

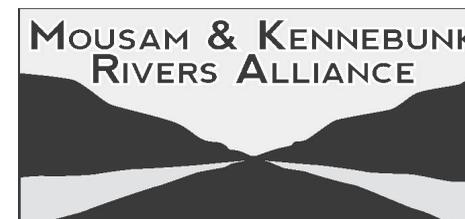
About the Kennebunk River

At 38 square miles, the Kennebunk River watershed is roughly one-third the size of the Mousam watershed. The Kennebunk River begins at Kennebunk Pond and its 84 miles of river and stream drain portions of the Towns of Lyman, Arundel, Kennebunk, and Kennebunkport. In the upper reaches of the watershed, the landscape is sparsely developed and largely consists of a mix of forest and agricultural land. Below the Days Mill Dam, the landscape bordering the main stem of the river is characterized by heavy agricultural use as it flows between Arundel and Kennebunk, and the amount of developed land increases as the river approaches the coast. The Kennebunk River forms a wide, tidal estuary as it approaches the coast and enters an area of higher density development.

Although considerably smaller, the Kennebunk River also had its own populations of many species of sea-run fish, including American shad, Atlantic salmon, American eel, alewives, blueback herring, rainbow smelt, and sea lamprey. Many of these species were harvested as a local food source and were vital to the communities on the river, as evidenced by the nomenclature of the Alewife District, Kennebunk's rural agricultural area centered around the Kennebunk River and Alewife Pond, a primary spawning area for alewives.

There are four small dams on the Kennebunk River today, and one proposed dam at the Grist Mill site in Kennebunkport. Additional complete or partial fish passage barriers exist at 43 road crossings throughout the watershed. Working collaboratively with watershed stakeholders to remove or bypass these impediments could result in the return of substantial runs of river herring, and improve habitat conditions for resident fish such as brook trout. Providing access just to Kennebunk Pond alone could restore an annual run of as many as 48,000 alewives.

Water quality in the Kennebunk River is heavily impacted by bacterial contamination, non-point source pollution and sedimentation resulting from development of the watershed landscape. Resolving these impairment issues will require the cooperation of local, and state officials, and the continued involvement of concerned community members.



About the Mousam and Kennebunk Rivers Alliance

The mission of the Mousam and Kennebunk Rivers Alliance (MKRA) is to improve the ecological health of the Mousam and Kennebunk River watersheds, from the head waters to the ocean. To achieve this mission, the MKRA is focused on three main goals:

- Improving water quality;
- Restoring and enhancing native fisheries;
- Developing and fostering a stewardship ethic for the two watersheds by connecting people to their rivers.

Formed in 2008, the MKRA is the local voice for these rivers and strives to work collaboratively with all river stakeholders, including state and federal natural resource agencies, local and regional conservation groups, land trusts, municipalities, historical societies, sewer districts, and dam owners. Our ongoing fisheries research and monitoring efforts are being conducted in collaboration with volunteers and staff from the Wells National Estuarine Research Reserve (NERR) and Maine Rivers, while our extensive water quality monitoring program is being carried out in conjunction with representatives from the Kennebunk Conservation and Open Space Planning Commission, Alfred Conservation Commission, Estes Lake Association, York County Soil and Water Conservation District, and Wells NERR.



About the Mousam River

The Mousam River watershed contains 349 miles of river and streams and drains a total area of about 117 square miles. It covers portions of the towns of Acton, Shapleigh, Waterboro, Sanford, Alfred, Lyman, and Kennebunk. The upper portions of the watershed are dominated by forests, wetlands, and agricultural lands. Development here is focused on the shorelines of numerous lakes and ponds, including Square Lake, Mousam Lake, Shaker Pond, and Bunganut Pond, and on the mainstem of the river as it passes through downtown Sanford. The mainstem meets the Middle Branch of the Mousam at Estes Lake, and from there the river flows toward downtown Kennebunk. Much of the riparian corridor in this section of river remains intact and relatively undeveloped. Just below Rt. 1 in downtown Kennebunk, the river meets the head-of-tide and then flows through a rich estuary and tidal salt marshes, much of which is within the Rachel Carson National Wildlife Refuge.

There are 15 known dams in the Mousam watershed, including 11 on the mainstem between the outlet of Mousam Lake in Shapleigh and the head-of-tide in Kennebunk, a stretch of river only 24 miles long. This large number of dams over a relatively small stretch of river makes the Mousam one of the most heavily dammed rivers in the State of Maine. In fact, out of the over 40 major river systems in Maine, the Mousam is the only one completely lacking fish passage.

The health of the Mousam River has suffered tremendously due to a long history of degradation from pollution and dams. While great progress has been made in addressing the most severe water issues in the watershed, numerous problems still persist. As of 2012 the estuarine portion of the Mousam River is in non-attainment for dissolved oxygen (DO) and shellfish beds in the estuary are closed due to concerns about bacterial contamination. Little information is known about the water quality in impoundments in the lower river and the majority of dams in the watershed have no minimum flow requirements, and those that do are either “voluntary” or are incredibly low and not protective of aquatic habitat.



While dams can completely alter and degrade a whole suite of natural biological, chemical, physical, and ecological processes, nowhere are the impacts more pronounced than on fish communities and populations. For millennia, the Mousam River was home to large migrations of native sea-run fish. Every year, runs of Atlantic salmon, American shad, alewife, blueback herring, American eel, sea lamprey, tomcod, sea-run brook trout and other species migrated into the Mousam. Species like Atlantic salmon and blueback herring would spawn in the riffles and faster moving water of the river, while alewives would travel into the watershed’s lakes and ponds to reproduce. Each of these species was incredibly important to the overall ecology of the watershed, bringing important nutrients into the freshwater environment and serving as a food source for other fish, birds, and wildlife. These fish were also important economic and cultural resources for the human populations in the watershed, providing both sustenance and extremely valuable commercial fisheries.

Commercial fisheries once existed for tom cod, the diminutive cousins of the larger Atlantic cod, and for striped bass and shad. The runs of shad, river herring, and salmon were so plentiful that local residents would fill wheel barrows with their catch with minimal effort. However, since the re-construction of dams on the lower Mousam about a century ago, there has been no fish passage on the river. The great runs of these sea-run fish have been almost completely eradicated. Remarkably, despite being relegated to about 1% of their historic spawning habitat in the Mousam, alewives, blueback herring, shad, and the occasional salmon still return to the river every spring.

With the selective removal of some dams and the construction of fish passage at others, it would be possible to rejuvenate runs of river herring and shad in the Mousam. Providing these species with access to Estes Lake, the Middle Branch, and Littlefield River portions of the watershed could result in the annual runs of 56,000 American shad, 340,000 blueback herring, and 223,000 alewives. Furthermore, eliminating unhealthy impoundments and restoring portions of the river to a natural, free-flowing condition could provide more than 20 miles of habitat for resident and sea-run brook trout, which would support a remarkable recreational fishery for coastal southern Maine.

