2.0 NATURAL RESOURCES

Introduction

Natural resources are the town's environmental and ecological assets: the land, water, plants, and animals that sustain and enhance the community. The benefits of good water quality and a beautiful environment support a healthy and prosperous community and are valued by Lincoln's residents. Where natural resources are degraded, this can threaten the safety and well-being of the town, its economy, its visitors, and its residents. Planning for natural resources includes planning for natural resource protection, restoration, improvement, and balancing with development practices and human activities.

Lincoln's lands and waters support a variety of public benefits, recreational and economic activities, and important species and habitats. This chapter includes:

- the extent and condition of the town's natural resources,
- the issues and opportunities associated with them,
- and goals and actions for their protection and improvement that align with the town's broader vision for its future.

2.1 Existing Conditions

2.1.1 Surface Water

Surface water, which refers to all bodies of water above ground, covers 596 acres out of a total of 12,141 acres, or 4.9% of the Town. Surface water includes streams, rivers, lakes, wetlands, reservoirs, and creeks (National Geographic Resource Library 2021). Surface water is critical to human health, ecosystems, and other species, that rely on surface waters for drinking water or habitat.

The Town is located within two watersheds: the Lower Blackstone River watershed and the Woonasquatucket River-Moshassuck River watershed. Out of the town's 12,141 acres, 4,401 acres are within the Lower Blackstone River watershed, and the remaining 7,740 acres are within the Woonasquatucket River-Moshassuck River watershed. The Moshassuck River originates in Lincoln and is tributary to the Providence River. The central and southern portion of the Town drains to the Moshassuck River, and the industrial areas and villages in the north and eastern portions of town drain into the Blackstone River. See Map 2-1, Surface Water and Watershed Map for the watershed boundaries and location of surface water bodies.

Ponds and reservoirs located within the Town include:

- Barney Pond
- Bleachery Pond
- Butterfly Pond
- Gilbane's Pond
- Laporte's Pond
- Meaders Pond
- Olney Pond
- Rochambeau Ponds

- Scott Pond
- Spectacle Pond
- Wenscott Reservoir
- Woonsocket Reservoir

2.1.2 Surface Water Quality

The quality of the state's freshwater supplies has been classified by RIDEM. See Map 2-2 Water Quality Map for the locations of each water body classified by RIDEM. Table 2-1 lists the classifications and impairments for each major waterbody in the town. Lincoln's drinking water is supplied by the Providence Water Supply Board, which comes from the Scituate Reservoir (outside of Lincoln), but the Woonsocket Reservoir and Crookfall Brook are in Lincoln and serve as water supplies for other communities.

The highest quality surface waters in the town (of those that have been evaluated by RIDEM) are:

- Rochambeau Pond (in Handy Pond Conservation Area),
- Woonsocket Reservoir (public drinking water source),
- West River,
- several unnamed brooks, and
- Laporte's Pond.

The waters listed above are designated Category 2, meaning that some, but not all the designated uses are supported.

The category representing the highest impairment is Category 5, which indicates that at least one designated use in a water body is not being supported or is threatened, and a Total Maximum Daily Load (TMDL) for the pollutant is needed. A TMDL assessment describes impairments and identifies measures needed to restore water quality in the water body and is required by the Clean Water Act for all waters in this category. Three ponds and 11 miles of water bodies in Lincoln are highly impaired and in category 5:

- Barney Pond (bacteria),
- Scott Pond (phosphorus),
- Valley Falls Pond (biodiversity),
- 3 miles of Blackstone Canal (bacteria, trace metals),
- 3 miles of Blackstone River (bacteria, trace metals, biodiversity),
- 1 mile of Moshassuck River (bacteria, biodiversity), and
- 4 miles of unnamed water bodies.

Impairments are caused by several causes, depending on the problem: nutrients (e.g. phosphorus) from point and nonpoint source pollution; bacteria from stormwater runoff from developed areas, illicit discharges, malfunctioning onsite wastewater treatment systems, agricultural activities, and wildlife and domestic animal waste; metals such as cadmium or lead reach water bodies through precipitation and runoff from industrial and municipal wastewater discharges (RIDEM 2013); and loss of biodiversity can be caused by any combination of the impairments listed above. Spectacle Pond and Scott Pond have been affected by summer droughts when lower precipitation leads to

lower water levels. Also, blue-green algae blooms have prompted health advisories at Scott Pond in the past.

Crookfall Brook has a section of surface water in the town that is designated Class AA, because it is a source of public drinking water downstream. Three miles of Crookfall Brook flow within the Town of Lincoln into North Smithfield and Smithfield. Crookfall Brook is a cold-water fishery and is a tributary within Woonsocket's public drinking water supply system. It has been designated by RIDEM as a Special Resource Protection Water (SRPW), providing it with special protections under RIDEM's Antidegradation Provisions. SRPWs are high-quality surface waters that have been identified as having significant ecological or recreational uses or are public water supplies (RIDEM 2011).

This important brook is categorized as Category 4A because some designated uses are restricted because of impairments. In Crookfall Brook, water quality issues with bacteria make it inappropriate (impaired) for direct potable use, though it can still be used for recreation because it is not a terminal reservoir. There are several potential sources of bacteria in the Crookfall Brook watershed including failing onsite wastewater treatment systems, wildlife and domestic animal waste, and stormwater runoff from developed areas. Planning for wastewater treatment and stormwater management can help address and improve surface water issues like those that occur in Crookfall Brook.

| Table 2-1. Water Quality Classification and Impairments | | |
|---|----------------|---|
| Waterbody | Classification | Impairment |
| Crookfall Brook | AA | Category 4A: One or more designated uses are impaired or threatened but establishment of a TMDL is not required because a state-developed TMDL has been approved by EPA or a TMDL has been established by EPA for any water-pollutant combination. |
| Woonsocket Reservoir | АА | Category 2: Available data and/or information indicate that some, but not all of the designated uses are supported. |
| Laporte's Pond | А | Category 3: There is insufficient available data and/or information to make a use support determination. |
| West Sneech Brook | В | Category 3: There is insufficient available data and/or information to make a use support determination. |
| Mussey Brook | В | Category 3: There is insufficient available data and/or information to make a use support determination. |
| Moshassuck River | В | Category 4A: One or more designated uses are impaired or threatened but establishment of a TMDL is not required because a state-developed TMDL has been approved by EPA or a TMDL has been established by EPA for any water-pollutant combination. |

| Table 2-1. Water Quality Classification and Impairments | | | |
|---|----|---|--|
| Moshassuck River | В | Category 5: Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed. | |
| Threadmill Brook | В | Category 3: There is insufficient available data and/or information to make a use support determination. | |
| No Name | В | Category 2: Available data and/or information indicate that some, but not all of the designated uses are supported. | |
| No Name | В | Category 3: There is insufficient available data and/or information to make a use support determination. | |
| No Name | В | Category 4A: One or more designated uses are impaired or threatened but establishment of a TMDL is not required because a state-developed TMDL has been approved by EPA or a TMDL has been established by EPA for any water-pollutant combination. | |
| No Name | В | Category 5: Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed. | |
| West River | В | Category 2: Available data and/or information indicate that some, but not all of the designated uses are supported. | |
| West Sneech Brook | В | Category 3: There is insufficient available data and/or information to make a use support determination. | |
| Handy Pond | В | Category 2: Available data and/or information indicate that some, but not all of the designated uses are supported. | |
| Blackstone Canal | B1 | Category 5: Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed. | |
| Blackstone River | B1 | Category 5: Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed. | |

Source: RIDEM, ridemgis.maps.arcgis.com, EPA Integrated Reporting Categories 2018

Figure 2-1. RIDEM Freshwater Quality Classifications

These waters are designated as a source of public drinking water supply or as tributary waters within a public drinking water supply, for primary and secondary contact recreational activities and for fish and wildlife habitat. These waters shall have excellent aesthetic value. These waters are designated for primary and secondary contact recreational activities and for fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquaculture uses, navigation, and irrigation and other agricultural uses. These waters shall have excellent aesthetic value. These waters are designated for fish and wildlife habitat and primary and secondary contact recreational activities. They shall be suitable for compatible industrial processes and cooling, hydropower, aquaculture uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value. These waters are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquaculture uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges. However, all Class B criteria must be met. These waters are designated for secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquaculture uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value.

Source: RIDEM, Water Quality Regulations, 2009.

The Moshassuck River is a cold-water fishery surrounded by forest in the upper parts of its watershed. The Moshassuck River Preserve protects over 210 acres of land along the Moshassuck River, providing recreation and wildlife habitat (Conservancy 2023).

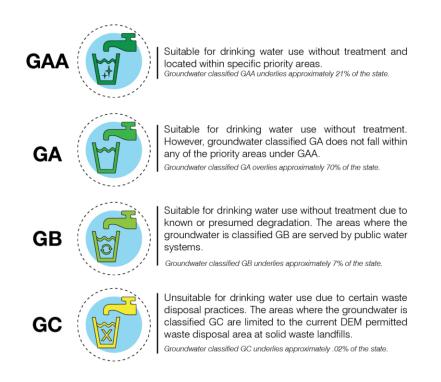
The Blackstone River, which forms the eastern boundary of much of the town, drains into the Seekonk River and is ultimately a tributary to Narragansett Bay (Town of Lincoln 2003, EPA 2021). The Blackstone River holds special importance for recreation and the community's cultural heritage. Once degraded by industrial activities, the Blackstone River has been the focus of a major cleanup

effort. The Blackstone River Valley National Heritage Corridor provides the town and neighboring communities space for outdoor recreation, including biking, kayaking, and canoeing.

2.1.3 Groundwater

The Rhode Island Department of Environmental Management (RIDEM) identifies and maps the state's groundwater reservoirs and groundwater reservoir recharge areas. See Map 2-3 Groundwater Supply and Protection Map for the location of groundwater reservoirs and recharge areas. RIDEM classifies the state's groundwater and ranges from GAA to GC (as defined below). The Town's groundwater has been classified as GA (Blackstone and Lower Blackstone, Moshassuk), suitable for drinking water use, and GB (Providence, Warwick), not suitable for drinking water use without treatment.

Figure 2-2. RIDEM Groundwater Quality Classifications



Source: RIDEM, Groundwater Quality Classifications, 2009

A groundwater reservoir recharge area of 2,568 acres occurs in Lincoln. The recharge area is the land surface from which the water moves to a well or aquifer under certain hydraulic conditions (RIGIS 2009). The Town of Lincoln has no sole source aquifers and does not rely on groundwater for its water supply. *Chapter 8, Public Facilities,* provides further details on the Town's water systems and supply.

A 500-acre Superfund Site, the Peterson/Puritan, Inc., is located within the towns of Lincoln and Cumberland and has impacted local groundwater aquifers and the Blackstone River Valley National Heritage Corridor and Blackstone River Valley National Historical Park (EPA 2023). Superfund sites

are designated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) environmental law. CERCLA allows the Environmentally Protection Agency (EPA) to clean up contaminated sites that require a long-term response (EPA 2022).

The former Peterson/Puritan, Inc. plant packaged aerosols, and included landfilling, disposal of chlorinated VOCs, process wastes, and hazardous substances, including hazardous waste and sewage sludge (EPA 2023). These activities contaminated soil and groundwater near the facility and leach fields. The site is divided into two separate areas, known as operable units 1 and 2 (OU1 and OU2), and consists of over two miles of mixed industrial/residential properties (EPA 2023). Site cleanups in OU-1 were mostly completed between 1995 and 1997, and remedies for OU-2 are set to be completed in 2024.

2.1.4 Soils

Lincoln has a variety of soils classified according to physical and chemical properties. The University of Rhode Island (URI) Environmental Data Center and RIGIS dataset depicts the kinds and distribution of soils on the landscape, developed by the Rhode Island Soil Survey Program in partnership with the National Cooperative Soil Survey (NCSS). According to the URI Environmental Data Center and RIGIS, outwash plains soils make up most (over 63%) of the Town. The rapid permeability of outwash plains (hydrologic soil groups A and B) has the potential to cause pollution where there is not sufficient depth of groundwater for soils to capture pollutants before reaching the aquifer. Outwash plain soils are especially vulnerable to contamination from agricultural uses and should be considered for special protection where they overlap. Lincoln's main outwash plain soils are Canton and Charlton.

Soils with slower infiltration rates (hydrologic soil groups C and D) attenuate pollutants better than those with rapid percolation and make up 26% of the Town. Soil groups C and D may contribute to runoff especially where they have impervious surfaces. Table 2-2 and Map 2-4 Soil Hydrologic Group Map provide additional information on the extent of soil hydrologic groups in Lincoln.

| Table 2-2. Hydrologic Group | | |
|-----------------------------|-------|--------------------|
| Group | Acres | Percentage of Town |
| В | 5,880 | 48.4% |
| А | 1,886 | 15.5% |
| D | 1,197 | 9.8% |
| С | 302 | 2.5% |

Source: URI Environmental Data Center and RIGIS

The most prevalent soil types within each group include:

- Canton and Charlton (A):
 - a. Fine sandy loams, very rocky, 3 to 15 % slopes (1903 acres),
 - b. Very stony fine sandy loams, 3 to 8 % slopes (1032 acres),
 - c. Rock outcrop complex, 15 to 35 % slopes (750 acres),
 - d. Extremely stony fine sandy loams, 3 to 15 % slopes (502 acres), and
 - e. Fine sandy loams, 3 to 8 % slope (489 acres).
- Merrimac (B): Urban land complex (536 acres)
- <u>Ridgebury, Whitman, and Leicester (C):</u> Extremely stony fine sandy loams (1247 acres)

• <u>Udorthents (D)</u>: Urban land complex (750 acres)

Soil Constraints

The Soil Constraints Table, Table 2-3, groups soil descriptions by category. Map 2-5 Soil Constraints Map depicts areas throughout the Town where existing soil on specific sites would present a constraint to development. Over 43.6% of the Town has moderate constraints to development due to soils, and over 2,861 acres (23.5%) within the Town have constraints to development due to slopes of over 15% or bedrock.

| Table 2-3. Soil Constraints | | |
|--------------------------------------|--------|--------------------|
| Category | Acres | Percentage of Town |
| Moderate constraints to | 5,299 | 43.6% |
| development | | |
| Bedrock and/or slope (greater than | 2,861 | 23.5% |
| 15% slope) | | |
| Hydric soils (0" to 18" Water Table) | 1,847 | 15.2% |
| Constraints due to seasonal high- | 1,497 | 12.3% |
| water table (19" to 42" depth) | | |
| Waterbodies | 528 | 4.3% |
| All other severe constraints (rock, | 109 | 0.89% |
| sand, etc.) | | |
| | 12,141 | 100% |

Source: URI Environmental Data Center and RIGIS

Agricultural Soils

Approximately 1,507 acres, or 12.4%, of Lincoln, are in the prime farmland soil unit. In addition to the soils identified as prime farmland, the National Cooperative Soil Survey (NCSS) has designated 988 acres or 8.1% of Lincoln's farmland as farmland of statewide importance. *Chapter 7: Agriculture* details information on prime farmland and soils of statewide importance, agriculturally valuable undeveloped soils, declines in agricultural land use, and active and protected farmlands.

2.1.5 Geology

According to the Rhode Island Department of Environmental Management (RIDEM) and Rhode Island Geographic Information System (RIGIS), most of the surficial geology of Lincoln is characterized as till (Rhode Island Department of Environmental Management 1998). Parts of the Town also consist of outwash plain soil. See *the Soils Section* for details on drainage implications of outwash plain soils. Map 2-6 Surficial Geology Map depicts parts of the Town characterized as till and outwash plain.

Over 23.5% percent of the Town is constrained from development due to slopes of over 15% or bedrock, as illustrated in Table 2-3 (RIGIS 2023). The bedrock geology in the town of Lincoln is comprised of the Blackstone Group and the Esmond Igneous Suite. These formations are primarily composed of mafic/intermediate rock, greenstone, amphibolite, serpentinite, granite, epidote and biotite schist, and quartzite.

2.1.6 Habitat

The Town consists of 3,749 acres (31% of the town) of deciduous woodlands and forests, 691 acres (5.6%) of wetlands, and 484 acres (4%) of fresh water, all of which provide habitat for a variety of water and land-based plants and wildlife.

The Rhode Island Natural Heritage Program indicates 7,153 acres of natural heritage areas, or important habitat areas for rare species and natural communities, in the town (URI Environmental Data Center and RIGIS 2023). Map 2-7 Ecological Communities and Habitat Areas shows the locations of these natural heritage areas. The program collects data to help identify and protect plant and animal species but does not provide details about protected species locations in public data sets.

The Rhode Island Ecological Community Classification (RIECC) was created in 2011 to support the development of a detailed ecology community map and database for the state (Enser 2011). Of the natural areas in Lincoln, the most common ecological community other than developed land is deciduous woodlands and forests (31%). Table 2-4 and Map 2-7 provide information on ecological communities in Lincoln.

| Table 2-4. Ecological Communities | | |
|--|--------|--------------------|
| Description | Acres | Percentage of Town |
| Developed Land | 5,302 | 44% |
| Deciduous Woodlands and Forests | 3,749 | 31% |
| Plantation and Ruderal Forest | 1,129 | 9% |
| Forested Wetlands (Mineral and Peat Soils) | 552 | 5% |
| Fresh Water | 484 | 4% |
| Open Uplands | 362 | 3% |
| Agricultural | 262 | 2% |
| Mixed Deciduous/Coniferous Forests | 162 | 1% |
| Open Mineral Soil Wetlands | 139 | 1% |
| Total for All Types | 12,141 | 100% |

Source: URI Environmental Data Center and RIGIS 2011, www.rigis.org

Forests

The two most common forest types found in Lincoln are:

- <u>Deciduous Woodlands and Forests:</u> Commonly dominated by oaks, these are typically mixed oak communities with variation in understory vegetation, which provide essential habitat for forest interior specialists and nesting birds in large tracts.
- <u>Plantation and Ruderal Forest:</u> Found in urban areas, these forests have a mix of native and introduced tree and plant species but do not match a known natural community type, and they serve as stopover sites for migrating birds and provide general forest benefits for air purification and water retention (RIDEM 2015).

Conservation Opportunities and Protected Conservation Areas

Lincoln contains a few areas known to be significant for the presence of rare or endangered plant and animal species. RIDEM identifies these key habitats as Conservation Opportunity Areas (COA), which indicate habitats with high conservation value and Species of Greater Conservation Needs (SGCN). These include large, connected blocks called core natural areas, corridors that connect them, and sites with unique values such as high-vulnerability habitats (Rhode Island Department of Environmental Management n.d.). Map 2-8 Conservation Opportunity Areas Composite shows these locations.

Map 2-9 Conservation Opportunities and Unfragmented Forest Map shows the Conservation Opportunities and Unfragmented Forest in more detail, including several large, connected areas of forest that have been preserved for environmental and recreational benefits. Lime Rock Preserve is a block of unfragmented forest and wetland along the Moshassuck River in the center of town, which is known to have critical or uncommon species habitat. The Moshassuck River Preserve and Lincoln Woods protect two other large blocks of forest along the Moshassuck River. Key wildlife corridors also occur along the Blackstone River, around Barney and Scott Ponds, and a key wildlife path stretches between Crookfall and Mussey Brooks. See Map 3-1 Outdoor Recreational and Conservation Areas for locations of protected conservation areas and the Open Space and Recreation Chapter for more information.

Aquatic systems in Lincoln have been harmed historically by the construction of dams and degraded water quality. Recent efforts to improve water quality and reintroduce fish passage over dams aim to bring migratory fish back to the local rivers (primarily the Blackstone River) (Blackstone River Watershed Council 2023).

Natural resources are a valued part of Lincoln's economy, recreation, and cultural activities. The sites described above support recreation including water sports of fishing and boating; forest-based recreation, such as hiking, birdwatching, and even bouldering and rock climbing at Lincoln Woods; and provide aesthetic and cultural values to the community.

2.1.7 Wetlands

Today, approximately 691 acres (covering approximately 6% of the Town) of wetlands remain in Town. Most of these wetlands are forested wetlands. A National Wetlands Inventory through the Ecological Communities Classification (2011) provided by the University of Rhode Island's Environmental Data Center is summarized in Table 2-5 below.

Wetlands generally occur in transitional areas between dry land and open water, and they support vital natural and water filtration functions. They are typically areas of poor drainage and standing water, either on a seasonal or year-round basis. Rhode Island RIDEM identifies wetlands based on vegetation, water type, size, depth, soil types, and wildlife habitat. Wetlands provide important habitat for sensitive species like amphibians and reptiles, as well as benefits for water purification and absorbing stormwater runoff.

| Table 2-5. National Wetlands Inventory | | |
|--|-------|--------------------|
| Wetland Description | Acres | Percentage of Town |
| Forested Wetlands (Mineral and Peat Soils) | 552 | 5% |
| Open Mineral Soils Wetlands | 139 | 1% |

| Table 2-5. National Wetlands Inventory | | |
|--|-----|----|
| Total | 681 | 6% |

Source: URI Environmental Data Center and RIGIS, www.rigis.org

The Impervious Cover Map (Map 2-10) shows the location of wetlands and impervious surfaces, indicating locations that may have stormwater issues. Concentrations of impervious surfaces occur in the southeastern area of the Town, near Scott Pond, and in the northern stretch south of I-295, near Crookfall Brook, the Moshassuck River, and several wetlands. Runoff in these locations may have a particularly negative impact on the neighboring water bodies.

2.1.8 Floodplains

The Federal Emergency Management Agency defines a floodplain as a land area that is susceptible to being inundated by floodwaters from any source (Federal Emergency Management Agency n.d.). Flood zones are those areas subject to temporary inundation during storm events or seasonal increases in rainfall or snowmelt. Flood zones are commonly associated with water bodies and are designated and mapped by the Federal Emergency Management Agency (FEMA) by category.

Flood zones are defined as areas prone to flooding in a 100-year storm event (a storm with a statistical probability of a 1% chance of flooding in any given year). Approximately 684 acres of land or 5.65% of the area in Lincoln is subject to inundation by 1% annual-chance flood, classified AE: Floodway by FEMA. These zones play an important role in naturally protecting a community from flood damage when kept natural. Flooding can be caused by the failure of dams, riverine sources backing up, heavy rainfall, and stormwater runoff. Table 2-6 and Map 11-1 Flood Hazard Areas Map, in Chapter 11 Natural Hazards and Climate Change, provide information on FEMA flood zones in Lincoln. Flood-prone areas in Lincoln, such as Rockridge Road and Spruce Street, and the low-lying areas around the Blackstone River are the most vulnerable to riverine flooding.

| Table 2-6. FEMA Flood Zones | | |
|-----------------------------|-----------------------|--|
| Acres | Percentage of Town | |
| 11,419 | 94.05% | |
| 684 | 5.65% | |
| 36 | 0.30% | |
| | 11,419 684 | |

Source: URI Environmental Data Center and RIGIS 2015, www.rigis.org

With projected climate change impacts producing more frequent and more severe storm events, it is anticipated that both types of flooding events will increase in the future. As flood heights rise, flood waters will spread beyond the current FEMA 1%-annual-chance floodplain, and new areas will flood. These newly flooded areas are where flood risk will likely increase first with estimated climate change. Heavy precipitation can lead to increased flooding if stormwater management is not properly updated to accommodate intense flow and volume.

Challenges and Opportunities

2.1.9 Challenges

Lincoln faces ongoing challenges associated with water bodies and water quality issues associated with the legacy of industry in the area, namely in the Blackstone River, although efforts to address

these historic impacts are underway. Current challenges from stormwater runoff, septic systems, agricultural uses, and dumping also threaten the town's extensive set of ponds, brooks, and rivers. Examples include the Saylesville/Lower Rd. site off Front St., where a gas/oil release into the water body needs cleanup and long-term resolution. Given the permeability of soils in much of the town, the groundwater aquifers are especially vulnerable to contamination.

Stormwater infrastructure across the town is not effectively prepared for the expected increase in flooding and runoff due to climate change and needs to be addressed to protect Lincoln's water bodies for community health and enjoyment. In Manville in particular, as well as areas near Scott Pond, Crookfall Brook, and the Moshassuck River, large extents of impervious cover and lack of tree canopy can exacerbate stormwater runoff and urban heat island effects.

The extent of undeveloped land is an asset and a challenge. Wherever development is not limited by soil or slope constraints, continued pressure is likely to cause the conversion of open space into residential or commercial uses, as demand for land increases. Open space protections may be necessary to prevent future development from consuming habitat, wetlands, entering flood zones, or high-quality agricultural soils. In addition, because houses are intermingled with undeveloped open space, wildlife conflicts and invasive species may require active management for public health and safety.

2.1.10 Opportunities

Lincoln boasts beautiful natural scenery, extensive forests, and wildlife habitat, with several highquality ponds and rivers. The Blackstone River offers great opportunities for recreation, aesthetics, and supporting the community's cultural heritage. Recent investment and attention on the Blackstone River Valley – through the National Heritage Corridor and water quality cleanup efforts – is helping enhance it as a regional resource for outdoor recreation and scenic enjoyment. The town can expand water access to this and other outstanding water bodies around town for the benefit of all residents.

Where there are surface water issues, planning for wastewater treatment and stormwater management can help address and improve water quality. Local and regional residents are likely to support efforts to preserve threatened waterbodies, especially those that are water supplies or fisheries. In the Comprehensive Plan survey, Lincoln residents confirmed their support for the Town addressing natural resource protection in general (95%), and specifically for conserving wildlife habitat, wetlands, and forested areas (75%), as well as improving flood protection, stormwater, wastewater, and water infrastructure (67%).

Upland natural resources are also important to the community's well-being. Planning for open space protection is essential to maintain forest, agricultural, and wildlife resources, especially in areas of Limerock around the Moshassuck River, as well as the conservation opportunity areas identified by the state.

Goals and Policies

Goals and their corresponding policies reflect the desired changes of Lincoln residents for the next ten years, as gathered from a public workshop held in May 2024. Natural resources are a treasured part of Lincoln's landscape, and residents were in support of goals that sought to protect these resources. The goals call for preserving undeveloped open space, especially in critical environmental areas and where agricultural uses are desired. Residents also envisioned a regional approach to environmental regulations.

| Table 2-7. Goals and Policies | | |
|---|---|--|
| Goals | Policies | |
| NR1. Town Wide Protect the critical natural | NR1.1. Town Wide Protect the air, water, soil, forests, | |
| resources of the town for cultural, recreational, | tree canopy, and wildlife of Lincoln. | |
| economic, and public health benefits. | NR1.2. Town Wide Maintain at least 30% of the town | |
| | as protected open space. | |
| | NR1.3. Town Wide Develop and follow clear | |
| | protection strategies in critical environmental areas. | |
| | NR1.4. Town Wide Seek to protect agricultural uses | |
| | to the maximum extent feasible. | |
| | NR1.5. Town Wide Work with adjoining towns and | |
| | the region to advance environmental resource | |
| | protection strategies. | |

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