



Remediation & Restoration Program Updates

Kanien'kéhaka people fished, hunted, gathered and harvested traditional foods and medicines on the local land and rivers since time immemorial. *Akwesasne* recognize these ancestral lands based on mutual

respect and responsibility. These resources and their traditional uses were impacted by industry chemicals and economic uses of the land. The Remediation and Restoration projects are a positive step towards restoring this relationship.

The Environment Division restructured its programs in 2019 to combine related work tasks and finances. The Remediation & Restoration (R&R) Program was one of the new programs formed.

R&R uses scientific measures and Indigenous Traditional Ecological Knowledge (TEK) to manage industrial chemical risks to human health, and restore healthy populations of fish, wildlife, and traditional foods and medicines in the Akwesasne territory and surrounding environments.

Akwesasne is part of 43 environmentally impacted areas of concern within the Great Lakes River basin. Officially called the St. Lawrence River Area of Concern (AOC) at Massena/Akwesasne, our territory has impairments to fish, wildlife, plant and river uses. The Tribe works with local, state, and federal agencies to study and remove these impairments through management actions. The partnerships ensure Akwesasne has a say in what happens within our territory.

Tribal oversight at the ALCOA/Arconic, General Motors/RACER and former Reynolds Metals Superfund sites guarantees cleanup plans are followed and air and water monitoring is conducted to make sure no contaminants are leaking out threatening the environment or community members. After the remediation activities are completed, long term monitoring will continue to make sure the cleanup was effective.

Where areas of improvement have been identified, restoration works to restore habitat, populations and conditions of fish, plants, wildlife and ecosystems. Before the removal of the Hogansburg dam in 2016, tens of thousands of mussels were relocated including several rare species. A project will grow mussels in an aquaculture lab and stock them in the Indian Meadows Grasse River where dredging occurred. Also in that same area, culturally important plants will be restocked with the future goal of revitalizing traditional use of the Indian Meadows shoreline.

The Beneficial Use Impairments in the Massena/Akwesasne AOC

Restrictions on Fish and Wildlife Consumption

Degradation of Fish and Wildlife Populations

Fish Tumors or Other Deformities

Bird or Other Animal Deformities or Reproductive Problems

Degradation of Benthos

Loss of Fish and Wildlife Habitat

The SRMT Environment Division aims to prevent disease and injury while, at the same time, promoting lifestyles that respect, protect and enhance the environment for the next seven generations.



Arconic Grasse River

The Grasse River site had another busy year in 2020. Activities included dredging, capping, reconstruction and monitoring activities. Work wrapped up at the end of *Kentenhkó:wa*/November.

An Explanation of Significant Difference (ESD) was approved in *Enniskó:wa*/March to conduct additional dredging of approximately 85,000 cubic yds of contaminated material in the Snug Harbor area. It was performed to accommodate the larger draft of a new Seaway Development Corp tug boat that had the potential to damage the capping layers that will be placed in this area in 2021.

Armored capping (sand filtration, rocks and gravel) was placed from the old Massena Power canal to the Route 131 bridge. Several six-inch layers were placed to a thickness of 25".

2021 Season

Construction has begun for the 2021 season. It will run six days a week, 24-hours a day from the Route 131 Bridge to the St. Lawrence River. An additional clean material handling area was constructed on Haverstock Road in 2020 to assist in the main channel capping. Archeological surveys indicated there was no impact to cultural resources. Activities

that will be taking place in this year are main channel capping (12"), habitat reconstruction, replanting of aquatic vegetation, and air, water and noise monitoring programs. Air monitoring for PCBs, dust and volatile organic compounds (VOCs) continues in 2021. Per approved plan, continuous air sampling was conducted by Arconic's consulting team, Arcadis. The SRMT received daily data updates and reviewed to ensure appropriate levels to continue work.

Water monitoring for PCBs and turbidity continue at the project and are conducted twice daily; day and night shifts. Community members have expressed concern about the murkiness (turbidity) of the water. The sand filtration layer, rocks and gravel being placed daily into the river to cap the dredged areas is the cause. The capping material is clean and there is no cause for concern.



Top: Placing main channel capping materials in the upper portion of the project area

Bottom: Dredging barge and crane in the Snug Harbor area



Air and water sampling sites remained the same as last year and results are available online at: www.thegrassriver.com/. Two noise monitoring stations were added; one located by the staging area and another just east of County Route 131. No air, water or noise issues required corrective action in 2020.



RACER, formerly General Motors

The site is in the final stages of activity. All remediation activities for the Racer property have been completed according to the USEPA Record of Decision (ROD). The property will enter into a long-term monitoring phase to ensure the remedies remain effective to reduce contaminant exposures and risks to people and wildlife.

The Final Site Restoration Project and the Water Treatment Building Project were completed at the end of 2020. The main activity was to grade and backfill the property to allow stormwater to soak into the ground rather than to have it flow across the surface.

Now that all the contaminated on-site sources (except the GM Dump) have been addressed, there is no longer a need to treat surface water. The treatment system was downsized to only treat contaminated groundwater from the dump. The water treatment system is tested on a regular basis by RACER.

Sediment Sampling

Over the years, fish samples have been collected adjacent to the RACER site. Fish sampling results in 2016 showed a sudden increase in PCBs. The sampling event resulted in a more comprehensive plan to determine the cause of the elevated PCBs. In 2019, a new sampling method was used on the cap and in Turtle Cove for long-term and more exact measurements of PCBs to

determine if the concentrations are directly impacting aquatic animals living in the sediments. A potential outcome of this evaluation could lead to more sampling to identify the exact source of PCBs. USEPA issued the Fourth Five-Year Review Report for the General Motors St. Lawrence River Superfund Site in 2020. You can download the document from the SRMT website

at: www.srmt-nsn.gov/remediation-restoration/superfund/general-motors-superfund-site.

2021 Work

Beginning in late April, activity will be seen on individual Tribal properties adjacent to the GM dump. Beginning with site investigation and site marking, soil and sediment samples will be collected. During the four-week investigation, the public can expect to see a work crew and a small, track-mounted drill rig. The results of the sampling investigation will be used to write the Remedial Design Work Plan, which describes how contaminated soil and sediments will be excavated.

The Racer Interim Site Management Plan is currently being reviewed. This important document contains details for long-term operation and maintenance for how the property will be monitored

and inspected for remedy effectiveness. The long-term monitoring will include groundwater monitoring wells and fish sampling.



Top: The 10-million gallon lagoon was excavated in 2018.

Bottom: After the removal



View a storymap video presentation on the project: *GM Cleanup a Reality* at

<https://arcg.is/1qS8qr0>



Reynolds Metals/ALCOA East

USEPA will issue the Fourth Five-Year Review Report for the Reynolds Metals St. Lawrence River Superfund Site this spring/summer 2021. SRMT Environment Division staff are reviewing the draft document and providing comments to USEPA regarding remedy effectiveness and human health protectiveness goals.

When the USEPA report is final, the SRMT will post to the website. Community members can learn more at <https://www.srmt-nsn.gov/environment/remediation-restoration/superfund/reynolds-metals-superfund-site>

Brownfields

Brownfields is a property that is, or has the potential to be, contaminated. Our Brownfields program is currently working on three projects within the Akwesasne community; abandoned homes, community-wide petroleum assessments and the Frogtown dump.

Abandoned homes program needs permission from the property owner and a land deed is required, to conduct an environmental assessment to find out what debris materials we will be dealing with. Many older homes were built with materials containing asbestos which requires special care in removing and hauling away the debris.

The community-wide petroleum project conducts environmental assessments on petroleum businesses that are no longer in operation. A Phase I and II has been completed on 1 property and a Phase I completed on one. The assessments are conducted with no cost to the property owners.

The Frogtown dump is a very old community dump site that is closed and located in Frogtown. Environmental assessments have been completed and a cleanup plan is being designed. In order to prevent trespassing and further dumping, a fence was installed between the dump and a neighboring property paid for with Brownfields grant funds.

Akwesasne Brownfields Committee (ABC) is a volunteer group made up of community members and various employees of the Tribe. This group usually meets once a month, but due to the pandemic these meetings have been put on hold until further notice.

Community members who have previously contacted the Brownfields Program about an abandoned home or former petroleum business can contact Julie Jacobs for a current status update.



*Top: Abandoned homes pose many safety hazards
Bottom: An assessment is needed to determine what materials are inside structures*





Freshwater Mussels

Freshwater mussels serve a vital ecological purpose by filtering our rivers which provide cleaner waters for drinking, swimming and fishing. The SRMT is propagating (breeding) mussels, while the NYS Dept of Environmental Conservation are relocating thousands of mussels from areas in the Grasse River proposed for capping in 2021. Combined efforts in collaboration with other Agencies (i.e. USFWS Genoa NFH and NYSM) will lead to restoration of the freshwater mussels post-remedy in the long-term (i.e. 10-20 years) future.

In 2020, the R&R program successfully completed the construction of a mussel propagation and fish holding facility. Through the hardships of COVID-19, staff worked diligently to design, build and troubleshoot any problems associated with creating an aquaculture system. Within the facility, tanks hold gravid female mussels, host fish species and newly propagated juvenile mussels.

After completion of the facility, staff were able to successfully produce juvenile mussels from three different species that are found within the lower Grasse River project area. These species are: *Leptodea fragilis* (Fragile papershell), *Lampsilis radiata* (Eastern Lampmussel) and *Potamilus alatus* (Pink heelsplitter). The pink heelsplitter is a species of concern in New York waterways.



The first propagated mussel this program has produced. It was tagged and released in the lower Grasse River.

In 2021, staff will continue with the mussel propagation efforts in the early summer and late fall months and will implement various rearing techniques to maximize production numbers of these species. They will also continue with the third year of invasive species monitoring as a collaboration study with New York State Museum and Save The River.



Colby Bowman and Jay Wilkins view the new tiny mussels by microscopes to make sure they are healthy and viable.

View a storymap video presentation on the project: *Health Mussels - Healthy River* at <https://arcg.is/0mqW4z0>.





Lake Sturgeon (*Teiokién:taron*)

Lake sturgeon are listed as a threatened species in New York, Ontario and Quebec. They are an important, culturally-significant species. In October of 2020, the R&R Program was awarded \$300,000 from USEPA Great Lakes Restoration Initiative (GLRI) to assess lake sturgeon population and habitat use in the St. Lawrence River Area of Concern (AOC) at Massena/Akwesasne. This two-year study will focus on the St.



Regis River and partner with US Fish and Wildlife Service for acoustic telemetry studies to collect information about sturgeon movements. The acoustic telemetry system consists of two main components: transmitters and receivers. The

sturgeon's migration patterns, habitat use and survival rates will be used to develop restoration priorities of *Teiokién:taron* in Akwesasne.

Grasse River Habitat Reconstruction Plan (HRP) and 2020 Replantings

In 2020, R&R Program staff approved Arconic's seed mixes and plants for replanting that include 36 Mohawk cultural use species in Grasse River as detailed in the HRP. Seeds and plugs will be planted where contaminated sediment was removed and clean backfill placed. Species include those that grow along the shoreline (riparian) and those that grow under the water (submerged aquatic vegetation). Varieties include wild rice and tree saplings. The intent is to plant species in Indian Meadows that may re-seed the shorelines, and one day be available for harvest again by Mohawk people for food or medicine. R&R Program intend to verify plants are safe for consumption with a PCB-contaminant monitoring study to be conducted this fall 2021 in the Indian Meadows, Lower Grasse River supported by Great Lakes Restoration Initiative (GLRI) funds.





In fall of 2020, R&R Program staff assisted Dr. Mark Hermanson and Jim Browzowski with accessing site locations for a tree bark study by the Akwesasne Health Care Foundation, Inc. to test for PCBs in trees. Results will be made available to the public in 2021 via our website.



Despite the pandemic challenges of 2020, Sateiokwen Bucktooth (SRMT contractor) ensured these plant species were planted with good intentions by organizing the seed song ceremony and opening and closing tobacco burning of the planting season on the river. It is hoped in 2021 (or 2022 when COVID-19 safe) SRMT can organize a larger gathering to reconnect *Akwesashró:non* to the Indian Meadow plants.

With the assistance of Akwesasne Employment Resource Center (AERC), five post-secondary students from Akwesasne were employed as part of the Grasse River re-planting team under employment to Cardno, Arconic's plant contractor. Involving more Mohawk people in the re-plantings was a request by SRMT to both Arconic and EPA.





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