

FINAL REPORT

2017 Indian Meadows (Tsi ienhontakwáhtha) Flora Surveys Lower Grasse River, Massena, New York



Prepared for:

New York Power Authority (NYPA)

St. Lawrence River Research and Education Fund (SLRREF) Board



February 2018

Contributing Authors:

Anne Johnson, Riveredge Environmental, Inc.

Sa'teioikwen Bucktooth, Saint Regis Mohawk Tribe (SRMT) Environment Division

Jessica L. Jock, Saint Regis Mohawk Tribe (SRMT) Environment Division

Jay H. Wilkins, Saint Regis Mohawk Tribe (SRMT) Environment Division

Suggested Citation:

Johnson, A., S. Bucktooth, J.L. Jock, and J.H. Wilkins. 2018. 2017 Indian meadows (Tsi ienhontakwáhtha) flora surveys, lower Grasse River, Massena, New York. Prepared for New York Power Authority (NYPA) St. Lawrence River Research and Education Fund (SLRREF) Board. February 2018. 112 pp.

Disclaimer:

This document was produced as a tool to assist Federal, State, and Tribal Resource Agency staff on species present and current known Mohawk cultural use of species for designing Superfund Habitat Reconstruction Plans, and/or restorative actions in the lower Grasse River. Its findings are limited to known plant medicinal and food uses by SRMT staff involved and may not be comprehensive of other community elder's knowledge and/or historic uses of some plants, or other historic or cultural plant uses (i.e. functional, ornamental, ceremonial, etc.). This document should not be used for habitat design decisions independent of further consultation and inclusion of Mohawk people with plant Traditional Ecological Knowledge (TEK).

Acknowledgements:

This effort was made possible by funding in the amount of \$13,600 from the St. Lawrence River Research and Education Fund (SLRREF) in 2017 for the expenses of a contracted local Botanist. Matching funds were provided by the Saint Regis Mohawk Tribe (SRMT) to cover overhead expenses and staff support from the SRMT Akwesasne Cultural Restoration Program (ACRP).

SLRREF funding decisions are made by a Board consisting of representatives of the New York Power Authority (NYPA), U.S. Fish and Wildlife Service (USFWS), New York State Department of Environmental Conservation (NYSDEC), Saint Regis Mohawk Tribe (SRMT), and other entities.

Niawen:kowa (thank you very much) to Barbara (Katénies) Tarbell, ACRP Manager for cultivating this working relationship to help bridge the gap of knowledge between scientists, resource managers, and traditional teachings and knowledge holders specific to plants by allowing her staff to participate in the project. Sharing of knowledge of the relationships between people and plants and plant uses was contributed by Alicia (Konwahonwíhshon) Cook, Ernest (Kahentakeron) David, Allen (Shonó:rise) Smoke, Angela (Tsioneráhtase) Barnes, Sa'teikwen Bucktooth, and Takatsi'tsiónkie Cook. They collectively serve to help preserve cultural use and traditions in Akwesasne and contribute to the revitalization of plant medicine knowledge, traditional practices, and harvest from clean land and water resources.

This field survey project was a collaborative and co-coordinated effort with NYSDEC for access and survey of the detached New York State Forest Preserve (NYSFP) parcels along the lower Grasse River, also known as "Indian Meadows". Without the cooperative working relationship with David Witt, Robert Messenger, Robert Morrell, David Tromp, Joshua Haugh, Peter Frank, and Rosa Mendez this project would not have been possible in an expedited time. Support for the project was provided by Chris Fidler and Don Zelazny related to cultural use benefits to the St. Lawrence River Area of Concern (AOC).

This project is a prime example of how collaborations can make meaningful contributions to the knowledge and revitalization of Mohawk cultural use areas all while gathering data to restore, enhance, and improve cross-agency understanding of the shared resources.

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Abstract

The lower Grasse River was affected by industrial dredging, construction, and effluvia from the early 1900's to the 1950's. Studies undertaken to assess the damage and to describe and document habitat conditions have concentrated heavily on the evaluation of current habitat condition within the riverine system with little attention given to past cultural and historical uses. The lower Grasse River is historically an area of importance to the Mohawks of Akwesasne as reserved in the 1796 treaty (Hough 1853) and as such has been an integral part of their past. The influx of pollutants in the 1950's contributed to the curtailed traditional use of this area and its resources by the Mohawks.

A memorandum from the Environmental Protection Agency (USEPA 2017) addresses the role tribal treaty rights play in the evaluation and restoration process and states that traditional ecological knowledge (TEK) is appropriate for consideration at Superfund sites. TEK is defined as the knowledge of and relationship with a particular place over time, thus, the Saint Regis Mohawk Tribe (SRMT) has a vested interest in both assisting in the evaluation of the Grasse River Superfund Site and in the eventual restoring of its traditional grounds. This report hopes to help by filling in data gaps and by more adequately (from a Mohawk standpoint) describing, assessing, and documenting current shoreline conditions and attempting to draw conclusions on past conditions to thus better inform future remediation activities, habitat reconstruction and re-plantings.

Ultimately, the SRMT (the Federally recognized governing body for the southern portion of the Mohawk Territory of Akwesasne), envisions restored cultural uses and access to harvest and collect in the historic Indian Meadow lots also referred to as lower Grasse River Superfund Site. Areas of interest for Agency (i.e. NYSDEC) collaboration on restoring habitat beneficial uses concentrate on the polygons considered New York State Forest Preserve (NYSFP).

1.0 INTRODUCTION

1.1 Objectives

The Mohawks of Akwesasne possess a historic and cultural relationship with and knowledge of the lower Grasse River corridor. This relationship is important not just on a local and immediate level, but globally, and is representative of a land-based cultural need that will be more and more felt as time goes by and we further lose our connection to and relationship with our natural world. To this end, a project was undertaken to combine the knowledge of a local botanist with that of a local Mohawk traditional medicine person in the field. The combination of scientific ecological knowledge (SEK) and traditional ecological knowledge (TEK) produces a much broader vision and a productive partnership that can address multiple aspects of ecosystem health and future remediation goals associated with reuse of the lower Grasse River Superfund Site area. While SEK is strictly objective, TEK brings in an aspect of "reciprocal respect and obligation between humans and the non-human world" (Kimmerer 2002). This pairing of SEK and TEK is in conjunction with the Saint Regis Mohawk Tribe's (SRMT's) Akwesasne Cultural Restoration Program (ACR) designed to promulgate and perpetuate current traditional knowledge in many fields important to the Mohawks (language, hunting, fishing, medicines, traditional foods, etc.). This report addresses the ethnobotanical portion of the project and presents its findings. It will assess vegetation data with both TEK and SEK as a working basis and will elucidate the TEK value of the lower Grasse River corridor, also known as "Indian Meadows" (or Tsi ienhontakwáhtha).

Specifically, this project is designed to assess culturally significant plant species that are of interest to the Mohawks of Akwesasne with the direct involvement of tribal members conversant in traditional plant uses, and to discuss restoration of cultural uses as a part of future remediation benefits. This study design and report was an attempt to fill data gaps of previous flora surveys conducted by Arconic (formerly Alcoa) during Habitat Delineation Assessment (HDA) studies (2015 and 2016). During the HDA studies, one of the study objectives outlined in the Agency (USEPA, NYSDEC, and SRMT) approved work plan included identification of

historical and current plant species of Mohawk cultural significance. However, Arconic and their field team did not include any personnel qualified to make this field determination, nor did they report on species of Mohawk cultural significance present in the lower Grasse River from a previous list provided by SRMT (ALCOA Inc. 2016a and 2016b). Therefore, this report attempts to provide information useable by Federal, State, and Tribal Resource Agency managers on the Grasse River Superfund Site for habitat reconstruction design and planning. In addition, it will be used to guide agencies involved in restoring cultural uses in the St. Lawrence River AOC at Massena/Akwesasne.

1.2 Project Area

The lower Grasse River is in St. Lawrence County in New York State in the town of Massena. The current area of concern encompasses the stretch of the river between the Massena Power Canal and the St. Lawrence River. *“The United States maintains that Akwesasne, the Mohawk territory of the federally – recognized Saint Regis Mohawk Tribe (SRMT), as described in the 1796 Treaty with the Seven Nations of Canada, 7 Stat. 55, includes land on both banks of the lower Grasse River, as well as land located along the St. Lawrence River downstream of the Site, together known as the Indian Meadows”* (USEPA 2013). This study concentrates on polygons within the historic Indian Meadows as described in the 1796 Treaty. To simplify these into manageable areas in the limited amount of field survey time provided, surveys targeted polygons in what is now referred to as New York State Forest Preserve (NYSFP) parcels and additional areas of interest adjacent these parcels present on both sides of the river within this corridor (Figure 1 and 2). Landscape within these polygons varies from open herbaceous meadows to shrub thicket to forested areas. Previous studies (ALCOA Inc. 2016a and 2016b) documented and described the structural characteristics, dominant plant species composition, and habitat types of the shoreline but failed to take into account quality of habitat as determined by traditional use characters. Of particular interest from both an ecological and a cultural standpoint are the herbaceous meadow areas and, in general, the medicinal and food plants found throughout the study area.

Marsh meadows found associated with river shorelines and the edges provided by wooded shores provide habitat variation which permits the continuance of plant species that

require a more open habitat. Since most of the pre-European settlement landscape in northern New York consisted of dense forest cover, these river valleys, floodplains, and edges were an important factor in the occurrence and perpetuation of certain habitat-specific plants used for medicine, food, clothing, dyes and building material, especially as waterways provided a convenient corridor for gathering practices by boat.

1.3 Cultural Significance

Hough, in *A History of St. Lawrence and Franklin Counties, New York*, discusses the 1796 treaty and quotes, regarding the meadows on either side of the river:

...the Tract equal to six miles square, reserved in the sale made by the commissioners of the land-office of the said state, to Alexander Macomb, to be applied to the use of the Indians of the village of St. Regis, shall still remain so reserved.” In addition, *“The said deputies having suggested, that the Indians of St. Regis have built a mill on Salmon River, and another on Grass River, and that the meadows on Grass River are necessary to them for hay; in order, therefore, to secure to the Indians of the said village, the use of the said mills and meadows, in case they should hereafter appear not to be included within the above tract, so to remain reserved; it is, therefore also agreed and concluded between the said deputies, the said agents and the said William Constable and Daniel McCormick, for themselves and their associates, purchasers under the said Alexander Macomb, of the adjacent lands, **that there shall be reserved, to be applied to the use of the Indians of the said village of St. Regis, in like manner as the said tract is to remain reserved, a tract of one mile square, at each of the said mills, and the meadows on both sides of the said Grass River, from the said mills thereon, to its confluence with the river St. Lawrence (emphasis added).*** (Hough 1853:145-146).

When ‘hay’ is used in the colloquial sense one may envision fodder for grazing animals. Hay, though, can often refer to dried grasses, legumes, or other herbaceous plants. Many traditional foods and medicines were harvested and prepared this way from grasses, legumes, and herbaceous plants. Some were dried and some were ground into flour. Groundnut and Cattail

are just some of the plants that can be ground into flour and were found growing in abundance along the lower Grasse River in the summer of 2017. It is easy to surmise that these species were in even greater abundance during the era of mills. In Kanien'kéha (Mohawk language) ohonte'shón:'a is a word used for various plants and encompasses all that which grows inclusive of the grasses, medicines, and the food. Indication of the historic abundance of grasses and plants on the lower Grasse River is detailed in the Kanien'kéha name for the Indian Meadows; tsi iehontakwáhtha which means, "where you pick grass", or "where the grass is picked". Further clues to the harvesting within these grass meadows lies in a historical map (pre-1850s) with the name 'ey-en-saw-ye', and which when spelled correctly in Kanien'keha is 'ienséhsawe' which roughly translates to 'go there and collect again'(Hough 1853, Jock 2015). This word and language used implies not that they may or might return, but it is definite that they *will* return and do so repeatedly. This emphasizes the importance of the location and the vast variety of the resources it provided for the Mohawks of Akwesasne.

When applying traditional teachings, specialized knowledge of knowing plants, a cultural relationship with plants, and application of place names and language, the Mohawk historic use of Indian Meadows is redefined to something more meaningful than 'hay'. The potential for language barriers in the 18th century and misinterpretations of the significance of the plants to Mohawks does exist, which may have led to historic and current misunderstandings of the significance of the Indian Meadows to the Mohawk people. It is not known if a survey of the plant species during the late 18th or early 19th century exists prior to the alteration of the lower Grasse River by dredging for power production and accommodation. If this historic flora survey exists, it would more clearly define the historical plant availability and abundance for use.

The importance of these shoreline shelves to the Mohawks is again illustrated by a statement from Jan 14, 1800. Simeon DeWitt says:

The meadows consist of narrow strips along the margin of the river where inundations have prevented the growth of timber. They lie in a number of patches, of from half a chain to three or four chains in width, making in the whole extent, which is about six miles not exceeding sixty acres altogether as nearly as I could judge. The grass on them, with small exceptions, is all wild grass. Their value, though of no very great appendage to the adjoining land, is however

esteemed as almost inestimable by Indians, who consider the clearing of land as a matter entirely beyond their power to accomplish. (Hough 1853; Jock 2015; Amrhein 2017).

Perhaps DeWitt did not realize, at least at that date, the reasons for the respect accorded these meadows by the Mohawk people. Easy access to the medicinal and food plants along the shorelines as well as clay for pottery and the abundant fish, fowl, and other wildlife created an ideal collecting situation.

The Mohawks possess a relationship with and deep respect for plants that goes beyond identification and knowledge of plant physiology and anatomy. Robin Kimmerer, when speaking in an interview about sweetgrass (*Hierochloe odorata*) (a plant much revered by the Mohawks and other Native Americans), elucidates one aspect of this relationship:

One of the fascinating things we discovered in the study was the relationship between the harvesters and the sweetgrass. We looked into how the sweetgrass tolerated various levels of harvesting and we found that it flourished when it was harvested. The Western paradigm of "if you leave those plants alone, they'll do the best" wasn't the case at all. The indigenous paradigm of "if we use a plant respectfully, it will stay with us and flourish' if we ignore it or treat it disrespectfully, it will go away" was exactly what we found. Restoring the plant meant that you also had to restore the harvesters. The harvesters created the disturbance regime with enlivened the regeneration of the sweetgrass. To me, that's a powerful example from the plants, the people, and the symbiosis between them, of the synergy of restoring plants and culture.

from: http://www.biohabitats.com/newsletters/traditional_ecological_knowledge/

In reflecting on that human-plant relationship and specific mention of sweetgrass, it was noted during 2017 sweet grass was not identified during any survey of targeted polygons. However, in past elder interviews and dialogue with community members who still remember their elders harvesting from the Indian Meadows, sweet grass was one of the species referenced as historically picked from the lower Grasse River (Jock 2015). Land disturbance (i.e. mowed lawns) and Mohawk harvesters removed from this location due to neighboring land disputes and industrial contamination in the 20th century may be a reason for reduced observance of this species today. Sweet grass is only one example of plant species historically harvested.

Not only is it important to remember the Mohawk's traditional connection to the lower Grasse River as set forth in the 1796 treaty, but it is also important for all of us to remember that a connection to one's land is vital for the health of a community as well as for society in general. It is important to work to preserve traditional botanical (and, in general, ecological) knowledge for the sake of broadening scientific understanding, but also because this knowledge and a relationship to the land is disappearing with each generation due to disruption of land-based activities (see, for instance, Davidson-Hunt 2005). The practice of gathering from the wild creates a holistic approach to health and living. The ways in which we learn and gain knowledge as well as how we use that knowledge exercises our minds and mental capacity. The act of movement and travel to obtain what is to be gathered takes strength and an able body to traverse the river. The relationship with the plants/natural world and the respect given to them addresses the spirituality and ceremonial aspects of life. And finally, the peaceful feeling of being in nature, of slowing down enough to see what each plant is, in the search for the one, eases that stress and anxiety that comes from living in a such a fast-paced society. There is more healing, physicality, and knowledge to gathering practices than what is commonly known.

We should not forget plants in our current race for instant communication and faster internet. Plants themselves do not want to be forgotten, and it is the duty according to traditional teachings of onkwehón:we (original people or indigenous peoples) to be the seed carriers and protectors. We all, onkwehón:we, as well as all others, should do all we can to not become more estranged from our source of life. In the specific instance of the lower Grasse River and the ACRP, here is a chance to restore both a place and a people. For a comprehensive overview of the history of the Mohawk's relationship with the lower Grasse River and to better understand their relationship to plants, see Jock 2015 and Parker 1910.

1.4 Project Team

All field work was conducted by SRMT Environment Division staff with the assistance of local botany expertise provided by Anne Johnson. This provided a unique pairing in the field for all field surveys of a trained botanist with SEK (Anne) and 4-year trained Medicine and Healing Apprentice (Sa'teioqwen Bucktooth) from the ACRP to provide TEK (see Figure 3).

Jay Wilkins, SRMT Grasse River Superfund Project Manager was field crew leader, boat operator, and field QA/QC manager. GPS coordinates for estimated polygon sampling points were determined in the field based on GIS layers provided by NYSDEC.

All project management, coordination, work plan design, and consultation with NYSDEC was conducted through Jessica L. Jock, SRMT St. Lawrence River AOC Program Manager. Collectively, this team provided unique river and plant knowledge never combined before.

2.0 METHODS

The study area consisted of a tiered approach to address areas (i.e. ‘polygons’) of interest within the historic Indian Meadows as interpreted by the Mohawks in 1796. There were 23 polygons identified as sampling areas. These were labeled with Location IDs as follows: NYSFP (n=12), NYSFP-Seaway (n=2), and IM polygons (n=9) (Figures 1-2). Within each NYSFP or NYSFP-Seaway polygon percent (%) cover of the dominant plant species in a 5-meter radius plot was recorded during July and early August of 2017. If a polygon consisted of more than one cover type (shrub, forest, herbaceous) then more than one plot was surveyed. In addition, all plant species noted during meanders through each polygon were recorded, and each polygon was revisited in late September to capture late flowering species. Each polygon was given a quality/value ranking based on presence/absence of culturally useful species (specific to medicine and food TEK) and ease of access from the river (1 – poor, to 5 – excellent). All plant species present in the polygons were assigned a Mohawk cultural use (M – medicinal, F – food, MF – both) by ACRP staff during the field season.

Specimens of some species were collected and pressed to begin a reference collection to be stored at SRMT (Figure 3). Voucher specimens were only collected if the population supported it and the plant was diagnostically complete. The location and date of each voucher specimen was recorded and entered into an Access database managed by Anne Johnson.

For complete methods see Jock 2017.

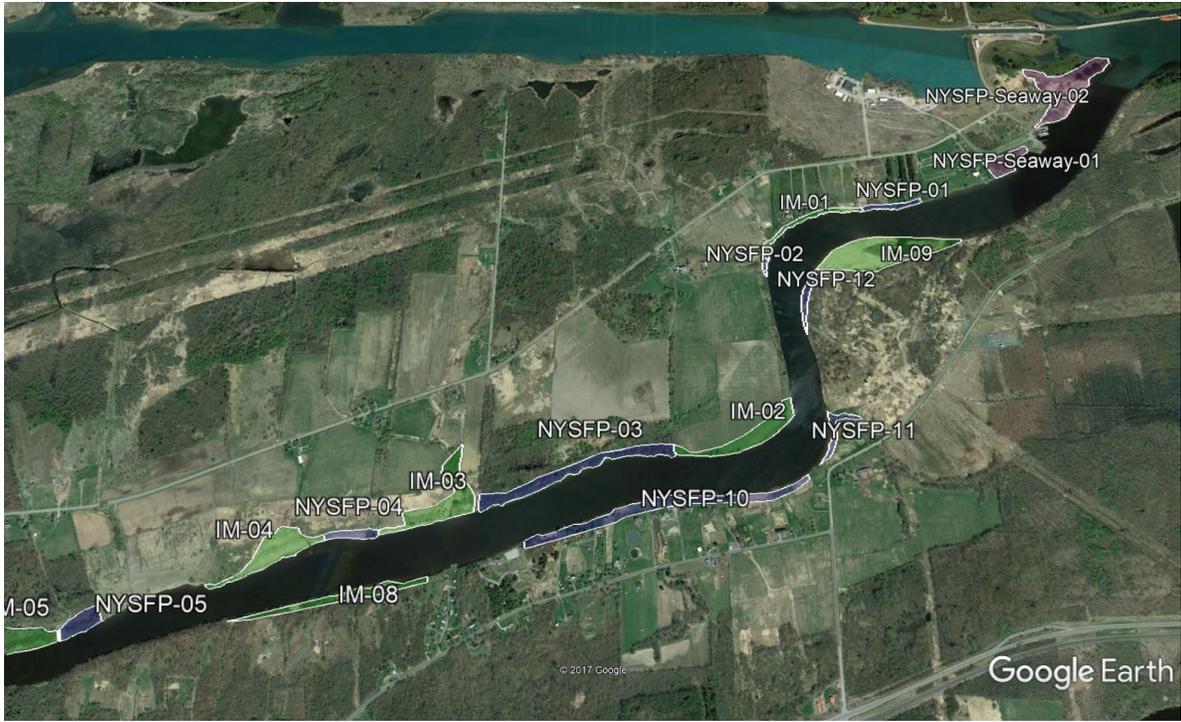


FIGURE 1. LOCATIONS OF NYSDEC AND IM PARCELS ON LOWER GRASSE RIVER



FIGURE 2. LOCATIONS OF NYSDEC PARCELS ON GRASSE RIVER NEAR ALCOA BRIDGE.



FIGURE 3. PLANT SAMPLES WERE COLLECTED AND IDENTIFIED USING SEK AND TEK