# MONTGOMERY DAM
# FINDINGS AND RECOMMENDATION

***Prepared for:***

Town of Camden Select Board

***Prepared by:***

Town of Camden
Megunticook River Citizens Advisory Committee

**February 15, 2025**

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# RECOMMENDATION SUMMARY

The Megunticook River Citizens Advisory Committee (MRCAC) was formed by the Town of Camden in September of 2022 to provide recommendations to the Select Board for preserving and improving sustainability and resiliency of the Megunticook River and its watershed.[1]

We reviewed feasibility studies, conducted extensive research, consulted experts and undertook numerous methods of community outreach. It is from this gathered input that we put forth the following recommendation to the Town of Camden Select Board. We are presenting our recommendation for the Montgomery Dam first because the town vote in June regarding Montgomery Dam options will impact the recommendations for the upstream dams.

**We, the Megunticook River Citizens Advisory Committee, in an 8-1 decision, are recommending full removal of the Montgomery Dam**, creating a free-flowing river that reduces damage to the shoreline and complies with Camden Public Library's *Statement on Harbor Park* from April of 2024. This recommendation aligns with our mission of preserving and improving the sustainability and resiliency of the Megunticook River and its watershed and is based on close examination of environmental, ecological, financial, aesthetic, historical, cultural, and community input considerations.

The following factors contributed to MRCAC's decision:

**Ecological Health:** The Montgomery Dam poses severe ecological challenges by blocking sea-run fish, trapping sediment, degrading water quality, and disrupting watershed continuity. A river impounded by the dam lacks aquatic habitat quality and diversity. Its removal would restore sea-run fish habitat for alewives, Atlantic salmon, and brook trout, and provide the greatest potential for recovery of ecological health in the Megunticook Watershed. Removal also aligns with Maine's current broader commitment to ecosystem recovery and supports the cultural and economic significance of sustainable fisheries in the Gulf of Maine.

**Flood Risk and Climate Change:** The Montgomery Dam exacerbates flood risks in downtown Camden by impeding natural water flow, particularly as climate change increases storm intensity. The dam currently influences flood levels between the dam and just below the Brewster Building, affecting 15 private and two public properties within the regulatory floodplain. Since undammed river systems better manage heavy rainfall, removal reduces risks to nearby buildings and infrastructure and promotes long-term resiliency for Camden's downtown area.

**Financial Considerations:** Removing the Montgomery Dam is the fiscally responsible choice demonstrated by the following considerations:

1. Maintaining and repairing the aging dam requires significant financial investment, with daily inspections, frequent gate opening and closing, and costly repairs.
2. Removal of the dam has lower capitol and lifespan costs compared to restoration.
3. External funding sources, such as ecological recovery grants, are currently available to support removal. Those funding sources will not support maintaining the dam.

[1] MRCAC defines resiliency as the community's ability to withstand or quickly rebound from changes as it responds to a variety of pressures, (e.g. economic, environmental, social, and aesthetic).

4. Funding opportunities for removing the three private dams (Knox Mill Dam, Knowlton Street Dam, and the Powder Mill ruins) and necessary upgrades to the three upstream high hazard dams (Seabright Dam, East, and West Dams) are only available if fish passage is enabled. Therefore, choosing to fully restore the Montgomery Dam equates to costly management not only for the Montgomery Dam, but also for the upstream dams.

**History and Culture:** Built in 1771 by William Minot as a grist mill, the dam in the current location of the Montgomery Dam was one of eleven dams built on the Megunticook River that played a crucial role in Camden's early industrial development. Today there are seven dams on the Megunticook River. The four lower dams (Montgomery Dam, Knox Mill Dam, Knowlton Street Dam, and the Powder Mill ruins) no longer serve their original purposes nor do they serve the functions of flood control, water supply, or power generation.[2] While the Montgomery Dam and other upstream dams were integral in fostering local industry and Camden's development, it is equally important to celebrate the pre-industrial, indigenous, and natural history of the region and acknowledge the landscape and ecosystems that existed prior to their construction.

**Harbor Park:** While the land parcel containing the Montgomery Dam is not part of Harbor Park, any modifications to the dam will impact Harbor Park and the Olmsted legacy. In 1928, the Olmsted brothers were hired by Camden resident Mary Louise Curtis Bok to create a plan for Harbor Park. While the Montgomery Dam may be seen on some Olmsted renderings of Harbor Park, their primary concern with the dam was the reinforcement and strengthening necessary for the creation of Harbor Park. Their design intentionally obscured the dam from view. The Olmsteds were pioneers in sustainable design and conservation who championed human connection to nature. As such, removal of the Montgomery Dam, restoring a naturalized river system, and implementing a more adaptive and resilient shoreline aligns with the Olmsteds' legacy and principles. Since Harbor Park is included in the High Street Historic District on the National Register of Historical Places and is under the management of the Camden Public Library Board of Trustees, any modifications to Harbor Park must align with guidelines and be approved by the Trustees.

**Landscape Aesthetics:** The beauty of Camden Harbor and the natural environment at the mouth of the Megunticook River are integral to the town's appeal and economic well-being. Aesthetics are unquestionably subjective and difficult to quantify, but are nevertheless paramount in this decision. Removal of the Montgomery Dam allows for intentional and thoughtful landscape improvements to the harbor, river entry into the harbor, the adjacent park space and upstream impoundment areas. Seamless integration of the river into the surrounding landscape can enhance the aesthetic appeal to locals, property owners, and tourists alike, and play an integral role in maintaining the picturesque beauty for which Camden is known. If Camden residents vote to remove the Montgomery Dam, any aesthetic changes will require approval by town leadership and the Camden Public Library Board of Trustees. Design decisions may also necessitate approval from the Maine Historic Preservation Commission, the National Park Service, and the Town of Camden Historic Resources Committee.

**Community Input:** MRCAC gathered extensive community input through public meetings, meetings with stakeholders and advocacy groups, events, emails, and a public survey. Community concerns

[2] Inter-Fluve and Gartley & Dorsky. *Feasibility/Alternatives Analysis Report: Montgomery Dam, Megunticook River.* 2019. Page 2.

ranged from historical preservation and aesthetics to ecological health, fish passage, flood resilience, and taxpayer impact. Perspectives on the Montgomery Dam varied—some residents and business owners feared that removing the dam could negatively affect aesthetics and the downtown economy, while others believed enabling fish migration and revitalizing the river would attract tourism and strengthen local businesses. Community feedback opposing the compromise option of partial dam removal with fish passage, reinforced our view that it was not a viable solution. While we carefully considered community input, the community's contrasting views required us to rely heavily on our research and expert guidance to determine the best option for the long-term wellbeing and resilience of the Megunticook River and the community.

# MRCAC ROLE AND PROCESS

The Megunticook River Citizens Advisory Committee (MRCAC) was formed by the Town of Camden in September of 2022 with nine members appointed by the Camden Select Board. Members were selected from a group of applicants based on the following criteria:

- Broad-based backgrounds with diverse perspectives
- Some experience or close connection with the Megunticook River
- Experience working thoughtfully and effectively in small groups
- Ability to attend all committee meetings

MRCAC was tasked with studying the facts, listening to the community, and providing recommendations to the Select Board on how to preserve and improve the sustainability and resiliency of the Megunticook River and its watershed while also considering the interests and needs of the community. These recommendations were developed through engagement with the community, stakeholders, grant-funding agencies, and technical experts and by conducting a due diligence process to advance viable options.

Our work was supported by non-voting Select Board liaisons and FB Environmental, a consulting firm specializing in environmental planning and restoration. Experts from Inter-Fluve (a company that specializes in river restoration) and Viewshed (a landscape architecture and planning firm) also supported our work with technical expertise.

As of mid-February 2025, MRCAC has held 34 meetings. In these meetings we discussed topics related to the Megunticook River and its watershed, shared data and information, and planned community outreach and engagement. All meetings were open to the public, recorded, and published online.

For more information on committee members or our by-laws, please visit our website at https://www.megunticookrivercac.com/pages/committee-materials.

# PROJECT BACKGROUND

The Megunticook Watershed encompasses 32 square miles in the towns of Camden, Lincolnville, and Hope. Flowing 3.5 miles from Megunticook Lake to Camden Harbor, the Megunticook River is an important cultural and ecological resource for the Town of Camden.


Figure 1. Current dams stationed along the Megunticook River

Seven dams currently span the river, largely built in the 19th century to power local industries. The upper three dams owned by the Town of Camden (Seabright, East and West) function to maintain water levels in Megunticook Lake and Seabright impoundment and will not be removed. Their classification as high-hazard dams indicates that any failure or mis-operation could cause serious harm or loss of human life or significant economic, environmental, or infrastructure damage.

The four lower dams include the town-owned Montgomery Dam and privately-owned Knox Mill Dam, Knowlton Street Dam, and Powder Mill ruins. These dams no longer serve their original purpose. They raise flood risk, prevent sea-run fish migration, and impair the health of the watershed. The Montgomery Dam also requires complex and costly maintenance and repairs. With increasing and intensifying precipitation as well as aging dam structures that were not built for increasing precipitation or flood resilience, it is clear the town needs to address the rising flood risk as well as the ongoing financial burden.

The Town of Camden contracted with Inter-Fluve and Gartley & Dorsky to conduct two feasibility studies to evaluate current conditions at the Montgomery Dam and model conditions for dam restoration, partial removal, and full removal options. Their 2021 Megunticook River Feasibility Report concluded that dam removal would lower water levels in the river, creating a more resilient buffer to increasing and unpredictable

flow conditions. As such, they recommended removing the four lower dams (Montgomery Dam, Knox Mill Dam, Knowlton Street Dam, and Powder Mill ruins).

While some community members supported these recommendations, other community members expressed interest in preserving the Montgomery Dam, citing its historical significance and contribution to the aesthetics of downtown Camden.

In August 2022, the Town of Camden was awarded a $1.6 million grant by the National Fish and Wildlife Foundation (NFWF) and National Oceanic and Atmospheric Administration (NOAA) through the National Coastal Resiliency Fund. The grant funded the creation and work of MRCAC, community outreach and engagement, and coordination with public and private property owners.

In June 2025, the Town of Camden will vote on the options for the Montgomery Dam.

Figure 2. Montgomery Dam and Harbor Park at low tide.

# INFORMATION GATHERING

## TECHNICAL REPORTS

MRCAC began the data-gathering process by closely reviewing the information available in feasibility assessments conducted by Inter-Fluve and Gartley & Dorsky, as well as other technical reporting. We then participated in developing a gap analysis to determine the information available versus the information needed to make a well-informed recommendation. Our gap analysis as well as a full list of the supporting reports are provided in the Appendix. The primary reports utilized in decision-making include:

- *Feasibility/Alternatives Analysis Report: Montgomery Dam, Megunticook River* by Inter-Fluve and Gartley & Dorsky (2019)
- *Megunticook River Feasibility Report* by Inter-Fluve and Gartley & Dorsky (2021)
- *Montgomery Dam Analysis Report and Cost Memorandum* by Inter-Fluve (2024)

## COMMUNITY OUTREACH AND ENGAGEMENT

MRCAC undertook numerous methods of community outreach and engagement, both to share information with the community and to solicit feedback and questions. We prioritized extensive community outreach and engagement, recognizing that an inclusive and transparent process was essential to making well-informed decisions and developing a recommendation that reflects the community's values and priorities. Our efforts were designed not only to share critical information about the project but also to actively listen, learn, and incorporate public input at every stage.

To achieve this, we implemented multiple outreach techniques and engaged with a broad range of Camden residents and perspectives. By doing so, we gained valuable insights into residents' concerns, knowledge gaps, and hopes for the future of the Megunticook River watershed. Feedback from the community directly shaped our understanding of key issues, highlighted areas where additional clarification was needed, and ultimately informed our recommendation.

Our community outreach and engagement efforts have included:

- **Public MRCAC Meetings:** Our meetings were public, broadcast live on Zoom, and published on YouTube. Beginning in August 2023, the last 15 minutes of MRCAC meetings were reserved for public questions and comments.
- **Website:** We built an extensive and interactive website (www.megunticookrivercac.com) to share information about MRCAC's process and findings, including an evolving FAQ section based on questions posed by the public.
- **Newsletters:** We sent 14 informative newsletters and other announcements to a 200 + person listserv and left printed copies at the Town Office and Camden Public Library.
- **News Media:** We submitted announcements and press releases to local papers.
- **Facebook**: We created a Facebook Page (www.facebook.com/CamdenMRCAC), posted our individual recommendations to the Town of Camden page, and answered questions from community members.

- **Mailing to Residents:** In August 2023, we mailed informational postcards to more than 3,000 Camden residences to inform community members about our work and invite them to take an online survey.
- **Community Surveys:** We created an online survey with the help of the University of New Hampshire, that received over 250 responses while a separate survey of local middle and high school students received 50 responses. These surveys did not seek opinions on the future of the Montgomery Dam, but instead aimed to assess community interests, knowledge gaps, and preferred methods of engagement. The Survey also invited respondents to share general concerns and ask questions.
- **Interviews:** We conducted more than 60 one-on-one interviews with community members representing a range of perspectives about the project (see the Appendix for a summary).
- **Expert-led Presentations:** We hosted 10 public, online, and in-person presentations by local and regional experts on a variety of pertinent topics, including sea-run fish, flood risks, historic and cultural considerations, ecosystem dynamics, and similar river restoration projects in other towns. There was also a guided tour of the dams with Camden's Dam Control Agent. These topics were chosen to address some of the knowledge gaps identified in the Gap Analysis and the online survey.
- **Tabling:** We tabled at events such as the Camden Farmers' Market, the Stewardship Education Alliance Fair, and election voting at the Camden Fire Station. We showcased fact sheets, brochures, Q&A documents, and large maps of the watershed.
- **Community Meetings:** We organized two community meetings in October 2024 to present our research and findings, share potential design options for the Montgomery Dam, and gather feedback during a Q&A session and via a questionnaire. After the presentations, the public was invited to explore maps of the watershed and design options and engage in one-on-one conversations with MRCAC committee members.
- **Conversations with Camden Public Library Board of Trustees**: We engaged with the Camden Public Library (CPL) Board of Trustees to ensure that CPL interests and the potential impacts on Harbor Park were considered. One of our committee members was also on the Board of Trustees.
- **Conversations with Advocacy Groups:** We invited advocacy groups, Save the Dam Falls and Restore Megunticook, to present their perspectives to the committee and engage in discussion to provide a balanced understanding of the issues on each side. We also met with the Watershed School, the Historic Resources Committee, the Pathways Committee, and the Conservation Commission to discuss the project and answer questions.
- **Conversations with Dam Owners:** We met the owners of the Powder Mill, Knox Mill, and Knowlton Street dams to discuss the project and answer questions.
- **Conversations with Business Owners**: Meetings and outreach efforts were conducted with downtown businesses to understand their perspectives on how dam removal might affect tourism, operations, and overall economic vitality.
- **Informational Displays**: Large visuals of the Montgomery Dam renditions and written materials were displayed at the Camden Public Library and other locations in Town.

# RATIONALE FOR RECOMMENDATION

## SCENARIOS CONSIDERED

In Summer 2024, MRCAC, assisted by Inter-Fluve and Viewshed consultants, chose three options to consider for the Montgomery Dam. Our objectives in selecting the options focused on reducing operational and maintenance costs, mitigating upstream flooding risks, restoring fish passage, improving the ecological health of the Megunticook River watershed, and increasing the public value of the river and the dam site. The options we chose are as follows:

> **Scenario A: Dam Restoration:** Status quo plus necessary repairs to the dam, including full spillway restoration, maintaining all current dimensions.
>
> **Scenario B: Partial Dam Removal with Fish Passage**. Lowering the dam by 4.5 feet, eliminating the south spillway wall, shortening the east spillway by 50%, reducing the impoundment size by approximately 2/3 under typical conditions, and adding a weir and pool fishway.
>
> **Scenario C: Full Dam Removal:** Removing all masonry associated with the dam and aligning the cascade to its original path.

Renditions of these scenarios are located in the Appendix.

## ECOLOGICAL HEALTH

The dams on the Megunticook River create barriers that disrupt the river's natural flow, habitat connectivity, and sea-run fish migration, negatively impacting the river and watershed's health, biodiversity, and ecological resilience. The slow-flowing water found in dam impoundments is generally warmer and less oxygenated than free-flowing cold water, reducing habitat suitability for cold-water fish species and macroinvertebrates and endangering juvenile fish and eggs.

Full dam removal offers the greatest environmental benefits by restoring a healthy, free-flowing river, enhancing ecological connectivity, and improving biodiversity and water quality. Dam removal improves water quality by restoring natural flow, flushing out stagnant water, reducing sediment buildup and accumulation of pollutants, and increasing oxygen levels essential for aquatic life. Reconnecting habitats and improving conditions for plant and animal species increases biodiversity in both freshwater and marine environments. A healthier river can also improve ecosystem resilience, increasing its ability to respond and adapt to the impacts of a changing climate such as increased flooding, prolonged droughts, rising water temperatures, and shifting species distributions.

**Sea-Run Fish Migration**

As a keystone species, sea-run fish play a crucial role in river habitats by supporting nutrient cycling, providing a vital food source for wildlife, and maintaining the overall health and balance of aquatic ecosystems. The Montgomery Dam presents a barrier to sea-run fish attempting to access the river from Camden Harbor. Young American eels, known as elvers, are the exception, and have been observed throughout the length of the Megunticook River up to Megunticook Lake.

The Maine Department of Marine Resources (MDMR) and the Maine Department of Environmental Protection (MDEP) have identified the Megunticook River, Megunticook Lake, and Norton Pond as previously supporting indigenous and sea-run fish populations that no longer have access to the river due to man-made barriers. Additionally, the Maine Stream Connectivity Work Group, a partnership of state, federal, industry and non-government organizations working to improve Maine's stream restoration efforts, identifies Megunticook Lake and Norton Pond as documented historical alewife habitat.[3]

According to MDMR, migratory fish species were historically present in all Maine watersheds unless significant natural or man-made barriers were present.[4] While portions of the Megunticook River contain natural falls, they are not expected to have historically precluded fish passage for most species under most conditions. Additionally, the original river path was filled, intentionally pushing the mouth of the river over higher elevation bedrock than the historical channel had once been.

The Megunticook River and Lake currently provide viable habitat for species such as alewives (also known as river herring), blueback herring, and sea-run brook trout. Alewives have been observed at the end of the Montgomery Dam spillway in Camden Harbor in recent years, suggesting they would access the river with suitable passage provided. Atlantic salmon and rainbow smelt could also potentially occupy the Megunticook River with suitable fish passage, in coordination with other regional efforts to recover their populations. The Megunticook River watershed falls within the Penobscot salmon habitat recovery unit for Atlantic salmon, and it contains modeled potential salmon rearing habitat. Importantly, MDMR attests that the introduction of sea-run fish, such as alewives, would not lead to negative environmental outcomes throughout the watershed.

The 2019 Feasibility Study reports that native sea-run fish typically require stream gradients of 3-5%, though it's not uncommon for fish to access steeper gradients for short distances. The current conditions at the Montgomery Dam result in an approximately 16% gradient. The report indicates that partial dam removal would result in a 13% gradient, full dam removal with the channel in the existing ledge outcrop would result in a 10% gradient. These options would maintain the barrier to migratory fish. Full dam removal with the channel restored to its original path could result in a 4-6% gradient, which is suitable for sea-run fish migration.

Dam restoration would maintain the barrier to migratory fish as well as its vulnerability to failure during extreme flooding events, posing a potential hazard to riverine ecosystems in addition to nearby properties. While partial dam removal would allow some flow improvement, it will not fully eliminate stagnation and stratification issues. Partial dam removal may improve fish passage to some degree; however, it would not fully reconnect upstream and downstream habitats. Many migratory species require complete access to thrive. Fish passage structures do not fully replicate the ecological benefits of a free-flowing river and typically allow fewer fish to ascend compared to a naturalized river.

Sea-run fish further enhance water quality by transporting marine-derived nutrients upstream and regulating insect and algae populations, promoting a balanced ecosystem. Enabling sea-run fish to access critical spawning and rearing habitats, would increase fish populations and, in turn, attract predator species such as otters, eagles, osprey, seals, and larger fish to the area, and could enhance local lobster fisheries that utilize alewives for bait. Strengthening food webs across the river, watershed, and ocean ecosystems.

[3] Maine Stream Connectivity Work Group. *Maine Stream Habitat Viewer*. https://webapps2.cgis-solutions.com/MaineStreamViewer/

[4] Maine Department of Marine Resources. *Maine River Herring Fact Sheet***.** https://www.maine.gov/dmr/fisheries/sea-run-fisheries/programs-and-projects/river-herring-alewife-fact-sheet.

**Sediment**

At the time of the 2019 Feasibility Study, an estimated 250-300 cubic yards of fine sediment was trapped behind the Montgomery Dam. Sediment testing during the study revealed levels of metals and semi-volatile organic compounds above recommended levels. These results were similar to a sample taken from Camden Harbor, indicating that release of the sediments from full or partial dam removal would not increase the concentration of these pollutants in the harbor. The accumulation of sediment upstream of a dam shallows the river and further contributes to warmer water temperatures. Sediment trapping further alters the sediment composition of a riverbed, changing the natural ratio between fine and coarse sediments which can limit biodiversity.

**Short-term Impacts**

In the short-term, dam removal can disrupt the ecosystem by temporarily increasing sediment loads, which may degrade water quality and impact aquatic habitats. Wildlife that has adapted to the artificial reservoir, such as certain fish and bird species, may experience some habitat loss and displacement. However, these effects are temporary and outweighed by the long-term ecological and flood resilience benefits.

In summary, full dam removal offers the greatest environmental benefits by restoring a free-flowing river, re-connecting habitats, enhancing ecological health, enabling sea-run fish migration, and improving resilience, water quality, and biodiversity. These benefits align with the community's goals for improved resilience and sustainability and reflect a commitment to the long-term ecological health of the Megunticook River and watershed.

## FLOOD RISK AND CLIMATE CHANGE

**Increased Precipitation**

In weighing the proposed options for the Montgomery Dam, we considered their effects on water flow and flood levels, factoring in anticipated climate change impacts. Rising temperatures have led to increased precipitation in Maine, with Camden receiving an additional 16 inches of annual rainfall over the past century—equating to 9 billion more gallons annually in the Megunticook watershed. By mid-century, annual rainfall is expected to rise by 9 additional inches,[5] adding 5 billion more gallons annually to the watershed.[6] This increased volume must flow through Camden's aging dams and narrow downtown drainage systems, which were not designed to handle such conditions.

In 1922, six to eight inches of rain falling in a single day after several days of rain overwhelmed the dams along the Megunticook River, flooding downtown and causing over $2 million in damages (when adjusted for 2024 dollars).[7] As rainstorms in the region intensify in volume and frequency due to rising temperatures and 100-year flooding is becoming more common, the risk of flooding along the Megunticook River is growing. This underscores the need for implementing resiliency measures that help protect vital community assets.

The Montgomery Dam currently influences flood levels between the dam and just below the Brewster Building, affecting 15 private and 2 public properties within the regulatory floodplain.[8] Due to the flood risk the

[5] Watershed School. *Facing the Future: A Climate Change Vulnerability Assessment for Camden, Maine.* 2019.
[6] US Geological Survey. *Rainfall Calculator.* https://water.usgs.gov/edu/activity-howmuchrain.html.
[7] The Camden Herald. *The Damage Done.* 1922.
[8] Inter-Fluve and Gartley & Dorsky. *Megunticook River Feasibility Report*. 2021.

dam causes for the buildings above it, the East and West dams must be managed carefully to regulate the amount of water flowing downriver. It is also important to note that these floodplain assessments are based on current conditions and do not account for future rainfall projections.

The dam restoration option that maintains current spillway levels would not help the town to prepare for future risk of increasingly frequent, intense, and unpredictable precipitation. Forty feet upstream of the Main Street Bridge both the partial and the full dam removal scenarios, are expected to result in a 2.1-foot decrease in water levels, helping to reduce flood risk. Ten feet upstream of the Montgomery Dam, partial dam removal would result in moderate flood attenuation by lowering water levels approximately 3.2 feet. Full dam removal would lower water levels by 8.4 feet and remove the mill pond, substantially lowering the risk of flooding due to the river's increased capacity to absorb and disperse floodwaters.[9]

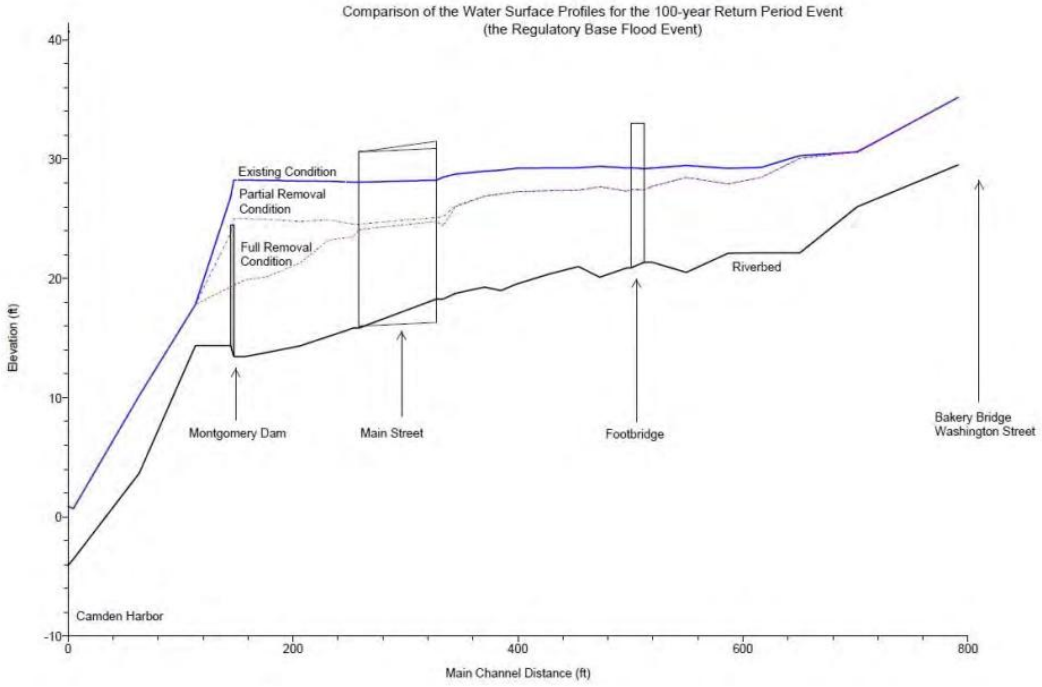



Figure 3. Model results for the 100-year flood event. Source: 2019 Montgomery Dam Feasibility Study.

Full dam removal would also unlock funding for the removal of the three private dams above it which would increase the river's capacity to absorb and disperse floodwaters, reducing upstream and downstream flood risks. Removing dams eliminates the risk of sudden downstream flooding in the event of structural failure and allows sediment and debris to move more freely, preventing blockages that can exacerbate flood conditions and lead to costly infrastructure damage. Additionally, the removal of the Montgomery Dam will result in more flexibility in managing the East and West dams during significant rain events.

**Sea-Level Rise**

The Maine Climate Council recommends committing to manage 1.5 feet of sea level rise by 2050 and 4 feet by 2100. Sea level rise and storm surge is already impacting Camden's coastal infrastructure, including causing

[9] Inter-Fluve and Gartley & Dorsky. *Feasibility/Alternatives Analysis Report: Montgomery Dam, Megunticook River.* 2019.

significant damage to Harbor Park. The Harbor Park seawall is in need of updates to ensure its long-term stability. Removing the Montgomery Dam could also open up funding opportunities for seawall restoration, as many grant programs prioritize projects that enhance climate resilience. These projects could be implemented simultaneously using the same grant funding and project managers, maximizing efficiency and ensuring the best outcome for both the town and the overall project.

## FINANCIAL CONSIDERATIONS

The Montgomery Dam requires ongoing maintenance and periodic repairs, placing a financial burden on taxpayers and Town staff. Maintenance involves daily inspections, continual water level monitoring, and gate adjustments which require the work of two people. Operators manually adjust the gate before, during, and after storms to prevent flooding of upstream buildings. The gate is also opened to remove debris, perform maintenance on the dam, or drain the impoundment when repairs are required for adjacent buildings.

In the last decade, the town has spent $31,163 on repairs to the Montgomery Dam, as well as $52,940 on repairs to the seawall in Harbor Park. In 2022, repairs to the sluiceway gate cost $5,000 and additional repairs to the sluiceway were completed in 2023. Between 2023 and 2024, $90,000 worth of repairs were completed via private donation. These included a new sluiceway gate and masonry and repointing work. While these repairs were notable, significant additional repairs are needed to address ongoing structural issues and maintenance needs.

In August 2024, Inter-Fluve conducted a cost analysis for the three scenarios for the Montgomery Dam based on a review of past projects and applicable cost data. The cost analysis includes the following parameters for each scenario:

- **Construction Costs:** Initial construction costs as well as project delivery costs (project management, design, permitting, and construction period engineering).
- **Lifespan Costs:** Estimated operation, maintenance, and repair costs for the fifty-year planning horizon. These estimates include an assumed 3.5% rate of inflation over the 50-year period.
- **Seawall Reconstruction:** The seawall would largely remain at its current elevation, with minor repairs such as chinking stone and capstone replacement, while deteriorated sections will be rebuilt using cut granite blocks. Repairs will be in-kind, though some may be made to enhance long-term stability.
- **Seawall Reconstruction/Adaptation and Harbor Park Resiliency:** The seawall would be rehabilitated as described above and the seawall portion in Harbor Park area (as well as the land behind it) could be elevated by up to 4 feet to account for sea level rise. While it's not included in current estimates, project partners are also considering grading changes to block coastal flooding pathways and vegetation changes to dissipate wave energy.

The construction and lifespan cost estimates do not include potential associated park facility enhancements (paths, bridges, etc.), building retrofits, or salaries of those conducting dam maintenance. A 30% contingency is included in cost estimates to account for the uncertainties in the designs and current trade policies. Further refinements are expected as in subsequent design phases. The seawall reconstruction and harbor park resiliency options are included in this analysis because grant funding is available to pay for both dam removal (partial or full) and seawall adaptation and resilience in Harbor Park. It would be more cost efficient for the town to combine these initiatives.

**Scenario A: Dam Restoration**

For the dam restoration option, construction and lifespan costs range from $3.5 million (without seawall reconstruction and resiliency) to $6.5 million (with seawall reconstruction and resiliency). With added fish passage, it would cost an estimated $10.8 million. Construction for dam restoration, intended to bring the dam into compliance with regulatory dam safety requirements and modern design practices, would include:

- The overflow concrete weir to the south of the dam gate will be demolished and rebuilt in-kind, restoring the cascade to a uniform flow
- The headgate will be removed but surrounding masonry fascia in the area will be retained, reinstalled and restored
- The sluiceway intake and concrete to the north of the headgate will be rebuilt, and gate will be reset with new operator
- A locally-operated motorized gate actuator will be installed
- A concrete overlay will reinforce the dam's north interior wall to seal joints, repair deterioration, and reduce leakage, while the east and north masonry walls will be repointed
- Masonry and fascia stone on other areas of the dam will be cleaned and repointed

Pros and Cons

- Repairs the dam and restores the cascade to a uniform flow
- Town of Camden would pay for construction and lifespan costs
- Existing maintenance, operation, repair expenses continue
- Does not address flood resilience but can include shoreline/seawall improvements
- Fish passage is limited to American eel only
- Maintains a fragmented river system and the least habitat connectivity

**Scenario B: Partial Dam Removal with Fish Passage**

For the partial dam removal with added fish passage option, estimated construction and lifespan costs range from $6.7 million (without seawall reconstruction and resiliency) to $9.9 million (with seawall reconstruction and resiliency). Construction for the partial dam removal scenario would include:

- The same updates as the dam restoration option; however,
- The spillway would be lowered by 4.5 feet to enable fish passage
- A 10 x 230 foot “pool and weir” fishway would be added with 23 weirs and pools

Pros and Cons

- Potential to receive federal grants for construction costs
- Improves flood resiliency, but not substantially
- Marginal fish passage and connectivity improvements
- Maintenance, operation, and repair expenses would continue
- High maintenance costs associated with fish passage

**Scenario C: Full Dam Removal**

For the full dam removal option, estimated construction costs range from $1.7 million (without seawall reconstruction and resiliency) to $2.8 million (with seawall reconstruction and resiliency). With an additional

overlook structure and incremental slope restoration (as depicted in Scenario C) the costs would increase to approximately $3.6 million. The estimated lifespan costs are $1.1 million for all full dam removal options and include seawall reconstruction and resiliency efforts. Construction for the full dam removal scenario would include:

- Existing dam infrastructure would be removed
- Existing bedrock remains although minimal changes may be required
- Natural stream alignment and resulting modifications to Harbor Park grading, shoreline, pathways, and landscaping
- Modifications to structures located directly in or adjacent to the impoundment
- (Possibly) an added overlook structure and incremental slope restoration

Pros and Cons

- Construction costs are likely to be funded by federal grants
- Dam operation costs are eliminated and maintenance costs are significantly reduced
- Enhances flexibility in managing the East and West dams during significant rain events
- Improves flood resiliency and reduces risk of debris damage
- Reduces interaction between the river and structures
- Enables fish passage and habitat connectivity and
- Improves ecosystem health, biodiversity, and resilience
- Opens up funding for removal of or upgrades to upriver dams
- Creates opportunity for improving resiliency and adaptation in Harbor Park

**2024 Inter-Fluve Cost Analysis for Montgomery Dam Scenarios** ($ millions)

| Scenario | Seawall Reconstruction | Seawall Resilience | Fish Passage (Pool &Weir) | Construction Costs | Lifespan Costs (50 Years) | Totals |
|---|---|---|---|---|---|---|
| Dam Restoration | NO | NO | NO | $1.6 | $1.8 | $3.5 |
| | YES | NO | NO | $2.6 | $3.4 | $5.9 |
| | YES | NO | YES | $6.3 | $3.9 | $10.2 |
| | YES | YES | NO | $3.3 | $3.2 | $6.5 |
| | YES | YES | YES | $7.0 | $3.8 | $10.8 |
| Partial Dam Removal | NO | NO | YES | $4.6 | $2.1 | $6.7 |
| | YES | NO | YES | $5.6 | $3.8 | $9.4 |
| | YES | YES | YES | $6.3 | $3.6 | $9.9 |
| Full Dam Removal | NO | NO | - | $1.7 | - | - |
| | YES | NO | - | $2.6 | $1.1 | $3.6 |
| | YES | YES | - | $2.8 | $1.1 | $3.9 |
| | YES | YES* | - | $3.6 | $1.1 | $4.6 |

**This scenario includes include the cost of an overlook structure and incremental slope restoration costs (as depicted in Scenario C).*

**Outside Funding**

The availability of federal, state, and private grants for fish passage improvements, climate change resiliency, and habitat restoration provide ample opportunity for mitigating costs for this project. During the August 23, 2023 MRCAC community conversation at Camp Bishopswood in Hope, Matt Bernier and Jamie Carter from the National Oceanic and Atmospheric Administration (NOAA) assured us that the Megunticook River is an excellent candidate for funding. While NOAA's grant program does not currently require match funding and could fund the entire project, Camden may be required to contribute some funds. (See the Appendix for a list of potential grant opportunities for dam removal and fish passage options).

This grant money could be utilized to finance: 1) the removal of the Montgomery Dam and the privately-owned dams (Knox Mill and Knowlton Street dams and Powder Mill ruins), 2) fish passage and much-needed updates to the three upper dams (Seabright, East, and West dams), 3) general river restoration, and 4) improve the resiliency of Harbor Park's seawall.

To be eligible for river restoration grants, however, the town must facilitate fish passage at the Montgomery Dam either by removing the dam or adding a fishway.

**Cost Analysis Summary**

Regarding initial construction costs, the approximate relative costs of full dam restoration, partial dam removal (without fish passage), and dam removal are essentially equal, ranging between $1.6 and 1.7 million. When fish passage is added to the dam restoration or partial dam removal scenarios, the costs of these scenarios are nearly triple that of the dam removal scenario, ranging between $4.6 and 5.3 million.

Including the seawall reconstruction and resiliency efforts, the approximate lifespan costs of full dam restoration ($3.2 million) and partial dam removal with fish passage ($3.6 million) are more than triple the estimated lifespan costs of the dam removal scenario ($1.1 million). Though projects that facilitate fish passage may be paid for with grants (in part or in full), they have the highest lifespan costs.

Over the next 50 years, restoring the dam would cost the Town of Camden an estimated $3.5 million (including construction and lifespan costs), while removing the dam would cost an estimated $1.7 million in construction (paid for in part or in full by grants) with minimal lifespan costs for maintenance and landscaping. With added seawall reconstruction and resiliency efforts, dam restoration would cost approximately $6.5 million, while dam removal would cost between $3.9 and $4.6 million, with a portion funded by grants.

Given the significantly lower costs, minimized maintenance, and long-term savings after the initial investment, full dam removal presents the most financially responsible choice. This option would also unlock grant funding that could pay, possibly in full, for dam removal not only for the Montgomery Dam but also for the three private dams as well as fish passage at the three upper dams.

## LANDSCAPE AESTHETICS

The flow of the water over the bedrock downstream of the dam is a favorite view of both locals and tourists. During our public outreach process, we frequently received feedback from citizens that desired to preserve the scenic properties of what is colloquially known as the "Camden Falls" or "the Falls." We also received feedback from others who were excited by the prospect of seeing the river fall naturally over the rocks into the ocean.

The one scenario that attracted little support was the scenario with a lowered waterfall and spillway, a smaller pond, and a possible fish ladder.

**Dam Restoration:** The restoration of the spillway and sluiceway would prevent water from leaking out of the sluiceway and create a more robust and uniform waterfall. There would still be periods of low water during drought or drawdowns for flood management and repairs.

**Partial Dam Removal with Fish Passage:** The partial removal would reduce the vertical waterfall by 4.5 feet and have a number of other impacts including a reduction of the pool by 40 - 50%, elimination or reduction of the southern flow, and more exposure of the support structure of the abutting buildings. In addition, although there would be less water in the pool, there would be no change in the quality of the water in the pool.

**Full Dam Removal:** Dam removal and channel realignment would create a free-flowing river with a dynamic, natural landscape in place of the current impoundment and waterfall. The restored river would reduce stagnant water, improve water quality, and create opportunities for natural vegetation to establish itself along the banks. Dam removal also provides the opportunity to reconnect the community with the natural riverine environment. For example, with most or all of the water flowing on the east side, there is the possibility of accessing the island from the public landing, increasing areas for the public to recreate near the river. For Harbor Park, the removal is anticipated to open new opportunities for landscape enhancement, resiliency and adaption, and improved connectivity with the ocean, making it an even more inviting community space. Any changes or impacts to Harbor Park would require approval by the Camden Public Library Board of Trustees and may also necessitate authorization from other groups (see the Harbor Park section below for more details).

The Montgomery Dam impoundment flows underneath several businesses along Camden's Main Street including, House of Logan, the Camden Deli, The Smiling Cow, Buttermilk, Once-a-Tree, and Meliza's Nail Salon and Spa. Many additional buildings have a view of the impoundment (also known as the Mill Pond) and/or the Megunticook River in the vicinity of the Montgomery Dam. Dam removal would restore natural river flow, reducing flood risks to adjacent properties during extreme weather events. Aesthetic changes would include the transformation of the river from a ponded impoundment to a free-flowing river, a larger island with more vegetation and a possible site for sitting and viewing the river.

Dam removal will not change the total volume of water flowing; however, the flow rate will become more natural and variable, following seasonal and weather-related patterns. The reduced slope (from vertical to 4%)[10] would result in a slower flow, however, there will still be gushing waterfall effect with water flowing after heavy rains.

**Short-Term Impacts**

While river-abutting properties may face changes in water levels, potential bank erosion, and aesthetic shifts as the landscape adjusts to the restored river flow, these effects will be short-lived and outweighed by the long-term ecological and flood resilience benefits. As other towns that have removed dams have noticed, nature quickly fills in the river bank areas affected by reduced water levels.

[10] Inter-Fluve and Gartley & Dorsky. *Megunticook River Feasibility Report*. 2021. Page 45.

## HISTORY AND CULTURE

The damming of the Megunticook River played a significant role in fostering local industry and supporting the growth of our community. It is also important to acknowledge and celebrate the pre-industrial and indigenous history of the region and the natural landscapes and ecosystems that existed prior to the dams.

Prior to settlement in the late 1700s, the Megunticook River played a critical role in the subsistence economy of the indigenous population of Midcoast Maine, the original inhabitants of the region. According to Dr. Arthur Spiess, Senior Archaeologist at the Maine Historical Preservation Commission, “there are two pre-European Native American sites yielding stone tool fragments on the shores of Megunticook Lake.” Until the late 18th century, there were a series of smaller ponds throughout the watershed. The dams flooded what became Megunticook Lake and Norton Pond, erasing most traces of Native American settlement.

The first dam on the Megunticook River, near the current location of the Montgomery Dam, was built by William Minot in 1771. Its original purpose was generating power to operate a grist mill. The site has had several uses over the years. Most notably, it was converted to the Alden Anchor Factory, also known as the Camden Anchor Works, in the latter half of the 19$^{th}$ century. At one time, this was the largest anchor manufacturing plant in the United States, employing more than 200 workers and producing some of the largest anchors in the world.

The site was converted to a sardine factory in the 1920s, before the dam was rebuilt in the 1930s after suffering damage from fires. The last industrial use of the dam was small-scale hydropower generation in the 1980s. In 1992, the dam was gifted to the Town of Camden by the Montgomery Family. Geologic and cartographic evidence suggest that the Megunticook River channel alignment was historically shifted to optimize power production at the Montgomery Dam site and to construct Harbor Park. Today, the Montgomery Dam does not currently serve as a source of power generation and water supply or provide flood control.

**Interpretive Signage**

The committee recognizes the importance of preserving the historical and cultural significance of the Montgomery Dam and other dams along the river. To celebrate these dams, the town could install interpretive signage and displays to document the dam’s history and its role in Camden’s development. This could include archival photos, narratives about the site’s industrial and cultural heritage, and details about the ecological restoration process. Additionally, elements of the dam’s structure could be preserved or repurposed as commemorative features within the park or along walking paths to maintain a visible connection to its historical identity. Signs could also acknowledge the pre-industrial and ecological history and of the watershed.

## HARBOR PARK

Harbor Park, originally home to shipyards, wharves, and warehouses, was transformed in the 1930s by the sons of landscape architect Frederick Law Olmsted, the renowned designer of New York City's Central Park. As a pioneer in sustainable design and conservation, Olmsted championed designing parks that harmonize with the surrounding ecology and foster human connection to nature.

While the abutting parcel containing the Montgomery Dam (owned by J. Hugh Montgomery) was not part of Harbor Park, the Olmsted brothers outlined dam improvements paid for by Mary Louise Curtis Bok. According to the Camden Public Library Board of Trustees, “Olmsted’s interests in the dam were limited to reinforcement

and strengthening necessary for the creation of Harbor Park. Grading of Harbor Park and retention/planting of trees were done specifically to block the view of the dam from Harbor Park and keep the dam out of the landscape frame Olmsted Brothers sought to have their design create."

The Olmsted brothers provided residents and visitors with access to the waterfront while preserving the area's natural beauty by creating walking paths, picnic areas, and scenic overlooks, all set against the backdrop of Camden Harbor and the Camden Public Library. Harbor Park has remained a beloved destination, and it serves as a gathering place for community events, concerts, and festivals, while also offering opportunities for recreation and relaxation along the picturesque waterfront.

Since Harbor Park is listed on the National Register of Historic Places (as part of the High Street Historic District), any Park modifications made using state or federal funding – including, but not limited to, grants; tax credits; Federal Emergency Management Agency, Recovery Act, or resiliency funds – must be reviewed by the Maine Historic Preservation Commission (MHPC) and/or the National Park Service. Any proposed changes must consider the effect on the National Register, integrity of Harbor Park, and the ability of the character-defining features to convey the historic significance of the park. The challenge here is two-fold: (1) preserve the features that convey significance and ensure the park's continued contribution to the National Register, while (2) accommodating increased flooding and the impact of severe storms.[11]

If there are proposed changes to character-defining features of Harbor Park, these will need to be reviewed by the Maine Historic Preservation Commission as well as the Town of Camden Historic Resources Committee. Depending on the scope of the project it may also require Maine DEP review and local site plan review (staff only). Any proposed changes will likely result in a Memorandum of Agreement with MHPC.

## COMMUNITY INPUT

MRCAC gathered extensive community input through a range of channels to develop a well-rounded understanding of public concerns and priorities. These channels included community Q&A sessions, meetings with advocacy groups and stakeholders, MRCAC meetings, email, tabling at events, and a public survey.

Over the course of two years, we heard a variety of concerns, including historical preservation, aesthetics, ecological health, fish passage, flood resilience, and taxpayer impact. The survey, conducted in collaboration with the University of New Hampshire, highlighted strong public interest in restoring the Megunticook River, with a focus on ecosystem health, flood mitigation, and fish migration.

Throughout the process, we received contrasting perspectives regarding the Montgomery Dam. While some residents and abutting business owners expressed concerns that removing the dam and altering the falls could negatively impact the area's aesthetics, others felt that a more natural, free-flowing river would be an aesthetic improvement. Similarly, while some residents worried that dam removal and the resulting aesthetic could harm the downtown economy, others believed that enabling fish migration and revitalizing the river would attract tourism and strengthen local businesses. Community feedback on the three Montgomery Dam scenarios strongly opposed the compromise option—partial dam removal with added fish passage—reinforcing our view that it was not a viable solution.

[11] Barba, Nancy L.H., RA, LEED AP, Licensed Architect Maine, NH, NCARB, Principal and Elizabeth H. Reynolds, PE, Director of Preservation. *Harbor Park - National Register of Historic Places Significance and Character-Defining Features*. Received by Kristy Kilfoyle, Executive Director, Camden Public Library, 25 January, 2025.

While we carefully considered community input, the community's contrasting views required us to rely heavily on our research and expert guidance to determine the best option for the long-term wellbeing and resilience of the Megunticook River and the community.

## KEY FINDINGS AND RECOMMENDATION

**We, the Megunticook River Citizens Advisory Committee, in an 8-1 decision, are recommending full removal of the Montgomery Dam**, creating a free-flowing river that reduces damage to the shoreline and complies with Camden Public Library's *Statement on Harbor Park* from April of 2024.

This decision is rooted in a comprehensive evaluation of available alternatives, with a focus on the broader benefits for Camden's ecosystem, economy, community, and infrastructure. We carefully considered the full range of technical reports and research expert-led presentations, as well as community input.

The Montgomery Dam, originally constructed to support industrial operations, no longer serves its original function and now poses significant ecological and financial burdens. The dam acts as a barrier to migratory fish species such as alewives, brook trout, and Atlantic salmon, disrupting vital spawning cycles and reducing river health and biodiversity. The dam also degrades water quality by trapping sediment, causing mud buildup, and warming the river water, further harming aquatic life.

Removal of the Montgomery Dam would restore natural water flow, improve habitat connectivity, and allow sea-run fish to return to the Megunticook Watershed, revitalizing a critical part of Maine's marine ecosystem that supports local culture and economy. Restoring fish populations has the potential to attract tourists interested in viewing Spring fish migrations and recreational fishers, contributing to tourism revenue and creating economic opportunities for local businesses.

From a resilience perspective, the dam's presence increases flood risks for downtown Camden by obstructing natural water drainage during heavy rain events. As climate change leads to more intense storms and rising sea levels, maintaining the dam would exacerbate these risks to surrounding infrastructure. Removing the dam would improve the town's flood resilience by restoring natural flow pathways and reducing strain on emergency management efforts during storm surges.

Dam removal also represents the most cost-effective option in the long term. Unlike dam restoration or partial removal, full removal minimizes ongoing maintenance costs and eliminates the need for expensive structural inspections and repairs. It also reduces the cost of recovery from so-called nuisance floods as well as catastrophic ones by providing new areas for flooding water limiting or preventing damage to developed land or properties.

In addition, by providing fish passage, dam removal unlocks external funding opportunities that can significantly offset initial costs, making this a sustainable long-term investment for the town. Removing the Montgomery Dam could also unlock funding for removing the three private dams above it and adding fish passageways at the three upper dams. Removing the four lower dams would allow two miles of the river to flow freely, reconnecting divided ecosystems; enable sea-run fish to complete their migrations up river; and improve the health of the watershed and ocean ecosystems, making them more resilient to the effects of climate change.

Dam removal would also open up more recreation opportunities such as canoeing, kayaking, and fishing and could spur increased foot traffic to the area, benefiting local shops, restaurants, and accommodations. A riverwalk along the revitalized waterway could enhance Camden's appeal to visitors, supporting the tourism industry and boosting the local economy.

While we acknowledge concerns about the historical and aesthetic significance of the Montgomery Dam, we believe that the ecological, economic, and community benefits of a restored, resilient river system outweigh these considerations. Removal provides an opportunity to honor the site's history in innovative ways, such as interpretive signage or public art installations, while fostering a healthier and more sustainable environment for future generations.

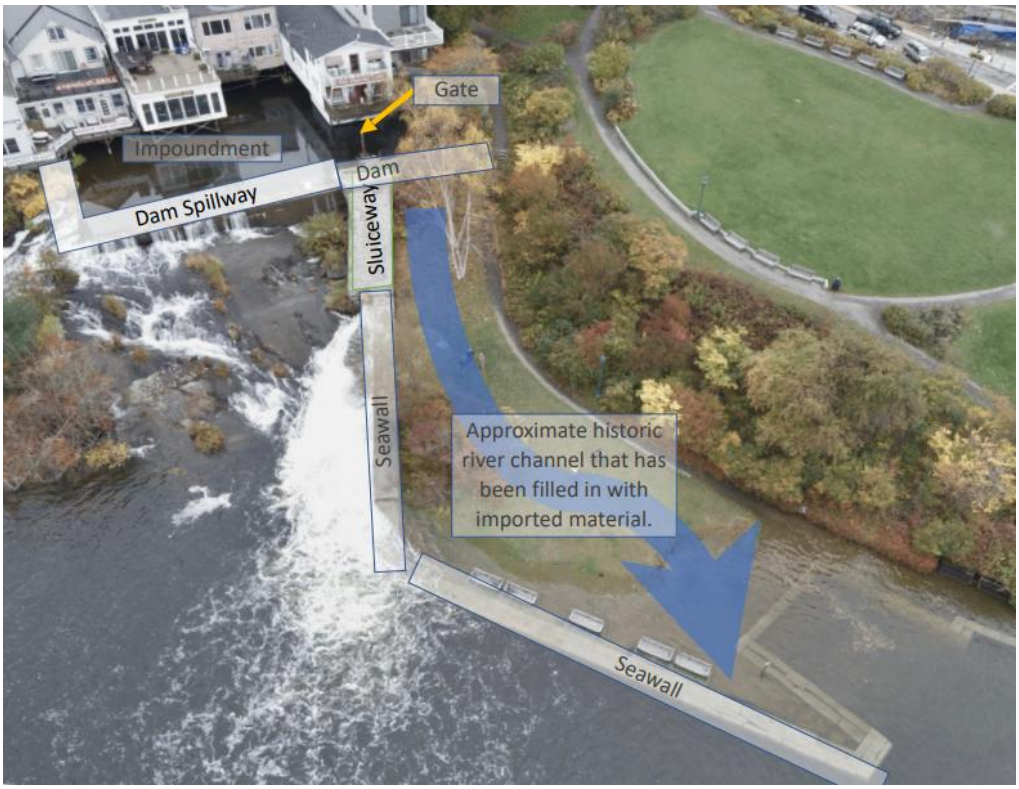
As members of MRCAC, we appreciate the opportunity to serve on this committee and wish to acknowledge the excellent, professional support of our consultants, facilitators, Town of Camden staff, and citizens of Camden. We remain committed to our work through the June vote and beyond, as needed.

Respectfully submitted by:

Ray Andresen
Courtney Cease
Deb Chapman
Elphie Owen
Ellen Reynolds
Tyler Smith
Seth Taylor
Rick Thackeray
Susan Todd

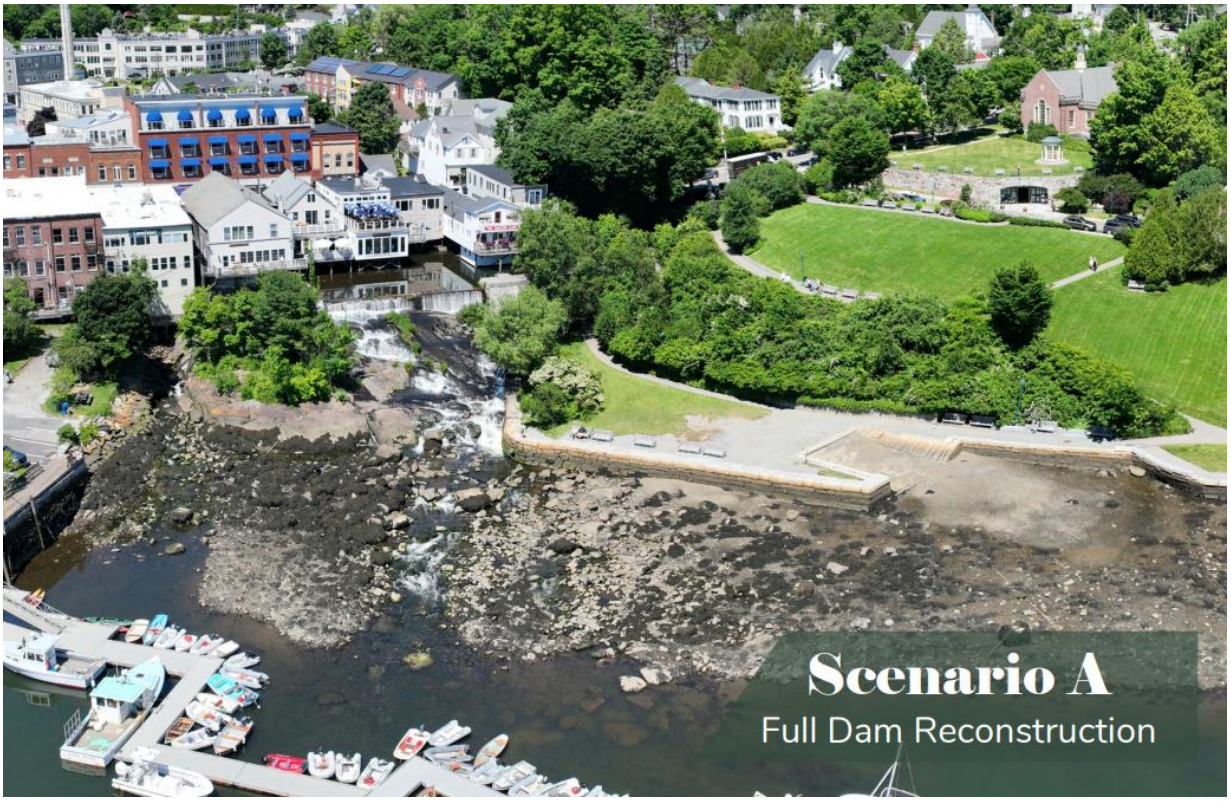
# APPENDIX: RESOURCES AND REFERENCES

## DAM COMPONENTS AND EXISTING CONDITIONS



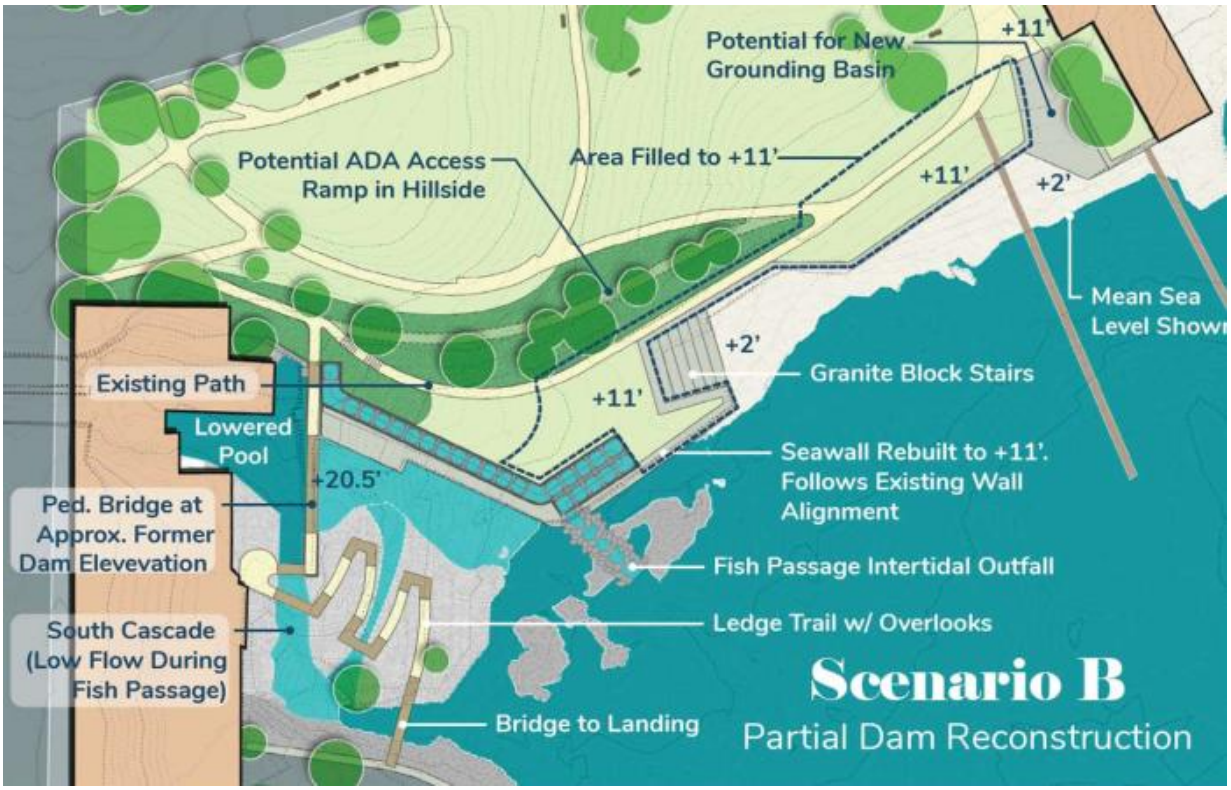

## SCENARIO RENDITIONS

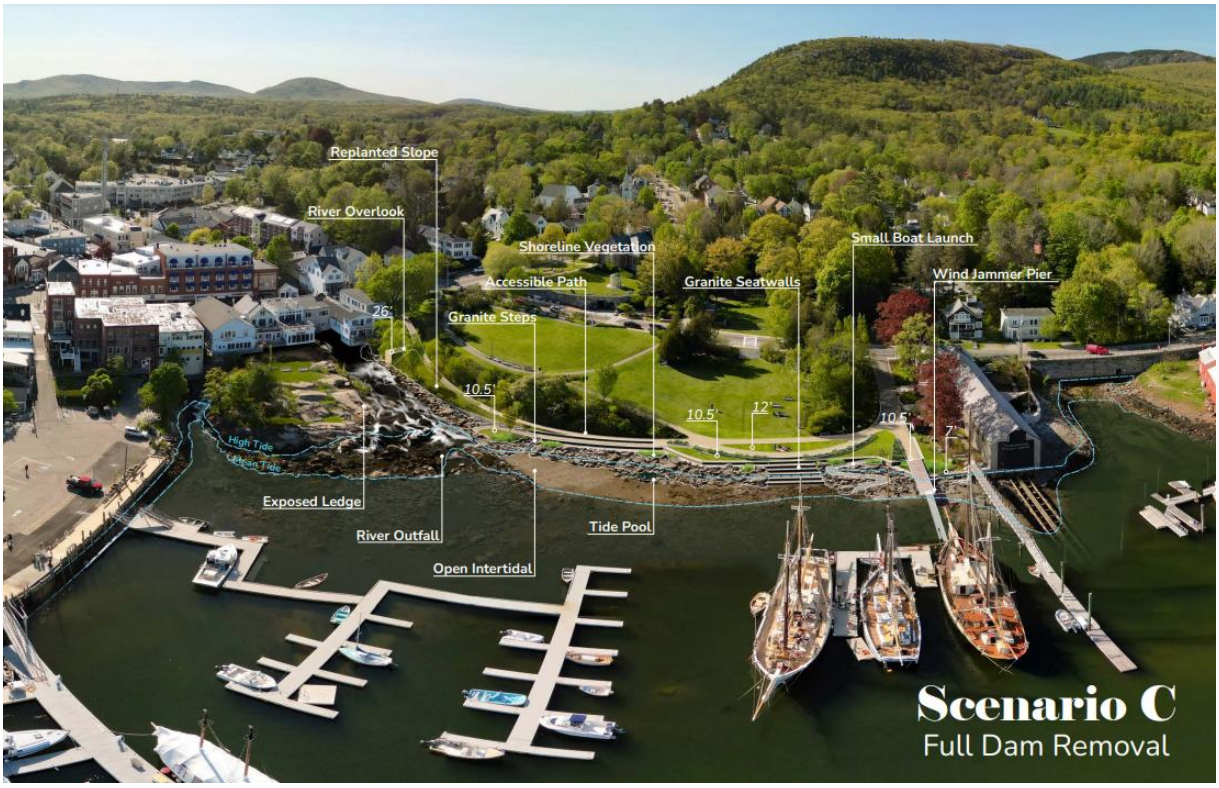
These renditions, created by Viewshed with support from Inter-Fluve in 2024, do not reflect final designs.

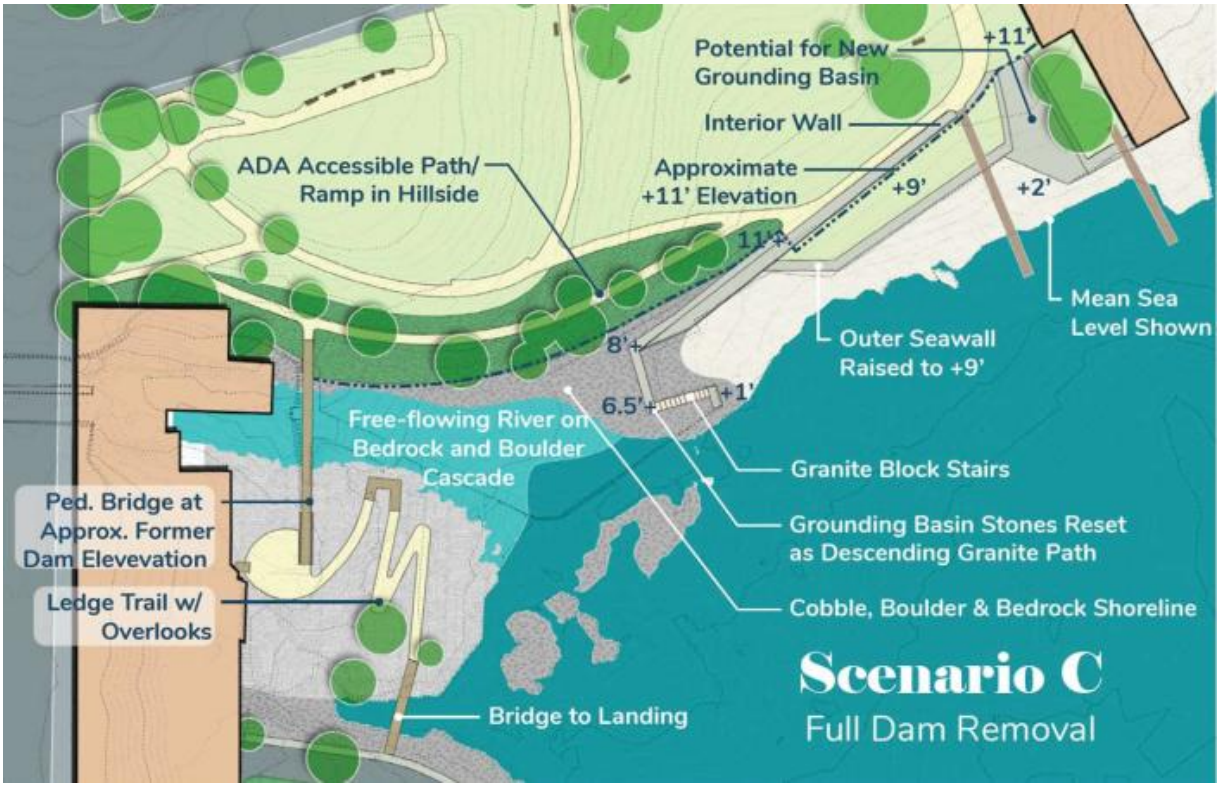




Lowered Impoundment
Fish Passage
Accessible Path
Granite Block Stairs
New Grounding Basin
Seawall Rebuilt Along
Existing Wall Alignment
11'
11'
Fish Passage Intertidal Outfall
Scenario B
Partial Dam
Reconstruction

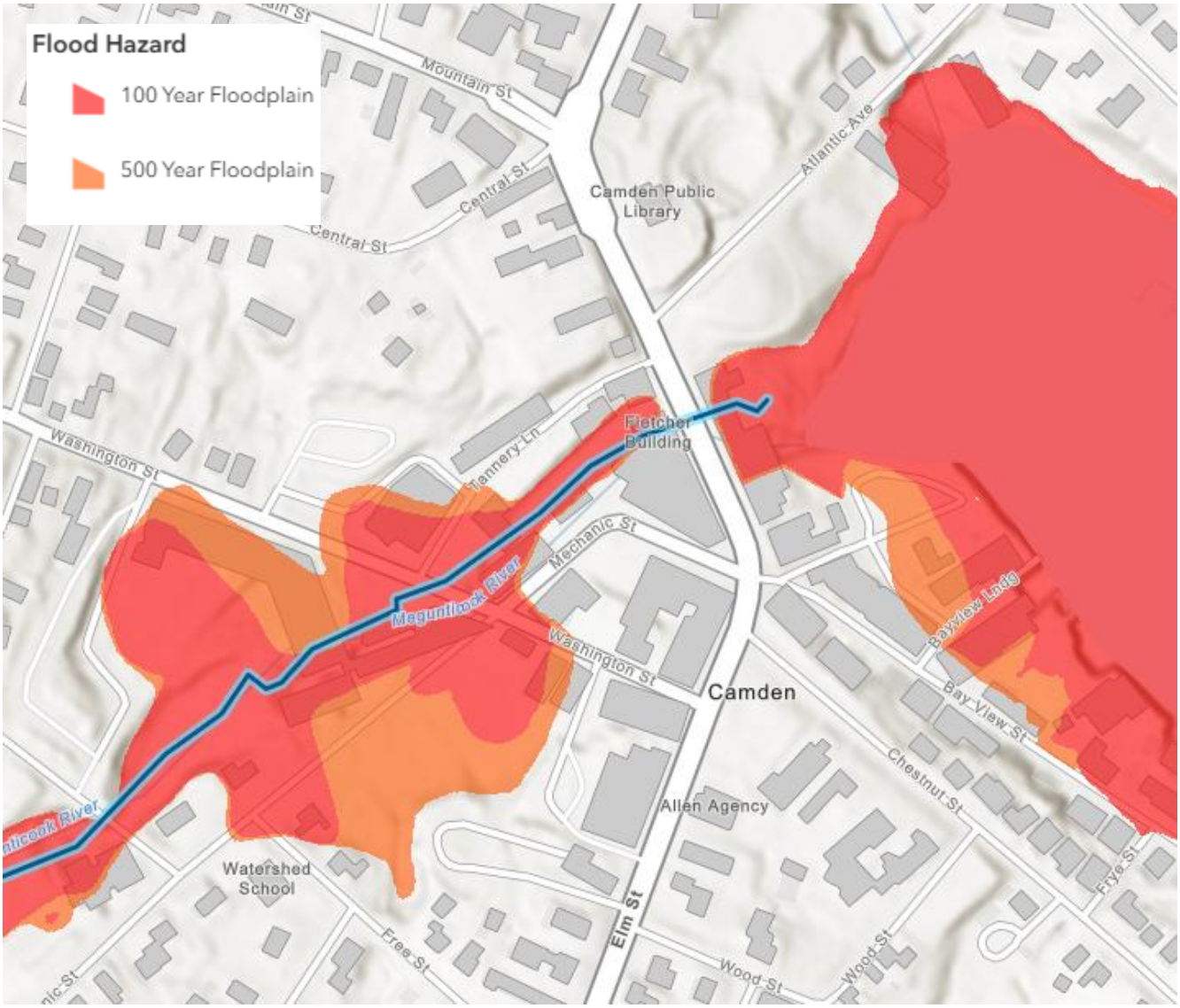

Potential for New
Grounding Basin
+11'
Potential ADA Access
Ramp in Hillside
Area Filled to +11'
+11'
+2'
Mean Sea
Level Show
+2'
Granite Block Stairs
Existing Path
+11'
Lowered
Pool
Seawall Rebuilt to +11'.
Follows Existing Wall
Alignment
+20.5'
Ped. Bridge at
Approx. Former
Dam Elevation
Fish Passage Intertidal Outfall
South Cascade
(Low Flow During
Fish Passage)
Ledge Trail w/ Overlooks
Scenario B
Bridge to Landing
Partial Dam Reconstruction


Replanted Slope
River Overlook
Shoreline Vegetation
Accessible Path
Granite Seatwalls
Small Boat Launch
Wind Jammer Pier
Granite Steps
26'
10.5'
10.5'
12'
10.5'
7'
High Tide
Ocean Tide
Exposed Ledge
River Outfall
Tide Pool
Open Intertidal
Scenario C
Full Dam Removal


Potential for New Grounding Basin
+11'
Interior Wall
ADA Accessible Path/ Ramp in Hillside
Approximate +11' Elevation
+9'
+2'
11'+
Mean Sea Level Shown
8'+
Outer Seawall Raised to +9'
6.5'+
+1'
Free-flowing River on Bedrock and Boulder Cascade
Granite Block Stairs
Ped. Bridge at Approx. Former Dam Elevevation
Grounding Basin Stones Reset as Descending Granite Path
Ledge Trail w/ Overlooks
Cobble, Boulder & Bedrock Shoreline
Bridge to Landing
Scenario C
Full Dam Removal

## FLOOD MAP

This map is from an interactive tool on the [MRCAC Website] showing possible flooding along the Megunticook River. The special hazard flood area, or the 100-year floodplain with 1% annual chance of flooding extends along the Megunticook River as it flows to Camden Harbor from Megunticook Lake. In several areas the 500-year floodplain or 0.2% annual chance of flooding extends beyond the 100-year floodplain. For more information, visit Federal Emergency Management Agency (FEMA) [Flood Maps Service Center].



## KEY DOCUMENTS

| Title | Author(s) | Brief Description |
|---|---|---|
| 2019 Feasibility/Alternatives Analysis Report Montgomery Dam, Megunticook River Camden, ME | Inter-Fluve and Gartley & Dorsky | Presents a series of fish passage improvement options for the Montgomery Dam. Also includes details on site history, current site conditions, flow and flood patterns, potential constraints, and cost estimates. |
| 2021 Megunticook River Feasibility Report | Inter-Fluve and Gartley & Dorsky | Presents a series of fish passage improvement options for each of the passage barriers along the Megunticook River. Also includes details on current site conditions, flow and flood patterns, potential constraints, and cost estimates. Information specific to the Montgomery Dam can be found primarily on pages 20-23, 41-45, 73, 89, 95-99, and 139. |
| 2022 Montgomery Dam Removal & Fish Passage Design | Inter-Fluve | A technical report outlining conceptual designs and landscape renderings for the Montgomery Dam and the buildings that hover over the dam impoundment. |
| 2024 Montgomery Dam Cost Analysis Memorandum | Inter-Fluve | This memorandum describes the estimated opinions of probable cost associated with three different alternatives developed for the Montgomery Dam. |
| Megunticook River Watershed Gap Analysis | FB Environmental | A report summarizing the available existing information related to the Megunticook River and Watershed and identified gaps in information. Also includes prioritization of these gaps by MRCAC. |
| Camden Mill Walk Brochure | Camden Historic Resources Committee | Offers a brief history of Camden, with a focus on the industrial period and its associated mills located along the Megunticook River. |
| Megunticook River Citizens Advisory Committee 2023 Community Survey | The Survey Center, University of New Hampshire (UNH) | Results report from a community survey developed by MRCAC in conjunction with UNH and FB Environmental from August-October 2023. The survey sought feedback from the community regarding their awareness of MRCAC and the river restoration project, topics of interest, use of the watershed, and engagement interest and methods. |
| Camden Public Library's Statement on Harbor Park | Camden Public Library Board of Trustees | A statement regarding priorities and design guidelines for any project that encompasses Harbor Park. |

## MRCAC MEETINGS

Recordings of each meeting are hyperlinked in the date of the meeting.

| Year | Meeting Date | Year | Meeting Date | Year | Meeting Date | Year | Meeting Date |
|---|---|---|---|---|---|---|---|
| 2022 | 20-Sep-22 | 2023 | 10-Jan-23 | 2024 | 30-Jan-24 | 2025 | 8-Jan-25 |
| | 18-Oct-22 | | 7-Feb-23 | | 12-Mar-24 | | 15-Jan-25 |
| | 1-Nov-22 | | 7-Mar-23 | | 10-Apr-24 | | 22-Jan-25 |
| | 6-Dec-22 | | 4-Apr-23 | | 8-May-24 | | 6-Feb-25 |
| | | | 6-Jun-23 | | 12-Jun-24 | | 12-Feb-25 |
| | | | 11-Jul-23 | | 10-Jul-24 | | |
| | | | 8-Aug-23 | | 11-Jul-24 | | |
| | | | 12-Sep-23 | | 13-Aug-24 | | |
| | | | 10-Oct-23 | | 9-Oct-24 | | |
| | | | 14-Nov-23 | | 13-Nov-24 | | |
| | | | 12-Dec-23 | | 4-Dec-24 | | |
| | | | | | 11-Dec-24 | | |
| | | | | | 18-Dec-24 | | |

## MRCAC PRESENTATIONS AND EVENTS

Event recordings, summaries, and Q&A can be found on MRCAC website:
https://www.megunticookrivercac.com/pages/education-presenter-series

| Date | Presenter(s) | Title |
|---|---|---|
| January 17, 2023 | Laura Diemer and Luke Frankel, FB Environmental | Megunticook River & Watershed Ecology |
| February 21, 2023 | Nate Gray, Maine Department of Marine Resources | River Ecology and the Importance Anadromous Fish have on the Ecosystem |
| March 21, 2023 | Mike Burke, Inter-Fluve | Overview of Megunticook River Technical Studies |
| April 18, 2023 | Ken Gross, Camden Historical Society | History of the Megunticook River |
| May 16, 2023 | Darren Ranco, University of Maine / Penobscot Nation | Wabanaki Land Relations, Caretaking, and Responsibility- Thoughts on the Megunticook |
| June 27, 2023 | David St. Laurent, Town of Camden Public Works | Camden Dam Operation Tour |
| July 25, 2023 | Tim Trumbauer, Megunticook Watershed Association | Megunticook Lake Boat Tour |
| August 23, 2023 | Matt Bernier and Jamie Carter, National Oceanic and Atmospheric Administration (NOAA) and Alison McKeller, Town of Camden Selectboard | NOAA and NFWF Community Conversation |
| October 30, 2023 | Nathan Furey, University of New Hampshire | Migratory Fish: A Primer |
| February 7, 2024 | Don Clement, Exeter Conservation Commission/Exeter Squamscott Local Advisory Committee; Billy Helprin, Somes-Meynell Wildlife Sanctuary; Matt Foster, Town of Farmington; and Ciona Ulbrich, Maine Coast Heritage Trust | River Restoration Roundtable: Lessons Learned from Other Communities |
| October 22 and October 30, 2024 | MRCAC | Gathered community input on the financial, environmental, and management challenges |

## POTENTIAL GRANT OPPORTUNITIES FOR FISH PASSAGE INSTALLATION OR DAM REMOVAL

| Grant Name | Funding Organization | Funds Available | Allowable Projects | Applicable to Montgomery Dam? |
|---|---|---|---|---|
| America the Beautiful Challenge | NFWF, DOI, DOD, USFS, NRCS | $116 in FY2023, $1-$5 million per implementation project | Projects must meet 1 of 5 categories:<br>- Conserving and restoring rivers, coasts, wetlands and watersheds<br>- Conserving and restoring forests, grasslands and important ecosystems that serve as carbon sinks<br>- Connecting and reconnecting wildlife corridors, large landscapes, watersheds, and seascapes<br>- Improving ecosystem and community resilience to flooding, drought, and other climate-related threats<br>- Expanding access to the outdoors, particularly in underserved communities | Yes |
| Climate Resilience Regional Challenge | NOAA | $575 million in FY2024, program may not be offered in the future | Collaborative projects that increase the resilience of coastal communities to extreme weather (e.g., hurricanes and storm surge) and other impacts of climate change, including sea level rise and drought. | Yes |
| Embrace a Stream | Trout Unlimited | Max award is $10,000 (1:1 match required) | Must apply through state TU Council. Funds on-the-ground restoration, protection, or conservation efforts that benefit trout and salmon fisheries and their habitats, education or outreach projects that increase the awareness and support of cold-water conservation among a non-TU audience, feasibility studies, campaign planning, or other tools that will directly contribute to TU's imminent ability to benefit cold-water resources, applied research, assessment, or monitoring that addresses the causes of fisheries or watershed problems and helps develop management solutions | Yes |
| Five Star and Urban Waters Restoration Grant | NFWF, Wildlife Habitat Council, EPA, USFS, | $2 million in FY2024, up to $60,000 per project | Ecological improvements may include one or more of the following: wetland, riparian, forest and coastal habitat restoration; wildlife conservation, community tree canopy enhancement, wildlife habitat, urban agriculture | Yes |

| | | | | |
|---|---|---|---|---|
| | USFWS, NRCS | | and community gardens, wildlife and water quality monitoring and green infrastructure best management practices for managing run-off.<br><br>Projects should increase access to the benefits of nature, reduce the impact of environmental hazards and engage local communities, particularly underserved communities, in project planning, outreach and implementation. | |
| Flood Mitigation Assistance | FEMA | $800 million in FY2023 | Focus on reducing or eliminating the risk of repetitive flood damage to buildings and structures insured by the National Flood Insurance Program (NFIP). | Yes |
| Maine Coastal Community Grants | ME Department of Agriculture, Conservation, and Forestry | $165,000 in FY2024, up to $50,000 per project | Projects that build community resilience to adapt to a changing climate. Projects can include green infrastructure; preparing communities for coastal storms and storm surge, shoreline erosion, sea level rise, and flooding; and planning for reducing water quality impacts from land use activities. | Yes |
| National Coastal Resilience Fund | NFWF and NOAA | $144 million in 2023 | Supports the implementation of nature-based solutions to enhance the resilience of coastal communities and ecosystems to these threats. We strategically invest in projects that construct or restore coastal habitats that increase the capacity of communities and habitats to withstand and recover from disruptions and adapt to changing environmental conditions. | Yes |
| National Fish Passage Program | US Fish and Wildlife Service | Average $70,000 per project, match is flexible (aim for 50%, can be federal) | Improves community infrastructure resilience, rebuilds fish populations, improves recreational and commercial fisheries, and restores the beauty of free-flowing waters. Provide financial and technical assistance to support projects that improve fish passage. | Yes |
| Rehabilitation of High Hazard Potential Dams | FEMA | $185.12 million available in FY2024. | Planning, design, rehabilitation, repair, and removal of non-federal dams designated as high hazard potential in the National Inventory of Dams (NID). Dam must have a FEMA-approved Hazard Mitigation Plan. | No |

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| Restoring Fish Passage through Barrier Removal | NOAA | $175 million in 2023. $1-$20 million per project. | This funding will support the locally led removal of dams and other in-stream barriers. Selected projects will sustain our nation's fisheries and contribute to the recovery of threatened and endangered species. They may also provide community and economic benefits, such as jobs and climate resilience. | Yes |
| Section 206 Aquatic Ecosystem Restoration | US Army Corps of Engineers | Up to $10 million per project, 35% non-federal match required for design and construction | Projects must improve the quality of the environment, be in the public interest, demonstrate cost effectiveness and be no more than $10.0 million in total cost. | Yes |
| Transformational Habitat Restoration and Coastal Resilience | NOAA | $240 million in 2023, $1-$25 million per project | Transformational habitat restoration projects that restore marine, estuarine, or coastal ecosystems, using approaches that enhance community and ecosystem resilience to climate hazards. Funding will prioritize habitat restoration actions that: demonstrate significant impacts; rebuild productive and sustainable fisheries; contribute to the recovery and conservation of threatened and endangered species; promote climate-resilient ecosystems, especially in tribal, indigenous, and/or underserved communities; and improve economic vitality, including local employment. | Yes |
| Watershed and Flood Prevention Operations Program | NRCS | $500 million available, 1:1 cost share required | Plan and implement authorized watershed projects for the purpose of: Flood Prevention, Watershed Protection, Public Recreation, Public Fish and Wildlife, Agricultural Water Management, Municipal and Industrial Water Supply, Water Quality Management | Yes |

Funding resources were sourced in part from American Rivers *Dam-Related Funding in the Infrastructure Investment and Jobs Act* (https://www.americanrivers.org/wp-content/uploads/2023/02/American-Rivers-IIJA-Dam-Related-Funds-2-pager.pdf), DamSafety.org *Alternative Funding for Dam Rehabilitation and Removal* (https://damsafety.org/sites/default/files/files/FundingAssistance.pdf), and the Congressional Research Service *Federal Resources for Non-federal Dam Safety* (https://sgp.fas.org/crs/misc/R47383.pdf).

## POTENTIAL GRANT OPPORTUNITIES FOR DAM REPAIR

| Grant Name | Funding Organization | Funds Available | Allowable Projects | Applicable to Montgomery Dam? |
|---|---|---|---|---|
| Building Resilient Infrastructure and Communities | FEMA | $1 billion in FY2023. 25% non-federal match required. | Incentivize natural hazard risk reduction activities that mitigate risk to public infrastructure, incorporate nature-based solutions including those designed to reduce carbon emissions, enhance climate resilience and adaptation, and promote equity and prioritize disadvantaged communities. | No |
| Corps Water Infrastructure Financing Program (CWIFP) | US Army Corps of Engineers | $81 million for 2023, up to $20 million per project | Safety projects to maintain, upgrade, repair, or remove non-federal dams for flood damage reduction, hurricane and storm damage reduction, environmental restoration, coastal or inland harbor navigation improvement, or inland and intracoastal waterways navigation. *Note this is a loan NOT a grant* | Yes |
| Flood Mitigation Assistance | FEMA | $800 million in FY2023 | Focus on reducing or eliminating the risk of repetitive flood damage to buildings and structures insured by the National Flood Insurance Program. | Yes |
| Hazard Mitigation Assistance (404 Program) | FEMA | 25% non-federal match required. | Available when authorized through a major disaster declaration. To plan for and implement mitigation measures that reduce the risk of loss of life and property from future natural disasters during the reconstruction process following a disaster | No |
| Maine Historic Preservation Fund Grants | Maine Historic Preservation Commission (federally funded) | $5,000-$24,995 (1:1 match required) | Architectural or archaeological survey or development or pre-development projects. Eligible properties must be listed in the National Register of Historic Places. | No |
| Pre-Disaster Mitigation Grant Program | FEMA | $233 million for FY2023. 25% non-federal match required. | Plan for and implement sustainable cost-effective measures designed to reduce the risk to individuals and property from future natural hazards, while also reducing reliance on federal funding from future natural disasters. | Yes |
| Rehabilitation of High Hazard Potential Dams | FEMA | $185.12 million available in FY2024. | Planning, design, rehabilitation, repair, and removal of non-federal dams designated as high hazard potential in the National Inventory of Dams. Dam | No |

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| | | | must have a FEMA-approved Hazard Mitigation Plan. | |
| Watershed REHAB Program | NRCS | | Rehabilitate aging dams that are reaching the end of their design lives; and/or build or augment existing water supplies based on current and future water supply demands. | Likely not competitive |