Recreation (DCR), which also manages a parcel around

¹⁹ Cori Beckwith, Arlington Conservation Administrator.

the dam at the Mystic Lakes. DCR has prepared master plans for both the Alewife Brook Reservation and the Mystic River.

The 120-acre Alewife Reservation in Cambridge, Belmont, and Arlington is one of Boston's largest urban wilds. It provides habitat for a wide range of indigenous and migratory birds and many other animals, including deer and coyote. Arlington's portion is at the end of the Minuteman Bikeway in the town's southeast corner. Much of the reservation consists of wetlands and water bodies, including Little Pond, Little River, and Alewife Brook. The site also has wooded uplands and meadows.

In 2013 DCR completed a \$3.8 million project to build a multi-use path along the Alewife Brook adjacent to the Mystic Valley and Alewife Brook Parkways and several town neighborhoods. The Alewife Greenway Bike Path restoration project (also referred to as the Minuteman Bikeway Connector) included installation of a dirt/stone pathway with elevated boardwalks in ecologically sensitive areas, removal of invasive plants, and new landscaping. The path provides much-improved access for bicyclists, pedestrians, bird watchers, and others.

The Massachusetts Water Resources Authority (MWRA) owns the pumping station on Brattle Street and the water tower on top of the Turkey Hill. The Arlington Park and Recreation Commission has jurisdiction over the twelve acres of wooded land around the Turkey Hill water tower, and the Conservation Commission owns a couple of small adjacent parcels. During the mid-2000s, Arlington worked with the state, the MWRA, and neighborhood residents to address security issues at the site. A stewardship group organized through the ACC's Land Stewards Program monitors and maintains the reservation.

In addition, the Massachusetts Department of Public Works (MDPW) owns a maintenance building near Route 2 and the Massachusetts Highway Department (MHD) owns land along Route 2 that includes a path on the southern edge of Spy Pond.

PRIVATELY OWNED OPEN SPACE

Elizabeth Island. The Arlington Land Trust (ALT) acquired Elizabeth Island in 2010. With privately raised funding and support from the Conservation Commission, the Commonwealth's Conservation Partnership program, and the Massachusetts Audubon Society (MAS), the ALT purchased this undeveloped, heavily vegetated two-acre island in the middle of Spy Pond and granted a conservation restriction to the ACC and MAS. In turn, MAS prepared a management plan for the island that identifies minor maintenance needs. Elizabeth Island is open to the public, but its limited access allows the island to serve as nesting habitat for various species of birds and small mammals. ALT and the Friends of Spy Pond Park host tours of the island several times a year, and the Recreation Department has a boat rental program on the pond during the summer months so residents can visit the island on their own.

Symmes Woods. The Town acquired the eighteen-acre Symmes Hospital property in 2002 in order to control the site’s future development. The property included several former hospital buildings, a nurse’s residence, several parking lots, and nine acres of steep woodland. After an extensive public process, Arlington sold the property to a developer in 2007. The disposition agreement requires permanent protection of approximately nine acres of the site, including two public parks and the woodland now known as Symmes Woods. The site offers parking for public visitors to use the parks and woodland trails for passive enjoyment, all protected with a conservation restriction (CR) held jointly by the ACC and ALT.

Conservation Restrictions. One other small privately owned parcel in Arlington is protected with a CR, which provides the most restrictive form of land protection. Recorded on a property’s deed, a CR allows property owners to convey partial (less-than-fee) interest in their land to a qualified conservation organization such as ALT or public agency such as ACC. By granting a CR, the landowner agrees to preserve the property in its natural state and forego future development. If given for less than full compensation, the landowner may receive the benefit of a charitable tax deduction.

Table 7.3. Conservation Restrictions in Arlington

Property	Owner	Holder of Conservation Restriction	Term
Elizabeth Island	Arlington Land Trust	Conservation Commission and Massachusetts Audubon Society	In perpetuity
Brantwood Road	Private	Conservation Commission	In perpetuity
Symmes Woods and Parks	Private	Conservation Commission and Arlington Land Trust	In perpetuity (in progress)

Source: Cori Beckwith, Arlington Conservation Administrator

Unprotected Private Open Space. The 17-acre Mugar property is the largest privately owned undeveloped parcel in Arlington. Located in the southeast corner of East Arlington by Route 2, the Mugar property is adjacent to Thorndike Field and the Alewife Brook Reservation. Arlington has been concerned about the Mugar land for many years. In 2000 and 2001, Town Meeting endorsed the permanent protection of the land, but local officials could not reach agreement with the owners, who have proposed several unsuccessful development concepts for the site in recent years. The Mugar property has been altered and filled over many years, but a substantial part of the site remains wetlands and the majority of the area is susceptible to flooding. Changes to the Federal Emergency Management Agency (FEMA) floodplain maps in 2010 could have an impact on the property’s development potential. In 2010 the Arlington Redevelopment Board voted to ???

Other significant unprotected private sites in Arlington are the Winchester Country Club (22.6 acres) and Belmont Country Club (11.2 acres), which are used mostly as golf courses but are zoned for residential development. The Roman Catholic Archdiocese owns land at Poet’s Corner (6.5 acres), the Arlington Catholic High School field on

Summer Street (2.3 acres), and St. Paul's Cemetery (14.9 acres). The Kelwyn Manor Park (1.8 acres) has a playground and open space on Spy Pond, but it is part of a private neighborhood association.

7. Sustainability and Climate Change Adaptation

In Arlington, both volunteer committees and staff work on developing and implementing sustainability programs and educate the community about climate change adaptation. In 2006, Town Meeting adopted the *Arlington Sustainability Action Plan*, prepared jointly by Tufts University students and members of Sustainable Arlington, an affiliate of the Vision 2020 Environment Task Group. The plan is primarily a **climate action plan** that focuses on energy efficiency, transitioning to sources of energy that lower or eliminate the production of greenhouse gases, reducing single-occupancy vehicle trips, and educating the public. Many of the recommendations have been adopted and continue to be carried out by the Town, e.g., hiring an energy coordinator and a recycling manager, and purchasing fuel-efficient vehicles. Many of the steps taken to implement the *Sustainability Action Plan* set the stage for Arlington's designation by the Massachusetts Green Communities Program in 2010.

Sustainability focuses on the convergence of the built and natural environments in places where people can have healthier, more productive lives while reducing their impact on the world's natural resources. Seen this way, sustainability encompasses land use, transportation, economic diversity and competitiveness, and a broad range of environmental management practices. Arlington has understood this for a long time because the nine Vision 2020 goals the town adopted in the 1990s anticipate a sustainable community.

In 2014, good examples of sustainability policies in Arlington range from Safe Routes to School (walkability and public health) to the Vision 2020 surveys conducted each year (community assessments and inclusiveness). The Minuteman Bikeway, the "complete streets" plan for Massachusetts Avenue in East Arlington, and Arlington's tradition of neighborhood schools are also good examples of sustainability in facilities planning and design. Furthermore, Arlington's efforts to care for trees, its successful recycling program, and its unusually strong commitment to stormwater education shed light on the sense of environmental stewardship shared by residents, town officials, and staff. With help from the Mystic River Watershed Association, rain gardens have been built at Hurd Field (Drake Road) and Hardy School (Lake Street). Rain gardens are vegetated areas that collect, absorb, and clean stormwater runoff. In addition, porous parking surfaces have been installed at Hurd Field in the Heights and Thorndike Field in East Arlington.

E. ISSUES & OPPORTUNITIES

1. Open Space

In Vision 2020 surveys, the World Café event in October 2012, and community meetings for this master plan, Arlington residents have been remarkably consistent about the town's natural resource protection needs. They say that Arlington should protect, improve, and maintain the open spaces it currently owns and, where possible, make more diverse use of existing open space properties. Of the nine Vision 2020 goals for Arlington (first adopted in the 1990s), the goal that addresses protecting and enhancing Arlington's natural resources and sustainability attracted the second highest percentage of "strongly support" survey responses in 2013 – second only to the importance of good public schools. Arlington residents have expressed a desire to see the Town do more to protect open space and natural resources.

Concerns include the limited public access to water bodies in Arlington. There is a well-used nature trail around the Arlington Reservoir, but limited access around Spy Pond, where most of the shoreline is privately owned. Public access is also limited on the Arlington portion of DCR land along the Mystic Lakes and Mystic River. Furthermore, the protected open space that does exist in Arlington is not always well-connected or well-maintained, so the ecological and passive recreational values of the land are significantly diminished. The Minuteman Bikeway does provide a recreational link among many sites in the Mill Brook Valley.

Residents also recognize that protecting open space and natural resources requires regional action, especially for urbanized communities like Arlington and a majority of its neighbors. Some of the regional or interlocal efforts that do exist are described in the Town's *Open Space and Recreation Plan*, which also calls for more funding and staff to manage and maintain the town's open space. Due to budget constraints, however, Arlington has not been able to increase staff in most of its municipal departments; in many cases, especially the DPW, the number of personnel has actually decreased. Funding constraints also limit Arlington's ability to acquire open space. In 2014, Arlington Town Meeting voted to put the Community Preservation Act (CPA) on the Town-wide ballot, a move that could bring the town a dedicated source of revenue for open space, historic preservation, and affordable housing. If approved in November 2014, CPA could offer the town a new funding source for acquiring and protecting currently undeveloped land, especially land in floodplains.

2. Water Quality

NONPOINT SOURCE WATER POLLUTION

Another source of environmental concern is nonpoint source water pollution—pollution that originates from diffused or widespread sources and enters surface water and groundwater through stormwater runoff. Nonpoint source pollutants include:

- ◆ Excess fertilizers, herbicides, and insecticides from lawns and farmland;

- ◆ Oil, grease, and toxic chemicals from urban runoff and energy production;
- ◆ Sediment from improperly managed construction sites and eroding stream banks; and
- ◆ Bacteria and nutrients from pet wastes.

These pollutants have harmful effects on drinking water supplies, recreation, and fisheries and wildlife. Identifying and controlling the source of pollutants, such as a leaking underground oil tank or the leaching of fertilizer into a water body, is much more difficult than point source pollution. The most important ways to control nonpoint source pollution are through proper land management, effective maintenance of petroleum, erosion control, and stormwater management bylaws and zoning to control land use. All of Arlington's water bodies are threatened by nonpoint pollution due to untreated stormwater runoff from roadways, residential properties, and businesses. Stormwater runoff is accelerating the process of eutrophication in many town water bodies, and in the case of Spy Pond is also creating a sandbar.

WATER QUALITY STANDARDS

The federal Clean Water Act (CWA) requires all fifty states to assess the quality of surface waters every two years and identify water bodies with significant water quality impairments. All of the water bodies in Arlington are designated as suitable for "habitat for fish, other aquatic life, and wildlife...", and secondary contact recreation ... Class B waters shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value."²⁰ Though designated for these purposes, the water bodies in Arlington do not actually meet Class B surface water quality standards. DEP has classified almost all of the ponds, lakes, rivers, and named brooks in Arlington as "Category 5" impaired waters under the CWA. As Category 5 waters, they require a **Total Maximum Daily Load (TMDL)** in order to restore them to meet surface water quality standards for Class B waters. As defined by the EPA, Total Maximum Daily Load (TMDL) is an estimate of how much of a pollutant, or group of pollutants, a water body (lake, pond, river, stream, or estuary) can absorb without becoming polluted. TMDLs are developed for a pollutant (or a group of pollutants) in water bodies that are listed in each state's list of impaired waters, known as the 303(d) list.

- **Spy Pond** has been the subject of environmental concerns for several decades. In 2001, the Town received two state grants to assist in adopting Best Management Practices to control nonpoint source water source pollution, to address the more than forty storm drains allowing excess phosphorus from lawn fertilizers and road salt and sand to enter the pond. From 2010 to 2013, Spy Pond was one of five water bodies in Massachusetts tested weekly by the Department of Public Health (MDPH) to identify harmful algae blooms (HABs) as part of a grant from the Centers for Disease

²⁰ Code of Massachusetts Regulations (CMR) 314: 405(b).

Control (CDC).²¹ The Massachusetts Department of Transportation (MassDOT) recently installed Best Management Practices (BMP) devices to address runoff from Route 2 that was causing the formation of a sandbar in the pond.²² Nevertheless, while Spy Pond is state-designated as a Class B water body, it does not meet the Commonwealth's Class B water quality standards. Spy Pond remains impaired from causes such as chlordane, DDT, excessive algae growth, and phosphorous – all conditions that make it a Category 5 water body that requires a TMDL.²³

- The **Mystic Lakes** suffer from nonpoint runoff from the Mystic Valley Parkway and lawn and yard maintenance. Aquatic weeds such as milfoil continue to be found in the lakes, causing concerns to both human safety and eutrophication of the water body. In the past, the Winchester Boat Club has successfully applied aquatic pesticides to control weeds in its area of the Upper Mystic Lake. According to the 2012 *Integrated List of Waters*, both the Upper and Lower Mystic Lakes qualify as Category 5 waters due to dissolved oxygen, and the Lower Mystic Lake is also impaired due to PCB (found in fish tissue), salinity, chronic toxicity, DDT, and hydrogen sulfide.²⁴
- The five-mile segment of the **Mystic River** that flows from Arlington to the Amelia Earhart Dam in Somerville/Everett is impaired by arsenic, chlordane, chlorophyll-a, DDT, dissolved oxygen saturation, *Escherichia coli* (*E. coli*), PCB in fish tissue, phosphorus (Total), and chronic toxicity. In annual self-assessments under MassDOT's NPDES Stormwater Management Plan, the agency estimates that the watershed of this segment consists of approximately 3,860 acres, 59.8 percent of which is impervious.²⁵ The Mystic River Watershed Association and other state and private entities perform regular monitoring and maintain records of water quality.
- **Mill Brook** suffers from nonpoint source pollution and storm drain pollution all across the town. The principal cause of Mill Brook's impairment is *E. coli* from animal wastes.
- **Alewife Brook**, one of the most polluted water bodies in Arlington, is adversely affected by combined sewer overflows (CSOs) from Cambridge, Somerville, and the MWRA system. Cambridge has separated some of its combined drains, but overflows remain problematic. There are several reported causes of the Alewife Brook's Category 5 status, including copper, *E. coli*, foam and oil slicks, lead, dissolved oxygen, PCB in fish tissue, phosphorus, and chronic toxicity.

²¹ Arlington Board of Health, <http://www.arlingtonma.gov>.

²² Cori Beckwith, Conservation Administrator, Interview with Community Opportunities Group, Inc., August 1, 2013.

²³ DEP, 2012 *Integrated List of Waters*, 144.

²⁴ *Ibid.*

²⁵ MassDOT, "Impaired Waters Assessment of Mystic River" (Segment MA71-02), 2012.

- **Arlington Reservoir** faces nonpoint pollution problems from pesticides and fertilizers from a nearby farm and surrounding homes. Water chestnuts are also a problem that the Town tries to control by manual and mechanical harvesting during the summer. Two storm drains on the Lexington side of the Reservoir also are sources of pollution.

3. Urban Wildlife

In April 2014, Arlington topped the New England evening news when a rabid raccoon attacked two small children and an adult before it was shot by the local police. Though such stories are not common, they attest to the growing problem of wildlife conflicts in urban communities. Many Arlington residents say that since roughly 2000, they have seen increasing numbers of rabbits, wild turkeys, coyote, and raccoons around town. Over time, largely due to the introduction of exotic plants in natural communities and displacement of native species, animals that rarely ventured into settled areas now frequent yards in residential neighborhoods. The problems range from predatory wildlife to human illness, injury, and fatalities, and property damage. In Arlington, controlling the population of geese by egg addling has become an essential part of managing water quality at Spy Pond and at Reed's Brook in McClennen Park.

4. Environmental Hazards

HAZARDOUS WASTE SITES

The Massachusetts DEP Bureau of Waste Site Cleanup regulates the identification, assessment, and remediation of contaminated sites, known as Disposal Sites under the Massachusetts Contingency Plan (MCP) regulations. According to the DEP's Reportable Release Lookup table, there have been 193 reported disposal incidents in Arlington since 1987.²⁶ The vast majority of incidents reported to DEP were relatively minor or low risk, involving a response that did not require oversight by DEP or a Licensed Site Professional (LSP). Seven incidents are "Tier classified," however, meaning a type or an extent of contamination that poses a higher risk to the public. Arlington has no Tier 1A (highest risk) sites, but there are two Tier 1D sites and five Tier 2 sites, as shown in Table 7.4. Tier 1D is a default classification that DEP assigns when the responsible party misses a regulatory deadline, e.g., failing to file a report. Tier 2 sites warrant clean-up under LSP supervision, but they do not involve a high enough risk to require a DEP permit.

Table 7.4. Contamination Sites by Chapter 21E Tier Status

Site Name	Address	Contamination Type	Chapter 21E Status
Arlington High School	869 Massachusetts Ave.	Hazardous Material	Tier 1D
Dry Cleaners	1092 Massachusetts Ave.	Not Identified	Tier 2
Former Arrow Pontiac	25 Massachusetts Ave.	Not Identified	Tier 2
Residential Group Home	44 School St.	Oil	Tier 2
Mile Marker 132	Route 2 West	Oil	Tier 1D

²⁶ MA DEP, "Waste Sites and Releases: Arlington,"

<http://public.dep.state.ma.us/SearchableSites2/Search.aspx>.

MBTA Bus Station	1389 Massachusetts Ave.	Oil and Hazardous Material	Tier 2
TD Bank	880 Massachusetts Ave.	Hazardous Material	Tier 2

Sources: MassGIS, Chapter 21 Database, and Dept. of Environmental Protection, Reportable Release Lookup, September 2013.

The *Open Space and Recreation Plan* reports that in addition to the sites reported in Table 7.4, two other contaminated properties have required remediation. The Reed’s Brook site in McClennen Park (northwest Arlington) served as the Town’s landfill from 1959 to 1969. The site underwent a Comprehensive Site Assessment as part of the landfill closure process and it was eventually redeveloped and dedicated as McClennen Park. The former Symmes Hospital property, which the Town purchased in 2001 and later sold to a developer, was remediated by the buyers as part of a large-scale redevelopment project. The Town discovered two contaminated areas on the site before purchasing it.

DEP has identified six sites in Arlington that are subject to Activity and Use Limitations (AUL): remediated (and sometimes unremediated) sites that can be used for new purposes, subject to restrictions recorded with the deed. For example, the playing field at Arlington Catholic High School can be used for an athletic field and accessory purposes, but not for construction of a residence or business. The AUL sites in Arlington are reported in Table 7.5.

Table 7.5. Sites Subject to Activity and Use Limitations under Chapter 21E

Site Name	Address	Status	RAO Class	AUL Date
Arlington Catholic Playing Field	Summer St.	RAO*	B2†	2009-11-19
MBTA Parking Lot	1395-1425 Massachusetts Ave.	INVSUB**		2002-07-24
Brighams, Inc. Brighams, East Edge of Parking Lot	30 Mill St.	RAO	A2‡	2012-04-04
Unnamed Site	24 Central St.	RAO	A3§	1998-05-01
Unnamed Site	1386 Massachusetts Ave.	RAO	B2	2002-10-03
Unnamed Site	180 Mountain Ave.	RAO	A3	2012-10-15

Source: MassGIS.
 Notes:
 *RAO means “Response Action Outcome,” or a report filed with DEP that actions taken have eliminated substantial hazards and no significant risk exists on the site.
 **INVSUB means the RAO filed with DEP is invalid.
 †Class B2: no remedial action required if AULs are implemented.
 ‡Class A2: Permanent solution achieved, but some contamination remains.
 §Class A3: Permanent solution achieved; but some contamination remains; AULs have been implemented.

NATURAL HAZARDS RESPONSE

In recent years, Arlington has experienced both natural and human-caused disasters, e.g., hurricanes, blizzards, floods, and hazardous material spills. To help prepare for these events, Arlington established a Local Emergency Planning Committee, composed of town employees and residents. The committee has developed a new Emergency

Management Plan for the town, which focuses not only on preparedness and response but also mitigation and recovery.²⁷ It is unclear whether Arlington has a Hazard Mitigation Plan, however, as required by the Federal Disaster Mitigation Act of 2000. The Metropolitan Area Planning Council (MAPC) has worked with several communities in Greater Boston (including Arlington's neighbor, the City of Medford) to develop Hazard Mitigation Plans. "Hazard mitigation" involves long-term strategies, such as planning, changes in policy, educational programs, public works projects and preservation of floodplains and wetlands, to reduce or alleviate losses of life, injuries, and property resulting from natural hazards.

5. Tree Cover

Despite Arlington's ongoing support for maintaining and protecting trees, the town is losing tree cover due to storms, "microbursts," utility company maintenance, and the failure of replacement street trees to thrive. In July 2012, for example, a microburst descended on East Arlington, destroying approximately one hundred trees. Although the Town appropriates funds for tree replacement each year, the DPW is not staffed to provide the amount of field labor involved with proper urban forestry management. According to the DPW director, the town is losing more trees than it is replacing each year. Storm-related problems are not the only cause of tree loss. Sometimes new trees planted to replace older trees (uprooted or removed) do not survive. In the business districts, there needs to be a close collaboration between the Town, store owners, other commercial tenants, residents, and community organizations to take better care of both existing and new trees. Aside from the environmental and public health benefits of trees in urban areas, the trees have a significant impact on the quality of the pedestrian's experience in Arlington's commercial centers.

D. DISCUSSION QUESTIONS

- 1) Since Arlington is substantially built out, development here will continue to be dominated by demolition and renovation or rebuild activities. The waste resulting from these activities includes wood, concrete, glass, metal, roofing materials, and so forth. Should the Town do more to regulate (through disincentives) teardown and rebuilt projects?
- 2) Where do you think Arlington's best opportunities are for trying to link some of its existing, disconnected open space? What strategies can the Town pursue to link these open spaces?
- 3) Some urban communities in the United States are focusing their sustainability planning on promoting local sources of food. What approaches to urban agriculture would work in Arlington, and where might the potential conflicts arise?

²⁷ Arlington Emergency Management Services,
www.arlingtonma.gov/Public_Documents/ArlingtonMA_EMS/index.

- 4) How can the Town's residents support efforts to better maintain its trees, water bodies and passive recreation land?
- 5) The Town has very little privately owned open space. Should the town be planning for and/or protecting the Mugar parcel (17 acres along Route 2 in East Arlington) and Poet's Corner (13 acres owned by the Archdiocese of Boston along Route 2 at the western boundary of Arlington)?