ADDENDUM NO. 2

TO

CITY OF AUBURN, MAINE

Littlefield Dam Removal BID#2025-019

DATE: 2/20/2025

This addendum amends and /or supplements the bid documents as indicated below. Only these items alter the bid documents. Any verbal discussions or responses are hereby declared null and void. Please acknowledge this addendum on the Bid Proposal Form.

Q: **Is the city able to send a copy of the NOAA grant application.**

Answer: Yes, please see attached.

Q: On Page 2 of the RFP, bullet point number 1, can the City please confirm if a "schedule of values" form is required for this proposal? If so, can the City please provide this form? It was not included with the original posting.

Answer: Please use the proposal form (page 15/15) as well as pricing laid out in section L **Cost Proposal** in a separate sealed envelope written across the seal "Cost Proposal" that is itemized by tasks as identified in Section II, including personnel and rates anticipated. Work shall be performed on a time and expense, not-to-exceed basis**.**

Q: Can the city provide the background documentation for the construction costs?

Answer: Yes, please see attached.

Q: Due to the quick turnaround time between when the final Q&A is released and the proposal due date with eight printed copies, would the city consider allowing consultants to include electronic signatures in lieu of wet signatures for the proposal and the proposal form.

Answer: Yes, electronic signatures will be accepted.

Q: In section VI of the RFP, you outline the required proposal elements A through L. Should our proposal follow this order explicitly, or can we rearrange the order slightly

Answer: Please follow the outline A through L so items are consistent across all proposals.

Q: For construction observation, can you provide some more detail on the level of oversight that is expected of the consultant? Will the City of Auburn or any other project partners have staff available for covering some days on site? At a minimum of twice week visual onsite inspection with written reporting once a week, the city will be available to inspect as well and respond to questions and calls.

Q: There is a basis of design memo required in Task 2 for the permit level designs. The memo is not mentioned as a deliverable for the final designs. Should we assume this memo will need to be updated at the final design stage? Yes, please assume this memo is required.

Q: The monitoring task describes the data needs but does not specify any deliverable. Will this be a transfer of the data to the project partners, or should we include a budget for a monitoring report. Please include a final monitoring report for Task 8 that includes a rollup of the data pre and post.

Project Summary (2 page limit)

1. Applicant Organization
City of Auburn

2. Project Title
Littlefield Dam Removal and Little Androscoggin Watershed Improvements

3. Site Location
44°03'54.8"N 70°15'51.5"W
Little Androscoggin River
Auburn, ME 04210

4. Brief Project Description
-Project Goals
The proposed project will result in removal of the breached Littlefield Dam, a defunct former hydroelectric project in the Little Androscoggin River. Project steps will include design, permitting, construction, and monitoring. Successful completion of the project is a critical first step in opening up spawning habitat on the Little Androscoggin River for diadromous fish, specifically American shad, blueback herring, alewife, Atlantic salmon, American Eel, and sea lamprey. Additionally, the proposed project will conduct a feasibility study for implementation of fish passage infrastructure at three non-hydroelectric dams along Taylor Brook, an important tributary of the Little Androscoggin River. If eventually realized, such infrastructure would provide passage between the Little Androscoggin River and Taylor Pond. This would have particular impact on and add great potential for local alewife populations.

Together, the proposed improvements on the Little Androscoggin and Taylor Brook will create a healthier overall ecosystem, bolster public safety, create new opportunities for recreation, and help to develop fish as an important food source in an area with a large population of low-income individuals and immigrants.

-Regional and Watershed Context
The Little Androscoggin River flows from Bryant Pond to its confluence with the Androscoggin River in Auburn, Maine. The two rivers connect in the City of Auburn. Eventually, the Androscoggin River empties into Merrymeeting Bay in the Gulf of Maine.

Historically, the Little Androscoggin was a critical spawning habitat for diadromous fish. The confluence of the Little Androscoggin with the Androscoggin main stem in New Auburn was the site of an important fishing village for the Abenaki, who relied on salmon and other diadromous fish as a principal food source. Damming of the river for mills and hydroelectric projects eliminated access to this habitat. While diadromous fish currently have access along the Androscoggin River to its intersection with the Little Androscoggin, their migration up the Little Androscoggin River is blocked by multiple dams. As part of ongoing Federal Energy Regulatory Commission licensing renewals, fish passage infrastructure will be installed at two of these in coming years. In FERC negotiations, the existence of the Littlefield Dam as an upstream barrier has been cited by KEI, the owner of two downstream dams (Upper and Lower Barker Mills Dams), as a reason not to improve fish passage. When combined with fish passage improvements at the Upper and Lower Barker Mills dams, removal of the breached Littlefield Dam will make an additional 9.13 miles of river mile habitat available for diadromous species, and provide full volitional access for alewife to Worthley pond, a 42 surface-acre water body which is currently inaccessible.

Taylor Pond is a 625 surface-acre water body that drains to Taylor Brook, which is a tributary of the Little Androscoggin River. The feasibility study for fish passage along Taylor Brook will assess the potential for additional habitat and migration connectivity between the Little Androscoggin and Taylor Pond which

is a traditional alewife spawning area. The study is a necessary first step toward opening up an additional, separate 4.18 miles of potential upstream habitat.

Timeline

The proposed removal of Littlefield Dam is currently at the conceptual level and is intended to last 3 years. Assuming a project start date in August of 2024, the first year of the grant is anticipated for design and permitting; the second year (through August 2026) is anticipated for demolition of the Littlefield Dam and restoration of the nearby riverbank. The third year is anticipated to only include project monitoring (through August of 2027). The proposed feasibility study for fish passage along Taylor Brook is proposed to begin in the second year of the grant and conclude prior to August of 2027.

5. Landowner and Stakeholder Outreach

The City of Auburn is working with numerous grassroots community groups, property owners, and non-profit organizations to improve the ecological health and community benefit of the Little Androscoggin River. The Auburn Conservation Commission, a group of citizen volunteers, has been a leader in this project and has prioritized community outreach since it began efforts to upgrade fish passage on the Little Androscoggin in 2017. The letters included with this application show the breadth of support and the extent of the community engagement that has already taken place. Among the letters included is one from the landowner of the Littlefield Dam, the Martindale Country Club, which has long supported removal of the breached obsolete dam due to the liabilities it poses. Severe weather events relating to climate change, including several storms during the summer of 2023 that saw three inches of rain in an hour, create even greater urgency for removing the deteriorating dam. Abutting residential property owners are supportive of dam removal for similar reasons, assuming satisfactory limitation and mitigation of construction impacts. Also supportive are neighboring industrial property owners, Central Maine Power, Pionite Plastics, and a Maine energy-to-waste facility (MWAC), which would provide construction staging and access to the parcel due to site constraints on the owner's property. Owners of dams along the Taylor Brook have also expressed support for upgrades to fish passage, and a letter of support is included.

In addition to working closely with abutters and local partner organizations, the City of Auburn is committed to maximizing the public benefit of the Little Androscoggin River for residents of the wider region, particularly low-income residents who will gain access to new opportunities for recreational and subsistence fishing from the project. The Little Androscoggin joins with the Androscoggin River in New Auburn, a traditionally working-class neighborhood of the city that historically housed immigrant millworkers and has a high percentage of multi-family apartment buildings. As of the 2020 census, 18% of the population of the census tract that includes New Auburn lived below the poverty line, and the median household income of the area was $41,000. Directly across the Androscoggin in Lewiston are three of the poorest census tracts in the State of Maine, with at least 40% of the population in each of these tracts living below the poverty line. Rates of food insecurity align closely with these high rates of poverty (Census.gov). Restoring populations of diadromous fish to the Little Androscoggin to the point that they can serve as a significant food source will take time, but we believe that the upgrades in this proposal represent a critical first step.

6. Funding Request

The proposed project budget is $3,518,255. The entirety of that amount is requested via this funding opportunity. That sum is necessary in order to cover all relevant project costs from design and permitting through construction/demolition and implementation monitoring. The estimated project costs are summarized below and further detailed in the Budget Summary:

Phase 1 - Engineering Design, Permitting & Construction Administration Services - $578,560
Phase 2 – Littlefield Dam Removal Construction - $2,758,330
Phase 3 - Taylor Brook Fish Passage Feasibility Study - $169,500

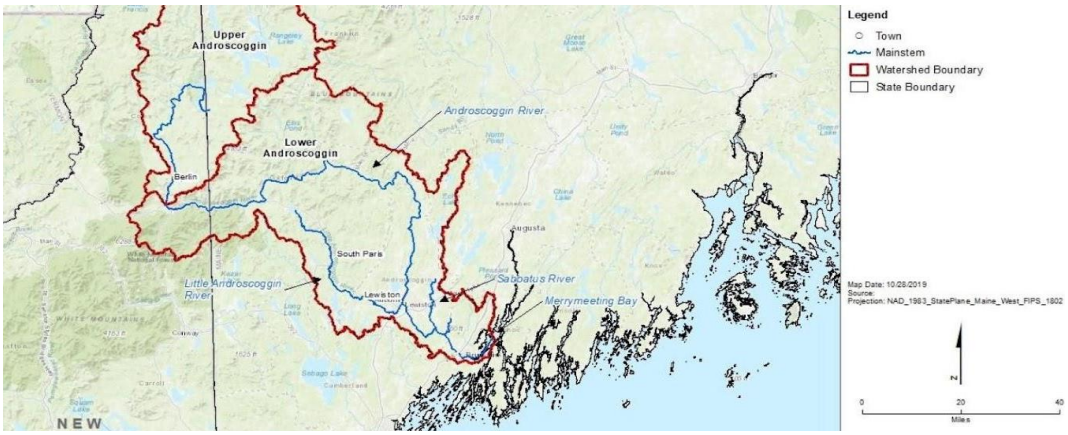
Project Narrative (18 page limit)

The Littlefield Dam on the Little Androscoggin River

1. Importance and Applicability
a. Priority for Migratory Fish

The proposed project will remove the obsolete, breached Littlefield Dam from the Little Androscoggin River in Auburn, Maine after preparation of necessary designs and permits. Additionally, it will include a feasibility study for installation of fish passage at three dams on the Taylor Brook, which is a tributary to the Little Androscoggin River.

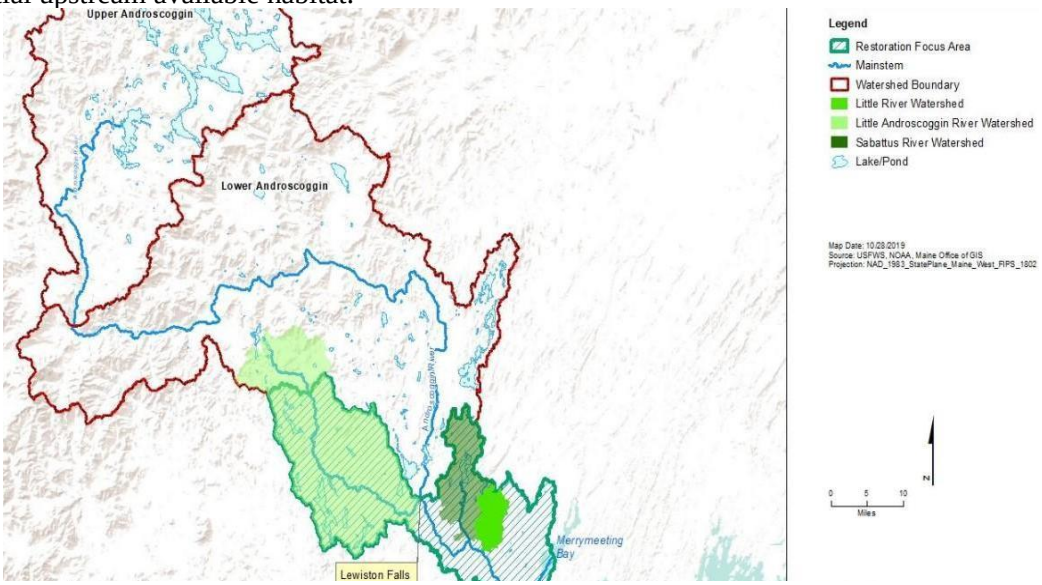
The Little Androscoggin River historically provided habitat for American shad, blueback herring, alewife, Atlantic salmon, American Eel, and sea lamprey. Our proposal to remove the Littlefield Dam and improve fish passage in the Taylor Brook tributary is significant on its own; it will improve river habitat, mitigate a significant safety liability, and contribute to ongoing local efforts to open up the river as a destination for recreation and a source of fish for consumption. However, it is most significant in conjunction with legally-binding commitments to install fish passage at the two downstream hydroelectric dams as mandated under FERC relicensing agreements. Taken together, those near-term fish passage installations and removal of the Littlefield Dam will restore 9.13 river miles of important diadromous fish habitat in the Little Androscoggin River.



Detail of Figure 1 from the Androscoggin River Watershed Comprehensive Plan for Diadromous Fishes (Androscoggin CP)

The proposed project leverages opportunities and strategies identified in NOAA's *Androscoggin River Watershed Comprehensive Plan for Diadromous Fishes* (Androscoggin CP) to help restore 9.13 river miles of diadromous fish habitat in the Little Androscoggin River (including American shad, blueback herring, Atlantic salmon, American Eel, sea lamprey, and alewife). It is of particular priority for alewife, as the Little Androscoggin River habitat opened up by removal of the Littlefield Dam will provide full volitional access for alewife to the currently inaccessible Worthley pond (a 42 surface-acre water body).

The feasibility study for fish passage along Taylor Brook will assess the potential for additional habitat and migration connectivity between the Little Androscoggin and Taylor Pond (a 625 surface-acre water body), which is a traditional alewife spawning recently stocked by the Maine Department of Marine Resources. (Stocking was halted because of Covid-19 but is expected to resume within the next several years). The feasibility study is a necessary first step toward opening up an additional, separate 4.18 miles of potential upstream available habitat.



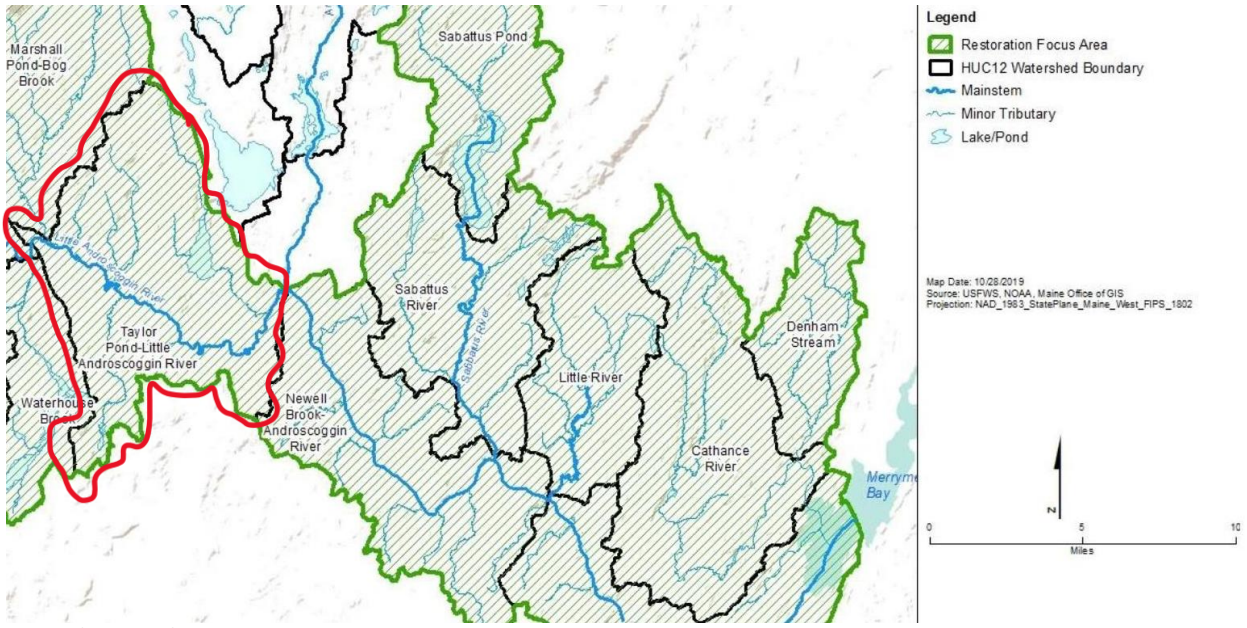
Detail of Figure 2 from the Androscoggin CP. The proposed project is within the CP's restoration focus area.

Per the Androscoggin CP, implementing these improvements to the Little Androscoggin and Taylor Brook will:

"build off existing management actions in the *Recovery Plan for the Gulf of Maine Distinct Population Segment of Atlantic Salmon (Salmo salar)* and *Draft Androscoggin Fisheries Management Plan* to provide synergistic restoration benefits. The geographic scope of the Androscoggin CP is the Androscoggin River watershed with a restoration focus downstream from Lewiston Falls, the Little Androscoggin River, the Sabattus River, and the Little River. These areas align with critical habitat for Atlantic salmon and represent a practical portion of the historical diadromous fish habitat on which we intend to focus our efforts."

While diadromous fish previously thrived throughout the Androscoggin River watershed (the river outlets to Merrymeeting Bay in the Gulf of Maine), habitat became extremely limited due to the construction of dams over the last several hundred years, as well as severe water pollution from industrial development. Diadromous fish populations were drastically reduced, but fishery management, fish stocking, and passage construction efforts in the last several decades have enabled populations to travel up the Androscoggin River to its confluence with the Little Androscoggin River. Removal of the Littlefield Dam, in conjunction with mandated fish passage installation required by relicensing of two nearby hydroelectric dams, will enable the critical next step of population restoration in the Little Androscoggin River.

Given existing successful efforts between the proposed project area and Merrymeeting Bay to restore habitat for diadromous fish, the Little Androscoggin River represents a meaningful and achievable set of near-term expansions and improvements. The Androscoggin CP defines the majority of the Little Androscoggin River, as well as the Sabattus and Little Rivers, as the focus area for diadromous fish restoration. Completion of the proposed project will enable subsequent habitat restoration opportunities farther along the Little Androscoggin River, which runs approximately 51 miles and far inland.

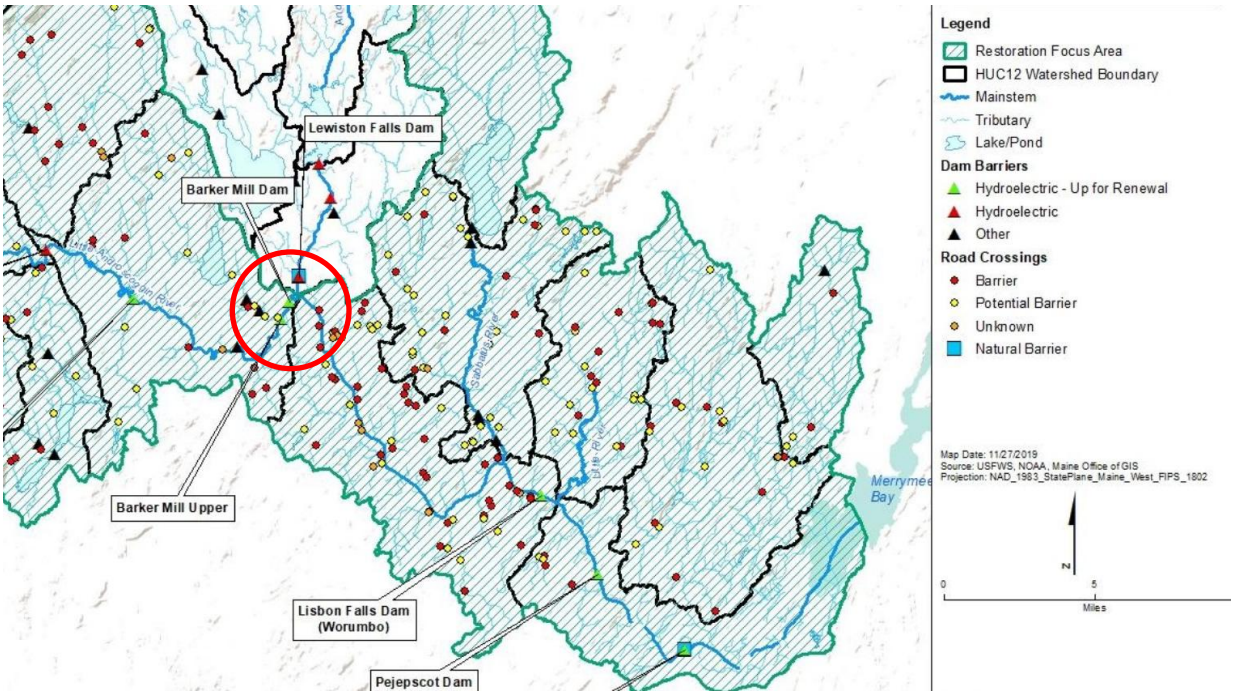


Detail of Figure 5 from the Androscoggin CP. The proposed project is within the sub-watershed outlined in red.

The Androscoggin CP divides the focus area for diadromous fish restoration into 15 HUC-12 watersheds; the proposed project is located in a portion of the Taylor Pond-Little Androscoggin River Watershed. It is difficult to extract smaller estimates of goals, numbers, and impact from the larger plan. However, it is worth acknowledging the impact of eventually achieving the plan in total, as the proposed project represents a critical and achievable step in this broader process.

The Androscoggin CP sets a goal for annual recruitment of adult *American shad and Blueback herring* to reach the upper limits of suitable spawning habitat in the Little Androscoggin and Sabattus Rivers, and for safe emigration for both adults and juvenile shad to the Gulf of Maine. When these goals are achieved, the plan estimates that "a minimum of 125,000 adult American shad will return each year to the Androscoggin River" as well as "a minimum of one million blueback herring." Regarding *alewife*, the plan notes a goal of full volitional access to Worthley Pond (which would be achieved with the proposed project and expected fish passage improvements to the hydroelectric dams downstream). However, longer term goals involving other barriers not addressed by this project estimate 2.3 million returning adult alewife in the Androscoggin River Watershed. The Androscoggin CP acknowledges a goal of restoring volitional passage for both *American eel* and *sea lamprey* to their historical habitats up the Little Androscoggin.

Finally, the Androscoggin CP refers to the *Recovery Plan for the Gulf of Maine Distinct Population Segment of Atlantic Salmon (Salmo salar)* regarding goals for that species. That document sets a goal of reclassification for the distinct population from endangered to threatened, and then eventually for its delisting.



Detail of Figure 6 from the Androscoggin CP showing dams and other barriers. The project area is circled in red.

b. Regional and Watershed Context

The Little Androscoggin River flows from Bryant Pond to its confluence with the Androscoggin River in Auburn, Maine. The two rivers connect in the City of Auburn. Eventually, the Androscoggin River (which begins in the White Mountains of New Hampshire and the Blue Mountains of Western Maine) empties into Merrymeeting Bay in the Gulf of Maine. The Androscoggin CP notes the importance of the Androscoggin River as "an economic engine for the state of Maine and the United States by sustaining commercial and recreational fisheries in balance with industry and energy production. The health of the Little Androscoggin River, as a tributary of the Androscoggin and an important traditional spawning ground for diadromous fish, is vital to this broader watershed." The Androscoggin CP also describes the state of recreational fishing in the broader Androscoggin River watershed:

"Recreational fisheries for diadromous fishes are largely located below Brunswick Dam; anglers frequently target American shad, rainbow smelt, and striped bass (MDMR and MDIFW 2017). Recreational fisheries for resident species occur above Brunswick throughout the Androscoggin, Little Androscoggin, Sabattus, and Little Rivers. There are valuable inland fisheries in lakes and ponds (e.g., Thompson Lake, Sabattus Pond, Gulf Island impoundment, Lake Auburn, Webb Lake, etc.). On the Androscoggin River, improved water quality has increased public fishing for warmwater fish including smallmouth bass (*Micropterus dolomieu*) and largemouth bass (*M. salmoides*) (MDMR and MDIFW 2017). Fisheries for stocked and wild salmonids are present in tributaries to the Lower Androscoggin and Little Androscoggin Rivers, in areas below dams, and select free-flowing river sections.

Although the Little Androscoggin was historically a critical habitat for diadromous fish, the, damming of the river for mills and hydroelectric projects eliminated access to this habitat. Five hydroelectric dams exist between the proposed project area (Littlefield Dam) and Merrymeeting Bay, the terminus of the Androscoggin River. On the Androscoggin, these are the Brunswick Dam, Pejepscot Dam, and Lisbon Falls Dam. Each of these dams includes successful fish passage infrastructure, though these are subject to improvements in future relicensing processes.

On the Little Androscoggin, two dams exist between the project area and that river's confluence with the Androscoggin. Those are the Barker's Mill Dam and the Upper Barker Mill Dam. Neither of these dams

include upstream fish passage infrastructure, but FERC has mandated the implementation of this infrastructure as a condition for their relicensing.

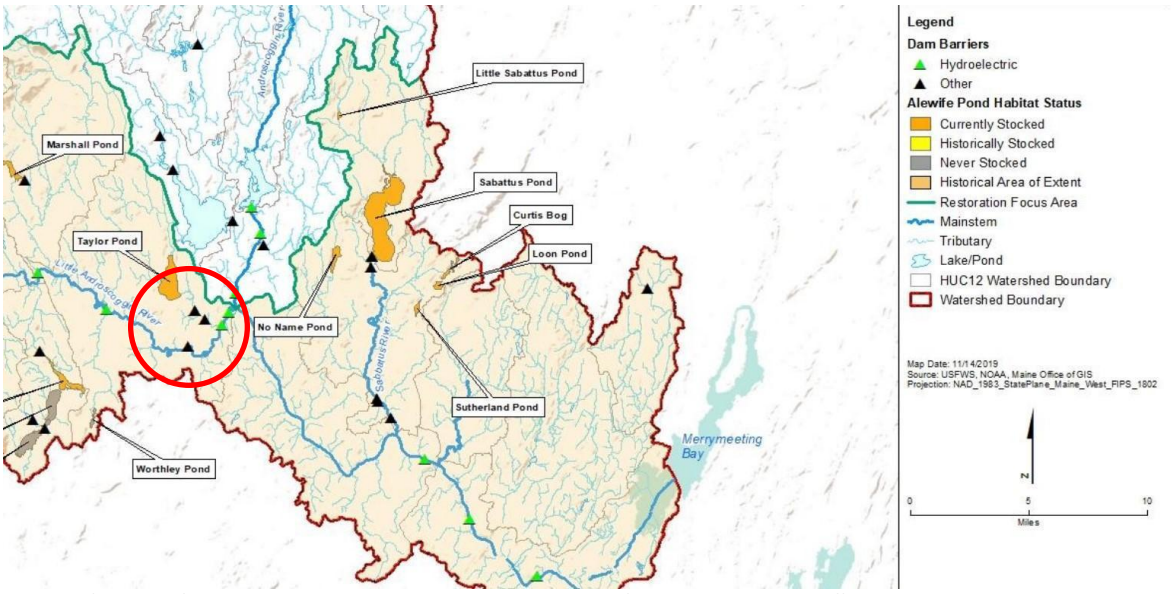
Between the Littlefield Dam and the Upper Barker Mill Dam is the confluence of Taylor Brook with the Little Androscoggin River. Currently, three non-hydropower dams exist along Taylor Brook, preventing fish passage between the Little Androscoggin River and the 625 surface-acre Taylor Pond. The dams and their associated upstream mileage are reproduced below. (Taylor Brook is a tributary of the Little Androscoggin River, between the Upper Barker Mill Dam and Littlefield Dam).

River / Stream System	Dam	Available Upstream Mileage	Cumulative Mileage	Upstream Fish Passage Infrastructure
Androscoggin	Brunswick	4.74	4.74	Yes
Androscoggin	Pejepscot	5.51	10.25	Yes
Androscoggin	Lisbon Falls	15.56	25.81	Yes
Taylor Brook	Taylor Brook Dam	0.60	33.40	No
Taylor Brook	Kendall Dam 2	0.03	33.42	No
Taylor Brook	Kendall Dam 1	3.55	36.98	No
Little Androscoggin	Barker Mill	0.63	26.44	No (forthcoming)
Little Androscoggin	Barker Mill Upper	3.26	29.69	No (forthcoming)
Little Androscoggin	Littlefield	5.24	34.93	No

As noted above, the Androscoggin CP divides the focus area for diadromous fish restoration into 15 HUC-12 watersheds; the entirety of the relevant project area is within the "Taylor Pond-Little Androscoggin River Watershed. The description of this sub-watershed is reproduced below.

"The Taylor Pond-Little Androscoggin River Watershed comprises 56 square miles upstream of the confluence with the mainstem of the Androscoggin River. Barriers include three tributary non-hydropower dams, one non-hydropower mainstem dam, and ten crossings. . . . The breached Littlefield Dam on the Little Androscoggin is a partial barrier. The majority of the road crossing barriers are located on small tributaries with little habitat value. However, there are road crossings on Cool Brook and Morgan Brook that block upstream habitat."

The Androscoggin CP identifies its restoration focus area as a portion of the Lower Androscoggin Watershed, which does not include the Androscoggin River above Lewiston Falls but does include the Little Androscoggin River up to the Bisco Falls Dam near Paris, Maine. These reasons include presence of natural barriers, production capacity of existing hydroelectric infrastructure, and the exclusion of habitat above Lewiston Falls in the *Recovery Plan for the Gulf of Maine Distinct Population Segment of Atlantic Salmon (Salmo salar.* The Sabbattus River (also within the restoration focus area, along with the Little River) offers additional key habitat opportunities for diadromous fish. However, several early barriers without relicensing opportunities exist on the Sabattus River, and the Little River is significantly shorter in length. Therefore, the Little Androscoggin River represents one of the best near-term opportunities for expansion of diadromous fish habitat in the Androscoggin watershed and broader region.



Detail of Figure 9 from the Androscoggin CP showing historical alewife habitat and stocking efforts. The project area is circled in red.

While diadromous fish currently have access along the Androscoggin to its intersection with the Little Androscoggin, their migration up the Little Androscoggin River is blocked by multiple dams. As detailed in NOAA's Androscoggin CP, the first two such dams are undergoing Federal Energy Regulatory Commission renewal; fish passage infrastructure has been mandated at both and is slated to begin by 2030 at the latest. The third, the breached Littlefield Dam, is the main focus of this proposed project. Removal of this obsolete dam, combined with expected fish passage infrastructure at the lower two dams, will make an additional 9.13 miles of river mile habitat available for diadromous species generally, and provide full volitional access for alewife to Worthley pond, which is currently inaccessible. Worthley Pond connects to the Little Androscoggin via Worthley Brook at the river segment between Littlefield Dam and the next hydroelectric impoundment, Hackett Mills Dam. The FERC license for the Hacket Mills Dam expires in 2024. Installation of fish passage during that relicensure would open up another 10.53 miles of potential habitat, for a total of 45.47 cumulative miles from the Merrymeeting Bay.

A feasibility study of the potential for fish passage infrastructure along the three existing dams of Taylor Brook is also included in the proposed project. If fish passage is deemed feasible, and subsequently installed, Taylor Brook would open up an additional, separate 4.18 miles of potential upstream available habitat, all the way to Taylor Pond.

The Taylor Brook Dam on Taylor Brook, a tributary of the Little Androscoggin River

c. Enhancing Community Resilience and Co-Benefits

The City of Auburn (population 24,061) is closely connected to the Androscoggin River watershed and to its sister City of Lewiston (population 37,121) across the Androscoggin River. (The two cities are often linked in casual reference as Lewiston-Auburn or L-A). Together, Lewiston-Auburn form the second largest metropolitan area in Maine.

Lewiston-Auburn has experienced a trajectory of economic boom, decline, and renewal that is common to New England mill towns. In the mid-nineteenth century, the area became a center for the production of textiles and shoe-manufacturing, attracting Irish, Franco-American, and Central European immigrants to work in massive water-powered mills along the river. As manufacturing moved south and overseas in the second half of the twentieth century, the area experienced significant economic decline; by the 1990s most of the mills and factories that drove the local economy had permanently closed. With the decline of the mills, the Lewiston-Auburn area has transitioned to a service-economy, and in the past two decades has experienced a gradual renewal with new businesses, housing developments, and recreational opportunities attracting more people to this area.

Among the new arrivals in this area are thousands of African immigrants, commonly referred to as "New Mainers". Beginning in 2001, Lewiston-Auburn became a major destination for Somali refugees who were arriving as secondary migrants from large cities including Atlanta and Minneapolis. In addition to the several thousand Somali-Americans who now call Lewiston-Auburn home, large numbers of refugees and asylum seekers from the Democratic Republic of Congo, Angola, Djibouti, Iraq, Afghanistan, and Ukraine have arrived here in the past ten years, drawn by family networks, word-of-mouth, and institutional supports for immigrants. New Mainers have contributed many new businesses to the area, and have helped to drive an increase in the number of young residents. Many continue to live below the poverty line and struggle with food insecurity due to issues such as language differences and a lack of access to good-paying jobs that align with their previous experiences. Poverty and food insecurity remain pressing issues for multigenerational Maine families as well, with many residents struggling to keep up with cost-of-living increases while working in low-wage retail jobs.

In recent years, Auburn has invested heavily in sports tourism as a way of attracting more people to the community and invigorating the local economy. Tourism is a critical industry in Maine, with many visitors coming to the state each year to visit coastal and inland parks, preserves, and attractions. While investment in sports tourism in Auburn originally focused on developing facilities and venues for team sports, surging interest in outdoor recreation during the COVID-19 pandemic has sparked renewed interest in expanded outdoor recreational opportunities, with the Little Androscoggin and Androscoggin Rivers serving as focal points for these efforts in Lewiston-Auburn. In 2022, the Auburn City Council allocated $100,000 to partner with OpBox, a kayak rental app, and in August of 2023 the City opened a kiosk for kayak rentals in downtown New Auburn in Anniversary Park, which overlooks the confluence of the Little Androscoggin and Androscoggin Rivers. The Androscoggin Land Trust, which manages the popular Barker Mill Trail that runs alongside the Little Androscoggin between the Upper and Lower Barker Mill Dams, is also working to expand recreational access above the Upper Barker Dam, and is a core partner in this application. Discussions for adding a canoe launch, portage, and improved trail access for a section of the Little Androscoggin above the Littlefield Dam are ongoing.

Upgrading the ecological health of the Little Androscoggin River is critical to the success of efforts to improve recreational access and increase public use. Because of the effluent dumped into the rivers by paper mills, shoe factories, and textile mills through much of the nineteenth and twentieth centuries, the Androscoggin was long known for its foul odors and foamy surface; indeed, the polluted state of the Androscoggin was a primary motivator for Maine Senator Ed Muskie when he championed the Clean Water Act. The Androscoggin's tributaries, including the Little Androscoggin, were subject to similar contamination and seen in the same negative light. In addition to the passage of the Clean Water Act, state legislation and careful local stormwater management has allowed significant improvements on the

Androscoggin, which now consistently meets the criteria to be upgraded to a Class B. Nevertheless, the Androscoggin – and by association, the Little Androscoggin – continue to be overlooked as prime destinations for recreation around Maine and even by local residents who still remember them as "industrial rivers". Cleaning up the Little Androscoggin River by removing the crumbling Littlefield Dam and investing in improved habitat for fish will help to change negative perceptions that limit current use.

Fishing is a popular recreational pastime throughout Maine, and in addition to improving perceptions of the health of the river, restoring habitat for diadromous fish will help to draw recreational fishermen into the area. Enhanced fisheries and recreational fishing opportunities expected from the proposed project on the Little Androscoggin would generate significant economic benefits to the Lewiston-Auburn area given their certain attraction to locals and other Mainers, as well as out-of-state visitors, and also improvements to commercial fisheries. The economic benefits of dam removal are touted by project supporters like Maine Rivers and Trout Unlimited, as well as NOAA documents. Indeed, the Androscoggin CP states:

"analysis indicates substantial economic benefit resulting in [sic] this diadromous fishery restoration…. Subsequent to modifications or removal of all dams in the Lower Androscoggin River, we expect substantial commercial and recreational fishing benefits. Using only a subset of all affected fish species and conservative estimates of fisheries effects, we estimated the economic values for two different scenarios of accessible habitat area above dams to range from $5.8 to $14.8 million in total benefits. These benefits consisted of $1.7 to $4.4 million for commercial fishing benefits and $4.0 to $10.4 million in recreational fishing benefits."

As noted above regarding estimated increase in fish populations, it is difficult to separate out the exact economic impact of smaller sub-projects from the Androscoggin CP. However, even if the Littlefield Dam project (and associated fish passage improvements) only account for a fraction of the estimated total impact, they will still be of substantial economic benefit to the cities of Auburn and Lewiston, as well as the broader region and Maine generally. This was observed with the return of large populations of alewives to the Penobscot River following dam removals. The large population of alewives, a prized bait of lobstermen, caused the economy to avoid importation costs and the use of less effective bait, which boosted Maine's most important marine fishery. Additionally, through restoration of rivers, towns may see increases in fish harvesting permit sales.

Moreover, improving passage for diadromous fish will ultimately help to bring more fish into lower portions of the river closer to population centers in downtown Auburn and Lewiston. Given the prevalence of food insecurity within these areas, a range of local partners including the Good Food Council, St. Mary's Nutrition Center, and other organizations that serve immigrants and low-income individuals have expressed interest in seeing greater access to the source of inexpensive protein that increased populations of sea-run fish could provide. Alongside required improvements to the Upper and Lower Barker Mill Dams, the removal of the Littlefield Dam and upgrades to Taylor Brook will make an important contribution to environmental justice by restoring this food source with an area that historically dealt with the greatest negative effects of industrial development, including water and air pollution.

Finally, removal of the Littlefield Dam will increase community resilience in the face of storms and flooding events, which have increased significantly in recent years. Flooding risks are elevated due to the existing breach of the dam, and further failure of the dam could threaten public safety, as the dam has not been regularly maintained since the 1930s and has large visible fissures and evidence of significant corrosion. The proposed project will leave the City of Auburn more physically resilient as well as economically resilient.

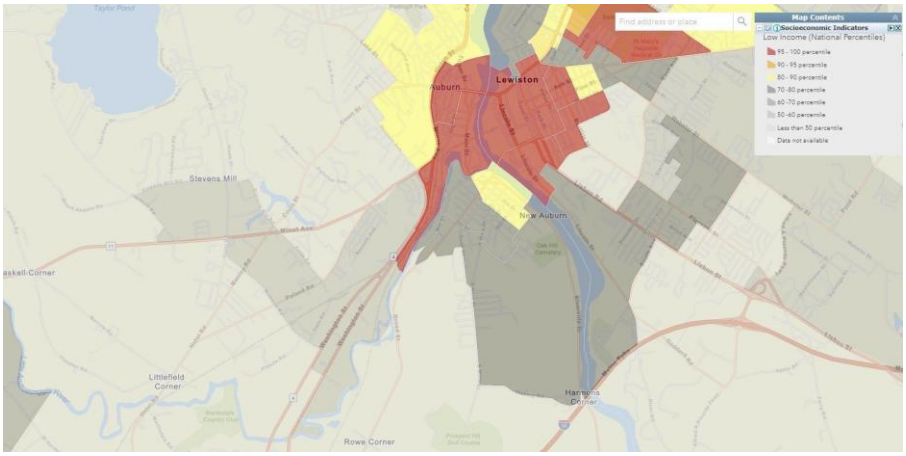
The proposed project would restore and naturalize the washed-out bank near the Littlefield Dam (red line above)

While final design is yet to be determined, the City of Auburn generally seeks to increase public access to the Little Androscoggin River. The Littlefield Dam removal project will require construction of a temporary access road, which could potentially be converted to an access trail. Regardless, the riverbank area that was previously damaged by redirected waters from the breached dam will be restored. This will improve and increase natural riverside habitat as well as reduce erosion and sedimentation.

d. Providing benefit to underserved communities

As noted above, downtown Lewiston and Auburn have high rates of poverty and significant populations of refugees and immigrants. The project team is working with a wide range of local organizations to ensure that the economic and environmental benefits of these projects and other recreational investments extend to those communities with the greatest need. This will include everything from collaborative events, such as previous "Take a Kid Fishing" days hosted by the Conservation Commission and the Auburn Parks and Recreation program, to collaboration with the St. Mary's Nutrition Center Cooking Education program, to offer instruction for New Mainers and low-income individuals in how to prepare meals featuring diadromous fish. Furthermore, although there is not a federally-recognized tribe or large indigenous population in this area, our project will include collaboration with the Bomazeen Land Trust, which is run by descendants of the Abenaki who were driven from this area and are working to restore full access to and awareness of their history and sovereignty in the Androscoggin Valley. A letter of support from Executive Director Mali Obomsawin is included.

While underserved communities can be defined, identified, and measured in different ways, the project team utilized the US EPA's EJScreen tool for this assessment regarding traditionally underserved communities (using demographic and economic measures). While the Littlefield Dam and Taylor Brook dams are outside of the downtowns of Lewiston and Auburn, those areas are geographically proximate and directly linked by the Little Androscoggin River, and will benefit directly from the restoration efforts, particularly as mandated improvements are implemented on the Upper and Lower Barker Mill Dams. As evidenced by EJScreen data, six Census block groups in that area are in the 95 – 100 percentile nationally for low income status, with a range between 73% and 90% of the block group population qualifying for that category based on 5-year American Community Survey data. An additional block group fell in the 90 – 95 percentile, and an additional eight block groups in the 80-90th percentile.



The proposed project area as viewed in EJScreen.

Three downtown Lewiston block groups also rated in the 50 – 70 percentile nationally for people of color (33 - 55% of the associated block group's populations). Three block groups in downtown Lewiston and Auburn register in the 80 – 90 percentile nationally for linguistic isolation (with 10% of those block groups considered linguistically isolated). The block group within which the proposed project is located falls just below this threshold – it is in the 70 – 80 percentile nationally with 8% of its population estimated as linguistically elevated.

The proposed project is expected to benefit the entirety of the Lewiston Auburn area because of improvements to recreational safety and access, environmental quality and fish habitat, economic improvement, and increased food access.

2. Technical and Scientific Merit

a. Project Site Characteristics and Methods

Likely constructed in the late nineteenth century, the Littlefield Dam is a breached and defunct hydroelectric project. The 250-foot long concrete structure currently stretches about three-quarters of the way across the width of the Little Androscoggin River. Not only do the dam and impoundment lack any active benefits to humans, such as providing hydroelectric power or irrigation, but they also serve as active inhibitors to recreational activities and fish passage. The Littlefield Dam also poses a number of public safety hazards. The structure itself has not been maintained regularly in decades, and visible fissures and corrosion attest to its deterioration; an unmanaged break up of the dam could pose significant risks downstream. Neighbors at the site reported that they often see youth having fires and drinking on top of the dam, which is not easily monitored by law enforcement. The water behind the dam appears calm but has a significant undertow. Furthermore, debris frequently accumulates in the breached portion of the dam, which may pose additional flooding risks.

An estimated 3,250 cubic yards of concrete material must be removed from the river as part of the proposed dam removal project. The obsolete dam's tailrace hole will need to be filled, and top dressing with native river stone substrate will be required to restore river function. Additionally, the riparian area near the breach will need to be restored. It is possible that some fill could come from demolished concrete reclaimed as part of the project.

A route of potential access beginning from City rail right-of-way

Aside from blocking fish passage, the Littlefield Dam serves as a barrier for downstream transportation of sediments and nutrients. An important component of the proposed project will be assessing the quality and amount of sediment behind the dam. If sediment is contaminated, in-situ capping or safe removal and disposal will be necessary. One challenge regarding the site is access. The Littlefield Dam is owned by the Martindale Country Club, which supports removal of the dam (as evidenced in their attached letter of support). However, access through that property (south of the Little Androscoggin) is problematic; construction of an access road would pass through old growth forest and wetland areas and should therefore be avoided.

An alternate route is currently favored (from the north). The City of Auburn owns railroad tracks and right-of-way roughly 500 feet away, and two properties lie between these tracks and the project area: a Maine waste-to-energy facility and a Central Maine Power (CMP) corridor. Unfortunately, there is a significant grade change between the City's right-of-way and the CMP corridor. A short and narrow, temporary access road could connect the City's right-of-way across a portion of the Maine waste-to-energy facility, allowing construction vehicle access to the CMP corridor down to the Little Androscoggin River. The access road would be removed, or potentially converted to a public trail, after the Littlefield Dam is deconstructed and the riverbed restored. Temporary easements with both CMP and the waste-to-energy facility are expected.

In the late 1980s (after its breach), the Littlefield Dam's then-owners unsuccessfully sought relicensing of the hydroelectric dam and commissioned a report regarding its potential impact on anecdotal archaeological resources. The report, which built off earlier documented study and included shovel test excavations, did find some prehistoric artifacts. However, in its conclusion it stated that:

"reliable evidence for intact prehistoric archaeological remains in the study area has been confirmed only at Sites 23.15 and 23.17. The characterization of Site 23.15 was not possible during this research because we were denied access to the majority of it. Our work at Site 23.17 removed substantial portions of the archaeological deposits remaining there. Furthermore, our observations of the shoreline suggest that the proposed dam pool does not pose any great threat to this very small, partially disturbed site. Therefore, I recommend that no further attention to it be mandated by the Maine Historic Preservation Commission."

Given that the archaeological report noted that introduction of dam pooling did not merit concern, it stands to reason that neither does dam removal.

Less is known regarding the three existing dams along Taylor Brook. None of these dams are hydroelectric projects, and none of them include fish passage infrastructure. Because of the many unknowns regarding these dams, as well as the potential for alewife migration between Taylor Pond, Taylor Brook, and the Little Androscoggin River, only a feasibility study considering the potential for successful fish passage infrastructure is proposed for this portion of the project.

b. Project Description and Milestones

The Littlefield Dam Removal and Little Androscoggin Watershed Improvements will consist of three phases:

(1) Engineering design & permitting for the removal of the Littlefield dam
(2) Construction services related to removal of the Littlefield dam
(3) Taylor Brook fish passage feasibility study.

Phase 1: **Engineering Design, Permitting & Construction Administration Services**

This phase of the project will consist of several tasks as summarized below

Task 1: Data Collection & Evaluation

This task includes performing a topographic survey of the land adjacent to the Littlefield Dam, a hydrographic survey of the Little Androscoggin River upstream and downstream of the Littlefield Dam, and a functions and values assessment of the natural resources that will be impacted by the project.

Task 2: Preliminary Design

This task will utilize the field data collected to develop a preliminary design approach for the removal of Littlefield Dam. Work will include conducting a hydrology and hydraulic assessment as well as a river and sediment stability assessment. Effects of the dam removal on the water intake of the adjacent projects will also be assessed to ensure there are no negative impacts. Additionally, public engagement will be conducted to ensure the adjacent property owners and interested parties have opportunities to provide input with the design approach. Preliminary design plans and a construction cost will be developed.

Task 3: Permitting

The project will directly impact natural resources and waters of the U.S., requiring regulatory approval from the Maine Department of Environmental Protection and US Army Corps of Engineers prior to proceeding with construction activities. The required permit applications will be prepared and submitted with supporting documentation from the preliminary design task to accurately depict the proposed project approach to these regulatory authorities. Coordination with the regulatory authorities on critical design elements will be critical (such as reusing the demolished concrete to infill and restore the riverbanks within the area of the dam to match more closely the upstream and downstream river widths) until final permit approvals are achieved.

Task 4: Final Design and Bidding

This task includes incorporation of any conditions of final permit approvals into final design drawings, technical specifications, and front-end bidding and construction contract documents. Once the final design documents are completed, a public bidding process will competitively select a contractor to complete the required construction activities (Phase 2).

Task 5: Construction Management

This task consists of construction engineering services during construction (Phase 2). Work will include reviewing contractor submittals, responding to contractor questions, conducting site visits to observe construction activities and ensure quality control, and progress coordination with the contractor.

Phase 2: Littlefield dam removal construction services
Actual construction activities and methodology will be determined based on regulatory approvals and the selected contractor, but are generally anticipated to consist of the following:

• Construction of temporary access road from public right-of-way to Little Androscoggin River
• Installation of erosion and sedimentation measures
• Installation of water management and diversion measures
• Construction of temporary access across the river for equipment to reach the dam
• Removal and disposal of any large steel framing or ancillary equipment
• Dismantling of remaining concrete structures into small, manageable sections for removal
• Infill of existing tailrace and draft tube with stable material
• Restoration of the breach area with infill material
• Creation of a stabilized bank with earth and vegetation material
• Removal of temporary facilities including access
• Restoration of disturbed areas with vegetation

After completion of the construction activities, data collection and monitoring activities will commence. It is anticipated that students at Bates College will support data collection and monitoring activities as coursework or thesis work.

Phase 3 - Taylor Brook Fish Passage Feasibility Study
This phase of work includes performing a feasibility study regarding fish passage on the existing three dams of Taylor Brook. Services will include data collection, site visits to each dam, analysis of fish passage alternatives, cost estimates, and final recommendations.

Key Milestones for each project phase include the following:

Phase 1:
• Completion Data Collections: 3 months after grant award
• Submission of Permit Applications: 6 months after grant award
• Littlefield Dam Removal Permit Approvals: 9 months after grant award
• Execution of Contract after public bidding process: 12 months after grant award

Phase 2:
• Completion of dam removal, restoration of the surrounding area: 24 months after grant award
• Completion of post-construction monitoring: 36 months after grant award

Phase 3:
• Completion of Taylor Brook Fish Passage Feasibility Study: 24 months after grant award

c. Fish Passage Implementation Monitoring and Evaluation
A draft fish passage implementation monitoring and evaluation plan is included in the supplementary materials.

d. Socioeconomic Performance Measures
The proposed project is expected to improve economic and recreational opportunities in the Lewiston-Auburn area. It is also a step towards developing fish a viable food source for the local population. American Community Survey data may be used (down to the Census block group level) to measure potential changes in population, economic status, and demography to assess whether this holds true, as well as whether benefits are distributed equally throughout area block groups. The project team expects

this data to inform its work after the project is completed, to help assess and facilitate community benefit. The proposed project should be seen as part of the City of Auburn's broader efforts to stimulate tourism that will invigorate the local economy and provide opportunities to local residents to recreate and harvest fish for food. The proposed project will facilitate fish passage on the Little Androscoggin River, and investigate the potential for fish passage on its tributary Taylor Brook. Over time, these improvements are expected to dramatically improve habitat availability in the region and spur further improvements at upriver dams. As a healthier, habitat-rich watershed develops, socioeconomic data regarding project impact may become more pointed. It is therefore important to consider the proposed project's impact on a longer-term scale, potentially decades.

An additional method for measuring socioeconomic performance may come from partnerships with local colleges. The project team is linked closely with Bates College, which has a robust community-engaged research program, the Harward Center for Community Partnerships, that has partnered with the City of Auburn on numerous projects, including several senior capstone projects about the potential benefits of increased recreation on the Little Androscoggin. This collaboration will produce important learning opportunities for students result in additional data research, surveys, or community interview projects focused on knowledge of, access to, and use of the Little Androscoggin River as a recreational or fishery resource among area residents.

e. Sustainability

The portion of the proposed project focused on the Littlefield Dam is inherently sustainable; it will restore previous natural conditions at the Littlefield Dam and does not rely on any mechanical or infrastructure elements. If properly designed and constructed, it is not expected to require operations or management of any kind, nor continued access by the project team. Improved, unobstructed river flow and a return to natural streambank conditions should provide valuable ecosystem services in terms of habitat, recreation, and erosion control while enabling the Little Androscoggin River to better handle large storm events expected with climate change.

The portion of the proposed project studying fish passage feasibility along Taylor Brook is an initial investment to enable potential future interventions. While dam removal and restoration of natural channels would be expected to yield similar benefits as removal of the Littlefield Dam, this may not be feasible across all three existing Taylor Brook dams. It is therefore possible that mechanical or infrastructural fish passage may be the most feasible way of restoring habitat access through Taylor Brook to Taylor Pond; these would likely require continued access to, maintenance of, and investment in these improvements moving forward. Sustainability, in operations as well as ecology, will therefore be a major consideration in the proposed feasibility study.

f. Data Management Plan

A draft data management plan is included in the supplementary materials.

3. Overall Qualifications of Applicants

The project team is led by the City of Auburn, which is well suited to project management given its robust community development and public works departments and active Conservation Commission. The project team is supplemented by professionals from allied and partner organizations with relevant experience and expertise. These include the Auburn Conservation Commission and the Androscoggin River Watershed Council. Team members are deeply involved in a variety of relevant fields, from engineering to conservation, project planning, community engagement, and research.

Collectively, the project team has extensive experience in project and fiscal management, stakeholder collaboration, environmental compliance, construction, and monitoring. Additional expertise is expected from consulting engineering and construction teams that will be contracted as part of the grant.

Consulting engineers and construction companies are expected to have significant experience with river-based projects and/or fish passage infrastructure.

Specifically, the project team includes the following key members. Each of their resumes are included in the supplementary materials.

- *Daniel Goyette, P.E.* (Director of Capital Investment and Purchasing)
- *Eric Cousens* (Director of Planning and Permitting)
- *Kristopher Bennett, P.E.* (Engineer)
- *Fergus Lea, P.E.* (Chair, Androscoggin River Watershed Council)
- *Sam Boss, PhD.* (Chair, Auburn Conservation Commission; Lecturer, Bates College).

4. Project Costs

The estimated project costs are summarized below and further detailed in the Budget Summary Narrative:

- Phase 1 (Engineering Design, Permitting & Construction Administration Services): $495,000
- Phase 2 (Littlefield Dam Removal Construction): $1,880,000
- Phase 3 (Taylor Brook Fish Passage Feasibility Study): $150,000

5. Outreach and Education

a. Stakeholder support

Letters of support from project stakeholders are included in the supplementary materials, and come from the following:

- *Martindale Country Club* (Littlefield Dam property owner)
- *Androscoggin Valley Soil and Water Conservation District*
- *Androscoggin Land Trust*
- *Androscoggin River Watershed Council*
- *Bomazeen Land Trust*
- *Auburn Parks and Recreation Board*
- *Grow L-A*
- *Harward Center for Community Partnerships at Bates College*
- *Lewiston Auburn Metropolitan Chamber of Commerce*
- *Maine Rivers*
- *Trout Unlimited Maine Council Trout Unlimited Merrymeeting Bay Chapter*
- *Taylor Pond Association*
- *United New Auburn Association*

b. Inclusive Planning and Engagement

As evidenced by the many organizations and entities supporting the project listed above, the proposed project is an important step forward for the City of Auburn and surrounding region, yielding environmental, recreational, and economic benefits. The proposed project represents targeted interventions on privately owned property, but the engaged coalition pushing it forward is civic-minded and public-oriented. Association with local leaders in conservation, politics, recreation, and business will help attract interest, participation, and community knowledge to benefit the project. Particular effort will be undertaken by the project team, with support from supporting organizations, to ensure the diversity of the Lewiston-Auburn region is reflected in recreational use of the Little Androscoggin River.

c. Community Outreach and Education

This proposal is the result of grassroots efforts in Auburn dating back to at least 2017 when the Auburn Conservation Commission was established. Extensive community engagement has already taken place under the leadership of the citizen-volunteers of the Commission and the Androscoggin Watershed

Council, with support from Trout Unlimited and Maine Rivers. We view the community enthusiasm for the project and the depth and breadth of the partnerships that we have formed to support this work as a key strength that will ensure its success and impact as part of long term.
To lay the groundwork for a proposal to NOAA, the Conservation Commission convened twenty individuals representing Auburn City staff and ten other organizations to do a walking tour of the Littlefield Dam, which is not readily visible from any major roads and is easily overlooked. Thereafter, the Conservation Commission continued to make the project a focus of public meetings, inviting neighbors and abutters to speak and share any concerns about plans to renovate the site; we also convened additional meetings of core partners and potential advisors for the project. To gather more information, Commission Chair Sam Boss worked with two students at Bates College to conduct research on the historic background of the Littlefield Dam, and they created a detailed report that contributed to the current proposal.

As our letters of support attest, the many organizations and entities who have been involved in proposed project will also help spread the word about its benefits and future potential, and will help us to maximize public benefit. As access to the site improves, both through the improvements outlined in this proposal and ongoing efforts to add a boat launch and improved trails, we expect that public interest in the Little Androscoggin River and its health will increase. This in turn will contribute to efforts to change perceptions of the Little Androscoggin and encourage further improvements.

As the project moves forward, we plan to encourage youth engagement by involving local schools and the many afterschool programs in the area that offer programming for underserved youth, such as the Boys and Girls Club, the Auburn PAL Center, and Tree Street Youth. This will include field trips to the site to see the work in different stages and talk with leaders from organizations including the Bomazeen Land Trust, Trout Unlimited, and Maine Rivers to about the history of diadromous fish populations and their importance to the heritage of this area and the health of local ecosystems. The project team intends to develop informational materials about the project and the benefits of fish passage for the Lewiston-Auburn region, which will be disseminated through partner organizations and the City of Auburn. In previous years, the City of Auburn has collaborated with a range of local partners, led by Grow L-A, to put together public signage along the Androscoggin about important chapters in the community's history. As the improvements on the Little Androscoggin outlined in this proposal are completed, we would work to put together similar signage detailing both the history of the river and the goals and stages of the restoration effort.

Additionally, connections with Bates College will yield a tremendous set of educational resources and opportunities for interested students and the larger Lewiston-Auburn community. Methods for education and participation may include research assistance and community surveying, special events and volunteer opportunities, experiential learning, and classroom teaching. As one example that we are particularly excited about, Professor April Hill of the Bates College Biology Department, has expressed interest in partnering with the Conservation Commission on innovative research to assess populations and aquatic biodiversity by evaluating DNA found in freshwater sponges.

Finally, to build on the improvements outlined in this grant and to ensure continued progress with outreach and engagement, the Conservation Commission and Auburn City staff are launching a Little Androscoggin Working Group, which will include representatives from the Androscoggin Watershed Council, Androscoggin Land Trust, Grow L-A, and any other interested participants. This group will help to link restoration work with current efforts to build boat launches and promote recreation on the river through the establishment of kayak kiosks. The Little Androscoggin Working Group will also work to integrate recreational upgrades on the river with ongoing City of Auburn infrastructure projects that aim to improve traffic patterns, housing, and public access along the river.

SUPPLEMENTAL BUDGET
DETAILS CONSTRUCTION COST
ESTIMATE
THE REMOVAL OF THE LITTLEFIELD DAM (X1.13 Escalator Assumed from August 2022)

		COSTS		TOTAL COST
Work Element	QUANTITY	UNIT	UNIT COST	
1. Mobilization	1	LS	$180,000	$203,400
2. Temporary Access Road	1,700	$34,200	$150	$288,150
3. Erosion & Sedimentation Control	4	MONTH	$25,000	$113,000
4. Water Management	4	MONTH	$30,000	$135,600
5. Removal & Disposal of Steel Members	1	LS	$75,000	$84,750
6. Demolition of Concrete Dam	3,250	CY	$230	$844,675
7. Channel Restoration	1	LS	$150,000	$169,500
8. Bank Infill (Concrete Demo Material)	3,250	CY $30		$110,175
9. Bank Infill (Earth)	1,000	CY $80		$104,000
10. Bank Stabilization (Vegetation)	240	LF	$150	$40,680
11. Site Restoration	1	LS	$100,000	$113,00
		CONSTRUCTION SUBTOTAL		$2,193,330
		DESIGN CONTINGENCY (15%)		Included
	OWNER'S CONSTRUCTION CONTINGENCY (10%)			$226,000
	TOTAL CONSTRUCTION ESTIMATE			$2,758,330

Supplementary Materials

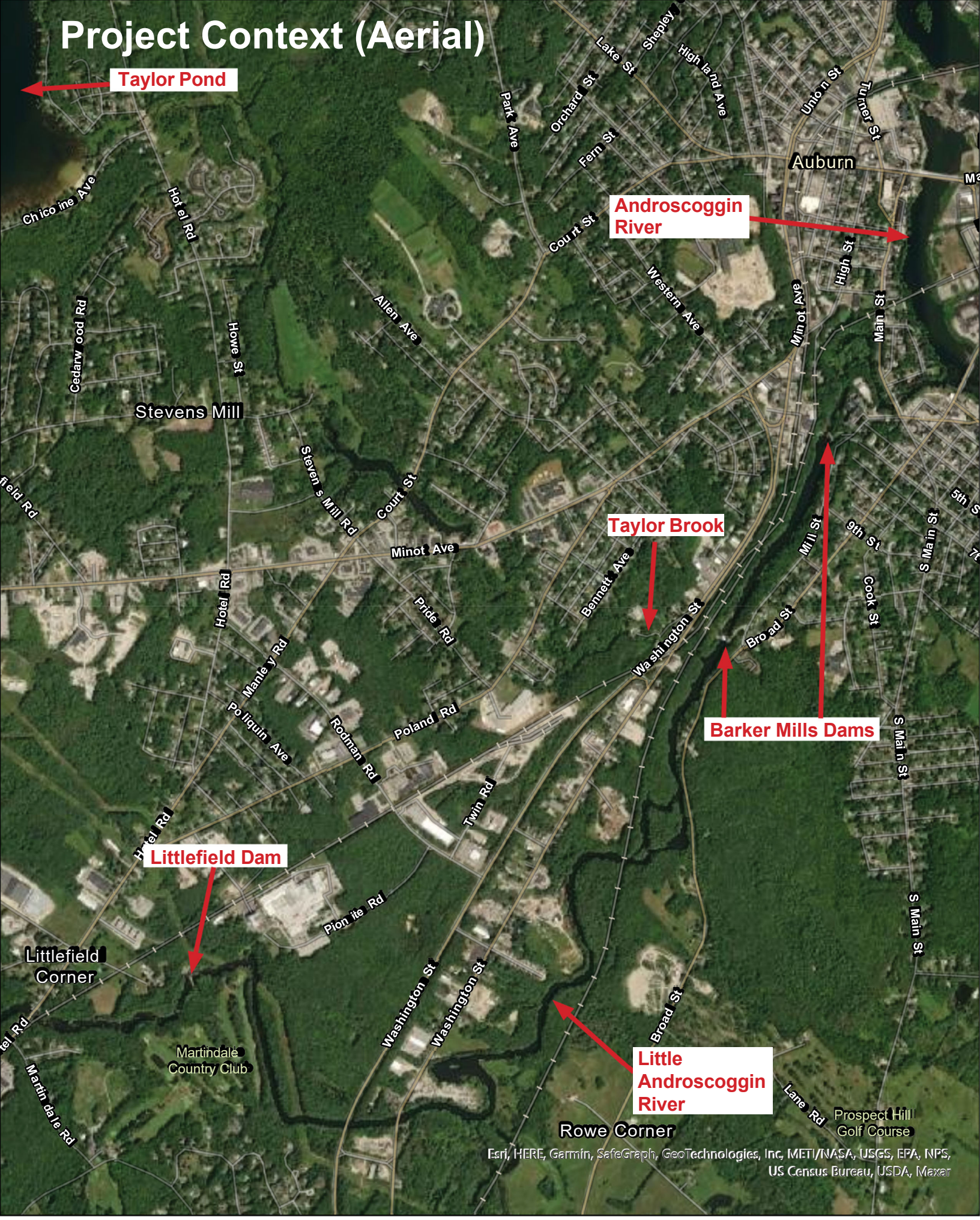
1. **Project Context Aerial Map**

2. **Resumes**
   Daniel Goyette, P.E.
   Eric Cousens
   Kristopher Bennett, P.E.
   Fergus Lea, P.E.
   Sam Boss, PhD.

3. **Letters of Support**
   Androscoggin Valley Soil and Water Conservation District
   Androscoggin River Watershed Council
   City of Auburn Parks and Recreation Advisory Board
   Harward Center for Community Partnerships (Bates College)
   City Councilor (At-Large) Dana Staples
   Androscoggin Land Trust
   Dag's Bait and Tackle
   Grow Lewiston and Auburn Working Group
   Lewiston Auburn Metropolitan Chamber of Commerce
   Martindale Country Club (Littlefield Dam property owner)
   Maine Rivers
   Taylor Pond Association
   Trout Unlimited Maine Council
   Trout Unlimited Merrymeeting Bay Chapter
   Bomazeen Land Trust
   United New Auburn Association

4. **Data Management Plan**

5. **Implementation Monitoring Plan**


Project Context (Aerial)
Taylor Pond
Androscoggin River
Taylor Brook
Barker Mills Dams
Littlefield Dam
Little Androscoggin River
Auburn
Stevens Mill
Littlefield Corner
Martindale Country Club
Rowe Corner
Prospect Hill Golf Course
Lake St
Shepley
High land Ave
Park Ave
Orchard St
Union St
Turner St
Fern St
Court St
Western Ave
High St
Main St
Minot Ave
Allen Ave
Howe St
Cedarwood Rd
Chicoine Ave
Hotel Rd
Steven s Mill Rd
Bennett Ave
Pride Rd
Washington St
Broad St
Mill St
9th St
Cook St
S Main St
Manley Rd
Poliquin Ave
Rodman Rd
Poland Rd
Twin Rd
Pion ite Rd
Martindale Rd
Lane Rd
Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Maxar
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Daniel R. Goyette

60 Court St.
Auburn, ME 04210
Dgoyette@auburnmaine.gov

Education

Master of Business Administration; 2003
University of Southern Maine, Portland, ME

Bachelor of Science, Civil Engineering; 1998
Merrimack College, North Andover, MA

Registrations

Licensed Professional Engineer, ME, 10305
MaineDOT Local Project Administration

Professional Associations

American Public Works Association
American Society of Civil Engineers
Institute for Municipal Engineering
Institute of Traffic Engineers

Experience

City of Auburn, ME, 2/2011-Present
Director of Capital Investment and Purchasing

- Manages all Capital projects for the City.
- Manages the engineering and purchasing departments.
- Oversees all construction projects within the City.
- Develops and manages the capital improvement projects for the City.

Woodard & Curran, Inc., Portland, ME, 6/2003-2/2011
Project Engineer

- Responsible for designing and managing multi-million dollar construction projects.
- Managed proposal preparation, billing, scheduling of work, estimation of cost, and design.
- Managed client relationships.
- Mentored junior staff.

City of Lewiston, Maine, 8/2000 – 6/2003
Project Engineer

- Responsible for designing and managing municipal construction projects.
- Managed field work including construction inspection and change orders.
- Managed public relations and noticing for construction projects.

ERIC JOHNSON COUSENS

154 Lower Street, Turner Maine 04282 ~ 207.402.0104 ~ ecousens@auburnmaine.gov

QUALIFICATIONS

I am well versed in public decision making, policy implementation and have proven experience in Lewiston and Auburn. I can effectively influence outcomes that are sustainable through public processes while building positive relationships.

I am well rounded in planning, permitting, development and compliance operations. I have valuable experience in long range planning, working with local councils and boards, zoning and land use code administration , State and Federal permitting.

I have local knowledge as well as positive existing relationships with people living and doing business in the Androscoggin River Watershed and others throughout the State.

I work well with the public via phone, email or in person and have a strong background in economics, development permitting, natural resource management and public policy.

I am and innovative thinker, hard worker and a fast learner.

WORK HISTORY

January 2020-July 2022 **City of Auburn, Maine**

Director of Planning and Permitting

As Director of Planning and Permitting I managed all aspects of Department operations including annual budgeting, personnel evaluation and interaction with the City Council, residents and businesses within the City. My responsibilities also include those listed in my previous position below. The Department includes a staff of eight employees and I manage a budget of $780,000 to meet the community needs in addition to obtaining other funding and administering grants. I interact and build relationships with State and Federal Agencies to position Auburn for success.

July 2014-2020 **City of Auburn, Maine**

Deputy Director of Economic and Community Development

This position is a result of structural changes at the City that combined the Planning and Permitting Department with Economic Development, Community Development and Assessing. Under the new structure I have similar responsibilities over the Planning and Permitting Division and additional personnel management responsibilities over the other divisions. The change allowed the Director of Planning and Development and I to promote additional cooperation and collaboration between divisions.

January 2011-July 2014 **City of Auburn, Maine**

Director of Planning and Permitting

Same as above.

2006-2011 **City of Auburn, Maine**

City Planner

As the City Planner, I organize interdepartmental reviews of developments and provide staff support to the Planning Board, Zoning Board of Appeals and City Council on land use issues. I represent the City as a stakeholder in FERC relicensing of local hydropower facilities. I process and propose ordinance amendments to address the needs of the community including State requirements for storm water delegated review authority and the Informed Growth Act. Long range planning is a key part of this position and I have been an integral part of conducting an extensive public input process for the development of a new comprehensive plan for the City.

2004–2006 **City of Lewiston, Maine**

Land Use Inspection Officer

As a land use code enforcement officer and planning assistant I acquired additional experience in planning, identifying community needs and modifying and/or developing and implementing effective land use ordinances.

2002–2004 **City of Lewiston, Maine**

Code Enforcement Officer

In this position I built working relationships within the City of Lewiston and larger local community, gained State Certification as a Code Enforcement Officer and learned the delicate balance needed to achieve win-win solutions in enforcement matters. This position was a stepping stone to achieve my objective.

1998–2002 **R & R Construction, Lewiston, Maine**

Carpenter

In this position I gained valuable hands on experience in the challenges faced by builders and developers in refitting old structures and permitting new construction.

EDUCATION

1995–2000 University of Maine Orono, Maine

- Bachelor of Science, Environmental Management and Public Policy with a concentration in economics and land use

1991-1995 Franklin High School Franklin, New Hampshire

- High school Diploma

PERSONAL INTERESTS & ACTIVITIES

I am an avid fisherman and boater and plan to obtain my Maine Guides License. I enjoy hiking, camping and other outdoor activities with my family, on land or on water, throughout the State.

Professional History

2016 – Present | City of Auburn | Engineer
2013 – 2016 | CES, Inc. | Engineer
2007 – 2013 | Summit Environmental Consultants, Inc. | Engineering Technician

Education

B.S. Civil and Environmental Engineering, University of Maine (Graduated May, 2010)

Registrations

Maine, PE (#14250)
NETTCP HMA Paving Inspector
MaineDOT LPA Certification
Class C Maine Driver's License

Project Experience

Oxford Casino, BB Development | Oxford, Maine
I provided project oversight and inspection services of earthwork and materials testing for the construction of the Oxford Casino. The project included inspection and compaction of backfill, reinforcing steel, concrete, HMA paving, and fireproofing. I was responsible for coordinating laboratory testing for this project including: Grainsize Analysis, Maximum Density Proctors, Dry Unit Weight of Aggregate, and Concrete Cylinder Strength Testing. I was also responsible for Owner and Contractor coordination, verification that construction met design standards, oversight, and management of residual material removal and disposal.

Avon Mill Demolition | Lewiston, Maine
I served as Lead Technician responsible for site inspection and testing for demolition in accordance with MaineDOT standards. I documented progress and inspected for removal of asbestos, lead paint, and other hazardous materials. Testing of backfill was also performed after demolition was completed.

Lewiston Landfill Cell Expansion | Lewiston, Maine
I served as Lead Technician responsible for all earthwork inspection and testing activities. Inspections included: daily monitoring of clay moisture offset values, density testing on expansion cell and roadway, and erosion control monitoring.

Call Road Site and Utility Improvements | Milford, Maine
I assisted during the design phase of the Call Road public sewer and water, stormwater, and full road depth reconstruction project. I served as Resident Project Representative for site and drainage improvement, acting as liaison between owner and contractor, verifying that construction met design standards, record keeping of quantities, and overseeing maintenance of erosion and sediment control features.

Bingham Windfarm Erosion Control Monitoring | Bingham, Maine
I served as the Erosion Control Representative for Sargent Corp. at the Bingham Windfarm project. I inspected the site daily and accompanied the third-party inspector for DEP during weekly and rain event site visits. I was in constant communication with the foremen on site to adjust Sargent's erosion control efforts to eliminate current and potential issues.

Municipal Engineering Responsibilities | Auburn, Maine
Development review including delegated authority reviews.
Preparation of bid documents and managing the bid process.
Construction oversight of roadway projects and miscellaneous school department projects.

Sam Boss

7 Morse Street, Auburn ME 04210
Pronouns (he/him) | a.sam.boss@gmail.com | (207)-852-0770

SUMMARY

Experienced educator with proven skills in teaching, partnership building, and creative curriculum development. Environmental advocate committed to restoring Maine ecosystems, advancing environmental justice, and engaging the public in conservation work. Avid gardener and naturalist with broad knowledge of Maine's flora and fauna.

EDUCATION

Brown University - Doctorate in History, 2015
Brown University - Master of Arts, History, 2009
Colby College - Bachelor of Arts, *magna cum laude,* 2008

PROFESSIONAL EXPERIENCE

Assistant Director of Community-Engaged Learning and Research, Bates College **2015-Present**

- Collaborates with Bates faculty and community partners on approximately 30 course-based community-engaged learning opportunities and 20 student research theses annually
- Builds and sustains partnerships with nonprofits, governmental agencies, and grassroots organizations
- Co-creates and facilitates faculty development workshops that support community-engaged learning
- Orients students to Lewiston through in-class presentations and discussions, walking tours, and field trips
- Represents the Harward Center for Community Partnerships at numerous community stakeholder meetings
- Co-facilitates the annual Community-Engaged Research Fellows program, a bi-weekly seminar that provides a learning community and support for thesis students as they undertake research with local partners
- Supervises Harward Center Social Media Intern and ten Community Outreach Fellows
- Co-organizes numerous panels and events. Past events included 2022 Martin Luther King Day Panel, "Decolonization of Africa: Perspectives from the African Diaspora," and a daylong 2015 symposium, "Chaos or Community: Conservations on Justice Reform in Maine"

Lecturer in Humanities, Bates College **2019-Present**

- Designed and teaches the first-year seminar, "Lewiston: A Local Lens on Global Issues," which invites students to explore topics including indigenous sovereignty, poverty, immigration, and environmental justice by engaging with Lewiston and its history. The course has been offered each fall semester since 2019.
- Serves as academic advisor to 15 first-year seminar students until they select a major in their sophomore year

Visiting Lecturer, Brown University Department of History **Spring, 2014**

- Designed and taught, "Plague, War, Famine, and Death: Crisis in the Late Middle Ages"

Summer at Brown Pre-college Program Instructor **2013–2015**

- Co-instructor for "A People's History of War" and "Evil: The History of an Idea." My co-instructor Wanda Henry and I designed and taught these intensive pre-college courses for high school students. In 2015, we won Brown's prestigious Archambault Award for Teaching Excellence in the summer program.

Teaching Assistant, Brown University Department of History **2009-2014**

- Led discussion sections, provided feedback on papers, and offered occasional lectures for courses on topics ranging from the History of Brazil to the Early Middle Ages

Research Assistant to Professor Linford Fisher, Brown University Department of History **2011-2012**

- Assisted professor Linford Fisher on his study of Native American slavery in colonial New England, contributing to publication of "Dangerous Designes: The 1676 Barbados Act to Prohibit New England Slave Importation," *William and Mary Quarterly* 71 (2014), 99-124.

ENVIRONMENTAL ADVOCACY

Auburn Conservation Commission **Member, 2018-Present; Chair, 2020-Present**

The Auburn Conservation promotes responsible stewardship of the natural environment in the City of Auburn through research, advocacy, and education.

- As Chair, creates agendas, facilitates meetings, presents annual report and advisory opinions to the City Council
- Organizes public outreach events and initiatives, including workshops on managing invasive species, nature walks, annual Earth Day Community Clean-ups, and tours of waste management facilities and new solar developments
- Leading efforts to remove the defunct Littlefield Dam to restore fish passage on the Little Androscoggin River

Lewiston-Auburn Community Forest Board (LACFB) **October, 2020- Present**

The LAFCB promotes the socio-economic, environmental, and esthetic values of the Community Forest through education, public outreach, and advocacy.

- Plans and helps to lead Arbor Day activities including planting and pruning workshops
- Contributed to successful Project Canopy Grant applications in 2020 and 2021, which added street trees to add shade and habitat in key urban corridors in Auburn
- Currently collaborating with Chair Dave Griswold on an ordinance to require Auburn to maintain a street tree inventory and allocate funding for replacement street trees

Stanton Bird Club Board of Directors **August, 2016-2020**

As stewards of the 372-acre Thorncrag Nature Sanctuary in Lewiston, the Stanton Bird Club promotes conservation, nature education, and recreation in our community.

- As lead organizer for the public meeting lecture series, I identified and coordinated speakers for public lectures and annual meetings on topics ranging from native plants and pollinator health to the vascular systems of trees.

YOUTH ENGAGEMENT

Maine Community Integration (MCI) Board of Directors **January, 2016-present**

This refugee-led organization supports the integration of immigrants into the Lewiston community through education, enrichment and civic engagement programming, with a special focus on empowering women and girls.

- Initiated ongoing partnerships between MCI and Agassiz Youth Camp in Poland, Maine and Valo, in Yarmouth, to help immigrant-youth gain access to water safety education and other nature-based learning opportunities.
- Worked with Executive Director Fowsia Musse to support a Bates capstone project that advises municipal officials about how to make parks, trails, and other outdoor spaces more welcoming for immigrant youth.

Valo Board of Directors **2018-present**

Valo offers free weekend retreats and in-school workshops that promote social and emotional health and connection among Maine teens through conversation, hands-on learning, and time in nature.

- Created partnership with Valo, Whiting Farm in Auburn, and MCI, to coordinate programs that offer low-income youth from Lewiston opportunities to learn skills for growing their own food

Maine Humanities Council Veteran Book Group Facilitator & Curriculum Designer **2019-2020**

This program helped veterans process their experiences of conflict and connect with peers by reading and discussing historical and literary texts ranging from the diary of a Napoleonic foot soldier to the *Illiad*.

- Served as a facilitator for two six-week sessions; the program has been on hiatus since 2020 due to COVID
- Created reading list and discussion guide for female-identifying veterans in the Maine State Prison, and served on advisory board for this program.

ADDITIONAL SKILLS & INTERESTS

- Fluent in written and oral French
- Over twenty years of experience in gardening. I currently lease a three-acre parcel in Auburn to grow crops for my family and to donate to the Auburn PAL Center's canning and preserving program.

Androscoggin Valley Soil & Water Conservation District
Making Conservation Work for You

Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric:

The Androscoggin Valley Soil & Water Conservation District is enthusiastic to hear of the City's efforts to remove the Littlefield Dam and restore that section of the Little Androscoggin River to a more natural habitat. We strongly support your application to NOAA for a grant to help restore this section of the Little Androscoggin River. We recognize that this project would create more access to recreational activities for urban communities in Lewiston/Auburn as well as improve the habitat of the river overall.

The Little Androscoggin provides tremendous potential as a recreational and natural resource. We have been aware of this breached dam for a number of years and are thrilled that the City is working on its removal and restoration of that section to a more natural flowing river. This would improve recreation potential in Auburn and create habitat improvements along the river throughout Androscoggin County. This restoration would improve recreation for urban residents in our District. Removal of the Littlefield Dam would create safer access for AVSWCD and other organizations to host paddling events for beginner paddlers in New Auburn and downtown Lewiston, as well as individuals to feel confident in exploring the river on their own.

This dam is a significant barrier to fish passage to the Androscoggin River Watershed and this project will pave the way for future projects to improve connectivity along the Little Androscoggin and Androscoggin River. Completion of this project would be a huge step towards the long-term plan to bring back sea run fish to the Androscoggin River Watershed, improving ecology of the lakes, the river, and the Gulf of Maine.

The Androscoggin Valley Soil & Water Conservation District provides our wholehearted support of your application and continued efforts to enhance the recreation opportunities in the City and on and around the Little Androscoggin River.

Signed

Emma Lorusso
Project Director
Androscoggin Valley Soil & Water Conservation District

Androscoggin River Watershed Council

September 10,2023

Eric Cousens
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric:

The Androscoggin River Watershed Council provides its support for Auburn's application to NOAA for the removal of the Littlefield Dam. While there are a number of other passage issues for anadromous and diadromous fish in the lower Androscoggin basin, we are confident that passage downriver of this structure will continue to improve with the relicensing of dams on the Little Androscoggin and Androscoggin Rivers.

ARWC is also interested in developing more access to the Little Androscoggin for fishing and paddling opportunities. We have identified several potential sites upriver from the dam for possible access and have actively worked on siting one at Hotel Rd where there is a small parking area that provides anglers with limited access. We are interested in further development of the site for hand carry boat access. There are also excellent paddling waters downstream, and we have evaluated a site on Taylor Brook that would be a short paddle to the main stem of the Little Androscoggin. This looks like a promising site for hand carry access since the City owns the land in this area. We will work with the City to apply for grants, and already have several potential in-kind services for the development of the Hotel Road site.

Access to both the Androscoggin and Little Androscoggin in this area provides an opportunity for underserved urban residents to avail themselves of peaceful experiences in nature. The section of the Little Androscoggin River in this area is unique in that the shoreline is undeveloped; residents can have an experience much like that in more remote sections of the river. We enthusiastically support funding for this project which will improve fish passage and make a significant contribution to the recreational experience on and along the river.

Sincerely,

Fergus P. Lea

Fergus P. Lea, Jr. P.E.
Chair

Androscoggin River Trail

PO Box 1541, Bethel, ME 04217 207-754-8158 Fax: 207-783-5211 www.androscogginwatershed.org

City of Auburn, Maine
Recreation & Sports Tourism
Marc Gosselin, Executive Director
Jeremy Gatcomb, Recreation Director
48 Pettengill Park Road | Auburn, Maine 04210
www.auburnmaine.gov | 207.333.6601

To: NOAA
CC: Jeremy Gatcomb, Recreation Director
Date: August 10, 2022
RE: Support for dam removal

Auburn Parks and Recreation Advisory Board is in support of the proposal to restore fish passage on the Little Androscoggin River. It is of the opinion of this board that the removal of the Littlefield Dam followed by the restoration of the river channel will add recreational space and opportunities which will benefit the residents of Auburn. Specifically, the portion of the Little Androscoggin that is impacted by the restoration plan is close to urban neighborhoods but has the look and feel of a much more remote river. This will create an accessible safe recreation area for inexperienced paddlers and anglers due to the more stable water flows and currents.

The board has recognized the need for open space and recreational opportunities this project will afford for residents who would otherwise not be able to access them. These opportunities would include the creation of a clean and free flowing section of river, which would provide safe fish passage and a boost in ecosystem health along the Little Androscoggin River. The restoration also opens up the potential to extend the trails and improve recreational access along the river.

This board supports this project in its entirety and will be looking forward to future partnerships to continue to grow and enhance this recreational area for our city and residents.

Thank You,

Misty Edgecomb
Parks and Recreation Advisory Board Chair

Bates

Office of the Director, Harward Center for Community Partnerships

Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric,

The Harward Center for Community Partnerships at Bates College is excited to support the City of Auburn's efforts to remove the Littlefield Dam and restore fish passage to the Little Androscoggin River. Bates students have collaborated with Auburn staff, elected officials, and residents on multiple projects and initiatives with the aim of improving recreational opportunities and the ecological health of the Little Androscoggin River. We believe the City's current proposal to NOAA will help realize the potential of this important community resource while generating valuable learning opportunities for students to participate in monitoring the ecological impact of restoration.

Our goal at the Harward Center is to create mutually beneficial partnerships that address community needs while providing rigorous and enriching experiences to Bates students. In 2015, students in our environmental studies capstone course analyzed recreational opportunities on the Little Androscoggin River in support of the City of Auburn's negotiations with KEI for the FERC relicensing of the Lower Barker Mills dam. Their work determined that the Little Androscoggin has great potential for increased opportunities for fishing and paddling, which could in turn support economic growth in an area in Auburn and Lewiston that has a high concentration of low-income residents. More recently, students in our Short Term Action Research Team worked with the Auburn Conservation Commission to analyze the ecological and economic benefits of dam removals; their research identified multiple anticipated benefits to the removal of the Littlefield Dam, including improved health and genetic diversity in resident fish populations, increased populations of micro and macroinvertebrates, and increased recreational opportunities. Going forward, faculty in our geology and biology departments have already expressed a strong interest in having their students conduct sampling and analysis of freshwater sponges and sediments in order to assess improvements to the health of the ecosystem in the Little Androscoggin following barrier removals.

For all the reasons outlined above, we believe the restoration of the Little Androscoggin River will offer numerous benefits to the community and to Bates students. We are committed to supporting continued research and advocacy related to the health of the river and the ecosystems it supports, and we hope that NOAA will recognize the many merits of the current proposal and award the City of Auburn the grant for barrier removal.

Sincerely,

Darby K. Ray

Darby K. Ray, Ph.D.
Director, Harward Center for Community Partnerships, Bates College

Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric:

I am excited to learn of the City's efforts to remove the Littlefield Dam and restore that section of the Little Androscoggin River to a more natural habitat. I strongly support your application to NOAA for a grant to help restore this section of the Little Androscoggin River, a river that has too often been neglected in our work to improve local paddling opportunities.

I believe recreation potential of the Little Androscoggin in Auburn has been largely untapped. The City's plans for the dam removal and evaluation of other access sites is of particular interest to us. I appreciate the efforts of Lewiston and Auburn to improve access to our water bodies and believe that the Little Androscoggin provides tremendous potential as a recreational resource.

I also understand that the dam removal fits into a long-term plan to by NOAA and the Maine Department of Marine Resources to bring sea run fish back to the Little Androscoggin and the lakes in its watershed. This should help improve the ecology of the lakes, the river and the Gulf of Maine.

I am excited to see this project come to fruition and offer my full endorsement. Best of luck with your application and please continue your efforts to enhance the ecology and recreation opportunities in the City and on and around the Little Androscoggin River

Signed

Dana Staples

Auburn City Councilor, At-Large

Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

ANDROSCOGGIN LAND TRUST

Dear Eric:

The Androscoggin Land Trust is very supportive of the City of Auburn's recent focus aimed at removing the Littlefield Dam on the Little Androscoggin river in order to restore this section of the river to a more natural habitat. We are thankful for the opportunity to be thought partners in the early planning stages and agree completely with the City's planning.

We strongly support your application to NOAA for a grant to help restore this section of the Little Androscoggin River and consider the restoration of the Little Androscoggin River to be a crucial part of improving both the natural habitat for both terrestrial and aquatic species and improving the possibilities for tributaries in the Androscoggin River Watershed to see a return of native species that have seen challenges returning to the watershed due to physical impediments and poor habitat, including water quality. Additionally, ALT believes that improvements to the Little Androscoggin by restoring the river to a more natural state increases outdoor recreation opportunities and improves quality of life for the regions people.

The City's plans for the dam removal and evaluation of other access sites are of particular interest to us. We appreciate the efforts municipalities in the region to improve access to our water bodies and believe that the Little Androscoggin provides tremendous potential as a recreational resource. We also understand that the dam removal fits into a long-term plan to by NOAA and the Maine Department of Marine Resources to bring sea run fish back to the Little Androscoggin and the lakes in its watershed. This should help improve the ecology of the lakes, the river and the Gulf of Maine. We see great value in improved movement of fish species along the entire watershed, and specifically throughout the tributaries to the Little Androscoggin River and its headwaters as these bodies of water have historically been strong fisheries for both people and animals that depend on them as a source of food.

In Collaboration,

Joshua L. Maguire

President, Board of Directors
Androscoggin Land Trust
86 Main St, Suite #201, Auburn, ME 04210
Tel: 207.782.2302 Mob: 207.240.2779
https://androscogginlandtrust.org

Dag's
BAIT & TACKLE

559 Minot Ave
Auburn, ME 04210

Eric Cousens
Director of Planning and Permitting, City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric,

I am writing on behalf of Dag's Bait & Sport Goods, located at 559 Minot Ave in Auburn, to voice our family's support for efforts to remove the Littlefield Dam and assess and improve other barriers to fish passage on the Little Androscoggin and Taylor Brook. Dag's Bait & Sports Goods is one of the only locally-owned bait and tackle shops in our region, and as owners of this business our family is excited about the City of Auburn's application and the benefits it could have for our fish populations and for recreational fishing in our community. We would also like to express our specific support for a full assessment of the small dam on our property that manages the water level in the portion of Taylor Brook behind our shop, in order to identify and fund improvements to fish passage.

In addition to my role helping run the family bait and tackle business, I am a lifelong Auburn resident, and longtime member of the Auburn Conservation Commission. I have over 42 years of personal and professional experience and knowledge of this area. I live on Taylor Brook and regularly paddle the Little Androscoggin. I have seen how dams and other barriers have hampered the ability of anadromous and diadromous fish species to follow their natural life cycle and reproduce in this area. Even with the annual stocking of over 2,000 alewives in Taylor Pond, most never make it to the ocean or are able to even reproduce and settle locally as a landlocked species because of dams and other barriers.

Over the years, I have also witnessed how barriers on the Little Androscoggin and Taylor Brook affect the health of the entire ecosystem. I have watched stoneflies, several arthropods and other invertebrates, various trout species, eels, and salmon disappear from the area.

I am particularly excited to support the removal of the Littlefield dam because it should yield significant improvements in water quality, turbidity, oxygenation, and thus improve the natural ecosystem and overall health of the Little Androscoggin as well as Taylor Brook. It is not only important to remove these barriers for safe fish passage but to also improve the water quality to allow invertebrates to thrive as a local food source for native land-locked species.

The removal of the Littlefield Dam, along with improvements to other barriers such as the dam by our shop, will pave the way for a comprehensive restoration of the Little Androscoggin as FERC relicensing deadlines approach for privately owned facilities. We are so fortunate to have a gem like the Little Androscoggin running through the heart of our community- one of the largest urban areas in Maine. I would urge NOAA staff to consider the City of Auburn's application to help us move forward with a comprehensive restoration and realize the river's great potential for fishing and recreation.

Sincerely,

Rhyanna Larose, Dag's Bait and Sport Goods

164 Bennett Ave, Auburn, Maine 04210

Rhyanna Larose

Dylan Larose, Owner - Dag's Bait and Sport Goods

146 Bennett Ave, Auburn, Maine 04210

August 11, 2022

Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric:

The Board of Grow L+A is excited to learn of the City's efforts to remove Littlefield Dam and restore that section of the Little Androscoggin River to a more natural habitat. We strongly support your application to NOAA for a grant to help restore this section of the Little Androscoggin River — a river that has too often been neglected.

The City's plans for the dam removal and evaluation of other access sites is of particular interest to us. The Grow L+A River Working group works to convene local stakeholders to advocate for maximum "Best Use" of the Androscoggin and Little Androscoggin Rivers, the Canals, the Great Falls, and all that surround it. Our partners include Lewiston and Auburn City staff, elected and appointed officials, Androscoggin Land Trust, Museum LA, Bates College, Androscoggin Historical Society, Healthy Androscoggin, LA Metro Chamber, and passionate citizen advocates. We often work in partnership with owners of the area dams on the Little Androscoggin and Brookfield, the operator of Monty Hydro, that controls 13 dams on the Androscoggin River. Our advocacy has included upgrading the lower Androscoggin River to a Class B rating, increased recreational opportunities such as paddling and fishing through timed water releases, community events on the rivers, as well as officially naming and marketing a "Historic River District", and more.

We appreciate the efforts of Auburn and Lewiston to improve access to our water bodies and believe that the Little Androscoggin provides tremendous potential as a recreational resource that has largely been unexplored, as well as a a somewhat remote aquatic and riparian ecology close to our urban area. The Little

Lewiston Auburn
METROPOLITAN
CHAMBER of COMMERCE

August 11. 2022

Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St
Auburn. ME 04210

Dear Eric:

The LA Metro Chamber of Commerce is excited to learn of the City's efforts to remove the Dam and restore the Little Androscoggin River to a more natural habitat. The dam's removal will not only improve the ecology of the river but will also benefit the ecosystem along the river.

The City's Plans for the dams removal and evaluation of other access sites is of particular interest to us. We appreciate the efforts of Lewiston and Auburn to improve access to our water bodies and believe that the Little Androscoggin provides tremendous potential as a recreational resource.

As President + CEO of the LA Metro Chamber of Commerce, I work every day with businesses and nonprofit organizations to advance economic vitality and enhance quality of life for our region and its residents. This improvement will enhance the river and promote outdoor recreational opportunities within our region and for our residents.

Wishing you success with your application and continued efforts to enhance the ecology and recreational opportunities in the City and on the Little Androscoggin River

We support your application to NOAA for a grant to help restore this section of the Little Androscoggin River.

Sincerely.

Shanna Cox
President + CEO
Lewiston Auburn Metropolitan Chamber of Commerce

About the Lewiston Auburn Metropolitan Chamber of Commerce
An organization of community-minded businesses that serves Lewiston. Auburn, and surrounding communities, the Lewiston Auburn Metropolitan Chamber of Commerce is an engine for economic vitality and enhanced quality of life. Through issues advocacy, workforce development. and professional networking, the LA Metro Chamber helps business and community build. lead. and thrive. (lametrochamber.com)

August 5th, 2022

To the City of Auburn and the Auburn Conservation Commission,

I am writing to express my support for your application for the NOAA grant for Restoring Fish Passage through Barrier Removal. I am the owner and Director of the Martindale Country Club in Auburn, and the Littlefield dam is a decommissioned, breached hydroelectric dam that resides on our property. Martindale Country Club has no plans for the dam, and we support efforts to remove the structure to reduce flood risks, eliminate a public safety hazard, and improve ecosystem health of the Little Androscoggin River.

Martindale Country Club has received assurances that rigorous assessments and planning would be conducted prior to the removal of the dam in order to evaluate and mitigate any negative consequences from the project to Martindale Country Club, other abutters, and the environment. We draw our water from an intake upstream from the dam, and test regularly for any contamination; it is important that we maintain a consistent supply of clean water for irrigation as the project proceeds to avoid any negative consequences for course conditions. Our understanding is that preliminary assessments have indicated that flooding in the vicinity of the dam should be no greater or less than currently experienced once the channel of the river is restored. We look forward to a complete hydraulic analysis of the site as part of the engineering for removal.

If done with respect to the surrounding area, homeowners, and businesses, I believe this project is a win-win for everyone. The Little Androscoggin River is an underutilized resource for our community, and I am excited that the removal of the Littlefield Dam will contribute to efforts to restore the river, the ecosystems it supports, and recreational opportunities in the area. I look forward to remaining in continued communication as the project proceeds, and am happy to provide support where possible, recognizing the need for the Martindale Country Club to maintain a consistent supply of clean water for irrigation and otherwise at all times.

Sincerely,

Nick Glicos
Martindale Country Club
nglicos@martindalecc.com
(207) 782-1107

Maine

Rivers

OUR MISSION IS TO PROTECT, RESTORE AND ENHANCE THE ECOLOGICAL HEALTH OF MAINE'S RIVER SYSTEMS

P.O. BOX 782
YARMOUTH, ME 04096

PH: 207-847-9277

CONTACT@MAINERIVERS.ORG

WWW.MAINERIVERS.ORG

August 1, 2022

Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric,

Maine Rivers is pleased to offer our support to the City of Auburn's efforts to obtain funding from NOAA for the removal of the Littlefield Dam to restore a section of the Little Androscoggin. We were pleased to join a site visit this spring and were impressed by the strong showing of public support for the undertaking. Clearly there's a lot of interest in improving access to this site for recreation and removing the large remnants of the dam will vastly improve the experience for those interested in exploring the waterway. We understand that the Little Androscoggin River is accessible to lower income neighborhoods in New Auburn and downtown Lewiston and we hope that value to local neighborhoods weighs positively in favor the funding this work.

Thank you for your consideration.

Sincerely,

Landis Hudson

Landis Hudson
Executive Director

Barrier Removal in Merrymeeting Bay Tributaries: Restoring Critical Habitat for Maine Diadromous Fish Species- Fish passage at hydropower operations

Fish passage restoration for diadromous species has been rapidly moving forward in Maine over the last quarter century. Both the Kennebec River and Androscoggin River have been the impetus for precedent-setting river restoration and conservation initiatives at the national level, first with passage of the 1972 Clean Water Act, inspired by the deplorable state of the Androscoggin, and later the 1999 FERC-ordered removal of the Edwards Dam from the Kennebec. Agencies, communities and nonprofit organizations have worked together to move forward these initiatives to improve the health of these two great rivers.

While access to both freshwater and marine ecosystems are a requirement for the life cycles and reproduction of migratory sea-run species, the presence of multiples barriers on rivers and streams with differing owners and legal requirements complicates restoration efforts. Advocates, scientists, and managers must think comprehensively and strategically about how to gain habitat benefits at a watershed scale, but often act in much smaller increments and over very long timelines. We offer this background to describe why the restoration efforts outlined in this proposal – many of which have been decades in the making – are timely and worthy of investment.

The Sandy River watershed flows into the mainstem Kennebec River between the Towns of Starks and Norridgewock. The Sandy River has the most pristine and intact spawning and rearing habitat for endangered Atlantic salmon in the entire State of Maine. DMR biologists have documented the largest Atlantic salmon smolt runs of any monitored system in Maine. There are four hydroelectric dams located downstream of the Sandy's confluence with the Kennebec: the Weston, Shawmut, Hydro-Kennebec, and Lockwood Dams. For more than a decade, effective fish passage at each of these dams has been a goal of both state and federal agencies and non governmental organizations, Under the current regime, Atlantic salmon are transported from the Lockwood fishway to habitat in the upper Sandy River via trucks. Alewife, blueback herring, and American shad are also trucked from Lockwood and released into upstream habitat in the Kennebec watershed (Table 1).

Table 1: Fish passage counts and/or current status of fish passage facilities at mainstem Kennebec River dams as of 2023. Counts are average ± 1 standard deviation for the period 2018-2022. Wesserunsett projects are above Shawmut Dam, Sandy River projects are above Weston Dam. For further background on fish passage and hydropower within the Merrymeeting Bay system see memo in supplemental information.

Location	American Shad	Atlantic Salmon	River Herring	Sea Lamprey (2023)
Lockwood (lift)	152 ±154	45 ±25	167,974 ±92,606	7
Hydro-Kennebec	Upstream fish lift (2015), upstream eel passage, and downstream fish passage. Fish lift not to be operated until Shawmut passage is completed. Relicensing in 2036.			

Shawmut	No fish passage, except upstream eel passage. Currently in FERC relicensing process.
Weston	No fish passage, except upstream eel passage. No dedicated downstream fish passage. Relicensing in 2036.

The Biological Opinion (BiOp) issued under section 7 of the Endangered Species Act by NOAA Fisheries in March 2023 related to Species Protection Plans at the four dams is currently undergoing review by FERC. If the BiOp is adopted by FERC as proposed, the owner of these dams, Brookfield Renewable Partners, must construct fish passage at the Weston and Shawmut Dams, and both make improvements to the existing fish lift and build a second fishway at the Lockwood Dam (a fish lift was constructed at Hydro-Kennebec in 2015). In addition, Brookfield will be required to implement improvements to downstream passage at each of the four mainstem projects. In order to be in compliance with the BiOp, upstream and downstream passage will be required to be safe, timely and effective and meet high passage efficiencies (nearly 100%) for endangered Atlantic salmon. These performance standards will also be adopted as FERC license conditions, thereby assuring that regulatory authorities under the Federal Power Act and Endangered Species Act will remain as tools to enforce effective passage. While decommissioning and removal of one or more of the mainstem dams would provide the best outcome for the ecosystem, the measures required in the Biological Opinion are substantial improvements to passage and will advance the restoration of sea-run fish further upstream in the Kennebec to habitat where many of these species have been absent for nearly two centuries. Further, the Shawmut Dam is in the midst of relicensing at FERC, which provides for additional opportunities for passage improvements through the relicensing process. The surrender and removal of the Sandy River hydroelectric dam in 2006, upstream of the mainstem hydropower dams, was supported by many state and federal agencies, including NOAA Fisheries, and established the precedent of improving access to the Sandy River watershed even while a timeline for improved passage at the mainstem hydropower dams was being developed.

In addition to the Lemon Stream and Chesterville Dam removals and culvert upgrades outlined in this proposal to directly benefit endangered Atlantic salmon restoration efforts, other projects will greatly enhance river herring numbers, which positively impacts salmon restoration as these species are a significant prey buffer. These projects include upgrading the Webber Pond fishway in Vassalboro, repairing the Center Pond fishway in Phippsburg, and outreach and design work to support alewife restoration to Wesserunsett Lake in Madison. Each of these three sites have a population of river herring present today, but the populations are substantially limited due to an undersized fishway at Webber, a poor fishway at Center Pond, and complete absence of upstream passage at Wesserunsett Lake (alewives are trucked from Lockwood Dam and released in Wesserunsett).

The situation in the Androscoggin watershed is also evolving and offers meaningful restoration opportunities to benefit both local communities and the larger Gulf of Maine (Table 2). The

MDMR and Maine Department of Inland Fisheries and Wildlife developed the *Draft Fisheries Management Plan for the Lower Androscoggin River, Little Androscoggin River and Sabattus River* (Plan) in anticipation of the relicensing of seven hydropower projects in the river. The Plan includes a schedule for fish passage at each hydropower facility within 2-3 years of the license expiration date and calls for fish passage in the Sabattus River as soon as possible. Fish passage is also a priority in the *NOAA Androscoggin River Watershed Comprehensive Plan for Diadromous Fishes* (2020), which encourages barrier removals on upstream tributaries (Little Androscoggin River, Sabattus River) in the near term. Economic modeling that placed the 37-46 km2 of habitat above the Androscoggin River dams into active alewife production, at 235 fish per acre, yielded an annual benefit of $5.8 - $14.8 million to the commercial and recreational fisheries between Maine and North Carolina. Additional value would accrue to commercial fisheries if restoration led to towns in the Androscoggin River watershed establishing commercial river herring fisheries. The ecological (nonuse) model yielded increased biomass for many organisms at the top of the food chain (e.g., pinnieds, large pelagics and toothed whales) that could not be directly quantified economically.

Table 2: Fish passage counts and/or current status of fish passage facilities at mainstem Androscoggin River dams as of 2023. Counts are average ±1 standard deviation for the period 2018-2022. Sabattus River projects are above Worumbo with no additional barriers between. Brunswick Dam is up for relicensing in 2029. For further background on fish passage and hydropower within the Merrymeeting Bay system see memo in supplemental information.

Location	**American Shad**	**Atlantic Salmon**	**River Herring**	**Sea Lamprey (2023)**
Brunswick (Denil)	179 ±200	6 ±6	65,049 ±45,445	491
Pejepscot	Upstream fish lift and downstream fish passage. Relicensing completed in 2023.			
Worumbo	Upstream fish lift (1990), upstream eel passage, and downstream fish passage. Currently in FERC relicensing process.			

The headwaters of the Androscoggin River are in the western mountains of Maine. The river winds through New Hampshire before returning to Maine and eventually meeting the Kennebec at Merrymeeting Bay. On the mainstem Androscoggin River, Lewiston Falls stopped the upstream migration of alewife, American shad, blueback herring, and striped bass, while Rumford Falls was a barrier to Atlantic salmon and sea lamprey (Atkins 1887). There are three mainstem dams below Lewiston Falls on the Lower Androscoggin River today; Brunswick Dam, Pejepscot Dam, and Worumbo Dam. All three dams have upstream and downstream passage facilities and we anticipate improvements to each of the facilities as part of ongoing or upcoming relicensing at the dams (License expiration: Brunswick 2025, Worumbo 2025).

The Sabattus River restoration work provides the largest amount of alewife spawning habitat

above the fewest hydropower projects downstream (3). One of the three dams downstream of the Sabattus River (Pejepscot Hydroelectric Project) has gone through relicensing recently and has fish passage provisions in their new license. The other two hydropower projects are the Worumbo Dam and the Brunswick Dam. The process for relicensing at the Worumbo dam has thus far included meaningful cooperation between the owner of the dam and the resource agencies to address issues with the upstream fishway and develop a new downstream passage approach for the facility. The Brunswick dam is known to have severe fish passage problems, the upcoming Brunswick Dam relicensing will engage resource agencies, nonprofit organizations, and members of the public to improve the situation. However, poor passage at Brunswick has not stopped fish from returning to the watershed. Since 1983, MDMR has stocked more than 400,000 alewife into five lakes and ponds in the Sabattus River to sustain the population. MDMR estimates that once barriers on the Sabattus River are addressed, a self-sustaining run of more than 1 million adult alewife will return each year. As in the Kennebec, we believe continuing to invest in the Sabattus River will inspire additional restoration work in the watershed and will support compliance with license articles at the mainstem hydroelectric projects.

To put a fine point on it, if habitat upstream of hydropower projects is not accessible, it adds confusion and complexity during a relicensing process at downstream FERC projects and to the compliance work at a hydropower project after relicensing. For example, testing fish passage measures that are required as part of a new FERC license can be delayed or ignored if too few fish approach a facility each year, which would make carrying out studies difficult or not feasible. On the other hand, when habitat is ready and accessible, particularly for alewife, restoration success can be immediate and dramatic. Once fish passage measures are in place at hydropower projects, alewives show up in significant numbers if upstream habitat is accessible and has been stocked for a number of years. The restoration success on the Penobscot River and the record numbers of fish passing the Milford Dam each year are a wonderful example of this success in Maine. Therefore, we firmly believe that the restoration projects included in this proposal are not just timely, they are urgently needed to keep pressure on FERC and hydropower owners to ensure that the best outcomes for Atlantic salmon, alewives, and other migratory fish are realized at the hydropower projects on Kennebec and Androscoggin Rivers.

Using their regulatory authorities through the Federal Power Act (including Section 18 fish passage prescriptions) and Endangered Species Act, NOAA Fisheries and the U.S. Fish & Wildlife Service will have the ability within the next several years to substantially improve passage at mainstem hydropower dams on the Androscoggin River, making the removal of barriers on upstream tributaries (Little Androscoggin River, Sabattus River) of paramount importance. Note that these mainstem dams already have passage, and diadromous fish already have access to the Sabattus River, which is within designated critical habitat for endangered Atlantic salmon. Furthermore, a settlement agreement for the two lowermost dams on the Little Androscoggin River (Lower Barker and Upper Barker), filed with FERC, lays out a schedule for upstream passage at those sites, making the removal of upstream barriers in the Little Androscoggin River of paramount importance as well. Similar to the Kennebec River, pending improvements for fish passage at Androscoggin River hydropower dams within the next several years creates urgency to remove barriers throughout the watershed to achieve long-standing fisheries goals and access to historic habitat.

To: Sam Boss

From: Dana Little, President of the Taylor Pond Association

Date: 7/14/2022

Re: Littlefield Dam-·Removal

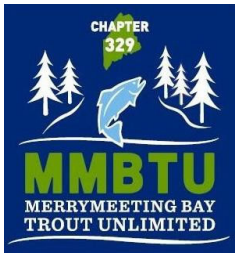
Taylor Pond Association is a SOlc-3 non-profit corporation first organized in 1974. Our members are committed to maintaining the water quality ofTaylor Pond in order to preserve wildlife habitat,protect property values and safeguard recreational opportunities.

Taylor Pond Association would like to see the restoration of fish runs that have been prevented by dams. Since 1983 the Department of Marine Resources has stocked 3000+ Alewives intothe pond. These fish are captured at the Brunswick Dam fishladder and trucked to Taylor Pond. We understand that at one time Atlantic salmon, American shad, Blueback herring and American eel all enjoyed free passage to Taylor Pond from the ocean. These fish are now blocked by a series of dams on the Androscoggin and Little Androscoggin Rivers.

Although the removal of the Littlefield Dam does not resolve the entire situation, it is a step in the right direction. We met as a board on 7/13/2022 and passeda motion to support the effort to remove the Littlefield Dam.

Dana Little

7/14/2022



Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric:

Trout Unlimited is a national conservation organization that brings together diverse interests to care for and recover rivers and streams, so our children can experience the joy of wild and native trout and salmon. At the state of Maine level, we are actively engaged in many efforts to fulfill this mission. When the Merrymeeting Bay Chapter of Trout Unlimited learned of the City's efforts to remove the Littlefield Dam and restore that section of the Little Androscoggin River to a more natural habitat, we were immediately supportive of all efforts to affect such positive change.

As such, we strongly support your application to NOAA for a grant to help restore this section of the Little Androscoggin River. This river - too often neglected - has tremendous potential to improve the quality of life for area residents living in urban, lower income neighborhoods, whether by improving local fishing and paddling opportunities, but also to improve the life of the stream itself, bringing sea-run salmonids a chance to re-establish themselves in a healthy biodiverse watershed, a long-term goal of both DMR and NOAA.

The Merrymeeting Bay Chapter of Trout Unlimited provides its wholehearted support of your application and the entire project. The benefits of efforts such as yours are not for just for us, but for our children and their children's children. There are few more worthy things we can do with our lives.

Thank you for taking on this important work.

Jeffrey J. Bush
President, Merrymeeting Bay Chapter
Trout Unlimited
jbush@tumaine.org

August 9, 2022

Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

TROUT UNLIMITED
MAINE COUNCIL

Transmitted via email

Subject: **Littlefield Dam Removal**

Dear Eric:

On behalf of its six chapters and over 2,000 members, Maine Council of Trout Unlimited (TU) submits this letter in support of the City of Auburn's efforts obtain funding to support the removal of the Littlefield Dam on the Little Androscoggin River in Auburn, Maine.

Maine TU Council FERC Committee was made aware of the Littlefield Dam some years ago by the past chair of Auburn Conservation Commission who was unable to obtain funding at that time. The dam has remained on our radar as a target for removal and the local TU chapter, Merrymeeting Bay Chapter, has taken an active interest. We fully endorse their letter to you in support for your application for funding and would like to add our voice to theirs.

Like too many dams in Maine, the Littlefield Dam no longer serves any useful purpose and continues to cause harm. The dam amplifies the adverse effects of high flow events by making high water levels higher; it damages the health of the watershed by holding back sediments that would benefit aquatic life downstream; it prevents the resident trout from accessing critical habitat.

The Littlefield Dam is specified in the NOAA Fisheries Management Plan[1] as significant to the restoration of both American shad and alewives to the Little Androscoggin River Watershed. The dam is the third upstream in the watershed and negotiations between state and federal agencies and the owner of the Barker's Mills Projects downstream that include provisions for fish passage are now in their final stages. We have every confidence that anadromous species will be restored to the greater Androscoggin watershed within the next decade and removal of the Littlefield Dam will improve that restoration effort as well as enhance the habitat for resident trout and provide enriched recreational opportunities in the Little Androscoggin Watershed for TU members.

Sincerely,

Matthew Streeter
Maine TU Council Chair

[1] NOAA Fisheries. 2020. Androscoggin River Watershed Comprehensive Plan for Diadromous Fish. Greater Atlantic Region Policy Series20-01. NOAA Fisheries Greater Atlantic Regional Fisheries Office - www.greateratlantic.fisheries.noaa.gov/policyseries/, pages 97 and 98.

Bomazeen Land Trust

Eric Cousens August 8, 2022 Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric,

Bomazeen Land Trust, the first and only Wabanaki-led land trust, is excited to learn of the City of Auburn's efforts to remove the Littlefield Dam and restore that section of the Little Androscoggin River to a healthier and more natural habitat. We strongly support your application to NOAA for a grant to help restore this section of the Little Androscoggin River, a river that has too often been neglected in our work to improve aquatic and riparian ecology in Wabanaki homelands.

The City's plans for the dam removal and evaluation of other access sites is of particular interest to us. We appreciate the efforts of Lewiston and Auburn to improve access to our water bodies and believe that the Little Androscoggin provides tremendous potential for recovery after hundreds of years of obstruction for aquatic life in the watershed. We understand that the dam removal fits into a long term plan by NOAA and the Maine Department of Marine Resources to bring sea run fish back to the Little Androscoggin and the lakes in its watershed, and believe that this should help improve the ecology of the lakes, the river and the Gulf of Maine altogether.

We provide our full support for the removal of this dam. Best of luck with your application and please continue your efforts to enhance the ecology in the City and on and around the Little Androscoggin River.

Signed,

Mali Obomsawin, Executive Director

August 8, 2022

Mr. Eric Cousens
Director of Planning and Permitting
City of Auburn
60 Court St.
Auburn, ME 04210

Dear Eric:

The United New Auburn Association is excited to learn of the city's efforts to remove the Littlefield Dam and restore that section of the Little Androscoggin River to a more natural habitat.

We strongly support your application to NOAA for a grant to help restore this section of the Little Androscoggin River, a river that has too often been neglected in our work to provide and improve aesthetics, local fishing opportunities, local paddling opportunities, experiences of a somewhat remote aquatic and riparian ecology close to our urban area.

The recreation potential of the Little Androscoggin in Auburn has been largely untapped. The city's plans for the dam removal and evaluation of other access sites is of particular interest to us. We appreciate the efforts of Lewiston and Auburn to improve access to our water bodies and believe that the Little Androscoggin provides tremendous potential as a recreational resource. We also understand that the dam removal fits into a long term plan by NOAA and the Maine Department of Marine Resources to bring sea run fish back to the Little Androscoggin and the lakes in its watershed. This should help improve the ecology of the lakes, the river and the Gulf of Maine. We provide our wholehearted support.

Best of luck with your application and please continue your efforts to enhance the ecology and/or recreation opportunities in the city and on and around the Little Androscoggin River.

Respectfully,

UNITED NEW AUBURN ASSOCIATION

Leroy G. Walker, Sr.
President

jlb

Littlefield Dam Removal Data Management Plan

The Littlefield Dam Removal project, implemented by City of Auburn will generate environmental data and information, including

1. Pre and Post topographic cross section data for shoreline and channel restoration at the dam location and for sections 100 and 200 feet up and down river from dam site including any filled areas
2. Pre and Post measurement of channel widths at the dam location and for four selected sections at intervals up to 1,000 feet up and down river of project site
3. Pre and Post measurements of sediment in three cross sections of the river,25, 75 and 150 feet upriver from the dam site
4. Pre and Post topographic information on the channel gradient for the deepest part of the channel at 200 foot intervals up and down river for 1,000 feet
5. Pre and Post topographic information for the area within 100 feet of the dam location up and down river
6. Pre and Post photographic and consultant (fish biologist and fluvial geomorphologist) analysis of probability of alewife passage at low and mean water flows
7. Pre and Post water quality data including Dissolved Oxygen, Temperature, and Turbidity 200 feet up and down river from the dam site and at an existing Dissolved Oxygen testing station between the Upper and Lower Barker Mills dams. Data will be collected in accordance with the Maine DEP QAQC plan for its Volunteer River Monitoring Program
8. Number of anglers using area within 1000 feet up and downstream
9. Number of paddlers using the stretch of river between Rt 100 (?) and rips at Empire Rd in Poland
10. Number of organized events using the area between Rt 100 (?) and rips at Empire Rd in Poland

Data will be collected for each of the above items as follows.

Items 1 through 5: Data will be collected and presented by a consultant. The data will be presented for cross sections graphically and suitable for presentation on a website. The data will be collected for a period of one year following final restoration of the site. The data will be stored in the Auburn GIS system and uploaded to the City of Auburn website. Pre construction data will be uploaded within six months of its collection and post construction data will be uploaded within one year from completion of the restoration.

Item 6: Photographic evidence and an analysis will be conducted by a fish biologist and fluvial geomorphologist. The analysis will be conducted based on their expertise in these fields.

Item 7: Data will be collected by trained volunteers operating under the auspices of and in conformance with the protocols of the Maine DEP Volunteer River Monitoring Program. Data is

analyzed, checked for quality and published by the Maine DEP annually. A link to the DEP data will be shared on the City of Auburn website.

Items 8, 9 and 10: The information will be collected by Androscoggin River Watershed Council in conjunction with Bates College and the City of Auburn. It will be georeferenced for inclusion in Auburn's GIS. Data will be collected using Survey 123. It will be collected at randomized times at known access points in July, August and September.

All data will be available on the City of Auburn website for at least three years after completion of the project. All data will be stored in the Auburn GIS for 10 years from the completion of the project. For additional information on the data or for special requests, contact Eric Cousens.

In the past, Auburn has not collected any similar data and, therefore, has not shared similar data.

All future sub-awardees not identified in this plan will have as a condition of their contract acceptance of this data sharing plan. Any additional data sharing stipulations for future sub-awardees shall be outlined at that time and described in their contract.

Littlefield Dam Removal Implementation Monitoring Plan

1.1 Site Passability

The pre-implementation measurements for passability metrics (channel width, gradient, and maximum jump height) should reflect existing conditions at the site and the target ranges should be based on project design plans that reflect regionally appropriate fish passage criteria as follows:

The target species for this project is alewives. They exhibit the lowest jumping ability and require the lowest velocity of the diadromous fish that are expected to pass the down river hydroelectric facilities. The literature on the jumping and velocities for alewives varies considerably. It appears the reason for this is that different channel configurations, even when using similar metrics can also have an impact on their potential to move upstream and/or their survivability. In other words, a configuration that uses weirs with resting stations and one that uses stone lined ponds for resting may have different passage outcomes even though the jump height and flow velocities are the same.

As noted in our application, the configuration of the existing channel below the dam and below sediment above the dam in unknown. We intend on hiring consultants to determine the appropriate channel width and gradient and to determine the extent of channel modification needed to pass alewives at normal high water flows and lower flows.For the purposes of design, unless otherwise indicated by a fisheries biologist having expertise in alewife passage, we will use a 6 inch jumping height, and a velocity of 8 feet per second over a distance of no more than 6 feet before a calming/resting pool. Pool depth will be determined by the consultant, but should be a minimum of one foot.

Since a considerable portion (at least half) of the dam appears to be built on bedrock that has an elevation approximately level with the base of the dam structure (not including the tailrace), we believe that the natural gradient of the stream took a significant drop at this location. However, from the exposed bedrock, we note that there are passages through the bedrock that could have met the criteria we have outlined above. It will be the design consultant's job to work with the fisheries biologist and a fluvial geomorphologist to determine if the bedrock will meet the needs of the alewives or if further modification is needed to create an appropriate passage. Hydraulic modeling of the area deemed most appropriate for passage at low flows will be necessary as will calculations on velocity for normal high water flows.

The dam made significant changes to the channel of the Little Androscoggin both upstream and downstream. The breach of the dam further changed the channel so that it now flows around the two-thirds of the structure that remains. The river is much too wide at the dam location and for distances of approximately 100 to 300 feet up and down river. It is up to twice as wide as the more natural channels up and down river from the dam. We will take measurements at a number of locations as noted in the following.

For dams, pre-implementation measurements should be taken immediately upstream and downstream of the dam and across the spillway crest and repeated at these locations post-removal.

Channel Width: Channel Width: Pre and Post topographic cross sections at the dam location and for a section 100 and 200 feet up and down river from dam site as well as Pre and Post measurements of channel widths at the dam location and for four sections at intervals up to 1,000 feet up and down river of project site. Channel width measurements will include the bankings and the extent of filled areas.

Channel Gradient: Topographic measurements of the channel at its deepest part at 200 foot intervals for 1,000 feet up and down river. In addition, topographic measurements of the channel gradient within

100 feet up and down river at the mid-section of the channel and at the section where it is expected that the majority of fish will pass to ensure jumping height and resting areas are appropriate.

Maximum Jump Height: Pre and Post jumping heights at the area where it is expected most alewives would pass.

Additional Data:

- Pre and Post measurements of sediment in three cross sections of the river,25, 75 and 150 feet upriver from the dam site
- Pre and Post photographic and consultant (fish biologist and fluvial geomorphologist) analysis of probability of alewife passage at low and mean water flows
- Pre and Post water quality data including Dissolved Oxygen, Temperature, and Turbidity 200 feet up and down river from the dam site and at an existing Dissolved Oxygen testing station between the Upper and Lower Barker Mills dams.
- Number of anglers using area within 1000 feet up and downstream
- Number of paddlers using the stretch of river between Rt 100 (?) and rips at Empire Rd in Poland
- Number of organized events using the area between Rt 100 (?) and rips at Empire Rd in Poland

1.2 Target : The target species is the alewife. Of the diadromous fish expected to pass the hydroelectric dams down river from the project, alewives have the lowest jumping potential and require the lowest stream velocities.

1.3 Operation, Maintenance and Liability Costs: There are currently no operational or maintenance costs associated with the dam. There are certainly liability costs that have been generally neglected by the dam owner and its insurer. Flood flows will eventually breach at least some of the remaining sections of the dam. That will result in a need to clean up the rubble which could be more costly and less environmentally friendly than dam removal. Once the dam is removed and the channel restored, the only operation and maintenance costs will be for post construction monitoring. The way Maine law is structured, liability costs will be reduced to zero.

1.4 Safety Hazard: The dam and its breached section creates a safety hazard for those who may fish in the vicinity of the dam, since the waters directly downstream of the dam have a local reputation for being a good place for freshwater species. The dam also presents a hazard for paddlers who may head down river from areas upriver from the dam, since there is no reasonable means of navigating the breached area at normal high water and lower levels. It also creates a hazard from possible unanticipated collapse due to undermining of the dam foundation.

1.5 Civic or Community Enhancement: It is anticipated that removal of the dam will result in a channel that can be safely paddled by reasonably experienced paddlers, and a portage of the significant drop will make it feasible to paddle both up and down river through the area for even inexperienced paddlers. Removal will create a more aesthetic experience for paddlers and anglers and for those using nearby walking paths. The location of this area relatively close to underserved and low-income neighborhoods in Auburn and Lewiston provides a relatively safe opportunity for people who seldom get to experience nature and river systems. Volunteer River Monitors (for water quality) have noted people using the paths and fishing who reach the area on foot or by bicycle. It is anticipated that the publicity associated with dam removal will bring new attention to the Little Androscoggin and use will increase significantly. It is also expected that enhancement of the paddling experience and improved aesthetics by the dam removal will encourage the city and non-profits to develop additional access both up and down river.