

PRODUCED BY THE LEICESTER OPEN SPACE COMMITTEE &
CENTRAL MASSACHUSETTS REGIONAL PLANNING COMMISSION



LEICESTER OPEN SPACE & RECREATION PLAN

DECEMBER 2021

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The Town of Leicester extends its gratitude to the many people who contributed their knowledge, time, and energy to completing this Open Space & Recreation Plan.

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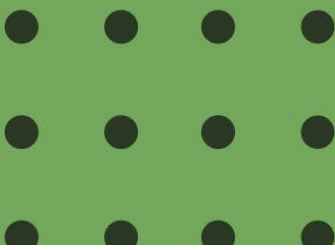
Special thanks to all the Leicester residents who participated in this process by filling out a survey or participating in the public forum.

Lastly, the Town of Leicester is grateful to all who contributed to Leicester's 2007 and 2015 Open Space & Recreation Plans, which the 2021 Open Space & Recreation Plan builds onto and updates.

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SECTION 1 PLAN SUMMARY



SECTION 1: PLAN SUMMARY

Leicester, a suburban community with a population of 11,306 (U.S. Census Bureau), is located in Central Massachusetts, just west of the City of Worcester. Leicester is bisected by state Routes 56 and 9. Route 9 carries high volumes of traffic to Worcester, the second-largest city in Massachusetts.

This 2021 Open Space and Recreation Plan updates earlier plans published in 2007 and 2015. This update captures the current state of Leicester's local context, environment, and open spaces and recreational areas. It concludes with a set of strategies to improve its existing parks, prevent future environmental degradation, and engage more residents in volunteer work to support the town's open space and recreation vision. While many improvements have been made to town parks since 2015, the vision for its open spaces, and the challenges it faces in achieving that vision, have remained mainly the same.

The people of Leicester appreciate the rural characteristics of the town, including its plentiful forests and open space. Residents would like Leicester to remain a healthy, pleasant place to live, with open spaces, well-maintained recreational areas, healthy forests, clean air, and clean water. However, like so many towns across the Commonwealth, a period of shrinking budgets has limited Leicester's capacity to meet even basic needs, such as clean drinking water and fully functional parks.

Like the 2015 plan, this update proposes an action plan designed to directly address priority needs, with a dual focus on water quality protection and park revitalization. These priorities are based on feedback from community members and reflect Leicester's most pressing open space and recreation needs based on research conducted over this planning process. Rather than propose grand ideas creating new open spaces or parks, this plan

focus on realistic, achievable actions that will make necessary and overdue improvements to existing town assets and protect open space from potential adverse environmental consequences of new development.

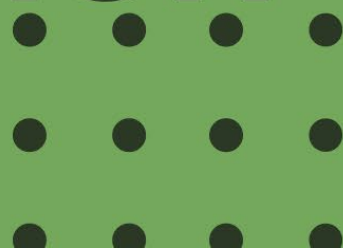
The seven-year action plan proposes educating residents on various aspects of the environment, open space, and recreation. It also recognizes the necessity of more community members stepping into volunteer roles that support the local parks and open spaces they enjoy. Other key actions include pursuing new funding opportunities, strengthening partnerships with local land trusts, and addressing challenges like illegal ATV use, invasive species, and encouraging land conservation practices that do not rely on town acquisitions.

The seven-year action plan encourages adaptability to changing circumstances and the flexibility to take advantage of opportunities as they arise. This strategy assumes that the town will not accept partnership agreements that do not meet its goals or are inconsistent with community vision. The action plan includes specific tasks and recommendations that, if adopted, may also support the broader set of community goals identified here. The action plan also identifies the agency or board that should undertake each action item and recommends a timeline for adoption and implementation.



SECTION 2

INTRODUCTION



SECTION 2: INTRODUCTION

Statement of Purpose

The Town of Leicester values its forests, ponds, farms, parks, and recreational facilities. The 2021 plan is an update of the previous plan approved in 2015.

The 2021 Open Space and Recreation Plan (OSRP) for the Town of Leicester:

- Updates the town's 2015 Open Space and Recreation Plan.
- Assesses the natural resources within the town and inventories the current open space.
- Establishes goals and recommendations for open space preservation and recreation planning.
- Involves as many residents as possible in the decision-making process.
- Meets the requirements of the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) for an Open Space and Recreation Plan. Approval is required from the Division of Conservation Services (DCS) and will make Leicester eligible to participate in DCS grant rounds for up to seven years.
- Town resources for land-management and land-protection projects are limited, which puts great emphasis on their strategic use. The plan emphasizes efforts to expand and diversify strategies to implement plan goals and objectives. A seven-year action plan establishes specific, actionable steps that can be undertaken to address these priorities.

Planning Process and Public Participation

Leicester's 2021 Open Space and Recreation Plan update (OSRP) was developed under the guidance of Michelle Buck, Town Planner, and members of the Open Space and Recreation Plan Committee (OSRPC) with technical assistance and maps provided by the Central Massachusetts Regional Planning Commission (CMRPC). CMRPC also facilitated a public forum and administered a survey online and in paper format to solicit public input.

Meetings were held with the Town Planner, the OSRPC, and both elected and volunteer officials to gather information and direction from community members. Early in the planning process, a public survey was prepared and administered online. Advertisements for the survey were posted in many locations around town and on social media. The survey was also distributed to the local High School. Paper copies were distributed at the Town Hall, Town Library, and Senior Center. Three hundred fifty-nine responses were received. Survey results are discussed throughout this plan as they relate to issues and topics presented. A copy of the survey and tabulation of responses are included in the Appendix.

In addition, the OSRPC held a public forum on September 9, 2021. Outreach for this forum was conducted in English through flyers posted in various activity centers in town, information posted on the town website, an article in the *Spencer New Leader* (delivered to Leicester households free-of-charge), and social media. Very few residents attended the public forum. Consequently, generating additional public interest and involvement in the stewardship of open space and recreation facilities is one priority in the action plan. Additionally, due to the limited participation in the forum and the public survey, the opinions expressed through this public engagement have influenced this

plan but were not assumed to represent all Leicester citizens' views. The residents who participated in this process through the survey and forum chose to participate and were not randomly selected.

CMRPC produced an initial draft of the OSRP Update in October 2021. This document provided recommendations on achieving the goals identified by Town officials, OSRPC Committee members, attendees of the community meetings, and the survey results. In addition, CMRPC, through research, analysis, and an inventory of natural resources, identified several areas of concern and opportunity for consideration by town officials and the public.

The draft OSRP prepared by CMRPC was distributed for review and comment by OSRPC members and put online for general comment. No comments were received. The final plan will be distributed to other Town departments, the Central Massachusetts Regional Planning Commission, and made available to the general public.

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SECTION 3

COMMUNITY SETTING

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SECTION 3: COMMUNITY SETTING

Regional Context

Leicester is in Worcester County, bordered by Paxton to the north, Auburn and Worcester to the east, Charlton and Oxford to the south, and Spencer to the west. Leicester encompasses 24.53 square miles, or 15,900 acres, 5% of which (850 acres) is water. The headwaters of three major river basins, the Chicopee, the French, and the Blackstone, are within its boundaries. Many of Leicester's water bodies serve as drinking water reservoirs. These water bodies will only become more important as growth in the region continues and as expected shifts in climate unfold.

Leicester is currently included in the 2nd Massachusetts Congressional District, the 7th Councilor District, the 2nd Worcester State Senatorial District, the 17th Worcester Representative District, and the Worcester Standard Metropolitan Statistical Area.

The town has three distinct villages: Leicester Center, Cherry Valley (on the east side of town, near Worcester), and Rochdale (a crossroads in the southeast, near the Oxford line, that includes Greenville). The village boundaries are legacies of past settlement patterns and have no official standing but provide many residents with a sense of place and identity. Historically a quiet rural community, Leicester saw significant population growth during a period of suburbanization in the second half of the twentieth century.

Two state highways (Routes 9 and 56) bisect the town, dividing it roughly into quarters. These roads carry considerable traffic to the Massachusetts Turnpike and Worcester, the major employment center in Central Massachusetts. Worcester has historically looked to Leicester to provide open space and recreational opportunities. Today, the City owns a large area of land in Leicester, which it uses to protect its drinking water supply. Most of Worcester's Kettle Brook water reservoir system, including the Lynde Brook Reservoir, is in Leicester, along with much of the Worcester Regional Airport property. Leicester also shares a border with Paxton, Spencer, Charlton, Oxford, and Auburn. **Map 1 - Regional Context Map** shows Leicester's location in proximity to its nearby communities and highways.

Leicester is a member of the Central Massachusetts Regional Planning Commission (CMRPC), which encompasses the southern two-thirds of Worcester County. Along with 23 other cities and towns, Leicester is also part of the Blackstone River Valley National Heritage Corridor. The Corridor, an affiliated area of the National Park Service, was established by Congress in 1986 to tell the story of the American Industrial Revolution, promote the environmental recovery of the Blackstone River, and encourage the preservation of historic resources in the Corridor. The Corridor is currently managed by the Blackstone River Valley National Heritage Corridor, Inc. (Blackstone Heritage Corridor), a non-profit.

Leicester's regional context, including its proximity to Worcester and transportation access, provides the potential for future development pressure. Maintaining recreational spaces and preserving open spaces and environmentally sensitive areas should be prioritized as further development occurs.

In addition, Leicester's water bodies should be protected to continue to serve the needs of Leicester residents and residents of neighboring communities.

History of the Community

Settled at the crossroads of ancient Nipmuc trails and incorporated in 1713, Leicester is older than the United States, which it helped to found, with its militia and minutemen playing a key role at the pivotal battles of Lexington and Concord. In fact, a Leicester resident, Colonel William Henshaw, coined the phrase "minute men" at a Committee of Safety held in Worcester in 1774. Leicester sits at the headwaters of the Blackstone River, the "Birthplace of the American Industrial Revolution" and America's "Hardest Working River." Leicester's early growth and development can be traced to these abundant water resources found within its borders. Settled as a farming community, Leicester became an important center of the early period of America's Industrial Revolution, manufacturing hand cards for the textile industry. Today, although Leicester is no longer an industrial center, its waterways continue to suffer the effects of this early period of industrial development.

Oraskaso, a Nipmuc Sachem, sold the land that would one day become Leicester (an area initially known as "Towtaid") to colonists to establish a buffer against marauding Mohawks (Washburn, 1860). By the mid-seventeenth century, agrarian European settlement displaced the local Nipmuc population, who had fished and farmed the fertile floodplains for thousands of years.

European farmers settled Leicester in the early 1700s, the only flourishing colonial community between Worcester and the Connecticut River during the early years. Eventually, roads were developed between these farms to facilitate marketing; these roads still exist as Routes 9 and 56.

Local tradition holds that "plot one," where the Reverend Samuel May's house stands, was the site of the community's first residence; however, the original structure no longer exists. Samuel May was a pastor and active abolitionist in the 1860s, and the May House, now the property of Becker College, was a stop on the Underground Railroad. The oldest house remaining in town, the Henshaw Place near Henshaw Pond, was built in 1720 by one of the original town proprietors, Judge Menzies.

Established on February 15, 1714, and incorporated as a town on June 14, 1722, Leicester still has an open town meeting form of government headed by a five-member Board of Selectmen. The first recorded Town Meeting was held on March 17, 1722.

Religion played an important part in the early life of the town. One of the earliest buildings was the Congregational Meeting House, constructed before 1722. In 1736 a society of Baptists formed in Greenville, where they continue to this day, although not in the original building. The Society of Friends had a meetinghouse as early as 1732. The Episcopal Church was formed in Clappville (now Rochdale) in 1823, and the church building (the oldest in the county) was consecrated in May 1824.

The Unitarians organized their society on April 30, 1833, and built a church that is still in use on the Town Common. In 1846, the Methodists built two town meeting houses: one in Cherry Valley, the other in the center of town. The first Catholic Church, built in 1855, was eventually moved to Rochdale. Architect Elbridge Boyden, who also designed the famous Mechanics Hall in

Worcester, designed the brick church currently used, which replaced the original building. Churches and their grounds continue to serve as centers of many social and recreational activities in the town.

The floodplains were cleared of forests and plowed, and the early European settlers harnessed the rivers. This forest clearance represents the first “layer” of land-use practices that still affect Leicester’s open spaces and development today, with a legacy of stone walls and the second-growth forest on former fields characteristic of much of New England. Small sawmills, gristmills, and forges furnished materials needed on the farms. In 1790, Samuel Slater built the first American water-powered textile mill in the Blackstone River Valley in Pawtucket, Rhode Island, establishing the first manifestation of the industrial revolution on this continent. The mills and the accompanying mill villages were built to implement a set of business practices that came to be known as the Rhode Island system of production: small, independently owned mills, each with exclusive waterpower supplies, with the families of the labor force housed in the adjacent villages. Examples are evident throughout the region, and Rochdale is an important example within Leicester. Today the Blackstone River Valley National Heritage Corridor recognizes the significant cultural contributions of this region to our national history. The Corridor also serves to identify and address the effects of industrial development on the natural resources of the Blackstone watershed, especially the waterways.

By 1814, all available dam sites were occupied on the Blackstone River. This era represents a second historical “layer” of environmental impacts on the land that is still of consequence today. As mills and villages were established to harvest the waterpower, structures were built within, immediately besides, and overhanging the water. The moving water was intercepted to provide power to run the mill machinery and used as a disposal system for human and industrial waste. Flood storage capacity for the river, habitat for native plants and animals, and breeding grounds for wetland species were eliminated as development displaced riparian areas. Today, this history manifests itself with continuing issues surrounding water quality and private ownership of many dams and the lands surrounding Leicester’s many water bodies. This complicates conservation efforts and restricts public access to water resources.

Before cotton and wool fibers could be spun into threads to be woven into cloth, they were untangled and straightened using leather “cards” set with bent wire teeth. These cards were manufactured in Leicester. By 1826, card manufacturing establishments in Leicester were powered mainly by water, sometimes by hand or by steam. As the century progressed, the mills gradually shifted from water to steam power. The high brick chimneys typical of mill boiler houses were once a prominent feature of Leicester, but few remain today. One chimney, in ruin, still stands over the remains of the mills on Rawson Street by Rawson Brook. Today, silted ponds and numerous dilapidated dams remain as a legacy of the mills.

While Leicester dominated the early manufacture of hand and machine cards, accompanying industries also sprang up in town. By the early 1800s, Worcester began producing textile machinery, eventually surpassing Leicester in card production and the manufacture of spinning, weaving, and shearing machines. Footwear production replaced card production in Leicester, and the production of wire products increased.

The completion of the Blackstone Canal and the Providence & Worcester Railroad solidified the centralization of administration and transportation in Worcester. From the late nineteenth to the

mid-twentieth century, Worcester began acquiring the waterways in Leicester to establish a reservoir system for its growing population. This period coincided with the end of Leicester's hydro-industrialization.

Following World War Two, Leicester saw a boom in population as suburban developments sprang up throughout town. These developments represent a third “layer” of historical land use, with implications still being felt today.

Leicester's Town Common has been the center of life in the town for nearly 300 years. Due to the efforts of the Town's Historical Commission, it was listed on the National Register of Historic Places in 2006. As a crossroads, it was the site for the meetinghouse, several taverns, and a few small shops.



Image 1: Undated historic photo of Leicester Town Common. Source: Town of Leicester Historical Commission, leicesterma.org.

Becker College and its predecessor, the Leicester Academy, operated in Leicester from 1794 to 2021. The College owned a substantial amount of property in the Town, including a campus complex located just off the Town Common that covers 44 acres (Sager, 2021). The institution was an important economic and social driver for the Town, and its absence in Leicester will be missed. At a special election on September 21, 2021, Leicester residents voted to acquire the Leicester campus of the former Becker College. Town Selectmen requested \$19.9 million to cover the cost of the purchase, necessary maintenance, planning studies, and other potential expenses. The Becker campus includes 19 buildings, recreational fields and facilities, and historic structures facing the Town Common. Having approved the campus purchase, Leicester's elected officials, town staff, and residents will turn their attention to determine how the town will use the property going forward (Ring, 2021).

Population Characteristics

According to the 2014-2019 ACS 5-year survey, Leicester's total population is estimated to be 11,306, which shows modest population growth since 2010 when the total population was 10,970. Leicester's population has seen a steady increase over the last several decades. Leicester's fastest population growth rate between 1920 and 2000 occurred between 1950 and 1960 when the population grew by 35.6 percent in only ten years.

In recent decades, growth has been more modest. Leicester's population is experiencing relatively slow growth compared to similarly sized communities in the region (see **Table 1**). CMRPC data projects Leicester's population to be 12,360 in 2035, which would be an increase of 13% over 2010 population levels. A separate population projection prepared by the Donahue Institute in 2018 shows Leicester's population increasing slightly until 2040 to 11,898 (UMass Dohahue Institute, n.d.).

Table 1: Population Size and Percent Change - Leicester & Comparable Communities (Figures in parentheses represent growth over previous decade)

Year	Charlton	Dudley	Leicester	Oxford	Spencer	Uxbridge	Webster
1980	6,719	8,717	9,446	11,680	10,774	8,374	14,480
1990	9,576 (42.5%)	9,540 (9.4%)	10,191 (7.9%)	12,588 (7.8%)	11,645 (8.0%)	10,415 (24.4%)	16,196 (11.8%)
2000	11,263 (17.6%)	10,036 (5.2%)	10,471 (2.7%)	13,352 (6.1%)	11,691 (0.4%)	11,156 (7.1%)	16,145 (-.3%)
2010	12,981 (15.3%)	11,390 (13.5%)	10,970 (4.8%)	13,709 (2.7%)	11,688 (0%)	13,457 (20.6%)	16,767 (3.9%)
2019	13,550 (4.4%)	11,723 (2.9%)	11,306 (3.1%)	13,974 (1.9%)	11,928 (2.1%)	13,993 (4%)	16,973 (1.2%)

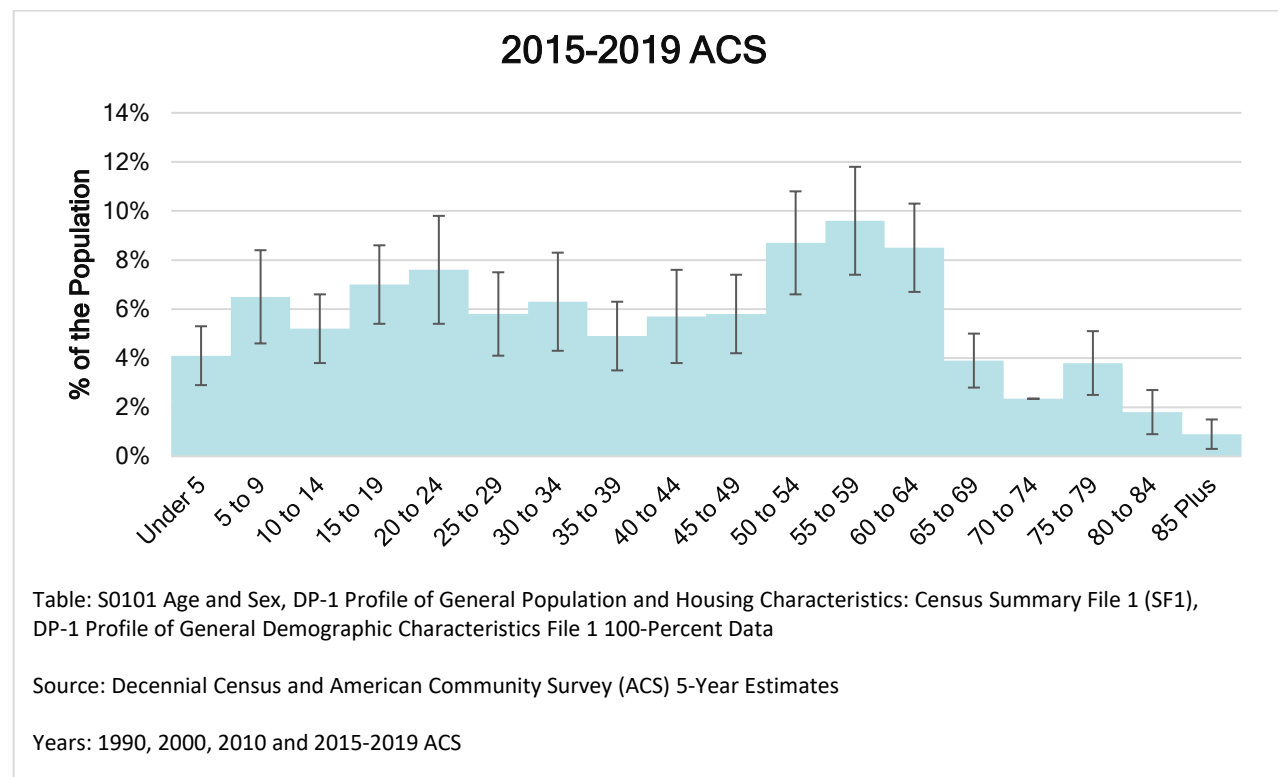
Source: Decennial Census and American Community Survey (ACS) 5-Year Estimates

Years: 1980, 1990, 2000, 2010 and 2015-2019 ACS

Density figures provide an understanding of how Leicester has changed over the years. The 24.68 square miles of the town support a current average density of 458 persons per square mile. This figure is more than double the 1940 density figure of 197 persons per square mile (U.S. Census). Much of this increase has occurred in suburban housing developments, with attendant environmental and municipal costs.

The 2015-2019 American Community Survey reported 4,070 households in Leicester, of which 27.7% had children under the age of 18. The average household size of 2.66 persons has remained constant from 2.64 in 2010 (U.S. Census Bureau, n.d.-c). However, as shown in **Figure 1**, Leicester's population is aging. Between 2010 and 2019, the population over age 65 has increased from 13.2% to 14.4%, while percentages of residents in other age groups have declined (U.S. Census Bureau, n.d.-a). Meanwhile, the median age of Leicester residents has increased from 40.3 to 42.5. The overall age profile of Leicester residents is relatively consistent with the broader population of Massachusetts, which had a higher percentage of residents over age 65 in 2019 (17%) but a similar median age in 2019 of 39.7 (U.S. Census Bureau, n.d.-a).

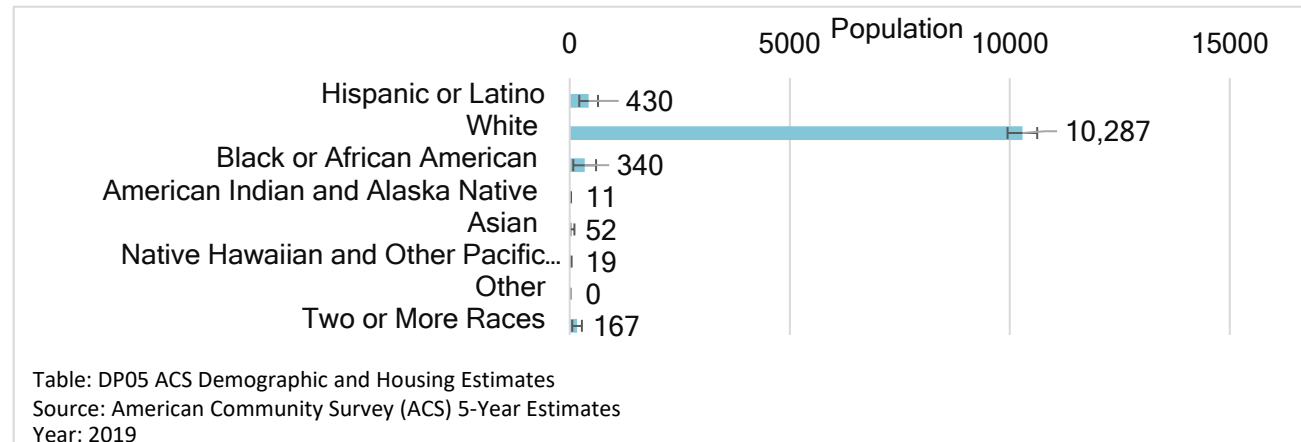
Figure 1: Leicester Age Breakdown for 2015-2019 from the American Community Survey (with a margin of error band)



Demographic considerations can be a guiding factor in a town's decision-making to ensure choices that best meet the needs of its citizens. Leicester's aging population suggests that special attention should be given to appropriate recreational opportunities, such as hiking, walking, and birdwatching. Survey respondents of all ages indicated that walking (and dog-walking) is the most popular recreational activity in Leicester, while other forms of passive recreation such as sightseeing and birdwatching, gardening, and hiking/snowshoeing, are also very popular.

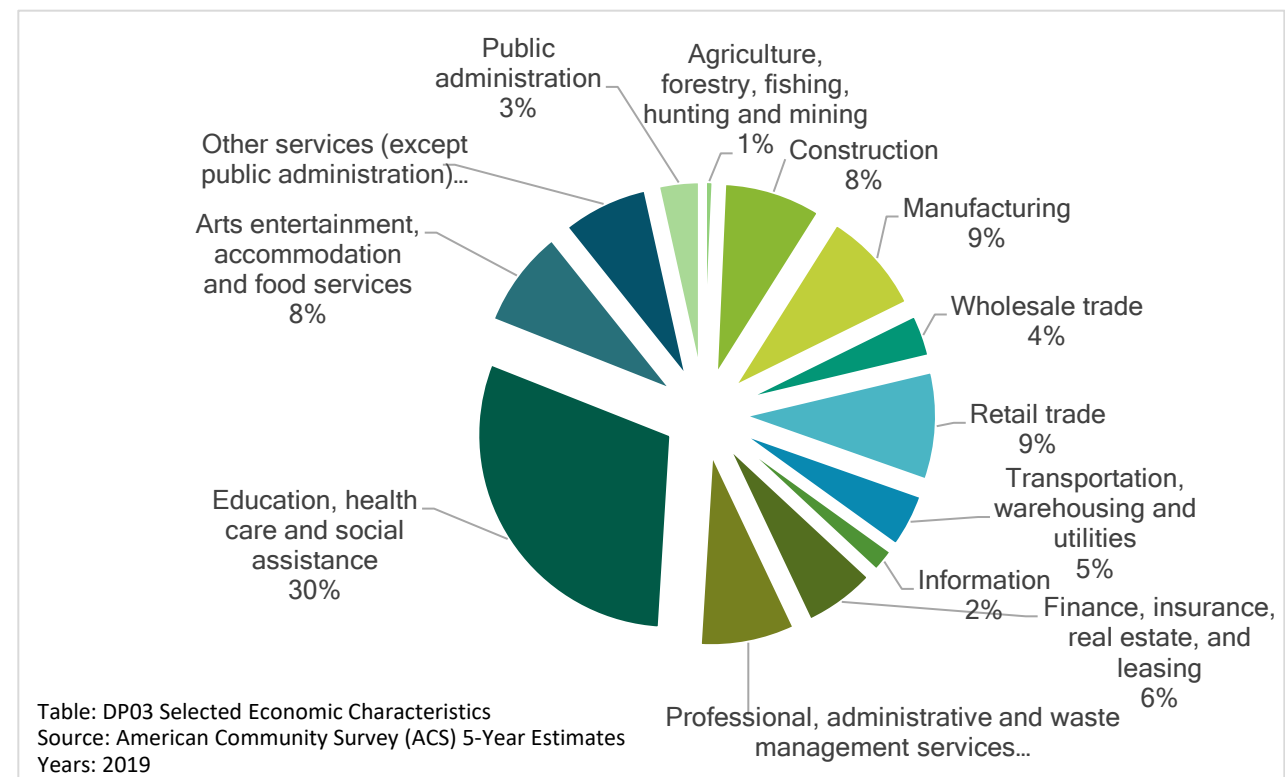
As shown in **Figure 2**, Leicester's population is predominately white. Around 4% of the population identifies as Hispanic or Latino, and 3% of the population identifies as Black or African American, according to the 2015-2019 ACS 5-Year Estimate.

Figure 2: Leicester Population by Race 2019 (Race alone or in combination with one or more other races)



While Leicester was historically a farming community, only 1% of its workforce is currently employed in the agricultural sector (see **Figure 3**, below). The largest category of employment, at 30%, is Educational Services, Health Care, and Social Assistance, followed by Retail Trade (9%) and Manufacturing (9%).

Figure 3: Estimated Leicester Employment by Industry, 2015-2019 (Civilian Employed Population 16 years and over)



As shown in **Table 2**, Leicester's largest employers cover a variety of industries, including retail, medicine, education, and a variety of local services. The data in **Table 2** may include some inaccuracies. However, this data from the Massachusetts Department of Unemployment Assistance is the most comprehensive list of large employers in Leicester. As noted below, Becker College and Castle Restaurant no longer operate.

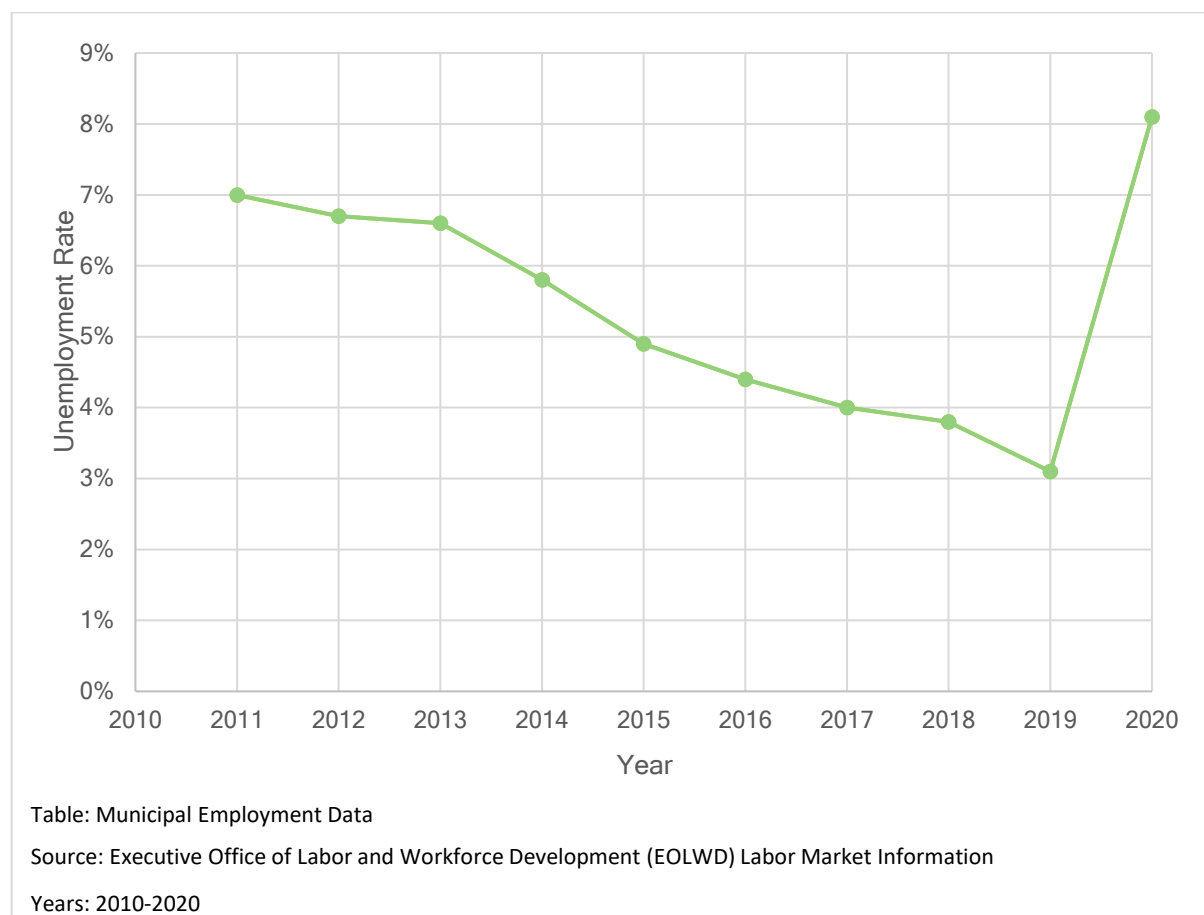
Table 2: Largest 25 Employers in Leicester (2021). Source: (*Largest 25 Employers in Leicester*, 2021)

Company Name	Address	# of Employees	Industry
Walmart Supercenter	Soojian Dr	250-499	Department Stores
Vibra Hospital of Western MA	Huntoon Memorial Hwy	100-249	General Medical and Surgical Hospitals
Archway Inc	Mulberry St	50-99	Individual and Family Services
Leicester High School	Paxton St	50-99	Elementary and Secondary Schools
Leicester Memorial School	Memorial Dr	50-99	Elementary and Secondary Schools
Leicester Primary School	Paxton St	50-99	Elementary and Secondary Schools
Leicester Town Ambulance	Washburn Sq	50-99	Other Ambulatory Health Care Services
Lusignan Security Agency	Pleasant St	50-99	Investigation and Security Services
American Alarm & Comms Inc	Grove St	20-49	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers
Barbers Crossing Road House	Main St	20-49	Restaurants and Other Eating Places
Becker College	Main St	20-49	Other Professional, Scientific, and Technical Services Closed as of 2021
Camp Wind In the Pines	Parker St	20-49	RV (Recreational Vehicle) Parks and Recreational Camps
Country Bank For Savings	Main St	20-49	Depository Credit Intermediation
Dunkin'	Main St	20-49	Restaurants and Other Eating Places
Eden Healthcare Svc Inc	Main St # 3	20-49	Home Health Care Services
Giguere's	Main St	20-49	Other Schools and Instruction
Leicester Middle School	Winslow Ave	20-49	Elementary and Secondary Schools
Leicester Police Dept	S Main St	20-49	Justice, Public Order, and Safety Activities
Liberty Movers Inc Bekins Agnt	Huntoon Memorial Hwy	20-49	General Freight Trucking
Lincare	Main St # 2	20-49	Health and Personal Care Stores
Accu Trak Tool Corp	Stafford St	10-19	Cutlery and Handtool Manufacturing
Castle Restaurant	Main St # 9	10-19	Restaurants and Other Eating Places Closed as of 2021
Leicester Country Club	Main St	10-19	Other Amusement and Recreation Industries
Leicester Gymnasium	Main St	10-19	Promoters of Performing Arts, Sports, and Similar Events
Mcdonald Heating A C & Plbg	Main St	10-19	Building Equipment Contractors

Data for 2010 show the Town's 6,390-person labor force had a 7.9% unemployment rate. As shown in **Figure 4**, Leicester's unemployment gradually decreased over the next several years, then rose to a peak of 8.1% in 2020, during the coronavirus pandemic. However, this recent peak was lower than Leicester's 2009 unemployment rate of 8.9%. Leicester had a total of 6,546 people in the labor force in 2020, declining from 6,837 in 2018 (Executive Office of Labor and Workforce Development, n.d.).

Most of Leicester's workforce (87.5%) works within Worcester County, while 11.9% works outside Worcester County. The mean travel time to work is 31.9 minutes, with 20.3% of workers having a travel time of 45 minutes or longer. The lack of jobs within the town is a point of concern for Leicester's tax base, which does not enjoy the tax proceeds of the economic activity generated by the town's commuting workforce. Many commuters (81.1%) drove alone to work, with only 9.4% carpooling, 2.6% walking, and only 1.2% taking public transportation (U.S. Census Bureau, n.d.-b).

Figure 4: Average Unemployment Rate



As shown in **Figure 5**, Leicester's estimated median household income is \$88,505, slightly higher than the Massachusetts median household income of \$81,215 (U.S. Census Bureau, n.d.-e). Over the same period, the percentage of the population under the poverty line increased to 6.1% from 4.5% in 2012 (U.S. Census Bureau, n.d.-d). The rise in median income combined with an increasing population living below the poverty level suggests that financial inequality is becoming more prevalent in Leicester. Additionally, while the median income in Leicester is higher than the

statewide median income, the per capita income in Leicester is lower than the statewide figure (see **Figure 6**).

Figure 5: Leicester Median Income (ACS 2014-2019)

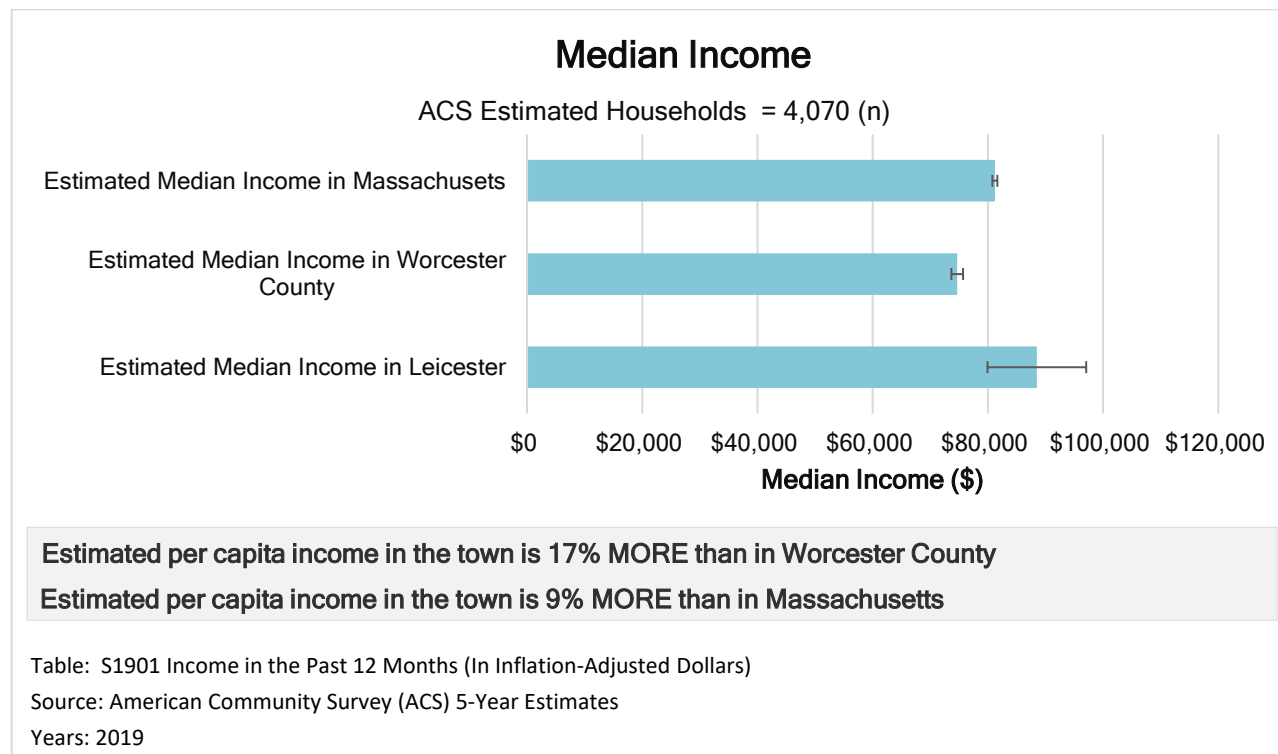
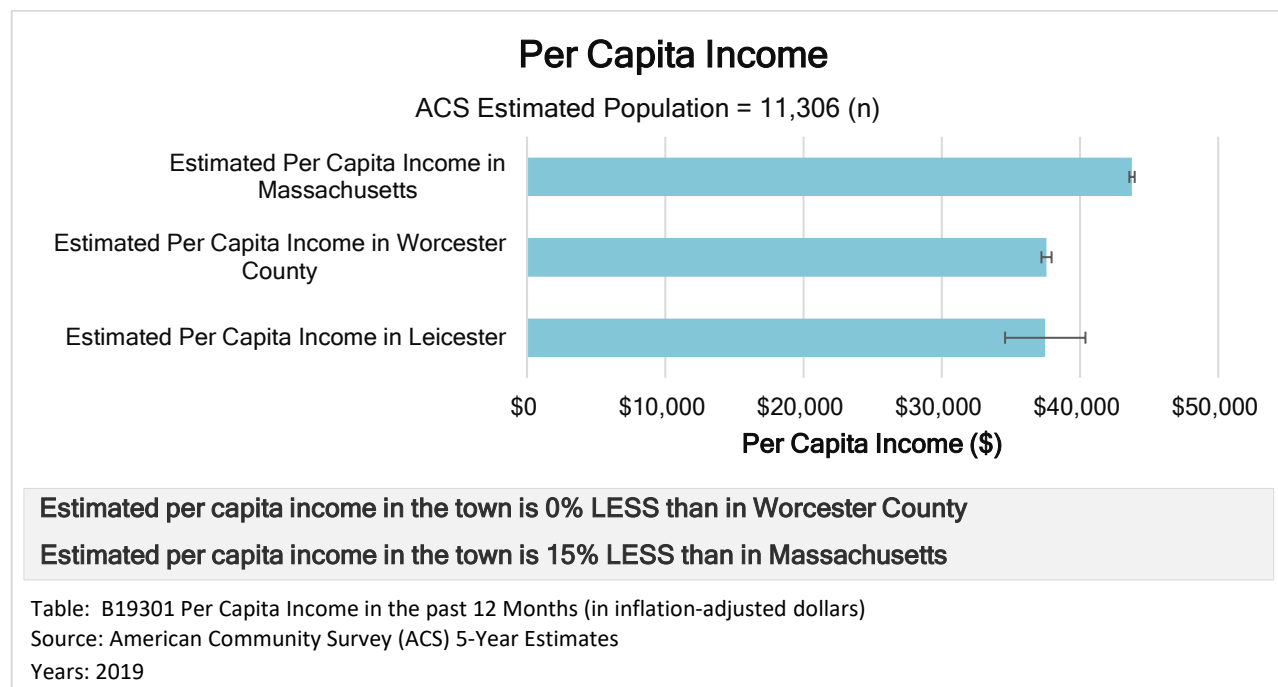


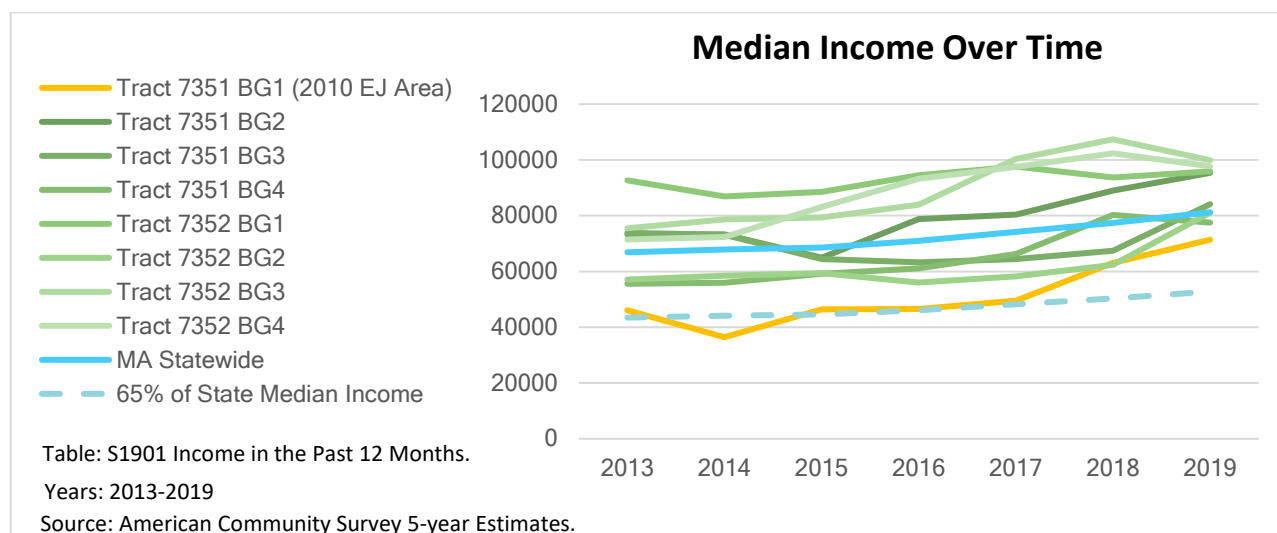
Figure 6: Leicester Per Capita Income (2014-2019)



Environmental Justice Population

Open Space and Recreation Plans require that special attention be given to designated Environmental Justice Populations. Environmental Justice Populations meet specific demographic criteria and may have been historically underserved by public spending on open space protection, recreational opportunity, and environmental quality. According to 2020 census data analyzed by the Massachusetts Executive Office of Energy and Environmental Affairs, Leicester does not have an official environmental justice population. However, according to older census data from 2010, Leicester had an Environmental Justice Population that met the state's income criteria. This Environmental Justice area met the state's median income criteria¹, meaning that the median income of the census block in question (encompassing Town Center, Hillcrest, Henshaw Pond, and Five Points area - See Map 2, Environmental Justice) was under \$40,756. **Figure 7** demonstrates how the median income of Leicester block groups has changed over time, including in the prior Environmental Justice Block Group.

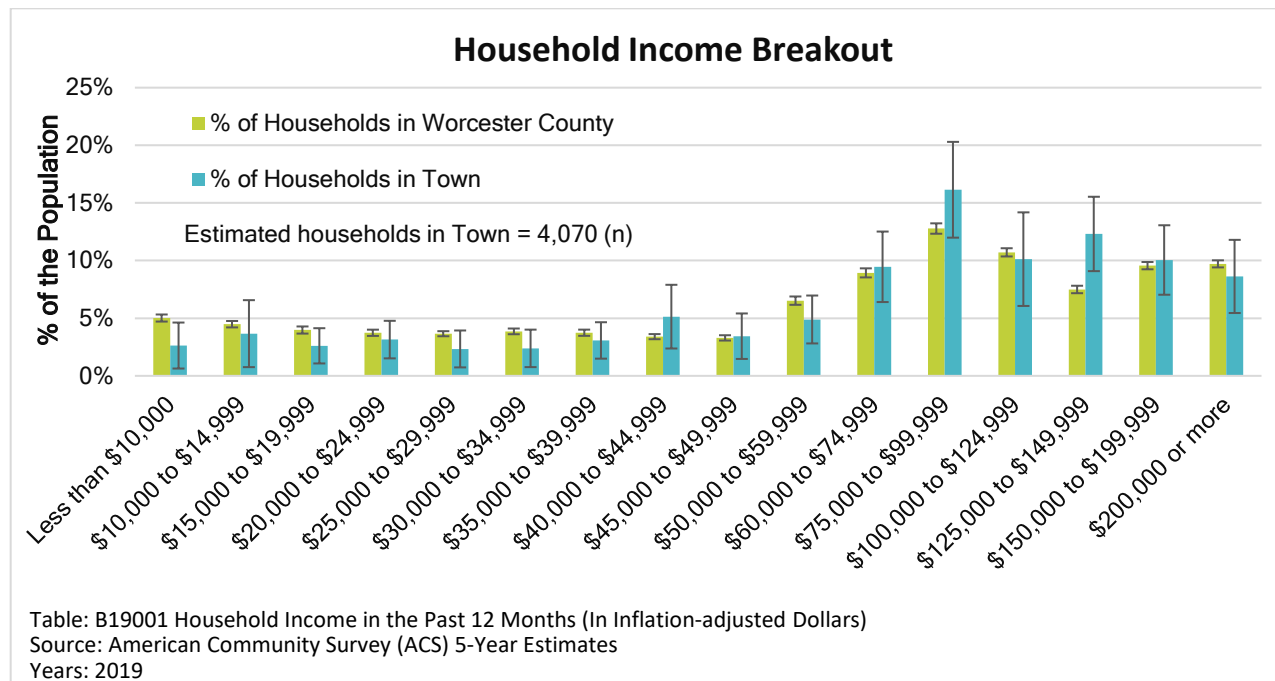
Figure 7: Median income by Leicester block group (BG), with the statewide median income for reference.



It should be mentioned that individual households that fit the income criteria may still be found throughout Leicester, despite not appearing in a statistical concentration that would designate an area as containing an official Environmental Justice Population. Several hundred other households in Leicester also fall below 65% of state median income (see **Figure 8**). Therefore, efforts to expand open space and recreational opportunities should be sure to include town-wide projects that could benefit lower-income individuals, such as improving pedestrian connections between residential and recreational areas.

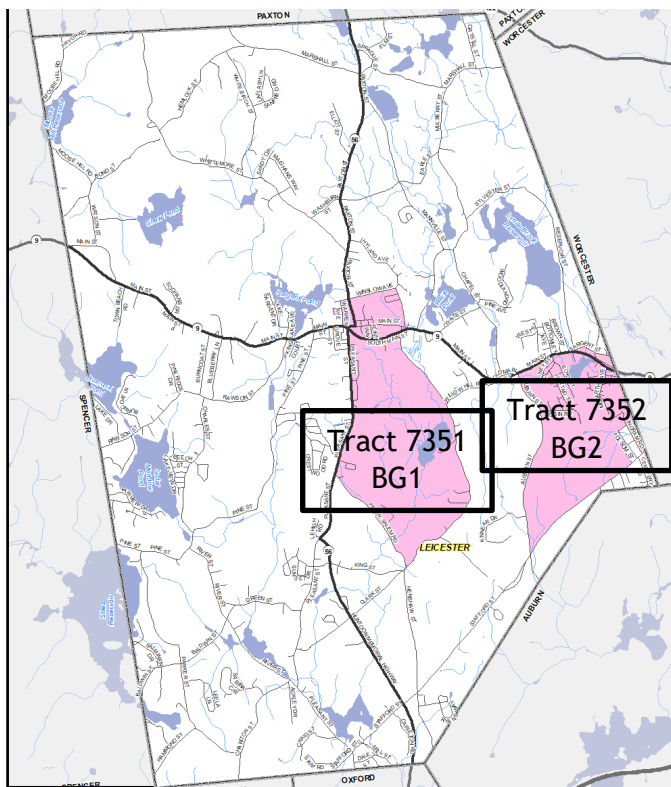
¹ The median income environmental justice designation is assigned when the median income of a census block is 65% or below the statewide median income.

Figure 8: Income breakout across all Leicester households.



Another metric for assessing local financial well-being is the U.S. Department of Housing and Urban Development (HUD) figure referred to as *area median income*. Area median income (AMI) defines the midpoint of household incomes for a region, where half of the households in the region earn above the AMI, and half earn incomes below the AMI (Marzo, 2020). The AMI for a particular place is set according to regions designated by HUD, and Leicester falls into the Worcester metropolitan region (U.S. Department of Housing and Urban Development, n.d.-a). HUD uses low-to-moderate income census block groups where at least 51% of residents live in households earning 80% of AMI or less as an eligibility criterion in its Community Development Block Grant (CDBG) program. The primarily low-to-moderate income areas shown in pink in **Figure 9** illustrate the parts of Leicester with lower household incomes relative to other areas of the Worcester region. In Block Group 1 (Tract 7351), 52.08% of residents live in households earning 80% of AMI or less. In Block Group 2 (Tract 7352), 54.66%

Figure 9: Low-to-Moderate Income Block Groups in Leicester based on ACS 5-year estimates from 2011-2015 (shown in pink).



Source: U.S. Department of Housing and Urban Development.

of residents live in households earning at or below the 80% AMI threshold (U.S. Department of Housing and Urban Development, n.d.-b). However, the current AMI designations are based on ACS data from 2011-2015, and median incomes have risen in Leicester since that time, as shown in **Figure 7**.

Equalized Valuation (EQV) is a figure determined by the Massachusetts Department of Revenue (MA DOR). It is an estimate of the cash value of all real estate property within a particular area (MA Department of Revenue Division of Local Services, n.d.). Since local property values determine tax revenues, Equalized Valuations are a way to assess the ability of municipalities to raise revenue through property taxes. When the Equalized Valuation for each municipality is divided by its population, the resulting EQV per capita indicates the value of the local tax base and can be compared to other municipalities across the state. As shown in **Figure 10** and **Figure 11**, Leicester has a relatively low EQV per capita relative to other municipalities in Worcester County and across the state. Leicester's relatively low EQV indicates that the Town may have a limited capacity to develop new open space and recreation projects without help from external funding sources.

Figure 10: FY22 EQV per Capita, Worcester County

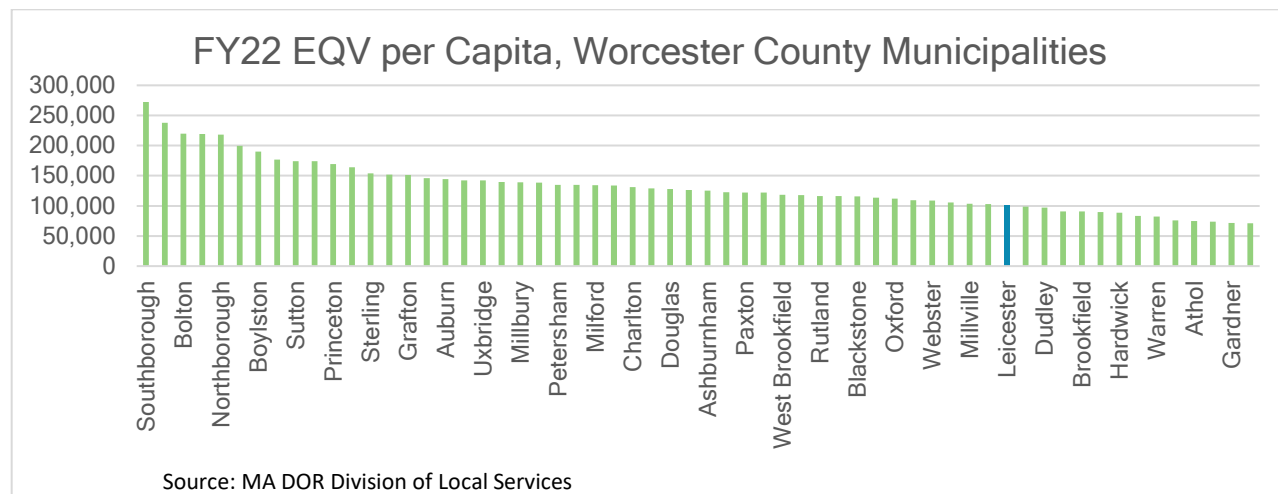
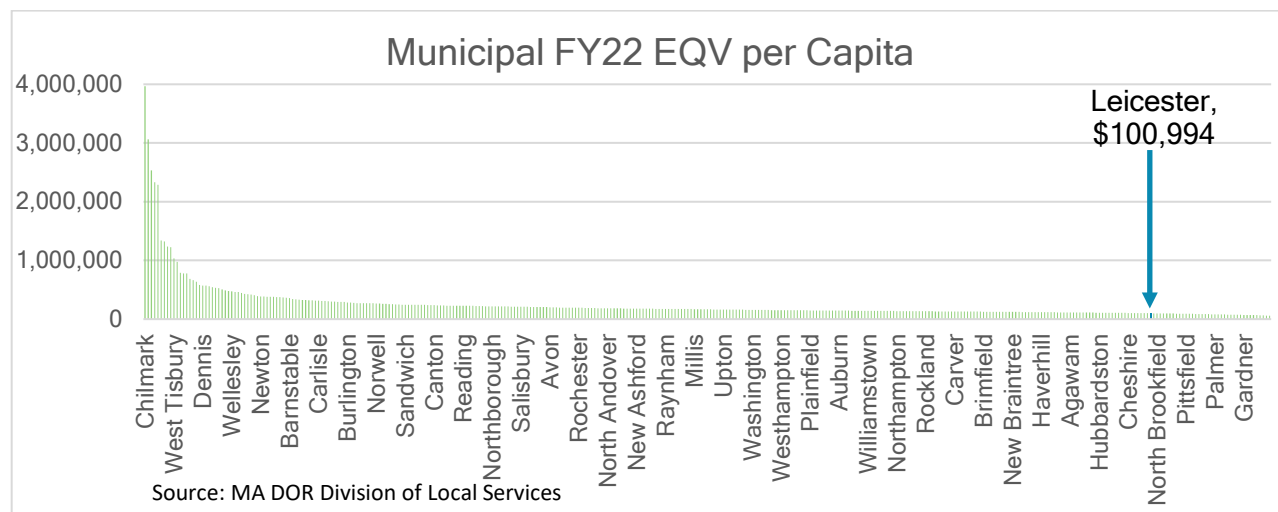


Figure 11: FY22 EQV per Capita for all MA Municipalities



Growth and Development Trends

Patterns and Trends

Massachusetts is the third-most populated state in the United States, with its cities forming part of a more or less contiguous urban corridor stretching from Washington, DC, all the way up to Maine. Leicester's demographic and open space future is intimately tied with the growth and development of this urban corridor, as Leicester sits right at the interface between this urban belt and the more open, rural areas further west.

Leicester was once part of neighboring Spencer, and the neighborhoods including Leicester Center, Cherry Valley, and Rochdale were once independent villages clustered around industrial mills (Town of Leicester, Massachusetts, 2009). Most of Leicester's villages remained an active part of local identity until well into the 20th century, and some residents today still identify with their local village (Town of Leicester, n.d.-a).

Historically, slow growth had allowed Leicester to maintain and enjoy a rural atmosphere. In the twentieth century, the population of Leicester boomed as suburban developments sprang up throughout the central and southern portions of town. While providing housing and supporting economic growth in town, these post-war settlements also created environmental and economic impacts such as resource-intensive lawns that negatively impact water quality and an extensive system of roads and streetlights that require costly maintenance.

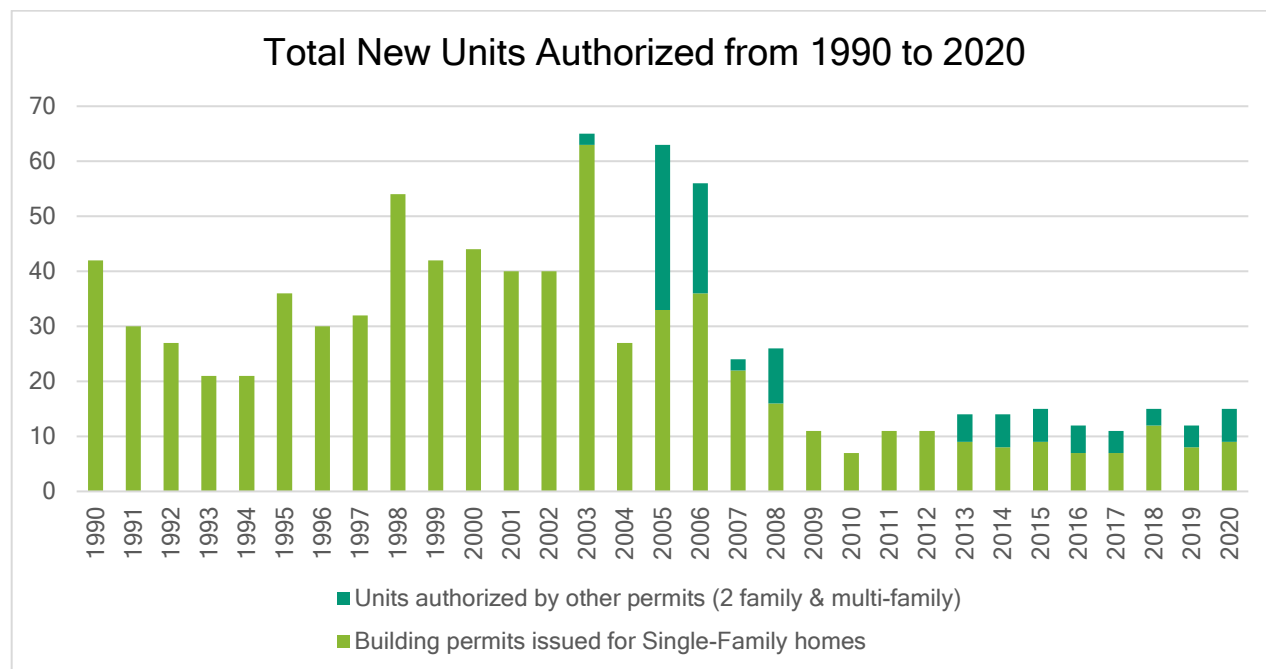
Though somewhat constrained by the lack of water and sewer in much of the Town, new residential subdivisions continued to be developed regularly until roughly 2005, when housing development slowed considerably in Leicester. Land-use changes have historically taken place over long periods. Today's technology allows these changes to occur much more rapidly and for building to occur on land ill-suited for development. Low-density housing subdivisions away from traditional neighborhood centers have dominated residential development for several decades. New commercial development in recent decades has typically been on undeveloped land along Leicester's major roadways rather than on former industrial sites such as mill complexes or in village centers.

Development has been concentrated in the central and southern portions of town along Route 9 and Route 56. Most recent construction is on frontage lots on established roads (data on recent development can be found in Section 3, *Long Term Growth and Development Patterns*). This pattern of development fragments open space and leaves large unbuilt areas behind the frontage strips, with significant environmental impacts. Contiguous open spaces provide landscapes with greater ecological value than fragmented habitats. This is partly because plants, animals, and water systems can move freely through these areas with less interference from systems constructed by humans. Adopting new zoning regulations that concentrate development, and prioritize redevelopment of existing construction, could protect contiguous open spaces while simultaneously promoting sustainable economic growth.

Leicester's housing development was considerably slower from 2010 to 2020 than in prior decades (see **Figure 12**). Meanwhile, housing demand in Leicester has been consistently high in recent years, especially for single-family homes (Central Massachusetts Regional Planning Commission, 2017). However, single-family home construction has lagged below the regional average and has

slowed relative to historical levels (Central Massachusetts Regional Planning Commission, 2017). One factor that may constrain growth is local zoning. According to a recent report from the Central Massachusetts Regional Planning Commission (2017), Leicester has relatively large minimum lot sizes, relatively small maximum lot coverages in any zone, and no areas where multi-family housing is allowed by right.

Figure 12: Total New Units Authorized in Leicester from 1990 to 2020.



Source: Town of Leicester Monthly Building Inspector Reports.

Additionally, Leicester's residential construction may be constrained by the availability of water and sewage infrastructure. New houses need access to water and waste disposal, but there are large areas of Leicester without public water or sewage access. Private wells and septic tanks require relatively large lots to accommodate these systems. This space requirement encourages dispersed development patterns that can fragment open space and make it more challenging to construct multi-family housing (Central Massachusetts Regional Planning Commission, 2017) or cluster development. Due to the current limited water supply in Leicester's water districts, future growth may also be limited in the 44% of town with access to public water (see Section 3, Error! Reference source not found., below).

The coronavirus pandemic of 2020 could shift growth trends in Leicester. While it is too soon to predict the full impact of the pandemic on the local real estate market and broader migration trends, as of June 2021, Leicester was rated as "one of the 'hottest' towns for local real estate in Worcester County" (Sami, 2021). Surging demand for real estate in Leicester could influence the amount of new construction built in the town in the coming years.

Infrastructure

Transportation

The principal highways through Leicester are Massachusetts Route 9, which runs east-west through the state, and Massachusetts Route 56, running north-south. The Massachusetts Turnpike

(Interstate 90) passes near the town's southern boundary and is easily accessible from Route 56 through Auburn. The Worcester Regional Transit Authority serves Leicester with regular daily bus service along Route 9, providing access to Union Station in Worcester to the east and Spencer and the Brookfields to the west.

Traffic is a concern for Leicester residents, particularly along Route 9. A Walmart opened near the Spencer border in March 2007, and a traffic light was added to help manage anticipated increases in traffic volume. However, data from the Central Massachusetts Regional Planning Commission (see **Table 3**) indicates weekday volumes (combined east and westbound vehicles) on Route 9 have shown only modest changes since 2006 or 2007.

Table 3: Selected Traffic Counts, Route 9 Leicester

Location	Date	Total Traffic
Route 9 at Worcester city line	2006	17,102
	2009	16,499
	2012	16,406
	2015	17,306
	2018	17,121
Route 9 at Spencer town line	2007	14,012
	2010	13,471
	2016	14,399
Route 9, East of Route 56	2007	13,453
	2010	13,876
	2019	15,900

Source: (Central Massachusetts Metropolitan Planning Organization, 2019)

The 2009 Master Plan includes the following recommendation: “facilitate pedestrian access town-wide for all ages of the population” (p. 5-10). However, the Master Plan also observes that:

“...the majority of Leicester roadways are narrow, rural roadways. The Planning Board requires sidewalks in new subdivisions, but most existing local roads outside of Leicester Center do not have sidewalks. Most of Leicester’s roadways are also not suitable for safe bicycle transportation. The speed of automobile traffic is also a common area of concern among residents. These conditions discourage pedestrian and bicycle transportation (p. 5-7).”

Public transit and pedestrian access are essential resources for low-income members of a community. Since publishing its 2009 Master Plan, Leicester commissioned a Complete Streets Prioritization Plan, which recommended pedestrian and cycling infrastructure improvements at specific locations in town. This study found that many of the suburban or rural roads in town are suitable for cycling given their width and low traffic volumes. However, several especially narrow and winding roads in town were rated as less safe given their limited sight lines and lack of shoulder (Howard Stein Hudson, 2018). The Leicester Complete Streets Prioritization Plan (2018) also confirmed that the sidewalk network is disjointed, in poor condition, or challenging to navigate with wheelchairs or strollers in many areas. In 2019, Leicester was awarded a Complete Streets Grant to improve sidewalk conditions and install a shared-use path around the Town Common.

Water Supply Systems

Three existing water districts service different portions of Leicester: the Cherry Valley/Rochdale Water District, the Hillcrest Water District, and the Leicester Water Supply District. Each of these districts is separately administered and operates its own facilities for water service. However, the Hillcrest Water District supplements its water supply with water from the Leicester Water Supply District.

Existing water lines serve most properties in Leicester's eastern, central, and southern sections along Route 9 and Route 56 south of Leicester Center. While water lines serve these relatively densely settled areas, most vacant developable land in Leicester has no water service. Private wells serve most residential developments constructed during the last few decades.

Ensuring future water supply is a pressing concern for Leicester. The town has plentiful water sources, but they require treatment to make them safe for drinking.² Additionally, the expense of infrastructure maintenance and construction, given the treatment requirements of local water sources, is a shared concern amongst all three water districts. The Town has commissioned multiple studies in recent years to assess the health of its water districts and the feasibility of various improvements. At present, a study led by the engineering firm Weston and Sampson is exploring the potential of consolidating water districts (Weston & Sampson, 2021). The project is still underway but may lead to future changes in Leicester's water system to improve service, manage infrastructure costs, and ensure town residents have a sustainable water supply.

Leicester and some of its neighbors rely on one another to maintain a supply of safe drinking water. The Leicester Water Supply District still operates two wells in neighboring Paxton, though it may soon cease using these water sources due to new water treatment requirements. Also, several of the town's twenty-six water bodies serve as drinking water reservoirs for Leicester and the neighboring communities of Spencer and Worcester. Further strengthening the mutual ties between these towns is the fact that the Cherry Valley/Rochdale Water District now purchases its entire water supply from Worcester, and the Leicester Water Supply District is pursuing a future interconnection with Worcester to supplement its own sources (Weston & Sampson, 2021). Moose Hill Reservoir is a potential water source overseen by Leicester's Moose Hill Water Commission. However, Leicester would need to overcome administrative hurdles and invest a significant amount of money in capital costs, operations, and maintenance to develop and support this new water supply (Weston & Sampson, 2021).

"Water quality" was the most highly rated conservation issue in the 2021 Leicester OSRP survey, demonstrating that residents recognize the link between local land conservation and maintaining a healthy water supply. Protecting the local water supply may shape town land uses, recreational options, and development patterns in the future. The high cost of water treatment infrastructure, which water district ratepayers would fund, could also shape town decision-making in the future. Due to the burden of increasing water bills, Leicester residents could become less able or willing to support other town projects and services, including protecting open spaces or maintaining public parks. Additionally, the agreements between Leicester water districts and Worcester include a maximum amount of water that these districts can use each day. Though Leicester water

² MassDEP issued orders to Cherry Valley/Rochdale Water District (2012) and Leicester Water Supply District (2016) that noted water quality concerns and required the districts to make water treatment improvements.

districts can use and treat their own drinking water sources to supplement their purchased supply from Worcester, this cap on Worcester water is likely to influence town growth.

As water needs in the region change over time and drought conditions become more common due to climate change, Leicester's water sources will become increasingly valuable, both to Leicester and its neighbors. See Section 4, *Climate Change*, for a review of potential impacts on Leicester's water supply from climate change.

Sewer Service/Septic Systems

There are four existing sewer districts within the Town boundaries of Leicester: Cherry Valley Sewer District, Hillcrest Sewer District, Leicester Water Supply District, and Oxford/Rochdale Sewer District. Waste from the Cherry Valley Sewer District is processed by the Upper Blackstone Clean Water treatment facility, which an interconnection with the Worcester sewer system facilitates.

Most of the land area in Leicester is not served by sewer lines, and development requires private septic systems. Title 5 of the State Environmental Code dictates proper siting, construction, upgrade, and maintenance of on-site systems. Severe limitations for septic systems due to soil conditions occur on over half of the land in Leicester, including moderately to excessively drained poor-filter soils, shallow depth-to-bedrock soils restricted by Title 5, and high-water-table soils restricted by Title 5 (see **Map 4 - Soils**). On-site septic systems that are not properly sited or maintained can contribute pathogens and nutrients to groundwater and surface water, endangering drinking water supplies and surface water bodies. Such "nutrient loading" can also contribute to the establishment of invasive aquatic species.

Modifying zoning and subdivision requirements could help channel development into areas where water and sewer services currently exist. However, having multiple independent water and sewer districts presents a challenge for the Town to plan and manage long-term growth effectively. The interests of particular water or sewer districts may or may not be consistent with Town interests and priorities. Where a community centrally manages water and sewer, the community can target specific areas for residential and commercial growth and limit development in problematic areas. Fragmentation of water and sewer services makes effective long-term community-wide planning for water and sewer difficult.

If development increases in Leicester, the demand for services will also increase. These include sewers, solid waste disposal facilities, gas and electric lines, schools, and other municipal services. A more detailed assessment of town infrastructure may be found in Leicester's 2009 Master Plan.

Long Term Growth and Development Patterns

Leicester has the following Zoning Districts (see **Map 3 - Zoning**):

- ⚙ Residential 1 (R1)
- ⚙ Residential 2 (R2)
- ⚙ Suburban-Agricultural (SA)
- ⚙ Business (B)
- ⚙ Industrial (I)
- ⚙ Business-Industrial-A (BI-A)
- ⚙ Business Residential-1 (BR-1)
- ⚙ Residential Industrial Business (RIB)
- ⚙ Highway Business-Industrial District (HB-1)
- ⚙ Highway Business-Industrial District (HB-2)
- ⚙ Central Business (CB)
- ⚙ Greenville Village Neighborhood Business District (NB)
- ⚙ Recreation Development

Additionally, there are three zoning overlay districts: the Water Resource Protection Overlay District, which limits activities for the protection of water resources within the district; the Flood Plain District, which prohibits loss of flood storage capacity; and the Adaptive Re-Use Overlay District, which allows for easier reuse of former mills, religious buildings, and former municipal building.

The Water Resource Protection Overlay District was adopted after Lycott Engineering completed a study in 1987. According to the Zoning Bylaw, the purpose of this district is to “prevent the contamination of those areas within Leicester that contribute ground or surface water to existing or planned public water supplies.” This district encompasses many of the key water resource areas in Leicester. In this district, the application of fertilizers and pesticides are permitted only by special permit, and new impervious surfaces are regulated. Land uses involving hazardous materials are prohibited in this zoning district. The boundaries of this district were expanded in 2002 to include the Conceptual Zone II of the Grindstone Well, a new drinking water source for the Cherry Valley and Rochdale Water District.

In 2001, the town introduced several revisions to the bylaws increasing minimum lot size in residential districts. Within the Suburban Agriculture (SA) district, the minimum lot size was increased from 50,000 to 80,000 sq. ft. The minimum lot size of the Residential 1 (R1) district was expanded from 20,000 to 50,000 sq. ft. (40,000 where public water and sewer are available).³ Increases in the minimum lot size were introduced to limit development in Leicester by reducing the total number of homes that could be built. However, this strategy may also have the effect of spreading low-density growth across town, rather than concentrating construction in previously developed areas better served with existing infrastructure (roads, water, sewer, etc.)

Leicester also has a district called the “Recreational Development District,” designed to preserve open space and recreational opportunities by allowing concentrated residential development. However, this district only encompasses the Hillcrest Country Club property. After a large subdivision was proposed on the site of the Hillcrest Country Club, the Town purchased the

³ A proposed 2018 Zoning Bylaw amendment would have reduced the SA district minimum lot size to 50,000 sq. ft., and would have reduced the R1 district minimum lot size to 20,000 sq. ft. where water and sewer are available. This change was disapproved at the 2018 town meeting.

property so that it could be permanently protected as a recreational and water supply protection resource.

Leicester addresses ground-mounted solar energy system development within its Zoning Bylaws though not with a specific overlay district. Leicester classifies solar energy systems based on their surface area and allows them by-right, by special permit, or prohibits them depending on the zoning use districts. Leicester made several changes to its solar system bylaws relevant in 2017 to address resident concerns about the solar industry's growing footprint in town and potential negative impacts on the community and local environment. The town's Zoning Bylaws now cap the number of medium and large ground-mounted solar energy systems at 20.

The Town adopted an Open Space Residential Development (OSRD) Bylaw in 2009 to provide a mechanism for protecting open space in exchange for higher density residential development. No developments have been built under this bylaw to-date, likely due to the struggling housing market in Leicester in the last several years. Leicester's Planning Board approved a special permit for the town's first Open Space Residential Development in 2020. The project, called Smuggler's Cove, faced intense public opposition, and the developer submitted a request in 2021 to amend the project by reducing the road length and number of lots (M. Buck, personal communication, July 12, 2021).

In addition to zoning bylaws, Leicester has a separate body of Subdivision Regulations that affect residential development. These regulations specify construction standards for new subdivisions. Currently, the Subdivision Regulations require the following basic requirements for new roadway construction:

- ✿ 40-foot minimum right-of-way
- ✿ 28-foot minimum paved surface
- ✿ 5-foot sidewalk on both sides of proposed roadways
- ✿ 500-foot dead-end limit
- ✿ Underground utilities
- ✿ Streetlights at the end of cul-de-sacs and at intersections

Changes to the Subdivision Regulations, such as narrower roadway pavement requirements and adoption of low impact development practices, could reduce the environmental impacts of new subdivisions allowing for continued growth while protecting Leicester's highly valued open spaces (see the Pioneer Valley Planning Commission's online Smart Growth Toolbox, and the Massachusetts EEA's Smart Growth/Smart Energy Toolkit for further information, case studies, and sample language).

As previously noted, housing development has slowed in Leicester in recent years. **Figure 12** shows housing units authorized by building permits from 1990 through 2020, which have declined from a high of 65 housing units in 2003 to a low of only seven housing units in 2010. Since 2010, Leicester has averaged only 13 new authorized units each year (Buck, 2021).

The permits issued from 2011 - 2020 were for a mix of multi-family and single-family units. Briarcliff, a senior-living gated community, was approved in 2004 for 34 units within 16-acres in southeast Leicester. It is currently the only unfinished residential subdivision in Leicester. As of

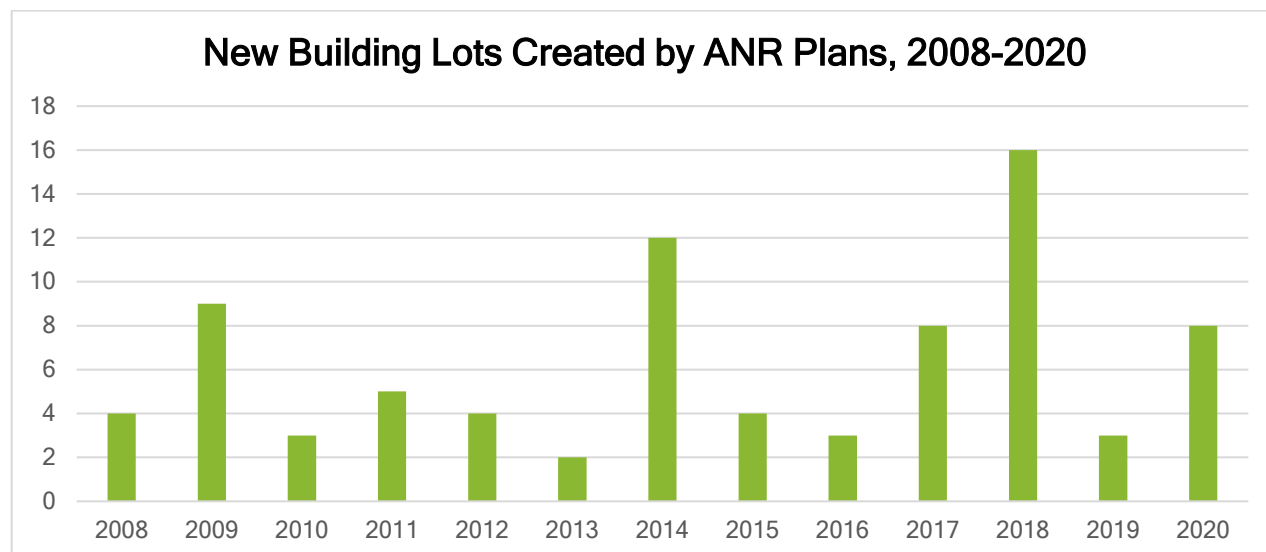
August 2021, 21 units are still available for development (M. Buck, personal communication, August 12, 2021; *Victoria Drive, Leicester, Mass.*, n.d.).

Since 2010, only two subdivisions have been approved: Boutilier Estates (approval rescinded 2017 - now the site of a proposed solar farm) and Oak Bluff Lane Subdivision (6-lot approved 2019 - near completion). There are currently three residential projects under review (as of August 2021):

- Skyview Estates: duplex/multi-family development of 72 units. The Skyview Estates development is proposed for a site within walking distance of Community Field, Leicester Common, and Russell Memorial Field.
- Smuggler's Cove: Open Space Residential Development special permit issued in 2019 for 24 single-family lots. An amendment to reduce the number of lots to 10 is currently under review.
- Parker Street: extension of existing Parker Street for three single-family house lots (with potential for five) - definitive plan application is currently under review (M. Buck, personal communication, August 12, 2021).

In recent years, ANR lot development (development along existing roads, rather than on new subdivision roads) has fluctuated. From 2014 to 2020, 54 new building lots have been created with ANR Plans, as shown in **Figure 13**.

Figure 13: New Building Lots Created by ANR Plans in Leicester, 2008-2020



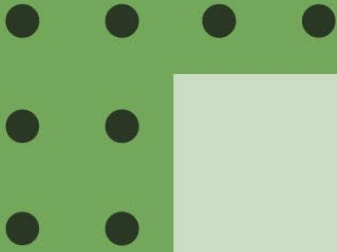
Source: Town of Leicester Planning Board ANR Database.

Despite the large lots required by Leicester's current Zoning Bylaws, existing land protections, and the Wetlands Protection Act, the town could still lose much of its fields, farms, forests, and other open spaces if the town were built out to maximum capacity under existing zoning laws. The town would see considerable degradation of its open space, with severe impacts in many areas. CMRPC completed a build-out analysis as part of the 2010 Greater Leicester Water Resources Project. As described in this report:

“A build-out analysis does not attempt to estimate when or if a community will reach full build-out - it simply attempts to describe what the community would look like if it were fully built out according to the town’s current zoning policies” (p.6).

The results of this analysis show that Leicester’s potential population could grow as high as 24,088 people, more than twice what it is today, at full build-out under Leicester’s zoning. However, this buildout analysis was based on 1999/2000 data. Since that time, Leicester has increased lot sizes for residential development in three zoning districts (SA, R1, and R2), which would reduce the total population at buildout.

Three current issues related to Leicester’s town governance and community development may have a significant, though primarily indirect, influence on the town’s open space and recreation decision-making over the next seven years or longer. First, protecting potential water sources from future contamination could be a driving factor in all town decision-making, given the costs of water purchased from Worcester and water treatment infrastructure. Second, limited municipal funding could prevent Leicester from making new investments in open space and recreation and prevent the town from hiring enough staff to maintain its existing assets adequately. Lastly, the town’s purchase of the Becker College campus may significantly impact Leicester in the future, especially around the town common and village center. The town still needs to determine how it will use these properties, but it will be a focal point for resident attention and town efforts over the next several years.



SECTION 4

ENVIRONMENTAL INVENTORY • • • • & ANALYSIS • • • •

SECTION 4: ENVIRONMENTAL INVENTORY & ANALYSIS

Geology, Soils, and Topography

Glaciers scraped across Leicester's landscape and left behind a series of north-south oriented drumlins that rise 50 to 150 feet. Dendritically shaped drainage patterns form three distinct river basins. Most of the drumlins are excessively drained, while most of the valley floors are poorly drained. These soil characteristics create a risk of water contamination from non-point sources, affecting above- and below-ground drinking water supplies.

Small valleys pool water in surficial depressions that vary significantly in size from vernal pools to large ponds. Under the influence of glacial outwash deposits, networks of streams both actively feed and drain water bodies. Dams (built in the early nineteenth century) and reservoirs (in the twentieth century) add to the town's water features.

The topography of Leicester divides the landscape into three watersheds, each with numerous streams and ponds. The town's glaciated terrain serves as the headwaters of the Blackstone, French, and Chicopee Rivers. Groundwater aquifers are the source of headwater streams.

Hills along the northern Leicester and Paxton town boundary consistently top 1,000 feet. As the landscape gently slopes down to the south, the last hill of this size (Leicester Hill) stands above Leicester Center. Hilltops grow smaller toward the town of Auburn (southeast of Leicester) as the topography flattens into the wetlands of Leicester's Great Cedar Swamp. At Leicester's lowest surface elevation (720 feet), the Grindstone Brook drains the swamp into Rochdale Pond.

Leicester's gently undulating landscape rarely reaches slopes steeper than 15%. However, elongated areas of 15 to 35% slopes define isolated hills. Bedrock outcrops strewn about the town's landscape generally jut out from the relatively level ground (Leicester Open Space and Recreation Plan, 2007, p. 15), though a few of these outcrops have been exposed by erosion on the steeper slopes. Boulders, gravel, and sand compose the glacial till that define Leicester's elevated landscape. A mixture of sand, silt, and clay compose a relatively impermeable surface in Leicester's lowlands (Leicester Open Space and Recreation Plan, 2007, p. 15).

Leicester's soils range from the poorly drained Paxton-Woodbridge-Ridgebury series in the floodplains to the well-drained Canton-Montauk-Scituate series in more than half of the town (see Map 4 - Soils & Geologic Features). Where relatively free of stones, these soil types rank among the most agriculturally productive soils in the country (Massachusetts Department of Conservation and Recreation et al., 2007, p. 2).

Landscape Character

Of Leicester's approximately 15,700 acres, only 12% had been developed as of 2017 (Mass Audubon, 2020). Forests, wetlands, and water account for 76% of Leicester's total area, while 10% is open land consisting of agricultural areas, bare soil, barren land, and low vegetation (Mass Audubon, 2020).

Small ridges and low hills give rise to Leicester's undulating landscape and, at places, allow for clear views across the forests of town. In its lowlands and highlands, Leicester's forests have grown back since its agricultural and industrial past and now cover a large portion of the town. As of 2009, these forests included three blocks of "interior forests," classified as relatively unfragmented by development by the Massachusetts Division of Fisheries and Wildlife (Department of Fisheries and Wildlife, 2009). At least one swamp of rare inland Atlantic white cedar has been identified by the National Heritage and Endangered Species Program (further described in Section 4, Vegetation, and E. Fisheries & Wildlife).

While initially settled by colonists as a farming community, Leicester has lost much of its farmland to forest regeneration and development (Town of Leicester, Massachusetts, 2009, pp. 8-1). Based on 2016 land cover data, scattered cropland and pasture make up 3% of the town's total acreage (MassGIS, 2019). Of the 3,541.9 GIS acres of prime agricultural soils in town (United States Department of Agriculture Natural Resources Conservation Service, 2012), only 506.91 GIS acres are currently used for active agriculture (MassGIS, 2019). However, Leicester's farms continue to produce an array of crops (see *Scenic Resources and Unique Environments* in Section 4). Several of Leicester's farms strive to be pesticide free by using integrated pest management, which helps reduce nutrients and chemicals in runoff that would otherwise impair water resources.

Its abundant water resources shaped Leicester's economy and development (Town of Leicester, Massachusetts, 2009, secs. 7-1). During the Industrial Revolution, many small mills disrupted streams to harness hydraulic energy (Washburn, 1860, p. 23). New ponds and lakes were formed, and the flows of feeder streams were altered. Marshes, bogs, and swamps evolved from the saturated soils. Although the mills are mostly gone, many of the dams remain. Today, these millponds serve wildlife and enhance the town's rural character but no longer provide the energy for which they were once designed. Mostly privately owned, these water bodies largely remain unavailable for recreation or fishing. While the dams help retain the landscape and waterbodies that are a part of Leicester's colonial heritage, they create safety hazards and maintenance costs for the town. As of 2012, nineteen dams were still in place in Leicester, including eight "high hazard" dams (Massachusetts Office of Dam Safety, 2012). The Waite Pond Dam, Rochdale Pond Dam, and Chapel St. Dam were listed as areas of concern to the Town in their 2018 Municipal Vulnerability Preparedness (MVP) program report due to their age and potential for flooding (Town of Leicester & Fuss & O'Neil, 2018).

For additional information on Leicester's development history, see *Scenic Resources and Unique Environments* in Section 4.

Water Resources

Like forests, water is a prominent feature in Leicester's rural environment. Ponds, lakes, and reservoirs range from less than one acre to more than 100 acres and cover approximately 850 acres of town. However, several of the town's ponds and streams are impaired by invasive species, eutrophication, and pollutants. Also, aging dams pose high risks of failure. Despite the prevalence of water, there is no public water access, no town beach, and very little fishing available to residents outside of the Southwick Pond Preserve. See **Map 6 - Water Resources 1**.

Watersheds

A watershed is a geographic area of land where all surface and ground water flows downhill to common points, such as a river, stream, pond, lake, wetland, or estuary. Leicester is located at the headwaters and within the watersheds of three major rivers: the Blackstone, the French, and the Chicopee (MassGIS, 2000). This geographical position imposes a great responsibility on Leicester to preserve clean waters for communities downstream. However, few resources are available to Leicester for protecting the integrity of these shared waters.

Each of Leicester's three watersheds is described below and depicted in Error! Reference source not found.:

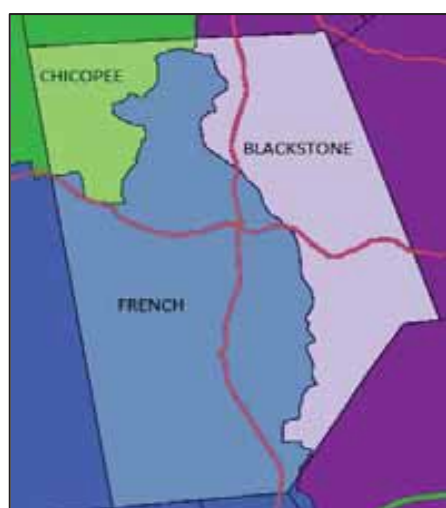


Figure 14: Map of Leicester's Watersheds.
Source: MassGIS data edited by Michelle Buck, Town Planner.

The Blackstone River Watershed encompasses all or part of 29 communities in south-central Massachusetts and Rhode Island. Three hundred eighty-two square miles of its total drainage area of 640 square miles are in Massachusetts (this includes 24 of the 48 river miles). The watershed also encompasses 1300 acres of lakes, ponds, and reservoirs. The major tributaries of the Blackstone are the Quinsigamond, West, Mumford, Mill, and Peters Rivers. Worcester and Providence, the second and third largest population centers in New England, are in the Blackstone Watershed (Massachusetts Department of Environmental Protection: Division of Watershed Management., 2010). The Blackstone River Watershed Coalition, the Blackstone River Watershed Association, the Blackstone Watershed Collaborative, and other local groups actively work to improve water quality and aquatic habitat in the Blackstone River Watershed. The 2021 Blackstone River

Needs Assessment, led by the Narragansett Bay Estuary Program, documents the challenges of the Blackstone River Watershed, including ongoing water quality problems related to non-point source pollution draining into the Blackstone directly and through its tributaries.

The French & Quinebaug Watersheds and the Quinebaug-Shetucket River Valley form the Thames River Watershed. These watersheds encompass approximately 1,474 square miles of land area, 251 miles of which occur in Massachusetts and include all or part of 13 Massachusetts municipalities. The French River runs for 21 miles, 14 in Massachusetts, while the Quinebaug River stretches about 65 miles, 19 in Massachusetts (Massachusetts Department of Environmental Protection: Division of Watershed Management, 2009). The region comprises the "Last Green Valley" in the megalopolis that stretches from Boston to Washington, DC (The Last Green Valley, n.d.). The French River Connection watershed organization disbanded in 2021.

The Chicopee River Watershed - the largest of the 27 major drainage basins in Massachusetts - drains more than 720 square miles of central Massachusetts before joining the Connecticut River in the City of Chicopee. It includes all or part of 39 cities and towns and a population of almost 200,000 people (based on 2000 U.S. Census data). The watershed has a drainage area of approximately 720 square miles. It includes approximately 135 miles of rivers, 842 miles of brooks

and streams, and 170 lakes, ponds, and reservoirs that collectively cover more than 48 square miles. It is comprised of three major river systems: the Swift, Ware, and Quaboag Rivers that each drain approximately 200 square miles of land. The three rivers join to form the Chicopee River in the aptly named village of Three Rivers (Reardon, 2008).

Surface Waters

Massachusetts 314 CMR 4 is the statewide regulation for Surface Water Quality Standards. These regulations define classes of waterbodies based on their designated uses. Inland waterbodies range from Class A, with the highest water quality and most comprehensive range of uses, to Class C, which is suitable for uses like irrigation and provides habitat for aquatic life but is unsuitable for human recreation (Massachusetts Department of Environmental Protection, 2013). Class B waters are deemed suitable for habitat, primary and secondary recreation, and water supply sources if water is treated before consumption (Massachusetts Department of Environmental Protection, 2013).

Mass DEP regularly assesses water quality and publishes its findings as part of compliance with the federal Clean Water Act. The most recent report from the 2016 reporting cycle includes water quality data on several Leicester ponds, streams, and rivers. **Table 4** lists data from *the Massachusetts Year 2016 Integrated List of Waters* and additional data from MA 314 CMR 4 for waterbodies that were not assessed in the integrated list of waters report. Mass DEP's water quality data is incomplete, so the impairments and impacts listed below may leave out other environmental issues impacting Leicester waterbodies.

Table 4: Surface Water Quality in Leicester

Waterbody	Class	Impairments (listed in 2016 Integrated Waters Report)	Impacts (listed in 2016 Integrated Waters Report)
<i>Blackstone River Watershed</i>			
Kettle Brook (including Smiths Pond)	A-B	Stretches below Kettle Brook Reservoir 1 are impaired by Benthic Macroinvertebrates, Dewatering, Nutrient/Eutrophication, Non-Native Aquatic Plants, E. Coli and Fecal Coliform	Impairs use for habitat, and primary contact recreation, such as swimming or diving
Kettle Brook Reservoir Nos. 1-4	A	Not assessed	Not assessed
Lynde Brook Reservoir	A	Not assessed	Not assessed
Southwick Pond	A	Nutrient/Eutrophication, Non-native Aquatic Plants	Impairs use of pond for aesthetic and recreational purposes
Waite Pond	B	Mercury in Fish	Impairs use of pond for fishing
<i>Chicopee River Watershed</i>			

Moose Hill Reservoir	B	Not assessed	Not assessed
Shaw Pond	A	Not assessed	Not assessed
<i>French River Watershed</i>			
Bartons Brook	B	Not assessed	Not assessed
Bouchard pond	B	Non-native Aquatic Plants	Impairs use of pond for habitat
Burncoat Brook	B	Benthic Macroinvertebrates, E. Coli	Impairs use of river for aquatic habitat and primary contact recreation, such as swimming or diving
Cedar Meadow Pond	B	Non-native Aquatic Plants	Impairs use of pond for aquatic habitat
Dutton Pond	B	Excess Phosphorus, Nutrient/Eutrophication	Impairs use of pond for habitat, aesthetic, and recreational purposes
French River	B	Mercury in fish	Impairs use of river for fishing
Greenville Pond	B	Turbidity	Impairs use of pond for aesthetic and recreational purposes
Grindstone Brook	B	E. Coli	Impairs use of pond for primary contact recreation, such as swimming or diving
Henshaw Pond	A	Not assessed	Not assessed
Rochdale Pond	B	Nutrient/Eutrophication	Impairs use of pond for habitat, aesthetic, and recreational purposes
Sargent Pond	B	Non-native Aquatic Plants	Impairs use of pond for habitat
Stiles Reservoir	B	Not assessed	Not assessed
Town Meadow Brook, outlet Dutton Pond	B	Not assessed	Not assessed
Unnamed Tributary, outlet Sargent Pond	B	Not assessed	Not assessed

Source: (Executive Office of Energy and Environmental Affairs & Massachusetts Department of Environmental Protection, 2019; Massachusetts Department of Environmental Protection, 2013)

The City of Worcester has done the most to protect the Kettle Brook, the headwaters of the Blackstone River, to safeguard its drinking water supply. Worcester owns approximately 1,071 acres within Leicester, including four reservoirs: Kettle Brook Reservoirs 1 - 3, and Lynde Brook

Reservoir (The Cherry Valley and Rochdale Water District, 2020). This ownership and resulting open space protection guards this area from a westerly expansion of suburban sprawl but fails to prevent contamination of Kettle Brook and Waite Pond further downstream of these protected sources (Executive Office of Energy and Environmental Affairs & Massachusetts Department of Environmental Protection, 2019). Also, Worcester's protection of this water supply land prevents Leicester residents from using this open space for recreation, other than walking on specific town-owned rights of way. See *Water Resource Management Lands* in Section 5 for further discussion of this conflict between recreational uses and water protection.

There are no official beaches or public watercraft launch points in Leicester. A strip of land adjacent to Greenville Pond, now owned by the Common Ground Land Trust (see *Common Ground Land Trust Land* in Section 5), has been used informally for fishing and boating. See *Environmental Challenges* for further discussion of the environmental challenges impacting Leicester's surface waters.

Aquifer Recharge Areas

Leicester's drinking water supply, including its wellheads and wellhead recharge areas, is protected by the town's Water Resources Protection Overlay District, which restricts certain land uses within these areas. While some uses, including active and passive recreation, are permitted in this zoning district, other uses require a special permit. Uses that could lead to significant pollutants are not permitted at all. Permitted, special permit, and prohibited uses are detailed in Section 7.1.04 of Leicester's Zoning By-Laws. **Map 7 - Water Resources 2** shows the Water Resources Protection Overlay District, covering much of northern and central Leicester. Worcester's Water Department owns significant land holdings in eastern Leicester and restricts the public use of its land to protect the city's water supply.

See *Environmental Challenges* in Section 4 for more information about Leicester's water districts and drinking water supply impairments.

Flood Hazard Areas

Portions of Leicester fall into FEMA-designated Zone A and Zone X (shaded) flood zones. Areas within Zone A are estimated to have a 1% chance of flooding each year, and areas in Zone X have a .2% chance of flooding annually. However, these zones are based on historical flooding data and do not include the risk of extreme rainfall events linked to climate change (Bruggers, 2021). Consequently, when FEMA updates its maps to account for climate change impacts to weather patterns, these flood zones could increase in size (Miller, n.d.).

Leicester's Zoning By-Laws designate a Flood Plain District in Section 5.2.09. This district includes all areas of Leicester within FEMA zones A and AE. The purposes of this district are to:

1. Ensure public safety through reducing the threats to life and personal injury;
2. Eliminate new hazards to emergency response officials;
3. Prevent the occurrence of public emergencies resulting from water quality, contamination, and pollution due to flooding;
4. Avoid the loss of utility service which if damaged by flooding would disrupt or shut down the utility network and impact regions of the community beyond the site of flooding;

5. Eliminate costs associated with the response and cleanup of flooding conditions; and
6. Reduce damage to public and private property resulting from flooding waters.

The development regulations in this zoning district require compliance with specific state regulations like the section of the State Building Code that addresses flooding in High Hazard Areas.

Like the FEMA-designated flood zones, Leicester's Flood Plain District does not account for the additional risk of flooding that the town may experience due to climate change. However, the town's MVP Plan acknowledges the increasing threat of extreme rainfall events (Town of Leicester & Fuss & O'Neil, 2018). According to the 2018 MVP report, culverts, bridges, and dams are all areas of concern for the town because they will have to accommodate additional water volumes in the future. This report also notes that while beaver dams provide valuable ecological services that support the health of open spaces in Leicester, they could also contribute to localized flooding (Town of Leicester & Fuss & O'Neil, 2018). Chronic flooding is discussed further in *Environmental Challenges* in Section 4.

Wetlands

Leicester's abundant wetlands and floodplains serve ecological functions vital to ecosystem and community health. Healthy wetlands provide ecosystem services that work to slow, infiltrate, and filter stormwater and runoff. All quadrants of the town have wetlands near waterbodies and in low-lying areas. However, as noted in Leicester's MVP report, wetlands have been intentionally filled to enable development, which has reduced their flood control and water filtration abilities (Town of Leicester & Fuss & O'Neil, 2018). Healthy wetlands could build Leicester's resilience to the impacts of climate change, like more frequent or severe stormwater flooding, but these ecosystems must be protected from further disturbance and development.

Leicester's water features and wetlands also serve as critical habitat for rare and important species, including inland Atlantic white cedar, swamp lousewort, and triangle floater mussels (Leicester Open Space and Recreation Plan, 2007, pp. 19, 21). For more information on these species, refer to *Vegetation* and *Fisheries and Wildlife* later in Section 4. Unfortunately, environmental stressors such as invasive species, habitat fragmentation, and water impairment threaten these sensitive species. For more information on these environmental challenges, refer to *Environmental Challenges* in Section 4. All of Leicester's regulated wetlands are included in **Map 9 - Habitat**.⁴

⁴ New wetlands created by beaver dams have not been noted on **Map 9 - Habitat**, however, beaver dams may be found in several locations across Leicester (Town of Leicester & Fuss & O'Neil, 2018).

Vegetation

General Inventory

Three different ecoregions cover Leicester. The Lower Worcester Plateau includes most of the town, while the Worcester Plateau covers a portion of Northern Leicester, and two patches of land in Southern Leicester are part of the Southern New England Coastal Plains and Hills ecoregion (U.S. Environmental Protection Agency & MassGIS, 1999). The 2012 Leicester BioMap2 report describes vegetation in those ecoregions as:

- Lower Worcester Plateau - “comprised of open hills and transition hardwood and central hardwood forests.”
- Worcester Plateau - “dominant forest types present are transition hardwoods and some northern hardwoods. Forested wetlands are common.”
- Southern New England Coastal Plains and Hills - “Forests are mainly central hardwoods with some transition hardwoods and some elm-ash-red maple and red and white pine” (MA Department of Fish and Game & The Nature Conservancy, 2012).

Major forest types that are typical of these ecoregions include:

- Transition hardwood forests with stands of Maple, Beech, and Birch, as well as Oak and Hickory;
- Northern hardwood forests of Maple, Beech, and Birch;
- Central hardwood forests of Oak and Hickory;
- Forests of Elm, Ash, and Red Maple and White and Red Pine (Griffith et al., 1994).

Many other species of vegetation grow in Leicester, both as trees, shrubs, and brush within the forest types noted above and in many other ecosystems. Unfortunately, there is not a complete inventory of all plant species in the town.

Forest Lands

Today, forests make up 68% (10,675 GIS acres) of Leicester’s 15,768-acre landscape (MassGIS, 2019). Elevation, and its impact on temperature, broadly determine vegetation types in Massachusetts (Foster & Foster, 1999). Leicester is at a conjoining point of three different ecoregions and has varied topography, so its forests are comprised of a mix of species. As noted previously in this report, agriculture was a dominant historical land use in Leicester, and it required large expanses of cleared land. Consequently, many of today’s trees are likely regrowth.

The Massachusetts Department of Natural Resources characterizes Leicester’s forests as “prime” for forest productivity. Private citizens have historically timbered Leicester’s forests. With large parks such as Burncoat and Hillcrest, Leicester may have the opportunity to establish a town forest managed to produce forestry products and generate revenue to support local recreation.

Public Shade Trees

Currently, the town has limited funds to maintain its forests, shade trees, and street trees. Leicester does not have a public shade tree program, forester, forestry plan, or regular maintenance program. However, developers of new subdivision roads must plant shade trees every

40 feet within road rights-of-way (Leicester Planning Board, 2021). In addition, shade trees are required every 35-50 feet along the road in new commercial developments in most commercial and industrial zoning districts, regulated through the Zoning Bylaw and the Planning Board's Landscaping Regulations. The Planning Board's Landscaping Regulations explicitly ban host species for the Asian Longhorned Beetle and "strongly suggest" native species.

The Highway Superintendent serves as the part-time Tree Warden. The Highway Department performs limited maintenance for trees in cemeteries, veteran squares, and next to public right of ways. However, the town does not own aerial equipment that would enable the department to prune or remove large trees safely and efficiently. The Highway Department is only allocated \$7,000 annually for forestry activities, is understaffed relative to its growing workload, so it is currently unable to address all its tree-related service calls. However, there is a great need for more forest maintenance in Leicester. The Tree Warden recently began a town wide assessment of street trees and has found a high rate of hazardous trees along public roadways (D. P. Griffin, personal communication, October 1, 2021).

Agricultural Land

Agricultural land still accounts for much of the open space in Leicester. While dairy farming was once the dominant agricultural business in the town, only one working dairy farm remains today. Leicester's other agricultural businesses include plant nurseries, swine, horse stables, llama farms, maple sugaring, vegetables, and Christmas trees. Active agriculture contributes to Leicester's rural character and provides a continued source of fresh, locally grown produce and dairy products. Although agricultural land uses have declined in recent decades, there is renewed interest in locally grown and produced agricultural products. The Town has enacted a Right-to-Farm Bylaw and has an Agricultural Commission that meets on a semi-regular basis.

The Right-To-Farm Bylaw, a General By-Law, "encourages the pursuit of agriculture, promotes agriculture-based economic opportunities, and protects farmlands within the Town of Leicester by allowing agricultural uses and related activities to function with minimal conflict with abutters and local agencies" (Town of Leicester, 2019). The Right-To-Farm Bylaw is designed to protect farmers from potential complaints regarding typical noises and odors associated with farming.

Wetland Vegetation

Leicester's wetland vegetation is protected through the Wetlands Protection Act, a local Wetlands Protection Bylaw (adopted 5/2008), and Wetland Regulations (adopted 5/2009). The Leicester Conservation Commission is responsible for administering the Wetlands Bylaw and Regulations. One key feature of the Wetland Regulations is a 25-foot "No Disturb Zone." As outlined in the regulations: "Vegetation in the No Disturb Zone shall not be cut or trimmed in any manner. Prohibited activities within the No Disturb Zone include, but are not limited to, grading, landscaping, planting, harvesting, mowing, vegetation clearing, cutting, trimming, filling, depositing of any materials (including yard waste and construction debris), composting, excavating, construction, fencing and installation of roads, driveways and walkways." This "No Disturb Zone" is one difference between Leicester's local Wetland Regulations and the State Wetland's Protection Act.

Rare Species

The Massachusetts Endangered Species Act protects rare species and their habitats by prohibiting the taking of any plant or animal species listed as endangered, threatened, or of special conservation concern. Leicester's only known rare plant species is *Rhododendron maximum*, or Great Laurel. It is classified as threatened in Massachusetts and was last observed in Leicester in 2006 (MassWildlife, 2015; Natural Heritage & Endangered Species Program, n.d.-a). Great Laurel is an evergreen shrub with clustered pink or white flowers. Its habitats include the edges of boggy swamps, Atlantic white cedar swamps, near open ponds, within forested seepage fens (a peat-forming area where very cold, nutrient-poor water seeps to the surface), and on the edges of red maple swamps (MassWildlife, 2015). Great laurel has been threatened by illegal wild harvesting for transplanting as landscape shrubs. Great laurel was last identified in Leicester in 2006 (MassWildlife, 2015; Natural Heritage & Endangered Species Program, n.d.-a).

Pedicularis lanceolata, Swamp Lousewort, is another rare plant species. It was last observed in Leicester in 1940, and the age of the last sighting indicates that it may no longer grow within town limits (Natural Heritage & Endangered Species Program, n.d.-a).

The Natural Heritage and Endangered Species Program (NHESP) has classified four areas of Leicester as Priority Habitats of Rare Species (see **Map 9 - Habitat**). However, it does not tell the public what species live in those areas to protect those plants and animals from disturbance. Instead, the landowner must contact NHESP for information before any land disturbance activity to avoid accidentally harming protected species.

Unique Natural Resources

At least three areas of Leicester have never been tilled or pastured (Leicester Open Space and Recreation Plan, 2007, p. 20), most likely due to their position in some of Leicester's wettest swamps. Today these areas make up Leicester's invaluable interior and rare species forests. At least one stand of rare inland Atlantic white cedar exists in the northwest quadrant of town. As noted in the 2014 Open Space and Recreation Plan, other cedar stands may exist elsewhere in town as remnants of past wetland habitats. Cedar Meadow Pond was named after the cedar forest displaced by the damming of Burncoat Brook. This rare ecosystem requires "a natural cycle of wet and dry periods for [cedar] survival and reproduction" and may be negatively impacted by local fire suppression, which allows less fire-tolerant trees to compete with the cedars (MassWildlife, n.d.-a). Currently, in Leicester, these inland Atlantic white cedar swamps are privately owned. Two areas of Inland Atlantic White Cedar Swamp were included as Priority Natural Communities in BioMap2. One of these locations has been verified by MassWildlife's Natural Heritage and Endangered Species Program staff. As of 2021, the two inland Atlantic white cedar swamps identified by the BioMap2 in Northwest Leicester were partially included in land protected by Chapter 61 (MA Department of Fish and Game & The Nature Conservancy, 2012; MassGIS, 2020). That means these cedar swamps may be actively managed to produce forestry products but are also partially protected from development. The wetlands directly beneath Hillcrest Country Club are referred to as the Great Cedar Swamp. However, state agencies have not publicly verified the modern presence of Atlantic white cedars in this area of town.

Fisheries and Wildlife

Inventory

Leicester's abundance of open space supports a diversity of ecosystem characteristics vital to the health of its fisheries and wildlife. The local landscape consists of a mix of forests, meadows, wetlands, and surface waters. These landscapes vary by elevation, aspect, soil, and other characteristics to create thousands of microclimates and great biodiversity. Mixed-landscape areas dominate the landscape and form the background in which other smaller-scale communities occur. Animals that benefit from such diverse ecosystems have an extensive home range across multiple forests, woods, meadows, and streams.

Ecosystem patches (such as Leicester's dry hilltops, low wetlands, maintained grasslands, or even vernal pools and warm water ponds) may provide the essential needs of a particular species' daily life or the essential needs of one stage of that species' life. Patches are smaller pieces of the landscape. Animals that benefit from these ecosystems may not migrate far from their home range or need a set of landscape characteristics too specific to be represented well by a larger, mixed landscape.

Typical upland wildlife that frequent the town's natural areas include white-tailed deer, moose, coyote, raccoon, cottontail rabbit, grouse, woodcock, chipmunk, woodchuck, turkey, and skunk. Animals that thrive near wetland habitat include beaver, wood ducks, and several species of snake, salamander, and turtle. Neighboring wildlife habitat areas in Paxton, Charlton, and Oxford are linked to Leicester by important wildlife corridors along streams and wetlands. The Audubon's acquisition of land in neighboring Spencer increases opportunities for wildlife around Burncoat Pond.

Besides their importance in the ecological food web, wildlife species provide opportunities for hunting and fishing. The biggest problems facing recreational fishing in Leicester are the lack of access to the lakes and rivers and water quality protection. There are no public boat ramps on local watercourses and few public places to fish from riverbanks; however, hunting opportunities exist on the many private woodland and meadow parcels throughout town.

Leicester's abundance of warm-water ponds provides a nearly year-round potential habitat for lunker, anglers, largemouth bass, bluegill, and sunfish. The watersheds of many ponds, especially the Grindstone Brook drainage between Henshaw and Rochdale ponds, provide good waterfowl and furbearer habitat. Muskrat, fox, beaver, and mink are perhaps the principal furbearers, with an occasional otter sighting.

The Moose Hill Wildlife Management Area, in the far northwest corner of Leicester (and extending into Paxton and Spencer), has abundant wildlife, including grouse, American kestrels, woodcock, deer, aquatic furbearers, cottontail rabbit, gray squirrel, raccoon, waterfowl, and numerous upland and lowland nongame species. A limited number of pheasant are stocked during the open season. Some fields in this wildlife management area are mowed annually to provide open habitat, and MassWildlife has completed other forest management projects to improve habitat (MassWildlife, n.d.-b).

In the northwest section of Leicester, the Leicester Rod and Gun Club has maintained more than 100 acres as a wildlife preserve that is open to its members for hunting year-round. This preserve is stocked with pheasant and grouse annually.

Vernal Pools

Vernal pools are isolated, shallow ponds characterized by periods of dryness. The indefinite nature of a vernal pool attracts and protects a variety of wildlife that would otherwise fall prey to predatory fish populations in more reliable water resources (United States Environmental Protection Agency, 2015). Vernal pools are essential for animal species that require warm shallow water to lay and fertilize eggs. The characteristics of individual vernal pools can vary and act as microclimates (United States Environmental Protection Agency, 2015). This allows an animal to choose which environment is most suitable for its reproduction. In this respect, areas of clustered vernal pools are even more important than isolated vernal pools (Leicester Open Space and Recreation Plan, 2007, pp. 19-20). The Wetlands Protection Act regulates some vernal pools, but they must be certified by the NHESP (Natural Heritage & Endangered Species Program, n.d.-b). Two vernal pools within Leicester have been certified with the Commonwealth of Massachusetts (Leicester Open Space and Recreation Plan, 2007). Although NHESP has identified dozens of potential vernal pools within Leicester, no additional certifications have been made since the last OSRP update in 2014. Species of special concern observed in these pools include the spotted turtle (*Clemmys guttata*).

Corridors for Wildlife Migration

Habitat edges provide essential space for species that need access to multiple ecosystems regularly. Corridors are elongated open space areas that connect patches of habitat. Streams and interior forests are a couple of examples of corridors. Corridors provide habitat and mobility for a wide array of wildlife. Corridors become even more important in times of disturbance due to predation, fires, floods, or even development.

Several power transmission lines that cross Leicester serve as corridors for wildlife. These should be managed to serve as wildlife habitat, reduce opportunities for the establishment of invasive plant species, and reduce herbicide use, which will reduce adverse effects on groundwater. National Grid manages these transmission line rights-of-way through their Vegetation Management Plan.

Core Habitat & Rare Species

NHESP's BioMap2 Core Habitats and Critical Natural Landscapes

In 2010, Massachusetts' NHESP updated its BioMap project and released BioMap2. According to NHESP, BioMap2 is: “designed to guide strategic biodiversity conservation in Massachusetts over the next decade by focusing land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems” (MA Department of Fish and Game & The Nature Conservancy, 2010). BioMap2 identifies core habitats and critical natural landscapes within Leicester, as shown in **Map 9 - Habitat**.

Core habitats represent the location of and the ideal conditions for rare species. Protecting the areas identified in the BioMap2 report will help preserve local biodiversity and the long-term existence of certain ecosystems.

The following core habitats are described in Leicester's BioMap2 report:

Core 1429 consists of an unprotected 12-acre core habitat featuring a wetland core (MA Department of Fish and Game & The Nature Conservancy, 2012; MassGIS, 2020). This swamp is shared by Leicester and Auburn. The Kinnear Brook drains the swamp and then joins the Chapin Brook before feeding into the Stoneville Reservoir.

Core 1456 and 1507 consists of an unprotected 12-acre and an unprotected 90-acre (respectively) core habitat featuring an aquatic core habitat and a species of conservation concern (MA Department of Fish and Game & The Nature Conservancy, 2010; MassGIS, 2020). A section of the Burncoat Brook and the entire length of the Town Meadow Brook contain the triangle floater mussel populations. The Cedar Meadow Pond, which feeds Burncoat Brook, is considered impaired by the Executive Office of Energy and Environmental Affairs due to invasive aquatic species (Massachusetts Department of Environmental Protection: Division of Watershed Management, 2009).

Core 1499 comprises a protected 23-acre core habitat featuring a wetland core habitat (MA Department of Fish and Game & The Nature Conservancy, 2012; MassGIS, 2020). This swamp drains into the Cherry Valley and Rochdale Water District's Henshaw Pond and sits within a block of wet forest that supports a diversity of habitats and wildlife.

Core 1591 consists of an unprotected 44-acre wetland core habitat occurring on mid-elevation slate, one of the least common ecological settings for wetland core habitats in the state (MA Department of Fish and Game & The Nature Conservancy, 2012; MassGIS, 2020). This wetland surrounds the Whittemore Street Pond and abuts Leicester's largest block of interior forest. Development has encroached on this core wetland from the south and east.

Core 1618 and 1636 consist of unprotected 8-acre and 49-acre core habitat featuring a priority natural community

Core Habitat Definitions

The BioMap2 report identifies areas of core habitat. Core habitats refer to "key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth" (pg.13). Some core habitats are designated because they are healthy ecosystems, while others are designated because they provide habitats for certain rare species.

Two common core habitat types in Leicester include:

Aquatic Core - "integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern" along with adjacent wetlands (pg. 13).

Wetland Core - "the most intact wetlands in each ecological region of the state. These intact wetlands in diverse settings may be thought of as representing the ecological stage and are most likely to support a diversity of wetland types over time, even as different plant and animal species (the actors on the ecological stage) shift in response to climate change" (pg. 13).

(MA Department of Fish and Game & The Nature Conservancy, 2012; MassGIS, 2020). Inland Atlantic white cedar swamps are forested wetlands dominated by Atlantic white cedar, with a supporting guild of hemlock, spruce, red maple, and yellow birch. As in all Atlantic white cedar swamps, water-saturated peat overlies the mineral sediments. This example of Inland Atlantic white cedar swamp is moderate-sized, with mature structure and good floral diversity.

Core 1625 consists of a partially protected 1,061-acre core habitat featuring species of conservation concern (MA Department of Fish and Game & The Nature Conservancy, 2012; MassGIS, 2020). The protected sections of this core habitat belong to the Worcester Water Supply Area, while other sections belong to the Worcester Regional Airport. The grasslands in this habitat are maintained by mowing and the grazing of dairy cows, which proves suitable habitat for whip-poor-wills as well as the grasshopper sparrow, a state-protected rare bird. Natural succession would transform the grasslands into shrubland without such a management regime, leaving the grasshopper sparrow without a suitable environment.

Core 1639 consists of a protected 54-acre core habitat featuring a species of conservation concern (MA Department of Fish and Game & The Nature Conservancy, 2012; MassGIS, 2020). The Division of Fisheries and Wildlife manages the Moose Hill Wildlife Management Area. This WMA abuts large parcels of private land in Leicester that are mostly void of structures or impervious surfaces. In Spencer, however, the opposite is true. The smooth green snake relies on the soft edges of grasslands, marshes, wet meadows, fields, and forests within this area (MA Department of Fish and Game & The Nature Conservancy, 2012).

Rare Species

The Massachusetts Endangered Species Act protects rare species and their habitats by prohibiting the taking of any plant or animal species listed as endangered, threatened, or of special conservation concern. Rare, threatened, and endangered species, with documented sightings in Leicester, are shown in Table 5 and described in further detail below.

Table 5: Rare, Threatened, and Endangered Species, Leicester

TAXONOMY GROUP	SCIENTIFIC NAME SCIENTIFIC NAME	COMMON NAME	MESA ⁵ STATUS STATUS*	MOST RECENT SIGHTING OBSERVATION
BIRD	<i>Ammodramus</i>	Grasshopper Sparrow	Threatened	2019
REPTILE	<i>Glyptemys insculpta</i>	Wood Turtle	Special Concern	1989
FISH	<i>Lethenteron appendix</i>	American Brook	Threatened	2009
BIRD	<i>STURNELLA MAGNA</i>	EASTERN	SPECIAL CONCERN	2014

Source: (MA Department of Fish and Game & The Nature Conservancy, 2012; Natural Heritage & Endangered Species Program, n.d.-a)

Endangered species are in danger of extinction throughout all or a significant portion of their range or are in danger of elimination in Massachusetts. No endangered wildlife species are known to live in Leicester (MA Department of Fish and Game & The Nature Conservancy, 2012).

Threatened species are likely to become endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range. Leicester's threatened species include the grasshopper sparrow and the American Brook Lamprey (MA Department of Fish and Game & The Nature Conservancy, 2012).

American Brook Lamprey “are primitive eel-like fish that lack jaws, scales, paired fins, and bone” (Natural Heritage & Endangered Species Program, 2019a). They live in clear, cool streams with adults and larvae preferring different substrate habitats. Much of their lifecycle is spent in the larval stage, where they will burrow into sediment and filter feed on organic material in the water. After transforming into their adult form, the lampreys will spawn and then die soon after. Currently, there are only twelve known populations of American Brook Lampreys in Massachusetts (2019a). The most recent observation in Leicester was in 2009 (Natural Heritage & Endangered Species Program, n.d.-a).

Grasshopper Sparrows nest in dry grasslands. Sandplain grasslands, specifically, are the grasshopper sparrow's natural habitat, but they have adapted well to anthropogenic habitats such as airports and landfills. They are sensitive to changes in plant composition and respond well to the effects of fire management. The mowing and grazing maintenance regime of the Worcester airport has also proven suitable for the Grasshopper Sparrow. This species was most recently observed in Leicester in 2019 (Natural Heritage & Endangered Species Program, n.d.-a, 2015a).

Special concern species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or

⁵ Massachusetts Endangered Species Act.

specialized habitat requirements that they could quickly become threatened in Massachusetts. Species of special concern found in Leicester include the wood turtle, the eastern box turtle, and the triangle floater mussel (MA Department of Fish and Game & The Nature Conservancy, 2012, p. 2). Whip-poor-wills and smooth green snakes have been added to the MESA special concern species list for Leicester since the last OSRP update in 2007 (MA Department of Fish and Game & The Nature Conservancy, 2010).

Eastern Meadowlark is a ground-nesting bird that likes wide-open areas like meadows and hayfields. Throughout its distribution, the population of this bird has fluctuated due to changes in agricultural practices because it uses agricultural fields as habitat. Like the Grasshopper Sparrow, the Eastern Meadowlark can find suitable habitat near airports (Natural Heritage & Endangered Species Program, 2020). The Eastern Meadowlark was most recently sighted in Leicester in 2014 (Natural Heritage & Endangered Species Program, n.d.-a).

Eastern Whip-poor-wills are nocturnal birds that like dry, open forested areas and meadows. There have been no documented sightings of Eastern Whip-poor-wills in Leicester. However, the Core 1625 area identified by BioMap2 could provide suitable habitat for this species, which is in decline across many regions of Massachusetts (MA Department of Fish and Game & The Nature Conservancy, 2012; Natural Heritage & Endangered Species Program, 2019b).

Wood Turtles prefer riparian areas. Slower moving mid-sized streams are favored, with sandy bottoms and heavily vegetated banks. Stream bottoms and muddy banks provide hibernating sites for overwintering, and open areas with sand or gravel substrate near stream edges are used for nesting. Wood turtles spend most of the spring and summer in mixed or deciduous forests, fields, hayfields, and riparian wetlands, including wet meadows, bogs, and beaver ponds. Then they return to the streams in late summer or early fall to their favored overwintering location. Habitat management considerations should include the size and continuity of riverine and upland habitats, as well as proximity and connectivity to other relatively unfragmented habitats, especially within existing protected open spaces. A wood turtle was most recently seen in Leicester was in 1989 (Natural Heritage & Endangered Species Program, 2015c).

SWAP species are included in the Massachusetts State Wildlife Action Plan (SWAP). Some, though not all, SWAP species are included in the Massachusetts Engaged Species Act (MESA) list of species. The SWAP species reported in Leicester, but not on the MESA list, are included below:

Smooth greensnakes are small green snakes that typically range in size from 12 to 20 inches. They are active from April to late September and feed on arthropods like grasshoppers, spiders, and millipedes. This species prefers lightly forested or open habitat but is not distributed uniformly across Massachusetts. Smooth greensnakes have experienced population decline during the twentieth century due to habitat loss and predation (Natural Heritage & Endangered Species Program & DJ Paulson, 2015).

Preferred habitats of the Triangle Floater Mussel include low-gradient river reaches with sand and gravel substrates and low to moderate water velocities. It has been found in streams smaller than five meters wide and rivers wider than 100 meters. The triangle

floaters is the only species in the genus *Alasmidonta* that inhabits lakes; it occurs in both natural lakes and reservoirs. Because triangle floaters are essentially sedentary filter feeders, they cannot flee from degraded environments and are vulnerable to the anthropogenic alterations of waterways. Some of the many threats to the triangle floater and its habitat in Massachusetts include nutrient enrichment, sedimentation, point-source pollution, alteration of natural flow regimes, water withdrawal, encroachment of river corridors by development, non-native and invasive species, habitat fragmentation caused by dams and road-stream crossings, and a legacy of land use that has dramatically altered the natural dynamics of river corridors (Natural Heritage & Endangered Species Program, 2015b).

Conservation and management recommendations for the Triangle Floater Mussel include:

- ✿ Maintain naturally variable river flow and limit water withdrawals;
- ✿ Identify, mitigate, or eliminate sources of pollution to rivers;
- ✿ Identify dispersal barriers (e.g., dams, impassable culverts) for host fish, especially those that fragment the species range within a river or watershed, and seek options to improve fish passage or remove the barrier;
- ✿ Maintain adequate vegetated riparian buffers;
- ✿ Protect or acquire land at high-priority sites (Natural Heritage & Endangered Species Program, 2015b).

The loss or fragmentation of habitat may stress rare species in Leicester. Efforts to widen corridors into patches and connect patches with corridors can help counteract these stressors by buffering integral ecosystems. The rare species found in Leicester help distinguish the town's open space as more than just rural but as important and unique. The damage of rare inland Atlantic Cedar trees, in particular, may harm its home ecosystem as a whole. This specific and rare ecosystem hosts an array of plants and animals dependent on its health and existence (MassWildlife, n.d.-a).

Scenic Resources and Unique Environments

Hills, farmland, and the remains of former town villages distinguish Leicester's landscape. Leicester's historic neighborhoods are distinct, and some of the old buildings have been preserved well. Unfortunately, many of Leicester's unique and scenic resources are not permanently protected, and the town may lose these assets to development in the future.

Hills

The hills of Leicester have been important local landmarks throughout the town's post-Colonial history. When European settlers first arrived in Leicester, a hermit was found living in a hillside cave, and this hill was later named after the settler Arthur Carey (Washburn, 1860, p. 22). By the 19th century, the fresh air and hilltop breezes persuaded Worcester residents to construct country homes in the still-rural town (Massachusetts Department of Conservation and Recreation et al., 2007). Today, Carey Hill and many other named hills mark historically significant places in town. Cooper's Hill Dairy Farm and Ballard Hill (located in the southwest quadrant of town) were identified in community meetings as having important and culturally significant agricultural resources. Along with Tupper Hill, these hills were identified by Leicester residents in 2007 as essential components of the town's heritage landscape (Massachusetts Department of Conservation and Recreation et al., 2007, p. 5). Since the 2014 OSRP plan, a large private

residence was constructed on Tupper Hill. Additionally, Ballard Hill is now overgrown and is not used for agriculture (D. Provencher, personal communication, September 10, 2021).

Local Farms

Leicester is fortunate to have several active farms operating within the town. These family farms preserve the town's agricultural landscape and heritage while providing Leicester residents with a local source of fresh produce and animals products.

Local farms include:

- Breezy Gardens (located along Rt. 9 West of Town Center) is a 65-acre fruit and vegetable farm with a roadside farm stand (*Breezy Gardens in Leicester*, n.d.). It has been in operation for over 40 years (*Breezy Gardens*, n.d.).
- Cooper's Hilltop Farm (located on a drumlin in the southeastern quadrant of town) is a family-run dairy farm operating for over 100 years. Pasteurized milk and other dairy products are sold on-site. The Heritage Landscape Inventory Program recognized this 200-acre property as a valuable open space that remains largely intact (Massachusetts Department of Conservation and Recreation et al., 2007, p. 17).
- Cotyledon Farm (in southeast Leicester) is a 1-acre vegetable farm within the 60-acre Oak and Stone Farm property. It sells its produce through a community-supported agriculture (CSA) program. All members of this CSA commit to working a certain number of hours on the farm to support its operations, learn farming practices, and build community around local food production (*Cotyledon Farm*, n.d.).
- Johnson's Farm (located on Whittemore Street north of Leicester Center)
- Little Bit Farm (in Central Leicester) is a first-generation farm and farm stand selling fruit, vegetables, honey, eggs, seasonal poultry, and compost, all produced using organic practices (*Little Bit Farm*, n.d.).
- Stony Knoll Farm (in Southern Leicester) has operated a family-run farm stand for over 35 years, selling produce grown onsite and from neighboring farms (*Stony Knoll Farm*, n.d.).

Chapter 61A protects nearly 10% of Leicester's approximately 15,900 acres. Parcels in the Chapter 61A program must be actively used for agriculture. Land not included in the Chapter 61A program may also be used as farmland. Farming is still an important activity in town, even though Leicester has no farmland permanently protected by an Agricultural Preservation Restriction (APR). Should farming costs increase or the price of land increase, Leicester risks losing its remaining agricultural land to new development. The risk of older farmers selling their land because they have no one to take over their farm was noted at the 2021 public forum as an additional risk to the future of Leicester's agricultural land.

Historic Structures

One of the success stories related to Leicester's historic preservation efforts was the 2006 designation of the Washburn Square-Leicester Common National Register District. Listing of the Washburn Square District provides recognition of Leicester's historical importance and assures protective review of Federal or State projects that might adversely affect the character of the district. However, this designation does not regulate or limit construction or remodeling within the district. A National Register District designation is primarily an honorary designation, except

where Federal or State funds are used (such as with road widening) (Massachusetts Historical Commission, n.d.). In 2021, a vote at a special town meeting created an architectural conservation district to protect some of the historic buildings near the Town Common. This conservation district offers the same level of protection as a local historic district, though the district boundaries do not include the entirety of the National Register District (D. Provencher, personal communication, September 10, 2021).



Image 2: The Stafford Street Lower Mill is adjacent to Rochdale Park. Photo Source: Massachusetts Historical Commission.

The buildings in Rochdale Village have also been inventoried, and details of historic buildings in that area of town are on file with the Massachusetts Historical Commission. According to the 1998 inventory report, “Rochdale Village still retains the character of a 19th century New England mill village” (Ceccacci, 1998). The area has several brick buildings once used as wool mills, housing dating to the mid-19th century when Rochdale grew into a booming mill village and a number of other historic structures (1998). Rochdale Park is located on the outskirts of Rochdale Village.

Swan Tavern and May House, located within Leicester Center, were noted in the 2007 Heritage Landscape Inventory (Massachusetts Department of Conservation and Recreation et al., 2007, p. 11). With their clapboard exteriors and pillar porch posts, these structures help identify Leicester Center as a historic landmark (2007). The original tavern on this site was constructed in 1721 but was destroyed by fire in 1767 (Friends of Swan Tavern, n.d.). Today’s Swan Tavern dates to 1768, with an addition constructed in 1843. It is the oldest surviving structure in the Town Common area and the Washburn Square National Register Historic District. It was turned over to the control of the town’s Historical Commission, which along with the private local historical society, now operates the

property as a historical museum displaying historical artifacts and hosting educational programs. It is also available to be rented by the public for functions such as weddings, bridal or baby showers, and private meetings or parties. The private group Friends of Swan Tavern helps the Historical Commission and the Historical Society support the Swan Tavern museum (D. Provencher, personal communication, September 10, 2021).

May House is on a slope just above Main Street in the center of Leicester. The house dates to 1834 and is notable as a confirmed station on the underground railroad (*Leicester, Massachusetts*, n.d.; Massachusetts Department of Conservation and Recreation et al., 2007; D. Provencher, personal communication, September 10, 2021). May House will be included in Leicester's upcoming purchase of the Becker College Campus.

Other notable historic buildings include:

- Colonel Thomas Denny's House;
- The Whittemore House, where General Leonard Wood lived;
- The Henshaw House, built (and home of) Judge Menzies, later home of David Henshaw, secretary of the Navy;
- The Joseph Henshaw House (where Colonel Thomas Stickney lived, of Battle of Saratoga fame);
- The Mount Pleasant Estate;
- The surviving textile mill buildings, which are ripe for revitalization and reuse (D. Provencher, personal communication, September 10, 2021).

Mannville, Brick City, and Lakeside are former villages within the northeast quadrant of town. Manville was once a busy industrial community, which included Amos Earles' card manufactory and other mills along Kettle Brook (Massachusetts Department of Conservation and Recreation et al., 2007). In the latter half of the 19th century, the city of Worcester bought up land in this part of town adjacent to Kettle Brook and Lynde Brook to improve its supply of drinking water (2007). By 1978, all remaining structures on the watershed lands had been razed, and the land was replanted with white pine plantations (2007). Structural remains of Mannville, however, serve as an important archeological site. Of these remains, the historic Quaker Cemetery (better known as "Spider Gates") is still largely intact (2007). The Worcester Water Department now owns the Mannville archeological site, except for the Quaker Cemetery.

The Southgate Pasture Cemetery, in the southwest quadrant of town, dates back to the Revolutionary War and was recognized by the Heritage Landscape Inventory. However, access to it is now restricted because it is on private property (Massachusetts Department of Conservation and Recreation et al., 2007). The Rawson Brook Burial Ground also dates back to before the Revolutionary War and is the burial place for many local veterans, especially those killed in the Revolutionary War (Massachusetts Turnpike Authority & Leicester Historical Commission, n.d.). It is located just south of Sargent Pond in Central Leicester.

Five areas of Leicester were designated as regionally significant Priority Preservation Areas: Johnson Farm, Mannville, Ballard Hill, Cooper's Hill Top Farm, and the Mid-State Trail (Central Massachusetts Regional Planning Commission, 2012). These areas were identified through a regional planning process as places where future development should be avoided to preserve Leicester's local heritage and the character of Central Massachusetts (2012).

Finally, the Leicester Historical Commission and the Massachusetts Turnpike Authority have designed A Driving Tour of notable historical sites in Leicester. It includes sites listed in this report, as well as others, and covers Leicester Center, Greenville, Rochdale, and Cherry Valley. This brochure is included in the plan Appendix.

Nature

As described earlier in Section 4 (see sub-section *Vegetation*), at least two rare inland Atlantic white cedar swamps exist in the town's northwest quadrant. Some residents believe that other remnants of rare cedar swamps exist around Cedar Meadow Pond and Great Cedar Swamp (directly south of Henshaw Pond).

Trails

Approximately three miles of the 92-mile-long North/South-oriented Midstate Trail runs through Leicester from near Burncoat Park to the Moose Hill Reservoir and Wildlife Management Area. Although there are shelters along the trail, there are no camping spots within the town. Most of Leicester's portion of the trail is on the roadway. The trail leaves Leicester and diverts back into Spencer in the Moose Hill Wildlife Management Area (midstatetrail.org, n.d.).

The Leicester Snowmobile Club is the only active trails group within Leicester. The club has been active in Leicester since the 1950s and maintains a network of trails crossing public and private lands across town (J. True, personal communication, September 17, 2021). Each year, the club works with landowners to secure permission to access their property, conducts trail maintenance such as tree removal and bridge building, and sets up signs indicating trail locations (2021). The club does not receive funding from the town, though it has received a Mass Trails grant from DCR to purchase equipment (2021). The Snowmobile Club also invests club resources and hundreds of hours of volunteer time to maintain this trail system each year (2021). Cross-country skiers and snowshoers can also use the snowmobile trails while they are active in winter, but trails on private property are closed to the public after the snowmobile season ends (2021).

Local walking trails are also present on town land in Burncoat Park, Towtaid Park, and behind Hillcrest Country Club (Forum Attendees, personal communication, September 9, 2021). Leicester residents may also walk on town-owned rights of way within the Worcester Water Supply land in Northeast Leicester (B. J. Blanchard, personal communication, September 10, 2021; Forum Attendees, personal communication, September 9, 2021). Walkers may not leave the public roadway and enter Worcester Water Supply land to prevent damage to the public water supply (B. J. Blanchard, personal communication, September 10, 2021). Public trails in Leicester can be found on **Map 8 - Open Space Inventory**.



Image 3: This trail intersection within Burncoat Park has no directional signage, no mileage indicators, and no trail names. A way-finding signpost is proposed for this location. This trail within Burncoat Park is in good condition, appealing and scenic as it passes through a diverse woodland habitat. It is used by pedestrians during three seasons and snowmobilers during the winter months. The local snowmobile club maintains the trail and has indicated they will continue to do so. Source: Dick O'Brien.

Environmental Challenges

Climate Change

Climate change will have many impacts on Leicester's environment, society, and infrastructure. Leicester completed its Municipal Vulnerability Preparedness Planning process in 2018. This planning process identified 1) snow, ice, and Nor'easters, 2) extreme precipitation and flooding/hurricanes, 3) extreme wind/tornados, and 4) drought, as the climate-related hazards that are likely to have the most significant impacts on Leicester (Town of Leicester & Fuss & O'Neil, 2018). The following paragraphs will discuss specific environmental impacts and hazards identified within the MVP report in detail.

As the effects of climate change intensify, the valuable ecosystem services (such as water filtration, floodwater absorption, and heat mitigation) provided by Leicester's forests, water bodies, and wetlands will increase in value and importance. Planning for climate change will help Leicester transition into a new climate regime with its environmental resources intact.

While extreme heat was not identified as a top hazard in the MVP report, extreme heat and rising average temperatures may also impact Leicester. According to a Union of Concerned Scientists report, extreme heat will significantly impact agriculture, human health, ecosystem integrity, and local economies (Union of Concerned Scientists, 2018). As these impacts grow and urbanization in the region increases, the ecosystem services provided by Leicester's natural resources will prove increasingly important. With careful management and stewardship, Leicester's open spaces and shaded forests may bolster the town's resilience to rising average temperatures in the region.

Leicester may also see its natural ecosystems adapt to changing environmental conditions caused by climate change. According to a report by the Nature Conservancy, distributions of plants and animals may shift to new areas as the climate changes. However, some species may not find new suitable habitats quickly enough to adapt to climate change. Landscape fragmentation by roads, dams, and other forms of human development, could also be a barrier to movement, making the adaptation process even more difficult for plants and wildlife (Anderson et al., 2016). The Nature Conservancy has analyzed and mapped many factors that might impact ecosystem adaptation to climate change, including physical ecosystem characteristics, local biodiversity, and human-caused barriers to species migration. As explained by the Nature Conservancy report, “[this analysis] helps decision-makers ensure that the places we conserve today will support a diversity of plants and animals tomorrow. In addition to sustaining a diversity of plants, animals, and wildlife habitat, the public benefits of conserving resilient places include improved air and water quality, carbon sequestration, and soil health. It makes good fiscal sense to invest in areas with high natural resilience to ensure that these benefits last (Anderson et al., 2016, pp. 1-2).” The Resilient Land Mapping Tool (<http://maps.tnc.org/resilientland/>) identifies areas Leicester should prioritize for future protection to facilitate environmental adaptation and migration. The areas of Leicester that are most climate resilient, or are most important for promoting species migration, are clustered around Moose Hill WMA and Hillcrest Country Club. This analysis indicates that conserving land adjacent to these existing protected sites would be a strategic way for Leicester to advance landscape-level climate resilience.

Finally, the MVP report notes that climate change will increase Leicester’s risk of both extreme precipitation events and drought (Town of Leicester & Fuss & O’Neil, 2018). Storms could produce more intense rainfall, but rainfall could become less frequent and predictable in Massachusetts. Leicester’s stormwater infrastructure, including culverts, bridges, dams, and surface waters, could be vulnerable to localized flooding (2018). Increased precipitation volumes could also worsen erosion and sedimentation and carry more nutrients and contaminants into waterbodies. Leicester’s water supply is also vulnerable to drought, which could limit the amount of water available to residents and concentrate pollutants in drinking water.

Brownfields

Residents and businesses can help protect drinking water supplies by reporting spills or point source pollution. The Massachusetts Department of Environmental Protection (DEP) has identified sixty-three sites in Leicester (mainly along Route 9) where spills of fuel oil or other hazardous materials have been addressed between 1985 and 2021 (Executive Office of Energy and Environmental Affairs, 2021). Of those spill sites, nine were identified and remediated since the 2014 OSRP report was published. Recent spills near open spaces in Leicester occurred at the Leicester Elementary School, Middle School, and High School and a site adjacent to the Moose Hill WMA.

Currently, there are four identified brownfields in Leicester, and all are in Cherry Valley. One site is occupied by a business that produces police vehicles. Two adjacent sites are at the former location of the Worcester Spinning and Finishing Mill factory and Iroquois Chemicals. An auto repair shop currently occupies this site. A fourth site is also related to the Worcester Spinning and Finishing Mill factory (Massachusetts Department of Environmental Protection, n.d.). The mill factory site is notable for the presence of oil and hazardous materials (Executive Office of Energy and Environmental Affairs, 2021). All four brownfields are in or near wetlands or water bodies.

The larger mill factory brownfield includes the entirety of City Pond, which drains into Kettle Brook. According to the Massachusetts Department of Environmental Protection 21E database, waste clean-up at the site of the auto repair shop is complete. Clean-up is also complete for a site now occupied by a police vehicle shop, though that site has ongoing use restrictions.

Landfill

Leicester has one capped but unlined landfill located in Northeast Leicester, surrounded by Worcester Water Supply land. It is unlikely to impact Leicester residents' use of these areas but could theoretically leach contaminants into underground water if not appropriately monitored. This site now houses the Leicester Recycling Center. MassDEP also lists another inactive dump site on Chapel Street in Leicester (Massachusetts Department of Environmental Protection, 2017). Without more details on this site, it is difficult to determine its potential impact on the use of Leicester's open spaces.

Erosion & Sedimentation

The 2014 Open Space and Recreation Plan noted that erosion and sedimentation related to new development was an environmental problem. Since 2014, the Town has addressed this issue by implementing the Stormwater Bylaw, though enforcing the bylaw requirements may be an ongoing challenge. Erosion and sedimentation of waterways were not listed as a vulnerability in the 2018 Municipal Vulnerability Plan, potentially indicating that erosion and sedimentation are perceived as minor threats compared to other local environmental issues (Town of Leicester & Fuss & O'Neil, 2018). However, climate change could cause more frequent and intense rainfall capable of carrying more sediment (US EPA, 2016). Leicester already struggles with impairment in many surface water bodies (see section *Impaired Water Bodies*, below). Local aquatic ecosystems, and the creatures that rely on them for habitat, could be threatened if suspended sediment levels in waterways increase (US EPA, 2016).

Recently, erosion caused by ATV users has become a problem within the town-owned open space behind Hillcrest Country Club. The Leicester Snowmobile Club had previously maintained trails in this area with town permission (J. True, personal communication, September 17, 2021). However, ATV and motorized dirt bike users have damaged the club's trails by creating large ruts and crushing bridges (2021). Unlike snowmobilers, ATVs and dirt bikes may be operated when the ground is soft or muddy. The weight of these vehicles, and potentially their operators' preferences for riding through mud, ruins trails, and damages stream banks. Future precipitation will collect in these ruts leading to more mud and mosquito habitat, or will cause further stream bank erosion, leading to a self-reinforcing cycle of environmental damage.

Development Challenges

On-going development makes it difficult for Leicester to preserve its open spaces, rural character, and natural systems. As noted in Section 4, Leicester could see significant population growth before it reaches the full build-out enabled by its current zoning. Public comments from the 2021 OSRP Survey and the 2021 OSRP forum expressed concern about ongoing greenfield residential development that will eat up the town's remaining open space, ruin scenic views, and change the community's rural character over time. Other concerns focused on the impacts of large solar panel

developments for farmland, town character, and natural systems. The Leicester Zoning Bylaws (Section 5.14) were updated in 2017 to address concerns about solar development.

The lack of mechanisms to continuously capture and measure quantitative data limits Leicester's ability to mitigate the impact of development strategically. Examples of metrics could include greenhouse gas emissions, water consumption, or earth removal operations, associated with specific development. If such data were available and environmental performance indicators were developed, it could make for more effective decision-making.

Municipal capacity is a significant limitation in Leicester. The local tax base limits Leicester's ability to raise additional funds to support environmental mitigation projects, fund open space maintenance and acquisitions, or allocate resources specific to developing the Town's resiliency. Staff capacity limitations makes it challenging for land use staff to identify and recommend innovative nature-based ideas and solutions (e.g. green roofs, green infrastructure) to developers and applicants.

Additionally, the lack of incentives for developers to mitigate environmental impact means that the burden of dealing with resulting environmental challenges eventually falls on the municipality.

Chronic Flooding

In Leicester, areas along Kettle Brook, Lynde Brook, and Town Meadow Brook are most prone to flood. In 2019, 720 parcels were estimated to be susceptible to flooding during a 100-year flood event. Due to the hilly nature of the town, much of Leicester is upland, away from rivers and ponds. As a result, the location of this hazard is relatively "small" (Central Massachusetts Regional Planning Commission & Town of Leicester, 2019). A 100-year flood event based on current FEMA FIRM data (see **Map 7- Water Resources 2**) seems unlikely to impact the recreational use of Leicester open spaces. However, Leicester must preserve the permeable surfaces found in the undeveloped areas across town. Permeable, unpaved surfaces can absorb water faster than impermeable surfaces like asphalt, concrete, or packed ground. Permeable surfaces allow more water to soak into the ground, preventing runoff from flowing into streams and causing flooding, erosion, or water quality problems (Mansberger, 2020). By protecting open spaces and preserving the natural ability of the land to absorb stormwater, Leicester may be able to avoid costly problems caused by flooding and stormwater in the future.

Beaver dams may also present flooding challenges for Leicester. According to the town's MVP report, water impounded a beaver dam has prevented access to a water main, exacerbating the town's water supply challenges. The report also noted resident concerns about nuisance flooding caused by beaver dams (Central Massachusetts Regional Planning Commission & Town of Leicester, 2019), which are currently unmapped and unaccounted for in FEMA FIRM flood data. However, Leicester's beavers also benefit the town's environment by creating wetlands, which provide habitat for other creatures, control downstream flooding, and improve water quality (Division of Fisheries and Wildlife, n.d.). The Town should carefully consider any impacts of removing beaver dams in the broader environment. To limit conflict with beavers and prevent flooding, Leicester should ensure that new development is not constructed in low-lying areas that beavers could use as habitat in the future.

Due to Leicester's industrial past, the town also contains many dams constructed by humans. As of 2019, there were 25 dams in Leicester; the Town owns two dams (on Waite Pond and Greenville Pond), and ten are privately owned (Central Massachusetts Regional Planning Commission & Town of Leicester, 2019). Watershed and water supply districts, other municipalities, and the state Department of Fish and Game own other dams in town. Eight of Leicester's dams are classified as high hazards, and an additional five dams are considered significant hazards (2019). According to the Office of Dam Safety, a failure in these dams may cause loss of life and damage home(s), industrial or commercial facilities, secondary highway(s) or railroad(s) or cause interruption of use or service of critical facilities (2019).

High hazard and significant hazard dams should be monitored for their structural integrity. Waite Pond Dam, Rochdale Pond Dam, and Brick City Mill Pond Dam (Chapel Street Dam) were all noted in the 2018 Municipal Vulnerability Preparedness Plan as high priorities for assessment and safety improvements (Town of Leicester & Fuss & O'Neil, 2018). In 2019, Leicester was awarded a \$1-million grant by the Executive Office of Energy and Environmental Affairs to repair Waite Pond Dam, and repairs are now complete (Executive Office of Energy and Environmental Affairs, 2019; Forum Attendees, personal communication, September 9, 2021).

Dams in Leicester are a legacy of the town's industrial past. However, dams can impact the water quality and ecosystem health of the streams they interrupt (Division of Ecological Restoration, n.d.). In addition to considering repairs to existing dams, Leicester could also consider the costs and benefits of dam removal for town residents and downstream ecosystems.

Water quality and supply

Despite the abundance of surface waters in town, there is no public water access and few public fishing spots outside the Greater Worcester Land Trust's Southwick Pond in the northeast quadrant of Leicester (2014 OSRP Public Forum) or the Common Ground Land Trust property at Greenville Pond (Forum Attendees, personal communication, September 9, 2021). 2021 Public Forum attendees noted that residents also fish from a public access point at Waite Pond, however, fish from Waite Pond may be unsafe to consume due to mercury contamination (see Table 4). Most of the ponds that are not preserved as municipal drinking supplies are privately owned (2014 OSRP Scoping meeting), while other surface waters suffer from various water quality problems. These water quality challenges may be expensive or cost-prohibitive for Leicester to correct, limiting the town's options for water-based recreation. The expense of fixing water quality problems should motivate Leicester to take proactive, preventative action to stop future impairments from developing in the first place.

Ground and surface water pollutants

Leicester's residents are well aware of the town's drinking water supply challenges. Some of Leicester's drinking water issues relate to the high cost of constructing water treatment systems to treat contaminants. Leicester Water Supply District's 2020 annual report noted that the district needed to address coliform bacteria in one well and treat water with chlorine per MassDEP requirements. Leicester Water Supply District tested for other potential contaminants and did not exceed MassDEP requirements. Cherry Valley Water District's Consumer Confidence Report for 2020 noted no violations for regulated contaminants in town drinking water.

As of 2021, all of Leicester's public water systems have been tested for per- and polyfluoroalkyl substances (PFAS), and PFAS chemicals have not been detected at levels above MassDEP drinking water standards (MassDEP, 2021).

Impaired water bodies

As noted in **Table 4**, all surface waters in Leicester that MassDEP has recently assessed have at least one form of water quality impairment. Any impairment reported by MassDEP limits Leicester's ability to leverage its water resources for public swimming, fishing, drinking water, and aquatic habitat. Depending on the waterbody, these impairments might include Benthic Macroinvertebrates, Dewatering, Nutrient/Eutrophication, Non-Native Aquatic Plants, E. Coli, Fecal Coliform, Non-native Aquatic Plants, Mercury in Fish, and/or Turbidity. However, this list of impairments may not include recent developments like the water chestnut growth in Greenville Pond (see *Exotic Vegetation*, below). Table 4 also lists the specific impacts that result from each impairment. These impacts range from the lack of suitability of a waterbody for aquatic habitat to an inability to use the waterbody for aquatic recreation.

Title 5 Setbacks, established by the Commonwealth of Massachusetts, restrict disturbance within 50 feet of all water bodies and wetlands (except within the drainage basin for a public surface water supply where the buffer zones are enlarged to 100 feet around wetlands, 200 feet around streams and ponds, and 400 feet around public surface water supplies) (Leicester Open Space and Recreation Plan, 2007, p. 17). However, Leicester's long list of impaired waterbodies suggests that these setbacks only offer limited protection and do not adequately address sources of environmental degradation, including warm or salted runoff waters, nutrient enrichment, sedimentation (heavily influenced by road sand), and introduction of invasive aquatic species. Water quality was most frequently rated as the top conservation issue for Leicester by 2021 OSRP survey respondents, indicating residents' concern about the town's drinking water challenges and known impairments to local water bodies. Therefore, Leicester should consider implementing new measures to protect water bodies and wetlands beyond existing setback requirements.

Invasive Species

Asian Longhorned Beetle

The Asian Longhorned Beetle (ALB) was noted in Leicester's 2014 OSRP as a serious environmental concern for the Town of Leicester. This beetle is an invasive wood-boring insect that attacks hardwood trees, including maple, birch, and elm. A large infestation of ALB was discovered in neighboring Worcester, MA, in August 2008 and is currently under eradication. Although ALB has not yet been identified in Leicester, it has not been eradicated from Worcester County. As of 2017, there were 110 square miles under regulation in Worcester County, including all of Worcester, West Boylston, Boylston, Shrewsbury, and a portion of the towns of Holden and Auburn (USDA, 2017). Within the regulated area, residents are prohibited from moving or transporting live beetles, firewood, lumber, or any infested or "host" tree, branch, twig, stump, or other woody materials from the regulated area to outside zones (Santos & Bond, 2021). The beetle prefers



Image 4: Adult Asian longhorned beetle, male.
Source: Jennifer Forman Orth, Mass DAR

maple species in the United States, such as boxelder, Norway, red, silver, and sugar maples. Other preferred hosts are birches, Ohio buckeye, elms, horse- chestnut, and willows. Occasional to rare hosts include ashes, European mountain ash, London planetree, mimosas, and poplars.

Emerald Ash Borer

Emerald Ash Borers (EAB) is a small invasive beetle that causes significant damage to ash trees. It was first discovered in Massachusetts in 2012 and is now present in all 11 counties. EABs have



Image 5: Adult Emerald Ash Borer.

Source: David Cappaert, Michigan State University, www.invasive.org

Spotted Lanternfly

Spotted Lanternfly is an invasive insect recently detected in several Massachusetts towns, including Worcester County. It could cause significant damage to agricultural commodities if a population becomes established. Its primary host is an invasive exotic plant species called tree of heaven (*Ailanthus altissima*), but the spotted lanternfly may consume sap from various trees, shrubs, and vines (Massachusetts Dept. of Agricultural Resources, 2021).



Image 6: Side view of an adult Spotted Lanternfly.
Source: Lawrence Barringer, Pennsylvania Dept. of Agriculture

To improve knowledge about the scale of invasive pest infestations in Massachusetts, Leicester residents should report their observations of invasive pests to the Massachusetts Department of Agricultural Resources (MDAR) through the Introduced Pests Outreach webform at massnrc.org/pests/. This MDAR website hosts a variety of resources about pest species to help the public accurately detect and report them.

As noted in *Public Shade Trees*, above, the Town employs a part-time tree warden to treat sick trees in parks and right-of-ways. The highway department crew also helps remove dead or dangerous limbs and sick trees along public roadways and on townland (Town of Leicester, 2021). The 2014 OSRP report noted that the town has been unable to provide for the proper maintenance and care of its public trees as municipal budgets are frequently cut. Trees within woodland and forest areas receive no maintenance at all. A 2021 interview with the tree warden and Highway

Department Superintendent confirmed that a large and growing workload, lack of aerial equipment, and understaffing prevent Leicester from treating or removing all public trees requiring immediate attention.

Exotic Vegetation

Invasive exotic vegetation is present in many of Leicester's open spaces. Areas of disturbance, such as along roadways, unmaintained park edges, and previously developed vacant land, may be especially prone to host invasive vegetation such as Japanese Knotweed (*Fallopia japonica*). Japanese Knotweed is currently being removed from the Common Ground Land Trust properties of Kettle Brook Path and Greenville Pond (J. Parke, personal communication, July 28, 2021). Invasive aquatic vegetation is also a problem in local waterbodies. At the 2021 public forum, Common Ground Land Trust voiced concern about the recent growth of water chestnut (*Trapa natans*) in Greenville Pond and other waterbodies in the Upper French River Watershed. During the summer of 2021, water chestnut growth spread across a significant portion of the pond. Heavy summer rains disrupted its growth, but Common Ground Land Trust expects these plants to continue to thrive and negatively impact Greenville Pond along with other waterbodies downstream (Forum Attendees, personal communication, September 9, 2021).



Image 7: Japanese Knotweed. Source: Jan Parke.

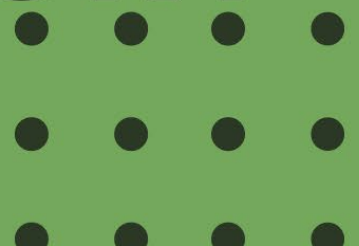
Environmental equity issues

As of 2020, Leicester no longer has an officially designated Environmental Justice population. The town has not identified any environmental equity issues that impact specific areas or populations within Leicester.

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SECTION 5 LAND INVENTORY



SECTION 5: INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

This section provides an overview of Leicester's open space. Leicester's permanently protected conservation and recreation lands encompass 2,619 acres, 16.4% of the town's total land area. Additionally, there are 2,617 acres of land in Leicester with limited protection under Chapter 61. Open space includes larger parcels of undeveloped or partially developed land. Open space is important to the Town of Leicester for several reasons. Open space improves the quality of life for residents, providing recreational opportunities, scenic views, and places to simply enjoy the outdoors. Parks can provide health benefits by supplying sources of active recreation and space for social gatherings. Open spaces also provide valuable wildlife habitat, help to protect water resources, and provide natural stormwater storage. Protection of open space is an important Town priority.

Leicester's open space resources have various levels of protection. Permanently protected open space lands have the maximum legal protection through permanent deed restrictions that restrict development. Temporary protections for open space include time-restricted legal protections (temporary easements) or conditions for conversion to other uses (such as land protected by Chapter 61). Unprotected open space is land with no legal restriction against future development. These properties may be currently protected but could be sold or developed at any time.

As *Section 7: Analysis of Needs* will describe in further detail, Leicester residents view clean water protection and access to recreational opportunities as critical priorities for future Town investment in open space and recreation. In response to the 2021 OSRP survey, 39.4% of respondents selected "clean water" as the number one conservation issue for Leicester. 21.9% of respondents indicated that "open space for recreational use" was the top issue. Respondents also provided many ideas for the open space or recreational areas they would like to see expanded in Leicester, which will be discussed in Section 7. In conclusion, while Leicester's conservation and recreational lands already cover 16.4% of the town's total land area, there are opportunities to align future investment in open space and recreation with resident priorities expressed in the survey and during the public forum.

See **Map 8 - Open Space Inventory** for a visual representation of the open spaces discussed in this section.

A detailed inventory of all categories of land of conservation and recreation interest is located in the plan Appendix. Summary Information is contained below.

Privately Owned Parcels

Chapter 61

According to 2021 Assessors' records, there are **2,617 acres** under any type of Chapter 61⁶ protection in Leicester, a moderate increase since the last Open Space & Recreation Plan in 2014 (2,198 acres were held under Chapter 61 in 2014).

Chapter 61 provides landowners with property tax breaks if they agree not to sell or develop their land for a fixed time period.⁷ The Chapter 61 program applies to land held as forest, Chapter 61A applies to farmland, and Chapter 61B applies to land held as natural open space. If a parcel protected under Chapter 61 status goes up for sale, the Town has the "right of first refusal." This means that the Town of Leicester can decide whether to purchase these parcels before any other buyers. The Town can also assign this right to a conservation partner, such as the Common Ground Land Trust or Greater Worcester Land Trust. Until the town can adequately maintain its parks and recreational facilities, it may be easier to pursue right-to-first-refusal partnerships to avoid further overburdening Town resources. The Town and its partners can also work with private landowners to achieve limited protection by assisting them in attaining Chapter 61/A/B status.

Forestry Properties – Chapter 61

Currently, there are 839.8 acres of Chapter 61 land in Leicester. This land is actively managed forest and must have a state-approved 10-year forest management plan (Van Vleet et al., n.d.). Chapter 61 landowners may also enroll in the Department of Conservation and Recreation's Forest Stewardship Program. This program may help private landowners pay for forest management plans in exchange for certain land management practices.⁸

Agricultural Properties – Chapter 61 A

There are 1,516.4 acres of land in Leicester currently enrolled in Chapter 61A. To be eligible for this program, parcels of land must be at least 5 acres and actively used for agricultural purposes (Van Vleet et al., n.d.).

Open Space and Recreation – Chapter 61B

261.2 acres in Leicester are enrolled in the Chapter 61B program. This program enables tax reductions if the owner keeps the land in a "substantially natural, wild, or open condition," or as a pasture, or as forest land (Van Vleet et al., n.d., p. 10). As long as the recreational uses do not cause environmental harm, land available for recreation is also eligible for CH61B. Suitable recreational uses are broadly defined and include "hiking, camping, nature study and observation, boating, golfing, noncommercial youth soccer, horseback riding, hunting, fishing, skiing, swimming, picnicking, private noncommercial flying, hang gliding, archery, and target shooting, and commercial horseback riding and equine boarding" (Van Vleet et al., n.d., p. 10). Chapter 61B landowners can charge a fee for access to their property.

⁶ Chapter 61, Chapter 61A or Chapter 61B.

⁷ This online brochure provides more information about the Chapter 61, 61A and 61B programs: <https://www.mass.gov/files/documents/2017/10/25/chapter-61-programs.pdf>

⁸ For more information on the Forest Stewardship Program: <https://www.mass.gov/service-details/forest-stewardship-program>

Agricultural Preservation Restriction Properties

There is no land with an active Agricultural Preservation Restriction (APR) in Leicester.

Other Privately-Owned Parcels

Several private organizations own open space and recreational land in Leicester, which totals approximately 345 acres. The Green Mountain Club allows public access on their property, while Leicester's Rod and Gun Club, Girl Scouts of America - Montachusett Council, the Mount Pleasant Country Club, and the Worcester Chevra Kadisha allow access to members only (MassGIS, 2020).

Maple Hill Farm is also a privately owned property covering 2.1 acres adjacent to the Southwick Pond Conservation Area. This land is unprotected and is used as a Christmas tree farm and privately operated disc-golf course.

Table 6 Privately-Owned Parcels

SITE NAME	ACRES (GIS)	OWNER	LEVEL OF PROTECTION	PUBLIC ACCESS	CURRENT USE
CAMP LAURELWOOD	95.86	Girl Scouts of America - Montachusett Council	Limited	Limited Public Access	Recreation
GREEN MOUNTAIN CLUB	6.74	Green Mountain Club	None	Full Public Access	Recreation
LEICESTER ROD AND GUN CLUB	33.54	Leicester Rod and Gun Club	None	Limited Public Access	Recreation
MT. PLEASANT COUNTRY CLUB	205.70	Five O Inc.	None	Limited Public Access	Recreation
SONS OF JACOB CEMETERY	3.13	Worcester Chevra Kadisha	Limited	Limited Public Access	Historical/Cultural
TOTAL:	344.97				

Source: (MassGIS, 2020)

Public and Land Trust Parcels

Town-Owned Parks & Recreation Properties

Leicester has eight Town-owned public parks and one conservation area.

Descriptive information about each public park is listed on the following pages. Management of local parks is overseen by the volunteer members of the Parks & Recreation Commission, with the assistance of a part-time clerk. Highway Department staff assist with park maintenance. The Burncoat Park Sports Planning Committee is responsible for ongoing improvements to Burncoat Park. Parks are mowed, fertilized, and seeded by the Leicester Highway Department. However, the cost of fertilizer and seed is charged to the Parks and Recreation Committee (N. Ortiz et al., personal communication, August 24, 2021).

According to 2021 OSRP survey respondents, Leicester High School, the Town Common, and Community Field were the most frequently used open spaces in Leicester (see Error! Reference source not found.). The Town Common, Rochdale Park, and Community Field were the three favorite open spaces among OSRP survey respondents (see **Figure 16**).

Figure 15: 2021 OSRP Survey data on how frequently residents use recreational options in Leicester

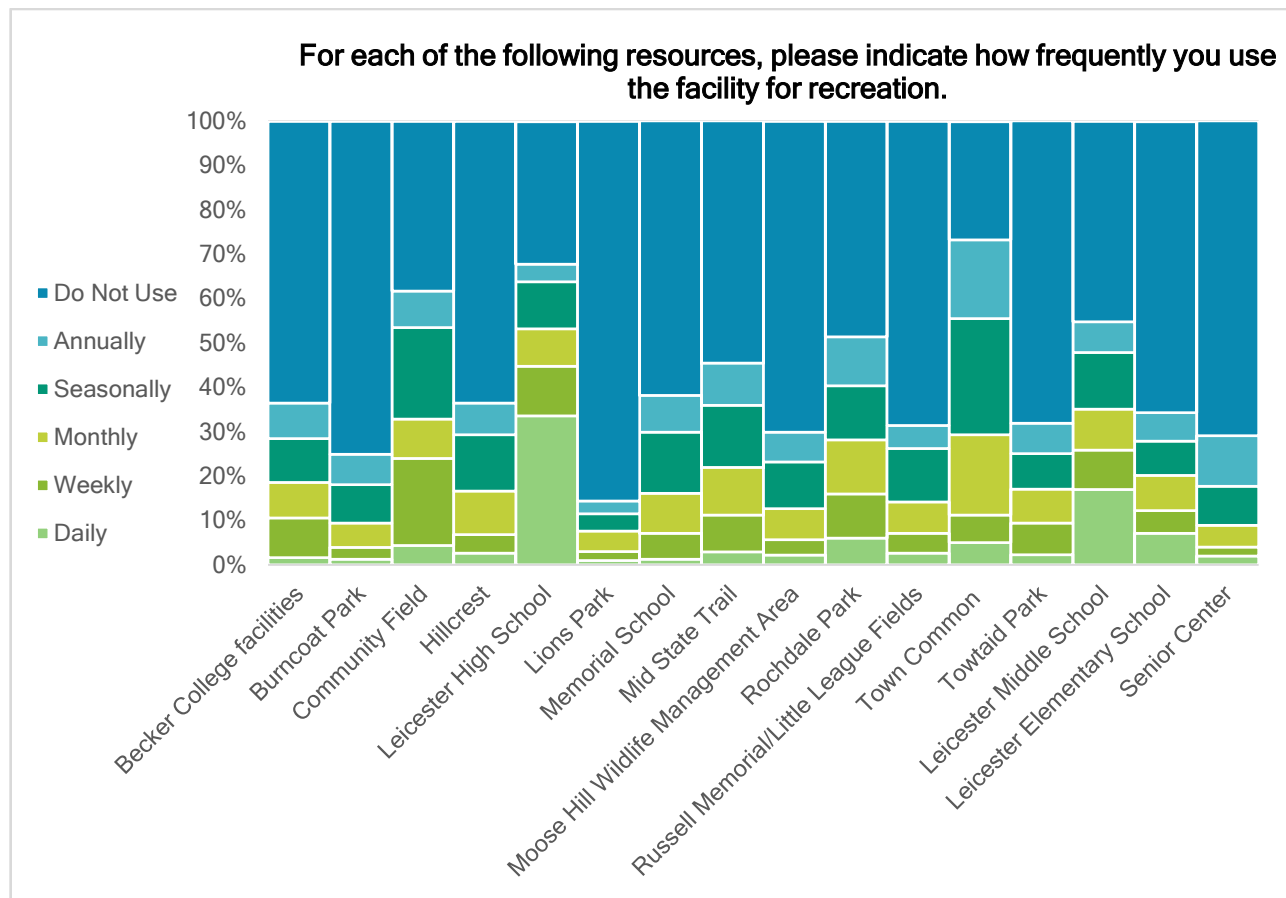


Figure 16: 2021 OSRP Survey data on favorite open spaces in Leicester

*What is your favorite open space in Leicester?***Top 10 Responses**

<i>Rank</i>	<i>Facility Name</i>	<i>Number of Votes</i>
1	Town Common	45
2	Rochdale Park	41
3	Community Field	30
4	Leicester High School	25
5	Becker College	22
6	Towtaid Park	21
7	Burncoat Park	17
8	Russell Memorial Fields	12
9	Hillcrest Country Club	11
10	Moose Hill	10

** 32 respondents stated that they did not have a preferred open space in Leicester. Some commented that they chose to stay home, while others preferred open spaces in nearby communities.*

Burncoat Park

The Town was awarded a \$37,500 Self-Help grant in 1967 towards the purchase of the 115.3-acre Burncoat Park (the total cost of the land was \$95,000). Burncoat Park is located near the Spencer border, on Town Beach Road, off of Route 9. Burncoat Park was used as a Town Beach from its purchase in 1968 until 1990, when the beach was closed due to a lack of funding for a park ranger, lifeguards, and general maintenance and upkeep. In 2006, the Town voted to petition the Massachusetts General Court (the legislature) to change the use of 10 acres of Burncoat Park from passive to recreational use. This action allowed the construction of soccer and softball fields (and associated parking) at Burncoat Park. At the Special Town Meeting on November 13, 2006 (Article 6), an additional 10 acres was proposed for conversion to active recreational use. In 2008, the Massachusetts legislature voted to approve the change passive to active recreational use for “a 20 acre more or less parcel located west of the existing paved access road known as Town Beach Road and north of Burncoat Pond in the Town of Leicester.” Burncoat Park abuts the Mass Audubon Society’s Burncoat Pond Wildlife Sanctuary in Spencer. There is potential to make formal connections between the two areas through extensions of the extensive trail system at the Wildlife Sanctuary and the Midstate Trail that traverses the boundary between Leicester and Spencer.

After the beach was closed, the park has continued to be used for softball and general recreation. Residents also fish at Burncoat Pond. The parking lot is locked behind a gate, forcing visitors to park their vehicles on the sides of a dead-end road.



Image 8: This image shows the paved roadway down to Burncoat Pond. A proposed accessible pathway will follow this route. The Burncoat Park Sports Planning Committee hopes to remove the cracked and raised pavement, lay down an additional gravel base, and complete the path with a layer of ADA compliant stone grindings. Source: Dick O'Brien.



Image 9: This photo depicts part of the view that visitors to Burncoat Park will enjoy from the park's proposed viewing platform. The proposed viewing platform would be built on the right side of this photo. Source: Dick O'Brien.

Since 2020, the park has been governed by the Burncoat Park Sports Planning Committee, which also maintains the park with the help of volunteers and town staff. The Planning Committee is working to rehabilitate the park and make it more welcoming to town residents. Throughout 2020, the Planning Committee has helped ensure that the park's grass has been regularly mowed to make the park more welcoming to visitors, preserve the sports fields, and manage tick populations. The Planning Committee has also moved an entrance gate to prevent dumping and organized the installation of new electrical poles, which will provide more light to park visitors (Burncoat Park Sports Planning Committee, 2020).

Currently, Burncoat Park is the subject of multiple parks and recreation planning initiatives in Leicester. In 2020, a Forest Management Plan was conducted by DCR. This plan is a guide for the committee and town to continue managing the park's woodland areas. The Burncoat Park Sports Planning Committee has also secured funding for a wetland survey around the existing softball field. Additionally, a Master Plan for the park will be completed in 2021 and will be used as a guide for future projects. The Committee has successfully pursued two grants from the Greater Worcester Community Foundation to improve the park. It will submit a third grant application in February for a Trail Improvement Project, as well as an initiative to create handicap parking and an ADA accessible path to the beach with a viewing platform.

Community Field and Tarentino Memorial Park

Community Field on Waite Street is used for football and soccer. This field also has a swing set for younger children to play on and sometimes is used for movie nights. The field has a sprinkler system and lights (for night games). The Leicester High School football team uses the field. The Field is also used by the Leicester Soccer Club, Leicester Youth Soccer, and occasionally by the Leicester High School soccer team. Highway Department staff mow the field; the Leicester Soccer Club and the High School are responsible for lining the fields. The field is often in poor condition due to drainage problems and damage caused by its use during wet weather. The public restrooms are not in working order; portable toilets are used during the soccer season.

Tarentino Memorial Park was constructed on the Community Field property in 2020. The basketball court, memorial bench, flagpole, and enhancements to the Community Field playground were organized in honor of Ronald Tarantino Jr., a Leicester resident and Auburn police officer killed while on duty in 2016 (Flanders, 2020).



Image 10: Tarentino Memorial Park welcome sign. Source: Brooke Hultgren.

Hillcrest Country Club

The Town acquired Hillcrest Country Club in a successful effort to protect the 295 acres from a proposed residential development. This purchase was funded by the Town of Leicester and a Land & Water Conservation Fund Grant from the Executive Office of Environmental Affairs. The Trust for Public Land also assisted with the purchase of the property. The Hillcrest site is divided into

three general use restriction areas: 1) water supply/protection, 2) public outdoor recreation, and 3) recreation with the ability to convert to general municipal use with Town Meeting approval. Protecting this large, centrally located property from development offers vital protection for Henshaw Pond, which supplies drinking water to roughly forty percent of the town's residents, and creates multiple recreation opportunities, including a municipal golf course and hiking trails. The 48.6-acre nine-hole golf course includes a club building with a restaurant. The Town leases the golf club operations to a private management company. Any changes to the golf course portion of land require a complicated conversion process. Such changes must be for another public outdoor recreational use unless an equivalent additional parcel of land is provided as a substitute (and such land may not currently be used for recreation).

There is an informal trail system in the forested portion of Hillcrest Country Club between the golf course and the water supply land. These trails are accessible through the golf course property and are primarily used by residents of the surrounding neighborhoods. Some of these trails have been maintained by the Leicester Snowmobile Club as part of their town wide trail circuit. However, ATV and dirt bike users have recently damaged these trails, which may cause the Snowmobile Club to abandon its trail maintenance in this area (J. True, personal communication, September 17, 2021).

Leicester Lions Park

Leicester Lions Park is located on Main Street (Route 9) in Cherry Valley. The park, dedicated in 2005, was created by the Leicester Lions Club on a vacant Town-owned parcel known as “Cherry Valley Grammar School” (Lilyestrom, 2005). The park provides a peaceful place to relax, with landscaping and benches. Members of the Leicester Lions Club maintain the park.

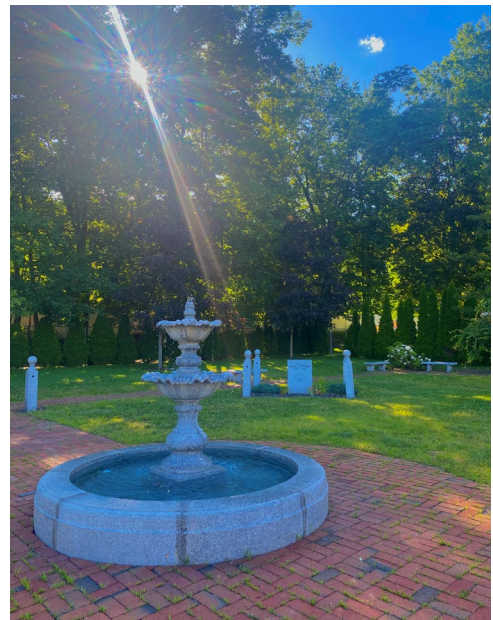


Image 11: The fountain at Leicester Lions Park. Photo credit: Brooke Hultgren.

Rochdale Park

Rochdale Park is nine acres and within walking distance (approximately one-quarter mile) of Rochdale village center. The Park has one adult-sized baseball field, used by Leicester High School, Little League, and American Legion Baseball. Lighting is available for night games.

Before Becker College's closure, the college had used the baseball field and had been under contract to maintain it. However, little maintenance was ever completed. Currently, the Leicester Highway Department mows the field. The Parks and Recreation Committee schedules games at the field and is responsible for other maintenance activities.

Rochdale Park also has a basketball court, volleyball court, and small skatepark. Besides the ballfield, residents report that this park is in disrepair. The recreation courts are rarely used. Somebody accidentally disconnected the lighting for the recreational courts from a power source, so those lights no longer work. Some courts are covered in debris, others have cracking pavement, and vines are growing over court fencing. The sand volleyball court is also entirely overgrown by

grass, and the basketball court is too small for a standard game. Vandalism is a chronic problem at this park, including spray-painting, small fires, and damage to the baseball dugouts. Overgrowth of vegetation and structures associated with the baseball field obscure visibility and add to the lack of security at the park.

Rochdale Park lacks any type of playground, so it is primarily used by baseball teams, older youth, and adults. Adults use this park primarily for dog-walking. Rochdale Park is adjacent to the 43-acre Rochdale Pond, and informal paths line the pond's shore. The pond is not available for swimming or fishing but provides scenic views where the pond is not obstructed by vegetation. The park currently lacks signs communicating that swimming is not allowed, which is a safety concern for the Parks and Recreation Committee.

The park was recently improved by a local Eagle Scout, who added benches and grills to a shaded area behind the baseball field. Unfortunately, the large baseball field makes this area



Image 12: Debris and benches obscure the Rochdale Park tennis court. The sand volleyball court (in the background) is overgrown with grass. Photo credit: CMRPC.



Image 13: The picnic and grill area is a highlight of Rochdale Park. However, its location behind the baseball field makes it a hotspot for park vandalism. Photo credit: CMRPC.

difficult to access, so it is rarely used and often vandalized.

Russell Memorial Fields

Russell Memorial Fields, also known as Russell Memorial Park, was acquired by the Town in 2002 and is located in Leicester Center (Town of Leicester, n.d.-b). Leicester Little League and Leicester Girls' Softball have a 10-year lease on these fields, which expires in 2030. As a result, these two organizations are responsible for field maintenance (D. Marttila, personal communication, November 24, 2021). The park currently includes two baseball fields, one softball field, one tee-ball field, and a small playground. A concession stand building with a broadcast booth and restrooms was constructed in 2004. The park also has an unpaved parking lot with a capacity for 70-80 cars (Town of Leicester, n.d.-b)

In 2020, Leicester received a Community Development Block Grant to complete ADA improvements at Russell Memorial Field. ADA improvements made through this grant may include ADA-compliant walkways, accessible parking spaces, accessible spectator seating at each field, ramps or modified entries to the field dugouts, and accessibility improvements to the restroom/concession building (Town of Leicester, n.d.-b). This project is currently in its design phase.

Town Common

The Town Common in Leicester Center is used for town functions, such as July Fourth, Arts and Crafts Festival, the Harvest Fair, a Mother's Club Apple Festival, and summer concerts. The Town Common was the most popular response when asked about their favorite open space in Leicester by the 2021 OSRP Survey.

The Town recently received a Complete Streets grant to make improvements to the Town Common area. These improvements include sidewalk reconstruction, an accessible ramp for wheelchairs facing the Common's bandstand, new curbs, and a high visibility crosswalk. Construction has been ongoing throughout the summer of 2021, but when completed, the Town Common area will be a safer and more accessible open space for Leicester residents (Town of Leicester, n.d.-c).



Image 14: The bandstand at the Leicester Town Common. Source: Brooke Hultgren.

Towtaid Park

Towtaid Park is one of the town's oldest parks and is within walking distance of the Cherry Valley village center. It originally encompassed 4.5 acres, but in 2009, Leicester acquired an additional 15.5 forested acres directly abutting the park that incorporates Olney Pond and follows Kettle Brook. The additional acreage is currently not actively maintained for passive recreation by the town. This park addition includes an informal trail system used by walkers and snowmobilers that follows the path of Kettle Brook and is maintained by the Leicester Snowmobile Club. The path starts at Auburn Street on the Kettle Brook Path parcel owned by the Common Ground Land Trust and connects with the northern fork of Olney Street. Towtaid Park also abuts the 2.5-acre Cherry Valley Cemetery to the south.



Image 15: Entrance to the Towtaid Brook trail at Towtaid Park, located behind the new playground. The trail is well-shaded and follows the path of Kettle Brook to Auburn Street. As of August 2021, the path entrance was partially blocked by construction debris. Photo credit: CMRPC.



Image 16: The new swing set at Towtaid park is accessible for children with physical disabilities. Photo credit: CMRPC.

Park amenities include a basketball court, a handball court, a pickleball court, and playground equipment. A local volunteer group led occasional park clean-up efforts in the mid-2010s. In 2019, another group of volunteers removed significant plant growth that had covered portions of the recreation courts and parking lot (N. Ortiz & W. Ortiz, personal communication, August 24, 2021). A Towtaid Park Master Plan was completed in 2004, though the town never implemented most of its recommended actions.

In 2020, the Town of Leicester was awarded a \$15,000 grant from the Kaboom! Foundation to complete the improvements to the playground equipment; \$40,000 in matching municipal funds for the project were approved at the June 2nd, 2020, annual Town meeting (Article 3). This project was completed in 2020 (M. Buck, personal communication, August 2, 2021).

In 2020, Leicester also received a PARC grant to repave and add fencing to the basketball, handball, and pickleball courts. Repaving will improve uneven court floors, and fencing will divide the court area into separate spaces, allowing three sports to be played at once. If there is sufficient funding, the PARC grant will also pay for new basketball hoops and a cinderblock handball wall to replace the current plywood structure. Construction funded by the park grant is currently scheduled for completion in 2021. However, the project has faced delays due to Covid-19 and difficulty in finding contractors. The PARC grant will also provide funding to repave and restripe the parking lot, which will improve ADA compliance (M. Buck, personal communication, August 2, 2021; N. Ortiz & W. Ortiz, personal communication, August 24, 2021).

The Parks and Recreation Committee plans to pursue further funding through a Mass DOT Winter Streets Grant to add sidewalks and parking space to increase usage of Towtaid Park by Leicester residents and visitors of all ages and abilities (N. Ortiz & W. Ortiz, personal communication, August 24, 2021).

Willow Hill Conservation Area

The Town of Leicester acquired the 3-acre Willow Hill Conservation Area in 2002 (November 13, 2002, Town Meeting, Article 17) from the National Wildlife Federation Endowment, Inc. (at no cost to the Town). This parcel contains woods and wetlands and is bisected by a National Grid utility easement. There are no improvements to the property, and it is intended to remain as conservation land.

Table 7: Municipal Open Space in Leicester

Site Name	Acres (GIS)	Level of Protection	Public Access + Fee	Management Agency	Zoning	DCS Grant Used	Current Use & Amenities	Additional Recreation Potential	Condition
Burncoat Park/Town Park	101.72	Perpetuity (Article 97)	Full	Leicester Parks and Recreation Department	Suburban-Agricultural	Self Help	Active and Passive Recreation: Trails, Softball Field, Sports Field, Fishing	Town Beach, Pond Viewing Platform, Accessibility Improvements, Parking	Fair
Cherry Valley Grammar School/ Lions Park	0.77	Limited	Full	Leicester School Department	Residential 2	-	Passive recreation: benches	None	Good
Community Field/ Tarentino Memorial Park	7.90	Limited	Full	Leicester Parks and Recreation Department	Business	-	Active and passive recreation: Football/soccer field, playground, field lighting, basketball court, memorial bench, port-a-potty	Field drainage and grading improvements, permanent working restrooms	Fair
Conser- vation Area	3.28	Perpetuity (Article 97)	Full	Leicester Conservation Commission	Suburban-Agricultural	-	Passive recreation with no amenities	None	Good
Hillcrest Country Club	295.67	Perpetuity (Article 97)	Full	-	Suburban-Agricultural ; Residential 1	Land and Water Conser- vation Fund	Active and passive recreation: golf course, trail system	Restrictions on use by ATVs and motorbikes to preserve trails and protect waterways	Fair

Site Name	Acres (GIS)	Level of Protection	Public Access + Fee	Management Agency	Zoning	DCS Grant Used	Current Use & Amenities	Additional Recreation Potential	Condition
Leicester Town Common	2.35	Perpetuity (Article 97)	Full	Leicester Parks and Recreation Department	Residential 2	-	Passive recreation and events: bandstand, accessible pathways	None	Excellent
Memorial School	27.85	Closed to public access	Full	Leicester School Department	Residential 1	-	No current use - closed to public access	Playground and general recreation field	Fair
Rochdale Park	9.03	Limited	Limited	Leicester Parks and Recreation Department	Suburban-Agricultural	-	Active and passive recreation: Baseball field, field lighting, spectator seating, BBQ grills, picnic benches, volleyball court (poor condition), skate park (poor condition), limited trails, port-a-potty	General improvements to park aesthetics and safety, removal or repair of volleyball court and skating area, trail improvements, pond access	Poor
Russell Memorial Park	10.77	Perpetuity (Article 97)	Full	Leicester Parks and Recreation Commission	Suburban-Agricultural ; Business	-	Active recreation: two baseball fields, one softball field, one tee-ball field, field lighting, snack bar, broadcast booth, restrooms	ADA Improvements	Good

Site Name	Acres (GIS)	Level of Protection	Public Access + Fee	Management Agency	Zoning	DCS Grant Used	Current Use & Amenities	Additional Recreation Potential	Condition
School Fields	25.09	Limited	Full	Leicester School Department	Suburban-Agricultural ; Residential 2	-	Active recreation: Two Baseball/Softball Fields, Football Field, Outdoor Track, Indoor Basketball Court, Soccer Field	Accessibility improvements to address steep slope down to fields, improved maintenance for track, and football and soccer fields	Good
Elementary School Playground	0.83	Limited	Limited	Leicester School Department	Suburban-Agricultural	-	Playground equipment	None	Good
Towtaid Park	5.08	Perpetuity (Article 97)	Full	Leicester Parks and Recreation Department	Residential 2	PARC Grant	Active and passive recreation: playground, trail, basketball court, handball court, pickleball court	Improved accessibility through parking lots and pathway reconstruction, trail development/maintenance on forested portion of park	Good

Other Town-Owned Properties with Recreation or Conservation Potential

Recreational facilities are available at all the town's schools, as shown in Table 8 below.

Table 8: School Recreational Facilities

SCHOOL	RECREATIONAL FACILITIES
Leicester Primary School	Playground
Leicester Memorial School ⁹ - closed	
Leicester Middle School	Soccer Field, Baseball/Softball Field
Leicester High School	Baseball/Softball Field, Football Field, Outdoor Track, Indoor Basketball Court

The athletic facilities at the High School were one of the most popular recreation areas in Leicester, according to the 2021 OSRP Survey. However, survey responses and comments at the public forum requested that field maintenance be improved (Forum Attendees, personal communication, September 9, 2021).

The Town also owns six cemeteries: Cherry Valley Cemetery, Elliot Cemetery, Pine Grove Cemetery, Quaker Cemetery, the Rawson Brook Cemetery, and St. Joseph Cemetery. Four of these were acquired since the last Open Space and Recreation Plan was published in 2014.

Water Resource Management Lands

The Town of Leicester owns approximately 31 acres of land to protect the local water supply. This land is permanently protected and is not open to the public.

The Commonwealth of Massachusetts, two other municipalities (Worcester and Spencer), and several water supply and watershed protection organizations also own land in Leicester for water resource management purposes. These lands are generally unavailable for public access and recreation.

State-Owned Wildlife Management Lands

Moose Hill Wildlife Management Area

The Moose Hill Wildlife Management Area is owned by the EEA Division of Fisheries and Wildlife and provides 194 acres near Moose Hill for passive recreation and hunting. These parcels of land continue across the town boundaries into Spencer (to the west) and Paxton (to the north) for an additional 384.6 acres. The Moose Hill Wildlife Management Area is the only conservation land in Leicester that includes a portion of the Midstate Trail. Leicester's section of the Midstate Trail is less than three miles and is predominantly a road walk until entering these state-owned lands.

⁹ Leicester Memorial School was closed in 2019. However, 2021 OSRP survey data found that some residents valued the recreational facilities at the school and hoped that the town would turn the school property into a new recreational space.

Conservation Non-Profit Owned Properties

Common Ground Land Trust Land

The Common Ground Land Trust owns two properties in Leicester.

The Kettle Brook Path is a 1.45-acre parcel in Cherry Valley, connecting Auburn Street to Towtaid Park and the Cherry Valley Cemetery (Common Ground Land Trust, n.d.). A local trail, part of the local snowmobile trail network, runs through the property alongside Kettle Brook. There is no parking at the trailhead on Auburn Street, so Kettle Brook Path is primarily used by local dog walkers and provides the neighborhood with another link to Towtaid Park (J. Parke, personal communication, July 28, 2021).



Image 17: Kettle Brook Path in winter. Source: Common Ground Land Trust.

Common Ground's Greenville Pond property was acquired in 2020 from the Town at no cost (Common Ground Land Trust, 2020). Greenville Pond is in South Leicester, and the land trust property covers approximately .5 acres along the southern shore of the pond. The public currently uses the parcel for boat access, fishing, and ice-skating access. The land trust intends to improve this property for public recreation by adding a picnic table and benches and opening the view of the pond from River Street. Common Ground would also like to stabilize this section of the shore and facilitate water access by constructing natural steps along a portion of the shore (J. Parke, personal communication, July 28, 2021).

Common Ground Land Trust is working on a three-year project with an environmental contractor to remove Japanese Knotweed growth from both properties in Leicester. The land trust hopes that removing this prolific vegetation will make the sites more usable by the public (J. Parke, personal communication, July 28, 2021). As noted in *Exotic Vegetation* in Section 4, invasive water chestnut is also present at the pond and is a growing threat to water quality.



Image 18: The Common Ground property at Greenville Pond. Source: commongroundlt.org.

Greater Worcester Land Trust Land

The Greater Worcester Land Trust (GWLT) and the City of Worcester own Conservation Restrictions on 85 acres in the northeast corner of town, known as Southwick Brook Pond and Southwick Pond (partially in Paxton), which are adjacent to Paxton's Muir Meadows.

These properties are open to the public for passive recreation on a loop-trail system and include unimproved lake access to Southwick Pond and opportunities for fishing (Novick). These properties abut and connect to portions of these GWLT properties in Paxton. A map of these properties and their walking trails is available on the GWLT website at www.gwlt.org. At present, the access in Leicester is through a former fire road, but the property is gated (there is room for 1-2 cars off the road in front of the gate). GWLT plans to add a parking lot off Marshall Street for improved access for Leicester residents to this property. Southwick Pond provides rich wildlife and plant habitat and includes a range of wetland, forest, and meadow habitat (Lynn, 2017).

In addition, GWLT owns four parcels totaling 57 acres of land off Paxton Street (east of Hyland Ave.) The two original parcels were donated to GWLT by the Estate of Frank Cooke in 2013. Later, the Ganley (2014) and Leville (2021) parcels were added. These parcels are open to the public and accessible from Cart Road between Washburn and Paxton Street and Manville Street. GWLT maintains the property for passive recreation and wildlife habitat. An unnamed brook runs north-northwest to south-southeast through the forest and a beaver wetland (C. Novick, personal communication, August 5, 2021).

GWLT also owns the Sibley Farm property in neighboring Spencer, which connects to the Burncoat Pond Wildlife Sanctuary and can be accessed from Leicester by a half-mile walk on the Mid-State Trail.

Other Non-Profit Owned Parcels

The YMCA's Camp Wind in the Pines, the Dawn Acres Park, the Greenville Baptist Cemetery, and the Meadow Lake Association's Beach and Park provide access to members only (MassGIS, 2020).

Table 9 Non-profit Owned Parcels

SITE NAME	ACRES (GIS)	OWNER	LEVEL OF PROTECTION	PUBLIC ACCESS	CURRENT USE
Kettle Brook Path	1.45	Common Ground Land Trust	Perpetuity	Full Public Access	Recreation and Conservation
Greenville Pond Access	.5	Common Ground Land Trust	Perpetuity	Full Public Access	Recreation and Conservation
Cooke Forest	24.57	Greater Worcester Land Trust	Perpetuity	Full Public Access	Recreation and Conservation
Ganley	9.50	Greater Worcester Land Trust	Perpetuity	Full Public Access	Recreation and Conservation
Southwick Pond Brook Access	4.72	Greater Worcester Land Trust	Perpetuity	Full Public Access	Conservation
Southwick Pond Brook Conservation Area ¹⁰	80.41	Greater Worcester Land Trust	Perpetuity	Unknown	Conservation
Camp Wind	40.22	YMCA (non-profit)	Limited	Limited Public Access	Recreation
Dawn Acres Park	1.41	DAWN ACRES IMPROVEMENT (non-profit)	Perpetuity	Limited Public Access	Recreation
Greenville Baptist Cemetery	3.37	GREENVILLE BAPTIST C (non-profit)	Limited	Limited Public Access	Historical/Cultural
Meadow Lake Beach	0.78	Meadow Lake Association (non-profit)	Perpetuity	Limited Public Access	Recreation
Meadow Lake Park	0.19	Meadow Lake Association (non-profit)	Perpetuity	Limited Public Access	Recreation

Total: 392.88

Source: (MassGIS, 2020)

¹⁰ A Conservation Partnership Grant was used to acquire this property.

Recreational Programs

The Parks & Recreation Commission is responsible for several recreational programs, including the following:

Program	Location
Handball	Towtaid Park
Indoor Basketball	Town Hall, Middle School Gym
Pickleball	Towtaid Park
Tennis	Leicester Middle School

The Leicester Parks and Recreation Committee organizes field trips, such as trips to the Worcester Railers. In addition, the Parks & Recreation Committee participates and organizes events such as Earth Day Clean-Up, Holiday House Decorating Contest with the Leicester Christmas Lights, Summer Concert Series (as of Oct. 2021), and Toll Roads.

Park and Open Space Equity

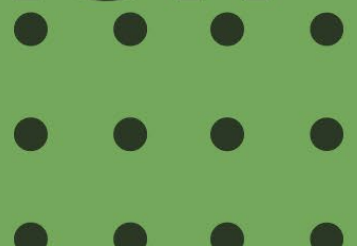
According to 2020 Census Data, there are no official Environmental Justice populations in Leicester (Massachusetts Executive Office of Energy and Environmental Affairs, n.d.). See *Environmental Justice Population* (Section 4, pg. 22) for further discussion of this topic.

Despite the absence of an officially designated Environmental Justice population in town, certain residents of Leicester may still be underserved by spending on open space or may find it challenging to access recreational areas. For residents who lack access to a private vehicle, Leicester's few sidewalks and a lack of public transportation (Town of Leicester, Massachusetts, 2009, 5-7) contribute to certain residents' isolation from village centers. Additionally, certain areas of town lack publicly accessible parks within walking distance. **Map 10 - Pedestrian Access to Open Space** demonstrates that some areas of Leicester lie outside of a half-mile from municipal, non-profit, or state-owned open spaces and recreational areas. Areas within a half-mile buffer are shaded in pink, approximating the distance a healthy individual could walk in ten minutes. People living in the neighborhoods shaded white may have a difficult time walking to a park. Some of these areas may have plentiful private open spaces and residents who can access personal vehicles. However, the absence of nearby parks and public open space could also represent a genuine lack of access for some Leicester residents. As shown on the map, a large portion of South-East Leicester lacks walkable access to public open space. This region overlaps a census block group classified as low-to-moderate income (refer to Figure 9 for details), indicating that this relatively low-income area may be underserved by the town's open space and recreational spending. Leicester should consider prioritizing new investment in open space or recreation in the areas of town that currently lack parks within .5 miles, lack private open space, and may have a relatively high proportion of low-income residents. Figure 9: Low-to-Moderate Income Block Groups in Leicester based on ACS 5-year estimates from 2011-2015 (shown in pink).

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SECTION 6 COMMUNITY VISION



SECTION 6: COMMUNITY VISION

Description of Process

Leicester's 2021 Open Space and Recreation Plan was developed with public input from a town-wide survey, a public forum, and conversations with local officials and community leaders. The Open Space and Recreation Plan Committee (OSRPC) developed the plan's goals with this input in mind.

The survey collected the most wide-ranging input from Leicester residents. The survey was published online using the website Typeform on April 7th. It was closed on June 11th after collecting three-hundred and fifty-nine responses from 349 residents and ten non-residents of Leicester. As noted on pg. 9, the survey was widely advertised across town. People of all ages submitted survey responses, though 152 of the respondents were under 18 years of age, indicating that distributing the survey through the local high school may have been the most successful advertising method. See the plan Appendix to review the survey questions and a summary of survey responses.

The OSRPC hosted a public forum to solicit additional community input on September 9th, 2021. The meeting was held in person in a meeting room at the Leicester Town Hall, from 6-7:30 PM. There were three main elements of the forum. First, CMRPC presented an introduction to the OSRP process and why this plan matters for Leicester. Second, CMRPC presented the planning process to date, including a description of draft goals, survey results, and background information on Leicester. Third, meeting attendees and OSRPC members were divided into two small groups to discuss community needs and opinions on various open space and recreation topics. CMRPC and OSRPC members co-facilitated and took notes on the small group discussions.

Five committee members, two CMRPC facilitators, two members of Leicester staff, and eight town residents attended the forum. Despite a comprehensive advertising effort that included fliers posted at numerous locations town wide, a newspaper notice, postings on the town website, and fliers at the Leicester Farmers' Market, there was poor attendance at the forum. The small forum attendance may have been due to heavy rainfall in Leicester on September 9th and a busy September meeting schedule due to ongoing town deliberations over the purchase of the Becker Campus. Nevertheless, a productive discussion at the public forum generated several ideas for the Open Space and Recreation Plan.

The 2021 Open Space and Recreation Plan (OSRP) was also heavily influenced by the previous OSRP edition from 2015. Since that plan was published, there have been only limited changes in Leicester's open space and recreation situation. Hence, several goals from the 2015 plan are still relevant today. Key accomplishments since the 2015 OSRP plan include:

- Multiple successful grant applications and planning studies for Burncoat Park, including a Forest Management Plan, an on-going Master Plan process, and an on-going wetland survey (Action #2A2, 2A5 from the 2015 OSRP Plan)
- Multiple successful grant applications to improve Towtaid park's playground, sports courts, and parking areas (Action #2A3, 2A5)

- A successful grant application to make ADA improvements to Russell Memorial Field (Action #2A3, 2A5)
- Completion of a Complete Streets Prioritization Plan, which outlines road safety and pedestrian improvements throughout Leicester.
- Receipt of Complete Streets Program funding to make ADA improvements around the Town Common and make the square safer for pedestrians and cyclists (Action #2A3, 2A5)
- Transferring ownership of a town-owned parcel at Greenville Pond to the Common Ground Land Trust (Action # 2B3)
- Maintaining information about town parks on the Parks and Recreation section of the town website (Action #2D2).
- On-going collaboration with external open space or recreation organizations including the Common Ground Land Trust, Worcester Land Trust, Leicester Snowmobile Club, Leicester Little League, Leicester Girls Softball, and the Burncoat Pond Watershed District (Action #3A1, 3A7)
- Working with external organizations like CMRPC on numerous grant applications and planning initiatives (Action #3A8)
- The creation of Tarentino Memorial Park at Community Field (#4D2)
- The Town committing to purchase the Becker College campus, including its recreational fields and facilities.

Statement of Open Space and Recreation Goals

Leicester has five individual goals for the 2021 Open Space and Recreation Plan, with each goal representing an essential pillar of the town's open space and recreation vision.

These goals are:

Goal 1: Protect open space and natural resources, particularly water resources.

Goal 2: Provide and maintain recreational opportunities for people of all ages and abilities.

Goal 3: Build a strong constituency of open space advocates through education and collaborative partnerships.

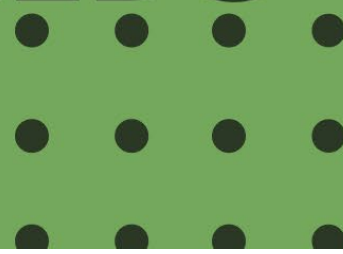
Goal 4: Increase public participation in open space and recreation planning.

Goal 5: Identify appropriate resources to support the above goals.



SECTION 7

ANALYSIS OF NEEDS



SECTION 7: ANALYSIS OF NEEDS

Summary of Resource Protection Needs

Water Quality

Leicester water districts face many challenges, and the town's water bodies have many different water quality impairments that impact their use for habitat and recreation. Water flows through all of Leicester's open spaces in some form, either as a stream or pond or merely as stormwater run-off. Therefore, the protection of natural ecosystems within open spaces, maintenance of recreational parks, and activities in both types of areas can impact the town's water quality. Protecting open spaces and ensuring that recreational and maintenance activities do not damage water quality, is a high priority for the town. 99.4% of 2021 OSRP survey respondents thought clean water was an important or very important characteristic of Leicester's rural environment, and water quality was the most highly rated conservation issue in the survey.

Ecosystem Health

Climate change, invasive plants and insects, water impairments, and land-use changes threaten Leicester's natural environment. The impact of these challenges can be seen in declining tree health town-wide, mats of invasive aquatic plants in town ponds, and increased sedimentation, erosion, and flooding along town waterways. Maintaining healthy ecosystems that can function as animal habitat reflects the values of Leicester residents. 87.1% of 2021 OSRP survey respondents thought that nature preserves were important or very important characteristics of Leicester's rural environment and protecting wildlife habitat was the top-ranked reason why Leicester should protect its open spaces and natural areas. Leicester should address these general threats to its environment and implement protective measures for sensitive environments like wetlands and vernal pools.

Protecting Open Space to Maintain Community Character and Prevent Environmental Degradation

Though Leicester neighbors urbanized Worcester, the town still has many rural characteristics, including small farms, plentiful open spaces, extensive forests, and surface waters. According to the 2021 OSRP survey, clean air, clean water, parks, nature preserves, and passive recreation are the characteristics of Leicester's rural environment that are most important to the town. To protect these characteristics, Leicester should re-examine its development regulations and stormwater regulations to ensure they can adequately prevent further damage to ecosystems and water quality. The town should also consider whether it needs to take any proactive steps to minimize the loss of its farmland in the future. Leicester should also consider whether any scenic views are critical to local character and should be prioritized for future protection.

Summary of Community Needs

Park Maintenance and Improvements

Public feedback throughout the OSRP planning process expressed dissatisfaction with the quality of outdoor sports facilities in Leicester. Many of the 2021 OSRP survey respondents were high school students who may be more likely to use these facilities than older town residents. "New or improved multipurpose athletic fields, including fields at the high school" was the third most

popular form of open space that residents would like to see expanded in town, according to the 2021 OSRP survey. However, survey responses also indicated that the existing upkeep of fields was a concern, noting uneven turf and field striping, the cracking pavement on the High School track, and the lack of restrooms at Community Field. A few survey respondents expressed appreciation for the higher quality fields at the Becker Campus, so Leicester may be able to address some concerns about athletic field quality by opening these fields to its high school and youth sports teams.

Survey responses also wanted the town to improve the quality of town parks and provide new recreational opportunities. Rochdale and Burncoat Parks were both frequently mentioned in survey responses. Residents expressed that these parks had been wonderful areas in the past but have since fallen into disrepair. Survey respondents hope to see general improvements and new water access at both parks, a new playground at Rochdale Park, and a disc golf facility added to Burncoat Park.

Leicester residents have many ideas for new recreational opportunities and open space amenities. A town dog park was a popular suggestion, along with a large new playground. A restored town beach at Burncoat or Rochdale Pond was also frequently requested. However, both ponds have water quality impairments that must be addressed before residents can use the water for swimming. If water quality impairments are addressed, these ponds could also benefit anglers since there are few public fishing areas in Leicester. Water quality improvements at these ponds would also improve the quality of the wildlife habitat that they provide.

One group at the public forum discussed the benefits of new educational programming at natural open spaces in Leicester like Burncoat Park. Bringing local schoolchildren into open spaces to learn about the natural environment could benefit their education and engage a new generation in protecting and preserving local open spaces.

Illegal Activity

Vandalism at several town parks was identified as a problem during this planning process. Town resources and volunteer time is wasted on addressing vandalism such as graffiti, small fires, and stolen signs. Leicester should formulate a plan to identify and stop those responsible for park vandalism.

Also, illegal ATV and motorized dirt bike use at Hillcrest Park damages the trails maintained by the Leicester Snowmobile Club. ATVs and motorized dirt bikes are not permitted in any publicly owned parks or open spaces in Leicester. At Hillcrest, these vehicles are damaging small bridges, creating mud-pits, and causing erosion along trails and stream crossings. The town should consider deterring these vehicles from using the Hillcrest property without blocking the trails for other recreational users.

ADA Improvements

Since 2015, Leicester has made some progress on ensuring universal accessibility of its open space and recreational areas, but there is much more work to be done. Sports fields, like the Leicester Middle School, are challenging to access by those with mobility difficulties. Sidewalks are non-existent in some parts of town or difficult to navigate for wheelchair users. Additionally, the lack of parking and restrooms at some parks and open spaces may prevent some residents from using these spaces. An evaluation of ADA compliance at Leicester's parks is included in the report

Appendix. At their meeting on January 25, 2022, the Leicester Commission on Disabilities prioritized the list of proposed ADA improvements at each park (full meeting minutes are included in the report Appendix with other ADA documents):

PARK	LEICESTER COMMISSION ON DISABILITIES PRIORITY ADA IMPROVEMENTS (AS OF 1/25/22)
TOWN COMMON & GAZEBO	<ul style="list-style-type: none"> – create an accessible path to the gazebo – address the low handrail height on the left side of the gazebo – address the steep slope on the path to north main street
COMMUNITY FIELD	<ul style="list-style-type: none"> – create an accessible path to the concession stand, playing field, spectator area and press box – create van accessible parking with appropriate signage – restripe and resurface parking spaces
BURNCOAT PARK AND BEACH	Commission decided to table recommendations for ADA upgrades at Burncoat Park until September due to the ongoing DCR MassTrails grant improvements at the park.
TOWTAID PARK	<ul style="list-style-type: none"> – create an accessible route to the playing area – create van accessible parking – put in appropriate accessibility signage and marked spots – resurface the parking area
LION’S PARK	Commission decided to table recommendations for ADA upgrades at Lions Park until the next meeting pending a site visit and recommendations from the Building Inspector.
HILLCREST GOLF COURSE	Commission decided to table recommendations for ADA upgrades at Hilcrest Country Club until a site visit can be conducted in the spring.
RUSSELL MEMORIAL PARK	The Town has a current CDBG grant to remove architectural access barriers and will be pursuing a second CDBG grant to construct the required ADA improvements.
ROCHDALE PARK	<ul style="list-style-type: none"> – create an accessible path to travel to the baseball field, skate park and basketball court – disperse accessible parking across all parking locations – resurface and restripe parking lot and put up required signage

Trails

A “shared use trail system” was the most popular form of recreational or open space that residents would like to see expanded in town, according to the 2021 OSRP survey. Respondents noted that there are too few trails in Leicester, especially relative to other Central Massachusetts communities, and that parking access and upkeep of existing trails is also a concern.

There are some existing trails in Leicester, but the town does not have a comprehensive public trail map. As noted in earlier sections of this report, the Leicester Snowmobile Club maintains an extensive trail system open to walkers, snowshoers, and cross-country skiers in the winter months. The trails that they maintain on public land are accessible year-round. However, due to a recent series of warm winters with little snowfall, membership has gradually declined. Snowmobile club

membership is important to note in this report because club members volunteer to maintain the club's trail network, and the club self-funds or seeks grants to pay for the equipment and materials that go into trail maintenance. Declining membership and the negative impacts of ATV and dirt bikes on snowmobile trails may make it more difficult for the club to support its existing tracks in the future. The Snowmobile Club is the only organization that maintains off-road trails town-wide in Leicester. If Leicester residents want to see trail improvements and more local trails, they should form a new organization to work with the Snowmobile Club on trail building and maintenance.

Leicester also owns several roads closed to, or infrequently used by, vehicular traffic in Northeast Leicester. These roads include Manville Street, Sylvester Street, Earle Street, Elm Street, Sprague Street, Howe Street, and Mulberry Street. Some of these roads pass through or alongside Worcester Watershed and Mass Port land. At the public forum, attendees discussed the importance of these roadways to maintaining access to this area of town, which is now primarily off-limits to Leicester residents and maintaining access to some of the historic sites within this part of Leicester. Due to Worcester Water Supply's strict protection of its property, this area of Leicester is one of the largest protected natural areas in town. Therefore, these trails are also an excellent passive recreation option for town residents who want to enjoy natural open space. In September 2021, Worcester Water Supply confirmed that Leicester residents are permitted to walk on the roadways owned by the town. However, walkers cannot leave the road right-of-way because then they would enter protected water supply land. Worcester strictly prohibits access to the water supply land to prevent any visitors from potentially damaging water quality. For the time being, Leicester is dependent on Worcester for its water supply, so it is in the town's best interest to support water quality preservation in this area.

Recreation Opportunities for All Ages

42% of Leicester's 2021 OSRP survey respondents were under 18 (152 out of 359 respondents), and most were likely to be Leicester High School students aged 14-17. The survey results indicate that this demographic group values the town's sports fields but wishes they were better maintained. One respondent stated that the top conservation issue in town is "Making sure we have quality sports courts and fields because that's how some kids can relax and get a break from their stresses." Other respondents observed that Becker College fields are especially high quality, but campus security used to kick students off the grounds. This comment lends support for the town maintaining those fields and recreational facilities, while opening them up to the entire community. There was also significant support from this demographic for Rochdale and Burncoat park improvements, school improvements, dog parks, and trail development.

12% of survey participants were 65 years of age or older (44 out of 359 respondents). Respondents in this demographic favored a variety of town open spaces including Hillcrest, Burncoat Pond (the town park and larger Mass Audubon sanctuary), Pine Grove Cemetery, the Town Common, local trails like Kettle Brook Path and the Midstate Trail, Rochdale Park, and Moose Hill WMA. Respondents in this age group want to see improvements to Burncoat Park including the beach, new hiking trails including handicap accessible and dog-friendly trails, open space protected from future development, and better maintenance of existing parks.

Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP)

The Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) was developed to assess the recreational needs of the Commonwealth's residents and identify gaps between outdoor recreation supply and demand. The Massachusetts SCORP helps guide DCS funding

priorities for the Land and Water Conservation Fund (LWCF) grant program. The SCORP plan was developed in 2017 and included surveys of state residents, municipalities, and land trusts. Leicester can use the SCORP survey findings as open space and recreation planning guidance to supplement the findings of its own 2021 OSRP survey. Trails, playgrounds, and water access were the top needs identified by SCORP survey respondents, which mirror some of the more popular responses from Leicester's survey. Should Leicester choose to develop a town beach, new playground, or trail system, the LWCF program may be a good funding opportunity. The SCORP report also noted that:

“Overall, both adults and youth in the state are looking to overcome obstacles of lack of time and want more trails and water-based facilities. This shows that, for the most part, regardless of age, outdoor recreation needs are the same.”

Leicester's takeaway from the SCORP report is that trails, neighborhood parks, and water access are needed recreational amenities that are worth developing and may be supported by state funding opportunities.

Summary of Management Needs

Leicester has many of the same open space and recreation management needs as it had when the 2015 OSRP was drafted.

Management Constraints

Town residents would like to see many future improvements to Leicester's parks and inventory of open spaces. However, the town does not currently have enough volunteers to support its current needs. Leicester has no full-time staff to support its parks and open spaces and instead relies on the all-volunteer Parks and Recreation Committee to manage, program, and improve town-owned parks. New volunteer support for this Committee would help relieve pressure on existing volunteers. Motivated citizens could also create other park-focused Committees like a Trails Committee or support local organizations like the Common Ground Land and Leicester Snowmobile Club.

Additionally, the Highway Department, which is responsible for maintaining some town fields and open spaces, does not have the capacity to address the town's current needs. While the department staff has recently increased, the department's workload and responsibilities have increased at a similar rate, leading to a backlog of incomplete maintenance work. The department also lacks the aerial equipment it needs to safely trim large trees, which could improve tree health and prevent hazards along local roadways.

Lastly, Leicester needs to address illegal activities that damage town assets and waste taxpayer money and volunteer time. Vandalism and off-highway vehicle use distract the town from making the park improvements that residents desire, so finding long-term solutions to stop these behaviors should be a high priority for Leicester.

Funding

Leicester currently has a property tax rate above average among Massachusetts municipalities and a relatively low-value property tax base. As a result, Leicester has limited funds to allocate towards open space and recreation and may have difficulty persuading its citizens to accept tax increases. This budgetary constraint influences the management constraints discussed above because the town may be unable to fund more staff to support park maintenance. Therefore, Leicester relies on residents to donate their time to creating the open spaces and parks they want in their community. Leicester has successfully sought grants to acquire open spaces and improve

its parks in the past and should continue to do so. Residents who want the town to invest more funding in parks and recreation could organize a campaign to educate their fellow citizens on Community Preservation Act funding and potentially bring this funding source to Leicester with a town vote.

Plan Implementation

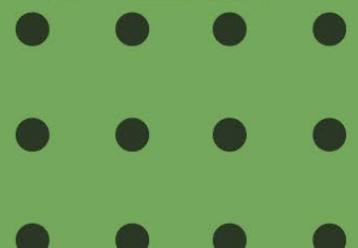
Going forward, Leicester will need to navigate competing town priorities that influence open space and recreation. For example, suppose Leicester sees much future development on parcels that have never been developed before. In that case, this could negatively impact the town by creating more impervious surfaces and stormwater runoff, fragmenting wildlife habitat, and eliminating natural open space. However, new development could also positively affect the town budget and the services that Leicester can provide. Leicester must balance growth with the protection of open space by encouraging sustainable growth, responsible construction practices, and development in village centers or reuse of existing structures.

Finally, Leicester needs an Open Space and Recreation Plan Implementation Committee to periodically follow up with responsible town committees on specific action plan items. This Committee could also evaluate the plan and adjust it over time in response to new town needs. This Committee would not have the day-to-day management responsibility of the Parks and Recreation Committee. Instead, it would focus on maintaining the OSRP action plan, building connections between the many town organizations that influence open space and recreation, and advocating for town decision-making aligned with the Open Space and Recreation Plan goals.



SECTION 8

GOALS & OBJECTIVES



SECTION 8: GOALS AND OBJECTIVES

The general goals identified in Chapter 6 were modified through the completion of the Open Space and Recreation Planning process and analysis to create the more comprehensive set of goals and objectives below.

Responsible entities and timelines are included in Section 9: Action Plan.

It is an overarching goal of this Open Space & Recreation Plan to increase public participation throughout the implementation process.

Goal 1: Protect open space and natural resources, particularly water resources.

Goal 1 was drawn from the 2015 plan. This goal is still essential for Leicester, given its residents' appreciation for the natural environment and its water supply challenges.

96% of 2021 OSRP survey respondents thought there is a need to protect Leicester's open space and recreation opportunities. 39.4% of surveys responded that "Water Quality" was Leicester's most important conservation issue, the most highly rated response to that survey question.

Goal 1 objectives include:

- A. Facilitate use of right of first refusal (CH61/A/B) and tax-title properties to protect various types of open space.
- B. Improve water quality at town-owned ponds.
- C. Preserve water quality town wide.
- D. Protect wildlife habitat including significant habitat, vernal pools, wetlands, and rare species.
- E. Preserve farmlands and forest lands.
- F. Promote low-impact development practices and encourage the permanent protection of ecologically valuable land from new development.

Goal 2: Provide and maintain recreational opportunities for people of all ages and abilities.

Goal 2 was inspired by the 2015 plan. However, the 2021 OSRPC added “for people of all ages and abilities” to the 2015 goal to emphasize that the town should consider Leicester’s full range of resident ages, interests, and physical capabilities when planning recreational opportunities.

Several survey responses noted ADA compliance problems across parks and open spaces in Leicester, as well as a lack of adequate bathrooms and a lack of sufficient parking, which can also limit who can use recreational facilities.

Goal 2 objectives include:

- A. Take advantage of recreational assets on Becker campus.
- B. Revitalize town parks, beginning with Hillcrest, Burncoat, Rochdale, and Towtaid to improve recreation opportunities.
- C. Provide for improved maintenance of Town recreational facilities.
- D. Enhance Leicester’s trail networks to provide access to parks and increase connections between parks and neighborhoods.
- E. Increase accessibility of town parks and open spaces for residents with physical disabilities.

Goal 3: Build a strong constituency of open space advocates through education and collaborative partnerships.

Goal 3 was inspired by the 2015 plan but edited in the 2021 plan to emphasize the importance of education and partnerships within and outside of town governance. Many different groups within town government influence local open space, as do external groups like land trusts. This goal was written in the hope of strengthening connections and collaboration between all these groups to accomplish other OSRP goals.

Goal 3 objectives include:

- A. Form a network of partnerships to support land protection efforts and the management and upkeep of public parks.
- B. Establish a continuous open space planning process.

Goal 4: Increase public participation in open space and recreation planning.

Survey respondents expressed dissatisfaction with the maintenance and facilities at many existing open spaces in Leicester. However, Leicester has no full-time staff to support its open spaces, relying instead on the all-volunteer Parks and Recreation Committee, the Town Highway Department, and occasional grants to maintain, improve, and provide programming at town open spaces. Given these resource constraints, Leicester should focus on broadening its volunteer base to support town parks. Parks and open spaces are community assets, but community members need to take responsibility for supporting parks and implementing the open space and recreation plan.

Goal 4 objectives include:

- A. Actively seek volunteer assistance.
- B. Engage students and schools as a resource.
- C. Increase awareness and use of recreational facilities and programs.

Goal 5: Identify appropriate resources to support the above goals.

As noted above, Leicester has limited funding for open space and recreation maintenance, improvements, and programming. The town also has many competing needs for town resources. This goal reflects that reality and encourages the town to continue identifying creative, alternative funding sources for open space and recreation improvements.

Goal 5 objectives include:

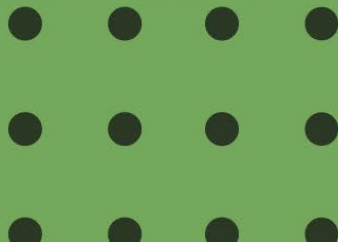
- A. Adopt the Community Preservation Act.
- B. Evaluate additional funding sources such as user fees and fundraising.
- C. Leverage funding toward meeting the town's goals through partnerships with local and regional land trusts and conservation organizations.

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SECTION 9

7 YEAR ACTION PLAN



SECTION 9: SEVEN-YEAR ACTION PLAN

This seven-year action plan outlines an action and proposed timetable for each open space and recreation goal and objective. Implementation of this Action plan is subject to the constraints of staff, volunteers, and town funding.

The actions should be reviewed at least annually, updated, and revaluated to ensure consistency with current goals and objectives. See **Map 10 - Action Plan Map**.

Key groups potentially responsible for implementing action items:

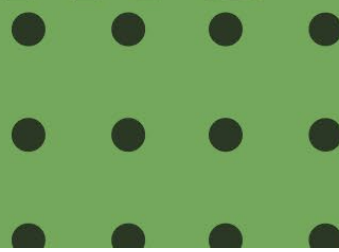
AG	Agricultural Commission
BC	By-Law Commission
BS	Board of Selectmen
BP	Burncoat Park Sports Committee
CC	Conservation Commission
CMRPC	Central Massachusetts Regional Planning Commission
DC	Disabilities Commission
HC	Historical Commission
HD	Highway Department
LT	Land Trusts
LA	Lake and Pond Associations
MS	Moose Hill Water Commission
OSRPIC	Open Space and Recreation Plan Implementation Committee
PB	Planning Board
PD	Police Department
PR	Parks and Recreation Committee
SD	School Department
TP	Town Planner
V	Volunteers
WD	Water Districts

[Placeholder for Action Plan]

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SECTION 10 PUBLIC COMMENTS

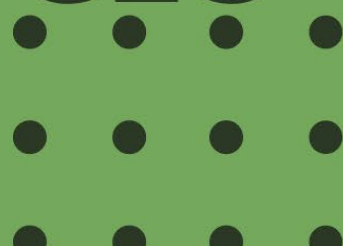


SECTION 10: PUBLIC COMMENTS

The Leicester 2021 Open Space and Recreation Plan draft was posted on the Town's website from December 1, 2021, until mid-February 2022, and the public was invited to email the Town Planner any comments. No comments were received on the draft. The draft was also circulated among town boards.



SECTION 11 REFERENCES



SECTION 11: REFERENCES

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