

TASK ONE - INTRODUCTION

The Shawsheen River Masterplan Committee hosted a virtual kickoff meeting on January 25th, 2022. The attendees included interested residents, stakeholders, and representatives from conservation organizations including AVIS, the Shawsheen River Watershed Association, Andover Trails, and the Merrimack Watershed Council. The goal of this meeting was to assess diverse aspects of the Shawsheen River, such as past and present use patterns for recreation and education, flood events and climate predictions, connections with the Shawsheen Village and the Historic Mill District, and existing information on the River's health.

The participants were divided into four different breakout groups for comment and information gathering purposes. Following the discussion, each group's facilitator reported back to the full group and recorded notes from the brainstorming sessions, which are synthesized in this document.

In addition to the feedback gathered during the kickoff meeting in January 2022, public comments have also been solicited from local organizations, town staff, and members from the community with specific expertise in these areas. These comments have been added to each section to provide additional background information about the Shawsheen River and its vital role in both the history and future of Andover.

Lastly, the concluding section of this document reflects public comments and feedback on the Shawsheen River Master Plan, which were passively collected through an online questionnaire shared with the community via flyers posted across Andover. The comments included in this section were submitted between August 15th, 2022 and August September 22nd, 2022.

RECREATIONAL & EDUCATIONAL BENEFITS PROVIDED BY THE SHAWSHEEN RIVER

Notes from Breakout Group One – Led by Paul Materazzo, Director of Planning and Land Use for the Town of Andover. “Assess the benefits provided by the River, including current use patterns for recreation, education, etc.”

- Expand accessible walking trails for all (attendees referenced the Town of Wakefield and the community's ability to walk on paved trails)
 - Consider paved trails along the River to enhance walkability for all. The community could then utilize these trails as a transportation network between business villages (MBTA stations) and neighborhoods
- Improve recreational access to the River for all - including accessible canoe and kayak launches
 - A Comprehensive list (of potential accessible River areas) has been provided by the Shawsheen River Watershed Association with suggested locations for targeted investments to improve safety and access (*This information is included later in this report*)
 - Investigate the ability to include additional furniture along the River such as benches, picnic tables, etc.

- Infuse art along the River corridor.
 - The Shawsheen River Watershed Association received an art grant but couldn't accept the award due to lack of identified ADA accessible trails along the river
- The Town of Andover is known for its great schools and downtown, but its exceptional natural resources and conservation areas are often overlooked
 - How does the Town celebrate these resources and help make Andover better known as an environmental destination?
- Improve boating entry points along the River, especially at the Shawsheen Pines River access location on Lowell Junction Road
 - Involve the Andover Commission on Disability in helping to identify accessible options
- Expand Town programming opportunities for large groups and schools to enjoy the River
 - Consider a boat rental program
 - Board/Kayak programs have been very successful.
- The River is an asset to the community – it provides a connection to neighboring communities via hiking trails and boating
- The River has been invisible to many people within the community
- Keep the River navigable
- Do not let the development of the Shawsheen River Master Plan hold up implementation of low hanging fruit
- Insurance/liability has been an issue with private organizations overseeing programming along the river – what can the Town do to help remove this barrier?
- Investigate the feasibility of pedestrian crossings over the River
- Inclusivity: provide opportunities for all to access and enjoy the River
- Strengthen the connection to the River in the Historic Mill District

Additional Comments by the Shawsheen River Watershed Association: Kayak and Canoe Landings; Proposed Accessible Put-Ins for the Shawsheen River

Proposed Accessible Put-ins for the Shawsheen River

There is great interest in making sure that the citizens of Andover who have disabilities can enjoy activities on or near the River. The goal is to improve opportunities for water-related

recreation for all, with an emphasis on accessibility for people with disabilities. This can include people with balance problems, seniors whose gait is not steady and eyesight dimming, and families with young ones.

Leaders should collaborate with the Andover Commission on Disabilities and other advisors to solicit advice to make these sites accessible for people with disabilities. Some of these sites are more appropriate than others as accessible put-ins and viewing/picnic sites.

Shawsheen Pines Reservation: Parking is limited now, but more improvements are planned. This access point is located at Shawsheen Pines, which is Town of Andover Conservation Commission land. Shawsheen Pines is a scenic park with picnic benches and kayak racks. Create a platform and ramp at the put in for safety for all paddlers entering the boats. The ramp could be perpendicular or parallel to the River.

Pine Cone Lane, a Proposed Put-In: Create a new put-in on Pine Cone Lane, a cul-de-sac very close to the river near Pole Hill Reservation. The location of the private property line and the Town property is unknown. This could be the ideal location for people with disabilities to enjoy the River.

Ballardvale Mill Pond: Parking available in a private lot alongside the river on weekends only. This is a very popular put-in area. There is an easy, scenic place to take-out just before the Ballardvale Dam, which is still intact and cannot be canoed. One can row upstream to a large, protected area and go into Tewksbury.

Abbot Bridge Drive: Room for six cars to park along Abbot Bridge Drive. However, there is a long narrow carry and an uneven trail. This stretch of river has about a 1/4 mile of quickwater and can be bumpy in low to moderate water levels. From Abbot Bridge Drive there is a trail through the woods to the river where kayak/canoe racks stand. Grade the path or replace it with a boardwalk and ramps so that people with handicaps can safely get to the river and use boats. Create a platform and ramp at the put-in for safety for all paddlers entering the boats. The ramp would face upstream and be parallel to the river. This ramp would be close to the racks, closer than the current put-in.

Sacred Heart Reservation: There is a very long walk from the parking area by Balmoral and a proposed put-in by the oxbow. The bank is low and suitable for a put-in and there is room for viewing areas with benches and amenities. There is a large paved accessible walking area in the adjoining field. This is a good site for learning to paddle since there are many impediments to paddling a long distance in either direction. Currently, it is not being used for kayak/canoe since the distance from the parking lot makes it very difficult to portage from the car. It would be ideal if two kayak/canoe racks were placed by the river. Additionally, create a platform and ramp at the put-in for safety for all paddlers entering the boats. The ramp would face upstream and be parallel to the river. This ramp would be close to the racks. Grade the path or replace it with a boardwalk and ramps so that handicapped people can safely get to the river and even use boats. This project would be guided by advice from Alice Friedenson, Bob Rauseo, Ken Doran and other Riverkeepers of the Shawsheen River Watershed Association.

The Andover Conservation Commission has plans to develop two sites to be made more accessible. Plans have been drafted for both of these sites, and a portion of the money needed for each project has been appropriated.

The first site is known as Castle Park Reservation, located next to the Atria Marland Place Assisted Living Facility off of Stevens Street.

The second site is known as Dale Street. At the end of Dale Street (a dirt road), there is room for up to ten cars to park. This location is **only** suitable for a wheelchair-accessible picnic area, as there is a steep entry to the River at this site. Adjacent to the access point, there is a 2-mile-long hiking trail that runs along the River from Ballardvale to AVIS's Shawsheen Reservation. A future bridge to connect opposite riverbanks is envisioned for the area.

Unlike the situation with the Merrimack River, where all parcels along the riverbank except one parcel are protected by Conservation organizations, much of the Shawsheen River land is owned by numerous different private owners. However, a considerable amount of land is still owned by the Town under the care and custody of the Conservation Commission, or by AVIS.

More Recreational Opportunities

Strengthen the connection to the Shawsheen River in the Historic Mill District.

Consider paved trails along the river to enhance walkability for all. Utilize these connections as a transportation network between business villages (MBTA stations) and the neighborhoods.

Connecting with Art Along the Shawsheen River

There should be permanent artwork including sculpture along the River to enhance connection with this stunning waterway. For example, local artists created artwork and art installations on AVIS's reservations to celebrate the 125th anniversary of the land trust in 2019.

Additional Comments by Robert Douglas, Director of the Conservation Division for the Town of Andover

Canoe and Kayak Launches

There are several existing kayak launch sites along the river. The Conservation Commission has approved the installation of a 10-foot by 10-foot canoe/kayak rack, clearing of invasive plant species, and the stabilization of the riverbank at Burnham Oxbow / Sacred Heart Reservation.

In addition, the Commission has authorized additional racks to be constructed at Shawsheen Pines and Abbot Bridge Drive Reservations. Boat launches at Shawsheen Pines (Lowell Junction Road) and Nason's Landing (River Street) have been the subject of studies by an engineering firm for establishing a fully ADA Compliant canoe/kayak launch.

Additional Comments by Andover Trails Committee, LLC: Andover Trails' Vision for the Recreational Use of the Shawsheen River in Andover

Andover Trails Vision for the Recreational Use of the Shawsheen River in Andover

BIG PICTURE

The River and its corridor are vital recreational, cultural, natural, and educational resources for our entire community and region. They provide land and water trails, access points for nature viewing, paddling, fishing, and passive recreation, while promoting economic and conservation values of the adjacent lands. They link the community to its past, neighboring communities, and provide residents with valued, quality, close-to-home outdoor recreational opportunities. Town-owned properties must set a high standard for recreational access and stewardship and complement those of AVIS and neighboring towns.

VISION

The River and its natural corridor provide paddlers, hikers, fishers, and birders close-to-home high quality recreational opportunities. The ecological health of the river must be maintained to sustain its essential values to the community. The River is one of the great assets of our community and deserves investment from the Town to ensure access to the resources and their protection. It also has a clear connection to the soon-to-be-redeveloped Historic Mill District and is an attractive asset for additional park lands adjacent to commercial development.

What will be needed to meet this vision?

In the short term:

1. Ensure safe access to the River from all existing put-in sites. While volunteers can assist in this effort, we believe that this primarily should be a Town responsibility and that necessary budgetary funds should be allocated for this purpose.
2. Maintain safe and un-obstructed paddling. Establish a framework that allows volunteers to clear fallen trees and other obstacles with Town authorization.
3. To introduce new people, particularly families, to the River, there should be opportunities for people who do not own their own canoes or kayaks to get out on the River with rental boats. In partnership and with appropriate Town approval and support, Andover Trails is willing to sponsor a limited number of events during the paddling season when people can use Andover Trails' boats and safety equipment at no cost and receive a basic introduction to paddling and exposure to the River and its values.
4. Signage should be posted at all road crossings and public launch sites to direct people to the best sites for paddlers, for fishers and for birders. This information also should be included on the Town's website, Andover Trail's website, and the websites of other recreational advocates.
5. Encourage those using the River to observe and report on issues they observe concerning water quality and water quantity. A website could be created to report this information.

In the longer term:

1. Build hiking trails along as much of the River as possible.
2. Develop a small number of additional put-in sites to accommodate the increasing demand, with some geared towards more experienced paddlers and others towards beginner paddlers including those with mobility issues.

3. Create a waterfront park, including a boat launch, at Dale Street and near the Historic Mill District. In conjunction with this, open up for paddling the stretch of river between Central St. and the HMD and/or between the HMD and Stevens St.
4. Establish a Town-run canoe/kayak rental program. It could start out as a one-day per week program. For example, every Sunday afternoon during the summer season at Shawsheen Pines would be a good start. Andover Trails strongly recommends not bringing in a commercial outfitter.
5. Build an accessible fishing dock at an appropriate place along the River.
6. Consider whether to create a continuous passage for paddlers through the full length of the River in Andover.
7. Organize and coordinate a team of volunteers who could assist with all the above.
8. Work with neighboring towns/cities to create a region-wide approach to the recreational use of the River.

Additional Comments by Melanie Cutler, Andover High School Environmental Sustainability Teacher

- AHS AP Environmental Science students use the River to practice water quality testing skills
- AHS AP Environmental Science classes participate in the yearly herring counts under the direction of Dr. Jon Honea
- Five different AHS Environmental Sustainability Internship Course interns have worked over the years to take and analyze water samples from the River studying the impact of road salt on water quality
- One AHS Environmental Sustainability Internship Course intern is currently working with Dr. Honea on studying the breeding of river herring in the Shawsheen
- AHS AP Environmental Science students use the dam removal project on the Shawsheen River as a case study and classes have walked to the river to observe the conditions before and after dam removal. AP environmental Sustainability students were also able to observe the dam removal in progress in 2016
- AHS Cross Country team runs along the river in the AVIS reservation
- Shawsheen River is used in the Environmental Science classes as an example of exceeding the Clean Water Act's TMDL standard for bacteria
- Environmental Science classes have used areas along the Shawsheen River to study biodiversity in our local environment.

Massachusetts Educational Award to the Andover Animal Advocates

In March 2022 the Andover Animal Advocates, from the Destination Imagination program at Andover High School, were highly commended by the Massachusetts Association of Conservation Commissioners for their studies to learn and to protect endangered species in the

vicinity of the Shawsheen River. In addition, the seven young scientists launched their political campaign to advocate for the Blue Spotted Salamander as The Massachusetts State Amphibian. Andover High School Senior Diya Ganesh is continuing the Advocate's work on endangered species and is drafting a section of the Shawsheen River Master Plan related to the importance of the River to their protection.

Educational Opportunities for Citizen Scientists for the Herring Count

Townsppeople of all ages are invited to count the river herring that come upstream to spawn each spring now that the Stevens Street Dam and the Balmoral Dam have been taken down in the winter of 2016-2017. The river herring swim from the Gulf of Maine, up the Merrimack River to the Shawsheen River to return to spawn where they were born. The count is under the direction of Dr. Jon Honea, a biology professor and Andover Conservation Commissioner.

FLOODING AND CLIMATE CHANGE

Notes from Breakout Group Two – Led by Joyce Losick-Yang, Sustainability Coordinator for the Town of Andover: “Detail Risks Associated with Current/past Flood Events and Future Climate Projections”

INTRODUCTIONS: Breakout room attendees consisted of community members from AVIS, Conservation Commission and residents who have dealt with Shawsheen River flooding. All attendees felt that this section of the Shawsheen Master Plan was important given Andover's history of flood damages.

UPDATES: Sustainability coordinator updated attendees on the Town's MVP project and the Town's intent to update the local hazard mitigation plan with climate hazard information.

Master Plan Scope Feedback

- There was a request that the Town consider developed parcels in addition to conserved open space in terms of flood mitigation projects
- There was a request to broaden regional dialogues. Specifically, attendees discussed that climate resilience planning efforts should involve not only the City of Lawrence downstream of the River, but communities that are upstream such as Tewksbury and Wilmington. There was concern that even if Andover added the necessary flood storage capacity it would be insufficient to reduce flooding if communities upstream did not also take action
- There was a request to consider the impacts from River tributaries such as Hussey Brook and Rogers Brook

Data Sets

Attendees strongly recommended that the communication with the public include easy to understand maps that depicted the projected reaches of flood waters due to climate change

Other Concerns

There was a request to discuss the feasibility of removing the last dam on the River in this section of the Master Plan, and any consequences anticipated in terms of climate resilience.

Notes Provided by Facilitator Joyce Losick-Yang

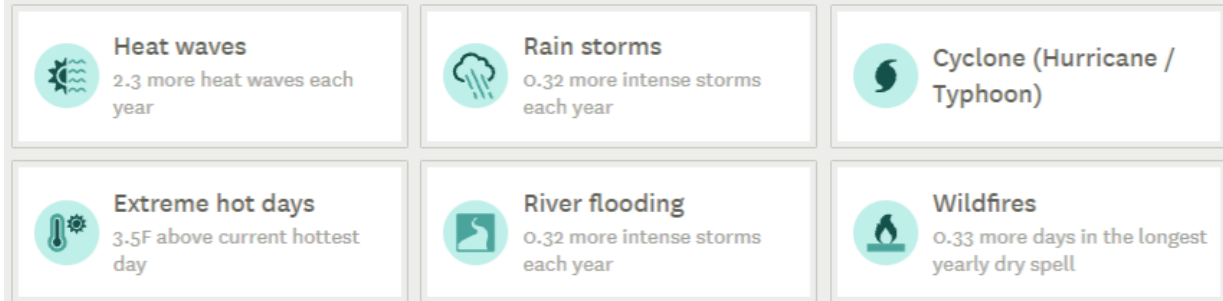
- Two major flooding events in the last 20 years (2006 and 2010); properties along the River have had repetitive flood loss claims
- Community Resilience Workshop held in 2018/2019 to look at climate risks; acquiring land around Shawsheen for restoration and flood storage was identified as top priority
- Town to initiate the update to the local hazard mitigation plan sometime in 2023. The last plan was done in 2015, and has now expired
- Town has an active Shawsheen Municipal Vulnerability Preparedness grant looking at which parcels to acquire for flood protection. A hydrology study is anticipated to be the next phase of the work
- Washington Park Condo has an active flood planning committee and has supported private Warrant Articles successfully through two past Town Meetings for a US Geological Survey river gauge that provides real time monitoring of the Shawsheen to enable good decision making around potential floods and evacuations

Additional Comments by Joyce Losick-Yang, Sustainability Coordinator for the Town of Andover: Flood Risks and Climate Impacts

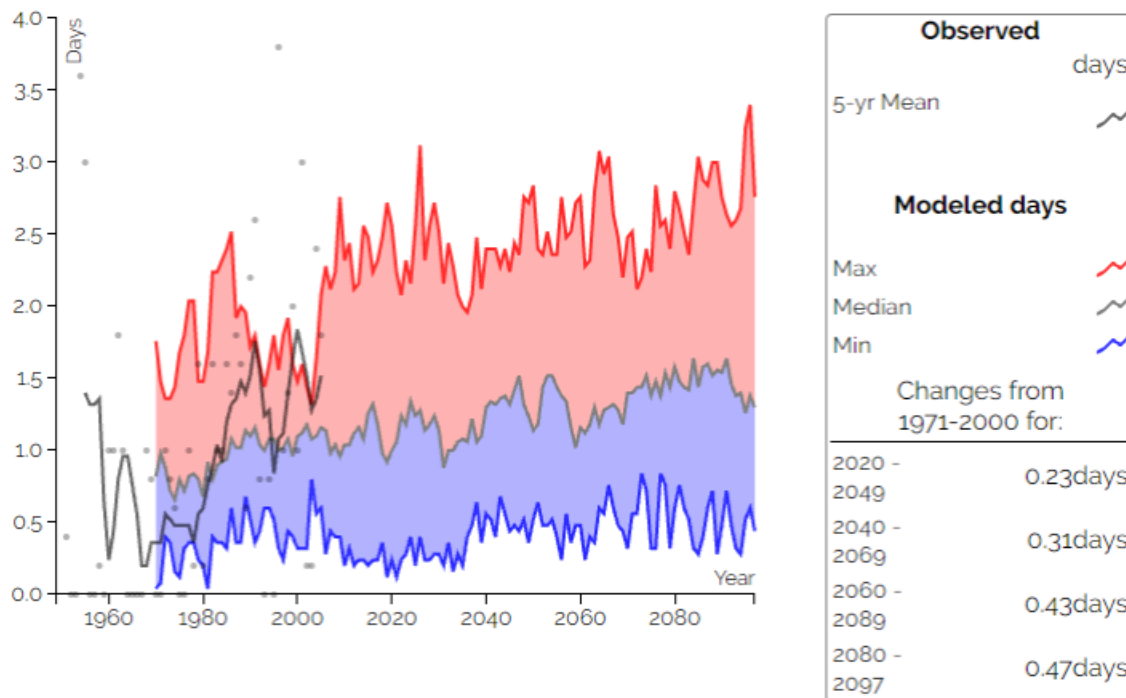
As a part of Andover's FY22 Municipal Vulnerability Preparedness (MVP) Action Grant Project, *Shawsheen River Watershed Land Conservation Planning Prioritization for Climate Resilience and Environmental Justice*, Town of Andover and the Fuss & O'Neill Project Team used a variety of tools to identify the top climate impacts. Increased temperature and precipitation were identified as the primary impacts, with heat waves, intense storms, flooding, and (to a lesser extent) wildfires noted as associated secondary impacts using the ICLEI USA's *Temperate* adaptation planner tool.

Top hazards

All calculations shown on the Hazards use the average of the projections for the years 2025-2035. Select individual indicators to see more projections.

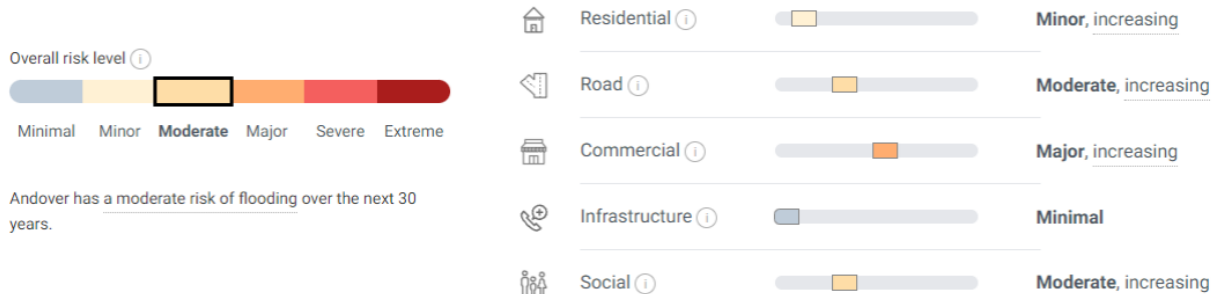


With concerns related to increased flooding and intense rainstorms being of particular concern, impacts from increased precipitation were further explored using the following resource: The Commonwealth of Massachusetts’s Executive Office of Energy and Environmental Affairs (EEA) Resilient MA Climate Data Grapher. Estimates from the Resilient MA Climate Data Grapher showed annual days with precipitation greater than 2 inches are also projected to increase in Andover by 23%



According to the First Street *Flood Factor* tool, these conditions are likely to help generate a moderate risk of flooding over the next 30 years in Andover. It is estimated that 265 properties will have a greater than 26% chance of being severely affected by flooding over the next 30 years. Specifically, 209 out of 1,906 homes analyzed using the *Flood Factor* model will have a risk of flooding, along with 41 out of 97 businesses, and 7 out of 30 schools, houses of worship,

museums, and government and/or historic buildings. 14 out of the 58 miles of roads analyzed are also at risk of becoming impassable due to flooding. This was especially true for many areas located along the Shawsheen River.



Following the analysis of climate data, goals for addressing climate adaptation via land acquisition were established based on the results of the analysis and information from the Town’s 2019 Community Resilience Building Workshop report. These core goals are further broken down into an initial set of more targeted goals that may be refined as the evaluation of parcels progresses. These goals include:

- Reduce vulnerability to flooding and intense rainstorms by increasing the capacity for flood storage and mitigation through nature-based restoration and active management, especially in areas with vulnerable populations and community assets (including those downstream)
- Strengthen connectivity and accessibility of open space and preserved land by expanding and creating linkages to existing trails, recreation opportunities, and conservation areas
- Educate the local community by creating demonstration areas that highlight the value of acquiring open space, protecting the local watershed, and adapting to a changing climate.

HISTORY OF THE SHAWSHEEN RIVER

Notes from Breakout Group Three – Led by Mike Lindstrom, Deputy Town Manager for the Town of Andover: “Describe connections with the Historic Mill District and Shawsheen Village Neighborhood”

- Partner with Andover Center for History and Culture and Andover Trails
- Gather historical context of early settlers prior to the Industrial Revolution
- History should not just be an appendix in the back of a book, we need to tie it to the future. History will help tell the story of what we need to bring the River back to prominence and support overall well-being of residents
- Utilize history to advance projects on the river similar to the process of the Historic Mill District

- Use the momentum created by the Historic Mill District to expand opportunities showcasing the River
- Rebuild community connections through history
- History of the Ballardvale Dam is tied into the discussion of its removal. Tie resiliency and history together
- Can history and resiliency sometimes be in conflict? For example, the historic channels and walls may be in conflict with climate change goals
- Understand how the path of the River has changed over time and the associated impacts
- Celebrate the philanthropic history of the River
- Use history to acquaint residents about the River. Many do not know its significance. Then they will become advocates and users
- Use historical markers as branding along the river celebrating its history similar to the ways Newburyport and Amesbury do on the Merrimack River
- Explore regional partnerships in celebrating history of the River
- Use QR signs to link to information about important events
- Signage for the sites and historical markers are necessary plus kiosks can tell the River stories

Additional Comments by Paul Materazzo, Director of Planning and Land Use Division for the Town of Andover: The Historic Mill District

The Historic Mill District is a zoning overlay district within the Town which includes almost 100 acres of land, for which extensive planning and placemaking studies have been undertaken by the Town. The purpose of this overlay zone is “to encourage smart growth, and to foster a range of housing opportunities within mixed-use development projects, to be proposed in a distinctive and attractive site development program that promotes compact design, preservation of open space, and a variety of transportation options, including enhanced pedestrian access to employment and nearby transportation systems.” Other objectives of the HMD Overlay Zoning District can be found in Section 8.7.1 of the Town’s Zoning Ordinance.

The Old Town Yard is centrally located within the HMD, with adjacencies to important assets within the Town. In addition to the immediate adjacency to the MBTA Commuter Rail station and track, the site sits at the central point within the Historic Mill District (described in more detail in c., below). The River is less than a 5-minute walk to the West from the Town Yard site.

The river supports activities including kayaking, fishing, and various nature trails. A 5-minute walk to the East brings one to Main Street. Main Street is Andover's downtown, home to a number of retail stores and restaurants, as well as Memorial Hall Library and other amenities.

Additional Comments by Gail Ralston, Researcher and Member of the Andover Historical Society: The Shawsheen River in Andover

The **Shawsheen River** is a tributary of the [Merrimack River](#) in northeast [Massachusetts](#) where it is bordered by the Merrimack, Ipswich, Charles, and Concord Rivers as well as Boston Harbor. According to legend, the name "Shawsheen" is actually a Native American word, meaning "serpent" or "serpentine," which refers back to the meandering nature of the river. The river was given the name "Shawshin" by the General Court of Massachusetts on May, 1644. According to Bailey's history of Andover, the spelling Shawshin was the most common in the old records, although Shawe Shynn, Shawshine, Shashin, Shashine, Shashene and Shawshene were also used. The name, says Bailey, is said to mean "Great Spring." Another translation is "Beauty's Pathway." And still, in *The Wheelman* of September 1883, it asserts that "tradition seekers translate it into 'Lovers' Path."

The 25-mile river runs generally northward through the towns of Bedford, Billerica, Tewksbury, Andover and Lawrence, where it meets up with the Merrimack. The Shawsheen Watershed includes approximately 60 miles of named streams and encompasses a drainage area of 78 square miles. About 4.5% of the watershed is covered by wetland or open waters. The mainstem channel depth ranges between one half and five feet.

In Andover, the river is impounded by one dam at Ballardvale Village. The other two dams – one at Stevens Street (Marland Place Dam) and the second (the Balmoral Dam) in Shawsheen Village were removed over the winter of 2016-2017. The watershed includes 20 lakes, ponds or impoundments, almost half of which are in Andover. Andover is considered to be in the "Lower Shawsheen River Basin." Like its parent, the River has played an important role in the development of the area, including industrial development, with many mills built to take advantage of the river's power. Today there are trails and parks located along several sections of the river and preservation efforts carried out by the Shawsheen River Watershed Association.

Additional Comments by Alix Driscoll, Andover Conservation Commission Member: A Bridge Over "Beauty's Pathway" Meets Many Needs

Many hundreds of years ago the Indigenous People named the Shawsheen River "Beauty's Pathway;" here is how a bridge over the river meets crucial needs today.

Safety

Crossing lower Central Street to get onto the important trail system of Town and AVIS lands is extremely dangerous for everyone. Cars barrel down Central Street going west and speed up coming out of the Abbot Street Bridge (Horn Bridge) with dangerous site lines for both drivers and pedestrians. The pedestrian sidewalk is on the north, the wrong side of the bridge and extremely narrow. Danger is always present. It is accessible to no-one. The danger of crossing

onto the river trail system is made greater presently by the use of extra-wide SUs mounted on truck chassis. The current car bridge is historic and cannot be widened. The present danger requires a pedestrian crossing in another place, further to the east. A bridge is needed in this area right away.

The Proposal

The proposal is to build a wooden bridge connecting Town-owned land at the corner of Abbot Bridge Drive, across a narrow part of the river to the AVIS-owned Shawsheen Reservation and reservations to the south. The River is narrow and calm there. Although the hill on the eastern, town-owned land is somewhat steep a switchback or two with appropriate foundation and appropriate surface would work. It makes the crossing to the amenities of the Historic Mill District to the north and to the extensive trail system into Ballardvale and to Pomp's Pond possible. The Shawsheen Riverkeepers suggest this would be a suitable place for a put-in spot. There is adequate parking on Abbot Bridge Drive and a kiosk is in place.

ADA Compliance Is Required

The bridge itself should be built and shipped to the site. The crossing surface would need to be suitable for ADA compliance. A footing on both sides would be required. The pathway to the eastern footing would need to be built with required materials for accessibility to persons with disabilities and associated railings. It should be wood with epoxy for more strength and tradition. Photographs and specs are available. Kayaks for people with disabilities could be designated in the racks on the honor system. The Andover Commission on Disabilities shares that one-fourth of townspeople, about 9,000 people, have disabilities, some visible and others unseen. The Shawsheen River Watershed Association organization suggests that the river is calm with suitable flat land for an ADA put-in.

- **Guardrails** protect people from drop-offs higher than 30 inches (760 millimeters). Guardrails must be at least 42 inches (1,065 millimeters) high. If the guardrail has openings that are less than 34 inches (865 millimeters) above the walking surface, they must be small enough to prevent a 4-inch (100-millimeter) sphere from passing through them (figure 15). Requirements for guardrails are detailed in the International Building Code, section 1003.2.12. Figure 15— Dimensions required for guardrails.
- **Handrails** provide a steady support for persons who are going up or down stairs or inclines. Handrails must be between 34 inches (865 millimeters) and 38 inches (965 millimeters) above the walking surface and be easy to grip. The walking surface is well-detailed in town building regulations.

Enhancing Connections Between Communities: the case for a safe pedestrian bridge across the Shawsheen River

The Bay Circuit Trail

Seven miles of the important Bay Circuit Trail transect the Town of Andover. At the very same area of the bridge proposal at Lupine Road, Central Street and Reservation Road, the Bay Circuit Trail takes a hiker through the Purdon Reservation and Phillips Academy to the east and West Parish Meadow to the west. As stated on the Andover Trails website: "Formerly incorporated in 1992, the Bay Circuit Alliance has helped establish 180 miles of public trail in over 30 towns. As

a greenway project, over 4,000 acres of additional open space has been protected along the Bay Circuit corridor.”

Historic Mill District

In the future, riverfront connections are planned for joining with the **Historic Mill District** to the north in town. AVIS and the Andover Conservation Commission have created a network to the Pomp’s Pond recreation network. The western end of the bridge invites hikers to **AVIS’s Shawsheen Reservation and Vale Reservation** leading to the **Town’s Dale Reservation** plus Foster’s Pond and Foster’s Island sites.

A Bridge over “Beauty’s Pathway” Must be Beautiful

A wooden bridge over “Beauty’s Pathway” must celebrate the singularity of the River, its rare meadow, its newly liberated herring run and connections with the gunpowder mill downstream that gave the Colonists freedom, and now safe connections with each other.

RIVER HEALTH AND WATER QUALITY

Notes from Breakout Group Four – Led by Benjamin Meade, Conservation Agent for the Town of Andover. “Summarize existing information on the River’s health and water quality including information on recent dam removals, remaining restrictions, known status of fisheries and wildlife, etc.”

The following were points raised by participants of Group Four during discussion:

- Health of the River and water quality
- Well thought out access points
- Impact of dam removal
 - What can we do to have the Ballardvale Dam removed?
- Recreational paddles
- Nonpoint source pollution
- Safe passage for boaters
- More people wanted paths around the River
- Looking at ecological health of the Merrimack watershed
- Recreational access
- River evolution – how the channel may change over time
- Increase accessibility to the river – and improvements along the river – to increase overall use

Group Suggestions

1. Remove Ballardvale Dam
2. Improve River access with walking paths and other recreational amenities
3. Improve health of the River
4. Restoration of the wildlife populations affected
5. Restore populations of freshwater mussels
6. Tackle the challenge of nonpoint source pollution
7. Reduce upstream issues, acknowledging the urbanized watershed

Additional Comments by John Honea, Andover Conservation Commission Member

The Shawsheen River volunteer river herring count was initiated in the spring of 2017 to monitor the recovery of migratory river herring following the removal of the Balmoral and Marland Place dams just a few months earlier. The count continues to be managed by Conservation Commissioner Jon Honea who is also a professor of ecology at Emerson College and is supported by many Town organizations and individuals, including the Conservation Department, Andover Trails, AVIS, and the Native Fish Coalition. Each spring hundreds of volunteers, including students from Andover High and Lawrence Greater Technical School count river herring as they migrate upstream from the ocean to spawn in their native habitat in the Shawsheen River. Count data are sent to the Massachusetts Division of Marine Fisheries which uses the data to estimate the number of river herring spawning above the count location at the footbridge linking Atria Senior Living with Powdermill Square. In the first years, the population size was about 1,000 spawners, but has grown to over 2,500 spawners as the offspring of the first years are now maturing and returning to their natal stream to spawn. There was great community support for creating walking trails along the river for all to learn and to enjoy its beauty.

PRIVATE LAND TRUST OWNERSHIP ALONG THE SHAWSHEEN RIVER

Additional Comments by John Hess, President of AVIS and Susan Stott, AVIS Trustee and Member of the Town of Andover Open Space Task Force: Riverside Land Owned by the Andover Village Improvement Society (AVIS)

AVIS Reservations along the Shawsheen River.

Lupine Rd Reservation

Area about 1.2 acres and about 550 feet of River frontage.

- No kayak/canoe launch
- Lots of work on invasive removal

Mansour Reservation

Area less than one acre, about 160 feet of River frontage.

- Town conservation land extensive on other side of River

Sanborn Reservation

Area about 16.2 acres and river frontage about 2500 feet, much of it in the floodplain.

- A few miles of trails, enormous biodiversity, with 30 species of butterflies and 6 species of turtles, plus a certified vernal pool
- Good stopping point, but the River is too far from parking area to be convenient for cartop boat launching

Shawsheen River Reservation

Area almost 40 acres and about 4650 linear feet of River.

- frontage along the west side of the River, some in floodplain; Town conservation land runs along the east side of the River
- Town has canoe/kayak launch across the River from this reservation

Vale Reservation

Area about 47 acres and river frontage about 4400 linear feet, much of it floodplain.

- Town has canoe/kayak launch on Town conservation land just upstream from this Reservation.

Shawsheen Rd Reservation

Area about 1.5 acres, with approximately 355 linear feet of riverfront.

- Short loop trail on this reservation, good opportunity to obtain easements downstream to Stevens St. and create trail along 1100 feet of riverfront; poor access for boat launch

ADDITIONAL COMMUNITY INPUT GATHERED VIA QUESTIONNAIRE

To capture additional community input on the Shawsheen River Master Plan beyond the Town website and kickoff meetings, an online questionnaire was created to solicit additional feedback, ideas, and general comments. Flyers containing a scannable QR code and hyperlink to the survey were posted across Andover, including at all major boat put-ins along the River. All responses submitted between August 15th, 2022 and September 22nd, 2022 are included below, but the questionnaire will remain live throughout the entire Shawsheen River Master Plan process to incorporate as much community input as possible.

Survey Questions and Responses

1. How do you currently engage with the Shawsheen River?

- Fishing – 26% of respondents
- Boating (including kayaking and canoeing) – 58% of respondents
- Swimming – 0% of respondents
- Wildlife Observation – 47% of respondents
- I don't current spend much time near the Shawsheen River – 0% of respondents
- Other – 58% of respondents

2. If “Other,” please share details about how you engage with the Shawsheen River below:

“photography”

“Mountain biking”

“I regularly walk along the Shawsheen on the AVIS trail.”

“Hiking near”

“Annually, I run seven two-hour monthly paddles on the Shawsheen, anywhere between Bedford and Lawrence, including two or three beginning in Andover, above or below the Ballardvale Dam. I also enjoy the Shawsheen kayaking it without group commitments.”

“I live on it.”

“Love walking along the River looking at the ruins of old mills etc (where accessible). I live on the river near Joyce Terrace so I enjoy picnicking as well”

“My home is located within a few feet of the Shawsheen River so I observe its wildlife and beauty every day. I frequently walk the Vale and Claus Dengler trails in Ballardvale and thoroughly enjoy the River in those areas.”

“Checking to see if the water level is rising too high.”

“Hiking along the river.”

“I live across the street from it”

3. Currently, where is your favorite place along the Shawsheen River and what do you like to do there? This could be a trailhead, canoe launch, birding spot, etc.

“Serios, Lighting tree, Ballardvale flats”

“Along the riverbanks in the Sanborn Reservation (AVIS) and the Lighting Tree Reservation (Andover Conservation). A beautiful setting with lots of wildlife!!”

“Below the Central street dam has great potential for whitewater boating. Extending the Vis trail that runs along the river and ends at the dam would be excellent, perhaps connecting with the trails near Pomp’s Pond and Foster’s Island.”

“I really enjoy kayaking up the Shawsheen from the Horn Bridge. I go as far as I can depending on the water level and obstruction due to fallen trees.”

“Shawshank River Herring Count”

“The Vale Reservation, and the herring count”

“The Tewksbury Knights of Columbus river access has good parking, is easy to find by a main road, short carry-in, and beautiful sections of the Shawsheen in both directions, although towards Andover there are some shallow spots.”

“Shawsheen Pines”

“Powder Mill / Joyce Terrace”

“My home is my favorite place along the Shawsheen River. I sit at my dining table or on my deck and watch whatever is happening at that moment. I think it's one of the loveliest spots in Andover.”

“Kayaking between the center street put-in and the Ballardvale dam, as well as from a over the dam to the Shawsheen pines.”

“Where Central Street approaches the railroad bridge.”

“The AVIS reservation woods near the BallardVale train station, then up to Center Street. Pomp's Pond is also lovely, but the lack of a full circuit around the pond makes it less interesting to hike.”

“Behind Washington park condominiums and behind condos on Stevens street (Powder Mill) The Shawsheen River flows in my back yard (North Main Street north of Washington Apartments). I have lived next to the river now going on 40 years. I see the river every day all year and have seen steady water quality and wildlife improvement. The Shawsheen River is a year-round wildlife corridor for many species of fish, birds and mammals. Water levels have dropped 1.5' since removing the Stevens Street dam. Still, I see mink, beaver, muskrat, white tailed deer, coyote, fisher and occasionally river otter and grey fox in or around the river. Resident (breeding) red tail hawks, kingfisher, wood ducks and pileated woodpeckers are among bird species in the woodlot extending behind Stop and Shop and down to the Balmoral soccer field and track. The Shawsheen River masterplan should consider prioritizing the watershed as a home for wildlife”

“Sacred Heart/Shawsheen field has been used by my family since we moved to Andover in 1973....mostly dog and people walking. We enjoyed the wonderful sense of peace and open space of this largely undeveloped place especially when we lived on North Main St. Not so happy with the ugly (not one but two) playground equipment areas, goofy signage, trash and portapotties from increased sports use...but thanks for moving the potties away from the river's edge.”

4. What recreational opportunities would you like to see along the Shawsheen River?

“Kayak / canoe rentals like they have on the Charles River in Kendall square, metal detecting for artifacts near old mills and rail trails”

“I am OK with the activities currently available”

“None. I love that the river is largely clean and natural.”

“Trails for hiking.”

“I’m mostly interested in learning how projects will impact my neighborhood.”

“Fishing. Canoeing swimming walking trails. ESPECIALLY WALKING TRAILS.”

“With dams out, the depth of the river has dropped. This has made the river water even warmer. I have measured summer water temperatures in the upper 70's. No trout or cold-water species can survive in this. Warm water holds less oxygen. Bass and sunfish are more tolerant of low oxygen all year and their presence in the river feeds several seasonal fish-eating birds. I suggest the town look at fast water sections that might benefit from structures designed to aerate the river water and improve local aquatic life diversity.”

“I like to see people using kayaks in the water. I also love waterfowl, and seeing beaver dams.”

“there are plenty of opportunities already, let's try not to love it to death”

5. What amenities do you feel are missing along the Shawsheen River?

“Wildlife observation platform at Lightning tree and Ballardvale Flats near River Street”

“Some more well-known and safe boat launch locations.”

“Access points; addition riverside retail/restaurants near downtown”

“I haven’t explored the river except between Central St and Ballardvale. I don’t know what other opportunities there are.”

“I need easy parking”

“A few Educational plaques”

“Safe access points with sufficient parking. Composting outhouse.”

“Access points with safe swimmer-based water entry and parking”

“a more connected walking / running / biking path”

“Trash containers near trail heads.”

“Flood control and repairs of river walls”

“Walking trails with signs regarding wildlife. I.e., “along this area one might see - _____ birds or _____ animals. Or signs re nature for example types of trees or bushes.”

“Hard to answer this one. I believe the river first and foremost is here to serve the watershed and wildlife. People already have an abundance of hiking trails in Andover and surrounding towns thanks to AVIS, Harold Parker, Trustees of Reservations, etc. More human amenities that risk interfering with the watershed and wildlife are not in nature's or the Shawsheen River's best interests.”

“More benches to just sit and take it all in”

6. What infrastructure is missing or needs improvement along the Shawsheen River?

“More parking at River Street”

“Boat launches, low bridge near Atria, ability to control water releases to allow more frequent whitewater boating below Central St. Remove fencing and allow access at Shawsheen parks”

“Has consideration been given to removing the dam at Ballardvale? It seems like it is no longer necessary, but I don't know what the impact would be if it was taken out.”

“Parking”

“Where the dams were taken out, a safe channel, and a solution for the too-low footbridge.”

“Docks, parking, signage/awareness, boat sharing or renting”

“A safer access is needed to enter the Claus Dengler Trail near the Horn Bridge aka Abbot Bridge. Currently, one has to park on Abbot Bridge Drive and cross Central Street twice in order to reach the trail. Drivers turning from Andover Street onto Central Street have an obstructed view of pedestrians crossing which creates a hazardous situation.”

“None.”

“A wooden walking bridge over the river to connect the Pomp's Pond area with the AVIS reservation, again, near Ballardvale.”

“Flood control. I do not think we should be investing in anything recreation until we make the river safer for our community and our properties ”

“Clearing of area to make paths/ trails.”

“Perhaps more aeration to the benefit of aquatic life forms. See #4 above. I remember hearing from Andover residents growing up before WW II that they used to clear a channel from Pomp’s Pond into the Shawsheen River in Ballardvale. They insisted this water flow was good for pond water clarity and quality as well as making good passage of migrating ocean species such as the American eel and river herring into this (spring fed?) pond. Worth looking into this?”

7. How would you like to see accessibility and inclusivity be incorporated into the Shawsheen River Master Plan?

“There should be an opportunity for everyone to have access to enjoy the Shawsheen.”

“Increased awareness and infrastructure for Shawsheen River access for everybody.”

“... free or low cost boat and bike rentals. More access locations . Remove public and private barriers along the river corridor.”

“A few more trails would be nice”

“You don't have to be disabled to desire a handicap accessible dock. Getting in and out of the kayak is the most challenging part of paddling; the time most not-planned-for baptisms occur.”

“Funding for advertisement, seasonal docks”

“I like the suggestion of making the River accessible from the Pomp’s Pond area. I think the suggestion of making it more accessible on River Street is not a good idea. It may be one of the busiest streets in Andover and at times traffic is backed up more than a 1/2 mile. In recent years, River Street has become a commuter and truck route including tractor trailers.”

“It isn’t something I had considered.”

“This should not be a first priority. Flood control and damage impact to properties should be primary concern. The river runs wild every few years creates property damage in specific town areas”

“...Signage perhaps. Along with advertisement about accessibility and inclusivity. Use MHL for educational programs.”

“Where the river has already been contained by stone walls (below Stevens Street to the plaza), better public access and signage might be helpful. Remember that trees provide shade and safety for aquatic species. Shade also helps protect water from summer sun and excess heat. Any accessibility "improvements" should take tree cover and resultant water/wildlife benefits into account.”

“Not sure, I think this answer is best answered by someone other than an old white lady who's still able to walk quite well”

“Make it safe. One Sacred heart/Shawsheen playground abuts a fence gate directly above steep river slope. Gate has also been left open or improperly chained leaving a gap large enough for a small child to go through directly into the river.”

8. Is there a specific place along the Shawsheen River that you noticed is particularly susceptible to flooding or erosion? If yes, provide a nearby street address or describe the location to the best of your ability.

“the Shawsheen Village near Balmoral, Washington Park”

“Bank erosion downstream of the Ballardvale Dam and through downtown Andover.”

"Just before the Dale Street access point, where the heavy equipment and sand (?) storage occur. Along James Lynch Construction, and where a pipeline / stream / outflow washes silt into the river, causing new banks."

“Places for seasonal flooding or erosion are necessary to the life of the river. Channelization and removal of buffer zones results in a decreased flood resiliency and should not be encouraged.”

“Where Central Street approaches the railroad bridge. This is near 3 Andover Street and 9 Andover Street. These houses can get flooded when the river level gets too high and the underground water level gets high enough to flood the basements.”

“I have not seen anything specific.”

“Yes near Balmoral and Riverina road”

“Washington park, Balmoral, Maryland place area and condos on Stevens street across from post office (Powder Mill)”

“In heavy rain, the arched bridge on Balmoral Street becomes a dam when water levels rise to the top of the arch and the floodwater backfill/overflows up-river landscapes. With the Stevens Street dam removed and the drop in water levels, this problem may not continue to exist. We will see.”

9. Do you have recommendations for how you think these flooding or erosion issues could be addressed?

“More land purchased to have more water storage for floods.”

“Preserve open space in the watershed to help alleviate flood waters.”

“That’s a tough one, maybe fill in gravel or some other substrate?”

“Enforce stormwater BMPs”

“Conservation and recreation easements along riparian zones wherever practicable.”

“Not to block, slow, or hinder the flow upriver from 3 Andover Street.”

“Yes repair river walls that are crumbling into river; dredge the river to make channel for water to move; This would probably help with canoe interest as well”

“There is a flood gauge down by Balmoral. Gather data from that and determine how to move forward Re flooding or erosion issues”

“I would hate to remove the Balmoral Street bridge over the Shawsheen River. Its history and charm are worth preserving. Since the bridge is THE flood risk on the lower Shawsheen, I don't have a good solution. How would removing the remaining dam in Ballardvale effect the flood plain?”

“I have noticed in other places I have lived that the more people try to ameliorate flooding in one place the more they cause it somewhere else.”

10. Is there anything else you'd like to share about your vision for the future of the Shawsheen River?

“Gather community support to remove the Ballardvale Dam!!”

“Embrace the river as a major natural and cultural asset and focal point of the downtown, Ballardvale and Shawsheen areas.”

“I would love some more geocaches”

“Very much enjoyed the herring count”

“I appreciate the love and attention this effort gives this resource. If more people get aware of this perfect little stream, there will be more care for rivers in general, which eventually will benefit biodiversity and habitat, and health in general, which will draw even more folks to appreciate and protect nature; a virtuous cycle. The rivers are our lifeline. The rivers were the lifeline of Indigenous Peoples before colonists displaced them. Colonists also saw rivers as lifelines, until they polluted them, hid them, to draw attention to themselves as masters of the universe. This type of hubris leads to downfall, and with this survey, we may slow down (perhaps avoid) our demise.”

“Not enough people in Andover are aware of its existence or its contributions to the indigenous and later European settlers”

“I think it's premature to make any decisions about the future of the Shawsheen River. To me, it seems critical that a decision be made about whether to remove the Ballardvale Dam or not. If it

is removed, the River would change dramatically. A few years ago at an informational meeting, we were told that if it's removed the width of the River would be reduced similar to its width at the Horn Bridge. I, for one, would like to see the Ballardvale Dam remain in place as much of the wildlife that I so enjoy would disappear.”

“No. It is only in the last couple years that I have been enjoying the river and really appreciate that it is so serene and well-maintained.”

“I really enjoy using the walking trails to reconnect with nature. Extending these trails along the river would be excellent.”

“Yes please place property and personal safety first over recreation. The flood questions are last on this survey they should be first”

“One concern: there is an area close to SHAWSHEEN river where York St, Burnham St. and Carisbrooke St meet where many many many people from Balmoral condos and neighborhood walk their dogs. They go down off street into wooded area by the SHAWSHEEN (right side of road behind a fence). Because the area is not residential, I fear dog owners do not use doggy bags. I have seen many people exit the area without doggie bags. Suspect this has been going on for years. Could this harm the wetlands around the SHAWSHEEN River? I do not own a dog so cannot attest to this. This is strictly my observations when I have walked the Balmoral track.”

“WILDLIFE, WILDLIFE, WILDLIFE! The fact that this once "dead" river from up-river factory dyes, industrial waste and leaking septic systems is seeing a resurgence of wildlife should be what we appreciate and promote. Give nature a chance. We will all be beneficiaries if we don't interfere with nature's restoration efforts. We cannot "improve" on what mother nature is doing.”

“I think it's important to save the river and its banks from pollution and from too much intervention. Certainly, over time the Army Corps of Engineers has done more harm than good to our rivers nationwide.”

“Sacred heart/ shawsheen field: Not so happy with the ugly (not one but two) playground equipment areas, goofy signage for unmonitored/ unmaintained kiddie trail, trash and portapotties from increased sports use...but thanks for moving the potties away from the rivers edge”