



Region 1 Tribal Nonpoint Source Programs

Celebrating New England's Tribal 319 Nonpoint Source Program Efforts



For more information about EPA's Tribal
NPS Program, including educational and
technical resources, see
www.epa.gov/nps/tribal.



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Houlton Band of Maliseet Indians: this page—Mainstem Meduxnekeag, looking upstream from Lowery Bridge, page 2 (top)—Big Brook riparian buffer after 20 years, page 2 (bottom) Big Brook project map
Passamaquoddy at Indian Township: front page—Princeton, Indian Township (top left), page 3—boat launch at Lewey Lake
Passamaquoddy at Pleasant Point: page 4 (left)—alewife in the St. Croix River circa 2015, page 4 (right)— St. Croix River atop Grant Falls Dams
Penobscot Indian Nation: front page—Olamon, Socs, and Brides Islands in Penobscot River (bottom right, Bridget Besaw), page 5 (top)—streambank stabilization, page 5 (middle)—beaver deceivers, page 5 (bottom)—road drainage and grading, back cover—Penobscot River and Mount Katahdin (Bridget Besaw)
Wampanoag Tribe of Gay Head (Aquinnah): front page—Menemsha Pond (right), page 6 (left)—beach grass planting at the Commonlands, page 6 (right)—diverse volunteers planting beach grass, page 7—Gay Head Cliffs

Caring for Water

For Native American Tribal communities, water is life. Protecting and restoring lakes, rivers, streams, wetlands and other waters is culturally important. Tribes depend on their water for sustenance and to maintain their cultural and spiritual connection to their environment and the resources it provides. Tribal waters provide drinking water, support fisheries, recreation, hunting, gathering, trapping, agricultural operations, and spiritual/cultural practices where Indian people live, work, and play.

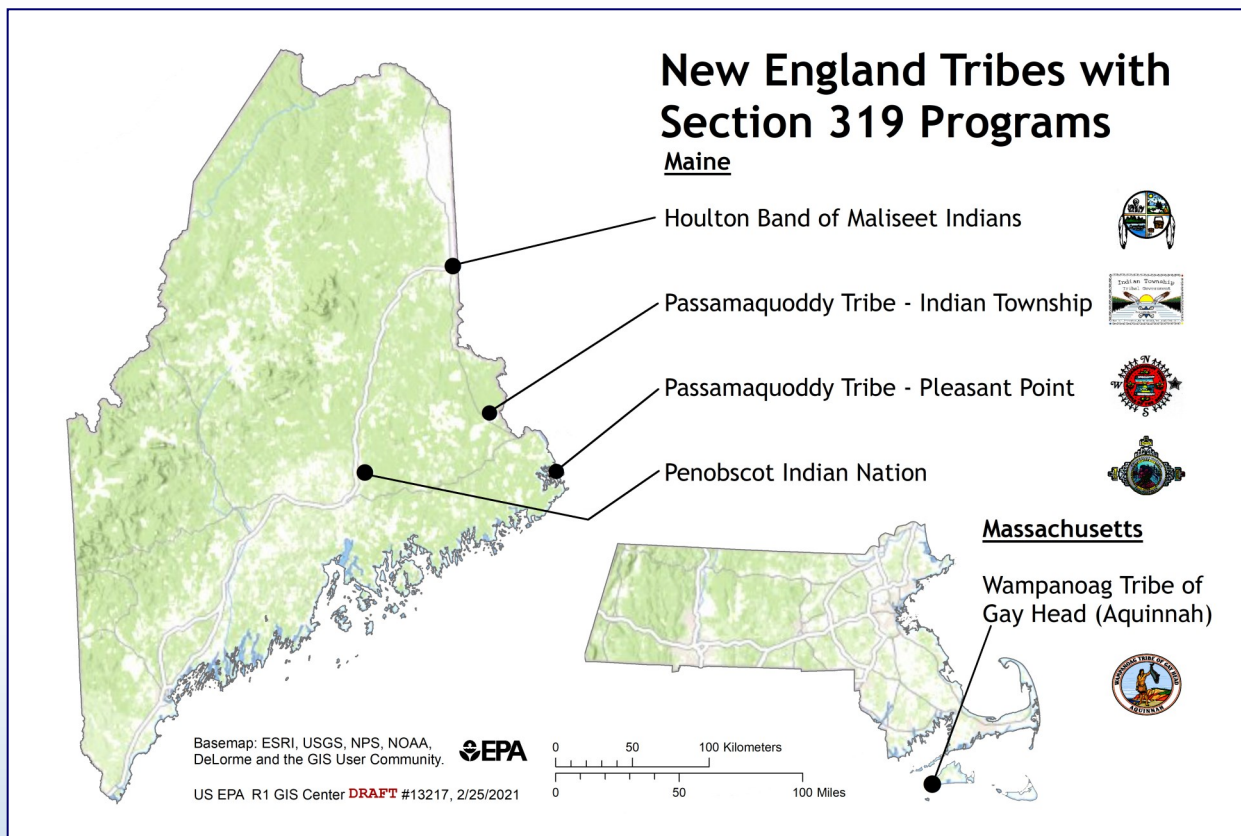
Under Section 319 of the Clean Water Act (CWA), Tribes, states, and territories receive grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to reduce nonpoint source pollution and improve water quality.

Five Tribes in New England have been approved for treatment in a manner similar to state authority for CWA Section 319. As part of that authority, these Tribes have completed assessments and developed plans to guide their efforts to address polluted runoff originating from sources across the landscape. The Tribes that have established CWA Section 319 programs include the Houlton Band of Maliseet Indians, the Passamaquoddy Tribe of Indian Township, the Passamaquoddy Tribe of Pleasant Point, the Penobscot Indian Nation and the Wampanoag Tribe of Gay Head (Aquinnah).

Similar to challenges faced by state and local governments, Tribes face a formidable challenge when tackling the impacts of nonpoint source (NPS) pollution: sediment-choked streams, eroding riverbanks, algae-infested lakes and beaches tainted by bacteria. New England’s Tribal water quality programs partner with their fellow agencies and off-reservation stakeholders to tackle these daunting issues, which arise both on and beyond Tribal lands.

What’s in This Document?

This report is a celebration of the efforts that New England Tribes have made to address nonpoint pollution sources affecting Tribal waters. Each article is a summary of the hard work that Region 1 Tribes are proud to share; some articles reflect a larger span of time than others. EPA is excited to continue supporting their meaningful work and strides in water quality restoration.





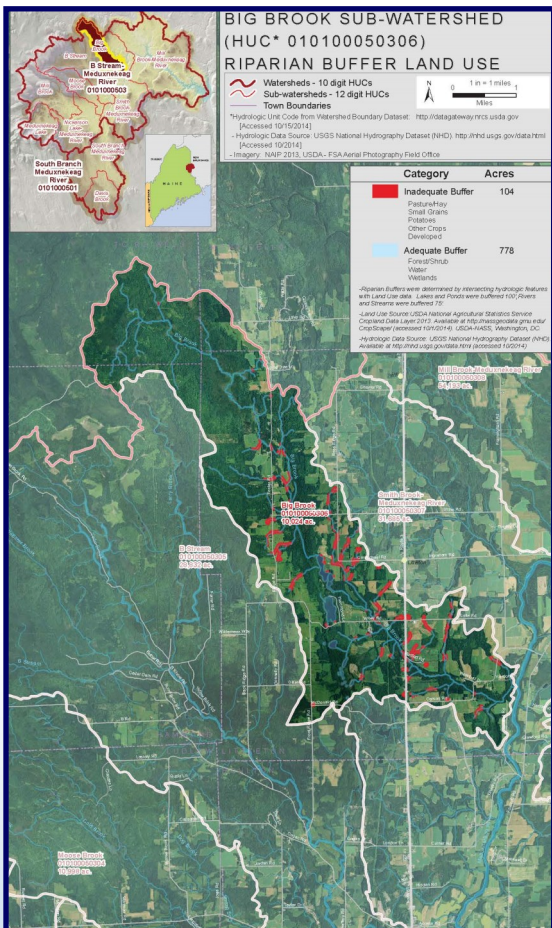
Houlton Band of Maliseet Indians

The Houlton Band of Maliseet Indians (HBMI) in northern Maine focuses its NPS program on improving the water quality of the Meduxnekeag River, a transboundary tributary of the Wolastoq (St. John) River located in the United States and Canada. HBMI is part of a Meduxnekeag River watershed team along with Maine Department of Environmental Protection (MEDEP), the USDA Natural Resources Conservation Service (NRCS), and the Southern Aroostook Soil and Water Conservation District (SASWCD). Together they collaborate in planning, assessment, and implementation projects related to NPS. HBMI also works with the Maine Department of Transportation (MEDOT) to plan culvert improvements within the watershed.



The Meduxnekeag Watershed Team partnered with the Maine Water Resources Research Institute in the Mitchell

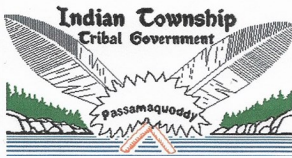
Center for Sustainability Solutions at the University of Maine to implement the *Farms and Rivers for the Future* project. The goal of the project is to identify and better understand community perceptions in the Meduxnekeag watershed surrounding HBMI’s Tribal lands. The project explores how watershed community members, especially farmers, perceive and relate to the Meduxnekeag River, its water-quality issues, and best management practices (BMPs) to mitigate those issues.



In particular, the Team wants to better understand the reasons why stream-adjacent landowners aren’t implementing riparian buffers as part of a soil and water conservation plan. The first step is to determine how much farmers/landowners are even aware of and interested in riparian buffers as conservation practices. Next, the team hopes to identify the barriers and concerns that local agricultural landowners have about planting streamside vegetation. The team will then develop an effective education program for farmers/landowners to explore scenarios under which they could consider adopting a riparian buffer practice.

The Team planned to form and implement three separate focus groups for each type of agricultural grower in SASWCD and then create at least three different education tools to meet the needs and preferences of each type of grower. However, the collective partnership is turning the focus group approach into individual surveys to adapt to the constraints presented by the COVID-19 pandemic.

For more information regarding HBMI’s Natural Resource Department and CWA 319 program check out its website: <http://naturalresources.maliseets.com/>



Passamaquoddy Tribe at Indian Township

The Passamaquoddy Tribe at Indian Township (PIT) has approximately 28,500 acres and is located in Princeton, Maine, which is about 21 miles north of Calais. PIT's reservation has an enormous wealth of water resources and includes approximately 34 miles of streams and 40 miles of lake and flowage shoreline. The St. Croix River is an international border between Canada and the United States and flows to Passamaquoddy Bay. The reservation and its waters lie within the West Branch of the St. Croix River watershed which covers 647 of the 1640 square miles in the St. Croix River watershed. Downstream of Indian Township is Grand Falls Dam which is controlled by Woodland Pulp LLC., and used for power generation. The dam controls the water levels of all upstream and downstream waters of the St. Croix River.

Indian Township's CWA Section 319 Watershed Program manages the Grand Falls flowage watershed for NPS, sedimentation control, nutrient enrichment, air pollution, boat/user pollution, invasive species, introduced fish species, over-fishing, hazardous materials dumping, oil spills, malfunctioning septic systems, and illegal dumpsites/cleanup. The Tribe educates and provides outreach materials for Tribal adults and children at health fairs on pollution control measures, camp owners on phosphorus and fertilizer use on lawns, and posts information at boat landings regarding how to make sure boats are clean and prevent introducing invasive plants to the lakes.

The biggest celebration for the Tribe's 319 Program in 2020 was that, despite the world disruption caused by pandemic, PIT continued its monitoring efforts for problem erosion areas. Most of these locations are eroded areas along dirt roads at wetland crossings and adjacent to lake shores as well as boat launches. These sites are future candidates for competitive funding projects to reduce nutrient loads into associated wetlands. In 2020 the area experienced the worst drought in the last fifteen years or more. Very little rain fell and even the typically erosive summer storm events occurred less frequently and with less intensity. As such, PIT's erosion monitoring showed less annual degradation than past trends.

Despite—and because of—the drought, PIT identified ongoing water resource concerns. To the left is a photo of the public boat launch on Lewey Lake in Princeton, Maine. The normal water levels can be seen on the concrete retaining wall. The photo captures both an ongoing small erosion issue as well as the extremely low water levels in 2020 that affected the lakes surrounding the south and western borders of the Reservation. Dam level and stream flow agreements caused PIT's four waterways to be drawn down at a disproportionately lower level and shoulder extra burden providing water downstream. PIT hopes to work with the State of Maine and Woodland Pulp, LLC to find a better solution that better meets all needs when future droughts occur.



Once the Tribe resumes normal operations following the current COVID-19 pandemic the program is looking forward to seeking competitive funds to address some of the smaller erosion sites. Most sites need BMPs to adequately address spring melt and storm flows and prevent water quality degradation, erosion, and sedimentation.

For more information regarding Natural Resource Department and its CWA 319 program check out its website: www.passamaquoddy.com



Passamaquoddy Tribe at Pleasant Point

The Passamaquoddy Tribe at Pleasant Point (Sipayik) (PPP) has close to 5,000 acres within the St. Croix River watershed but its members largely live on 319 acres of land near Perry, Maine on Pleasant Point. The tribe's culture, language, and traditions have developed around the St. Croix River watershed, the Machias River watershed, and the Downeast watersheds for more than 500 generations. The PPP share a common ancestry and cultural knowledge as well as ownership of joint trust lands with the Passamaquoddy Tribe of Indian Township, Maine and have politically distinct sovereign governments.

The focus of PPP's CWA 319 program is addressing NPS pollution on the reservation and other trust lands within the St. Croix River watershed and restoration of alewife and other anadromous fish species to the whole watershed. The program also works to address and reduce NPS pollution related to roads (erosion/sedimentation, oil, grease, brake dust, road salt, etc.), invasive species, lawn fertilizers and pesticides, illegal dump sites, pathogens like those associated with failing septic systems, and other sources of pollution such as eroding streambanks. PPP is also working towards restoration of Atlantic salmon to the Machias River. The Tribe's blueberry farming operation, Passamaquoddy Wild Blueberry Company, works closely with the Tribe's Environmental Department to make sure that Tribal blueberry operations do not negatively impact the water quality of the Machias River.

Most recently, PPP has applied for competitive Tribal CWA 319 funds to stabilize an eroding streambank that is at great risk because it is affected by tidal rise and fall. The Tribe looks forward to eventually being able to fund a project to protect the site.

The Tribe uses EPA's CWA Section 319 funding to provide education, collect data, address nonpoint source pollution, and build partnerships to address those concerns. The program is successfully working with Tribal youth through Tribal work programs and hires summer college workers. The Tribe also provides multiple presentations to college students and K-12 age students about NPS pollution and meaningful actions students can take at home to reduce their impacts. In addition, PPP is working to identify and implement the most effective BMPs designed to lower NPS pollution. This includes an effort to incorporate historic and current data within the St. Croix watershed to better identify NPS concerns and solutions relevant to the Tribal program and build cooperative relationships with all neighboring stakeholders within the Tribe's traditional homelands.

For more information regarding PPP's environmental programs, check out its website: http://www.wabanaki.com/wabanaki_new/Environmental.html





Penobscot Indian Nation

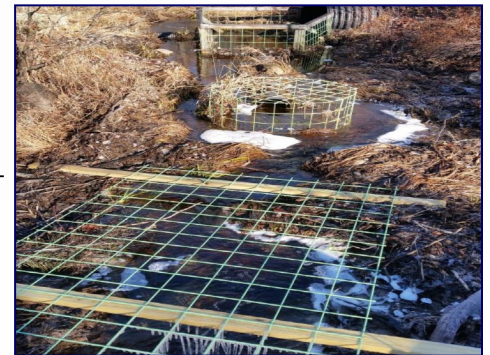
The Penobscot Indian Nation (PIN) has Trust land properties in the Penobscot River Basin (Argyle, Lee, Matagamon, Mattamiscontis, and Williamsburg) and the Kennebec River Basin (Alder Stream) in central Maine totaling over 96,000 acres. PIN's Reservation includes all the islands in the Penobscot River upstream of Indian Island in Old Town. PIN's Section 319 program takes a multi-focus approach to improving water quality for the Tribe, including addressing erosion from dirt roads with poor drainage systems, under-sized or eroding stream crossings, road washouts created by beaver damming activities, and unstable shorelines eroding directly to surface waters. PIN has recently worked in the Little Mattamiscontis Lake, South Branch Lake, Matagamon Lake, and Hay Brook watersheds as well as the Penobscot River (East Branch and main stem). PIN collaborates with a number of partners including the USDA Natural Resources Conservation Service (NRCS), the Brookfield Renewable Energy Partners (BREP), the Penobscot County Soil & Water Conservation District, Maine Department of Environmental Protection, the University of Maine, and six (6) municipalities within the Penobscot River watershed.

As part of its CWA 319 program, PIN's Department of Natural Resources (DNR) provides review and input to other PIN departments related to controlling NPS pollution from Tribal development and construction projects. PIN, through its receipt of 319 competitive funding and their strong partnerships, has a robust implementation program.

Over the past decade, PIN has completed 14.25 miles of road drainage improvement including 6.5 miles of grading, one mile of completely rebuilt road, and nine flexible water bars/stormwater diverters. PIN has also installed 27 cross drain culverts, three bio-drains, and completed 2 bridge replacements and associated bank stabilization. Roads are not built to impound water and when they do the roadbed becomes saturated and will fail. As such, beavers can do a good deal of damage when they build dams that rely on the road as part of the impoundment. PIN's 12 beaver deceiver installations ensure that the beavers build dams away from the road edge and prevent washouts from depositing road material into streams.

PIN has completed 6,475 feet of streambank restoration on reservation land, most notably including an effort to protect Indian Island where the Tribal residential community is largely situated. The Tribe has also stabilized three Tribal boat launches through reshaping and stone armoring as well as 18 flexible water bars/stormwater diverters. Finally, PIN has stabilized five miles of ATV trails with water bars, stormwater diverters, and built 6 ATV bridges, and has decommissioned an additional 0.5 miles of ATV trail.

PIN also works to minimize the amount of polluted runoff entering Tribal waters from both Tribal and non-Tribal sources through education and outreach. They work to keep staff up-to-date on NPS through trainings and engage with Tribal and non-Tribal communities through educational materials and community participation. PIN carries out numerous NPS education and awareness activities including articles in the Department of Natural Resources newsletter, classroom lessons, Enviroscape water-shed model demonstrations, and Wabanaki Day activities (NPS Dunk Tank and NPS Pollution Revolution). In the last decade PIN has hosted and/or helped to coordinate three pollution prevention trainings, two highway crew training workshops, two New England Tribal nonpoint source workshops, and one beaver deceiver workshop.



For more information regarding PIN's Natural Resource Department and CWA 319 program check out its website: <https://www.penobscotnation.org/departments/natural-resources>



Wampanoag Tribe of Gay Head (Aquinnah)

The Wampanoag Tribe of Gay Head (Aquinnah) (WTGHA) has lived on Noepe (Martha’s Vineyard, Massachusetts) for over 10,000 years and their 485-acre reservation is located on the southwestern part of the Vineyard within the Town of Aquinnah. Water resources important to WTGHA include freshwater streams, ponds, wetlands and vernal pools, tidal marine ponds, channels, and creeks.

Hurricane Sandy (2012) and subsequent storms threatened WTGHA’s ancestrally important Commonlands by damaging Lobsterville Road and the culvert beneath it while storm-driven dune loss placed the adjacent marsh ecology at risk. WTGHA developed a plan to restore part of the Commonlands and protect sustenance foods for Tribal members by restoring, nourishing and replanting the dune, stabilizing the roadway, and improving the cross drainage. The project encompassed an area that included both Tribal and municipal lands at Lobsterville Beach in Aquinnah. The Tribe partnered with the town of Aquinnah and EPA’s Southeast New England Program (SNEP).

Lobsterville Road runs parallel to the beach and is a major local access way. People rely on the road to reach their fishing boats or to hunt, and nearly everyone relies on the road to support their livelihoods. The marsh, too, is a culturally significant place for the Wampanoag and is home to several endangered and threatened plant species. In addition, the Commonlands support some of Massachusetts’ very few naturally occurring cranberry bogs.



Dunes are the key to protecting the marsh and the road alike. WTGHA, with help from the Army Corps of Engineers, placed 43,000 cubic yards of sand along the shoreline. Starting in 2016 volunteers have planted more than 80,000 beach grass plugs on the newly formed dunes and has become an annual event enthusiastically support by the community. The planting days have built relationships between the Tribe and the island community at large, like the Girls Scouts of America, local fishermen, and garden club members.

The Tribe and town designed Lobsterville Road’s replacement culvert to capture nutrients and sediment to reduce impacts on the beach. The partnership also considered climate change impacts and sized the replacement box culvert to accommodate higher flows resulting from more intense storms.

The results have been astonishing. The beach has grown from a depleted ten-foot width to around seventy feet. The grasses are expanding and strengthening dune stability every year. The improved culvert is allowing for reconnection between the brackish wetlands and the ocean.

WTGHA has made a long-term commitment to restore this part of their Commonlands and is making binding relationships around that ecological restoration effort. Water quality monitoring will continue for at least another four years to get a data set that can effectively demonstrate the improvements made by the culvert replacement.

Watch a video of this project here: <https://vimeo.com/293470570>

For more information regarding WTGHA’s 319 program visit its webpage: <https://wampanoagtribe-nsn.gov/naturalresourcedepartment>



Acknowledgments

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