NB Power Field Report

Completed by: Austin Paul

Report covering the period from: August 2nd-31st, 2017

Mactaquac Project

Project Background

The Mactaquac Project involves various scientific studies associated with the re-build of the generating station. This is the third field season in which I have actively monitored and participated in fieldwork. Among the scientific studies being carried out is The Mactaquac Aquatic Ecosystem Study (MAES). This study, led by the Canadian Rivers Institute (CRI) is a multi-disciplinary, whole-river ecosystem study. CRI has a DFO issued fishing license granting them authority to fish for scientific research purposes. The avoidance of undo harm to fish species is one of the MAES team's primary concerns.

Stantec Consulting is carrying out various geotechnical and environmental studies in the project development area of the Mactaquac Generating Station.

Dates: August 2nd, 3rd, 9th, 16th, 2017

Activities Conducted:

Assisted Canadian Rivers Institute staff with boat-based electrofishing associated with fish community studies in the Wolastoq River. The fieldwork is related to the MAES project and was carried out in locations both above and below the Mactaquac dam.

Pertinent Tasks:

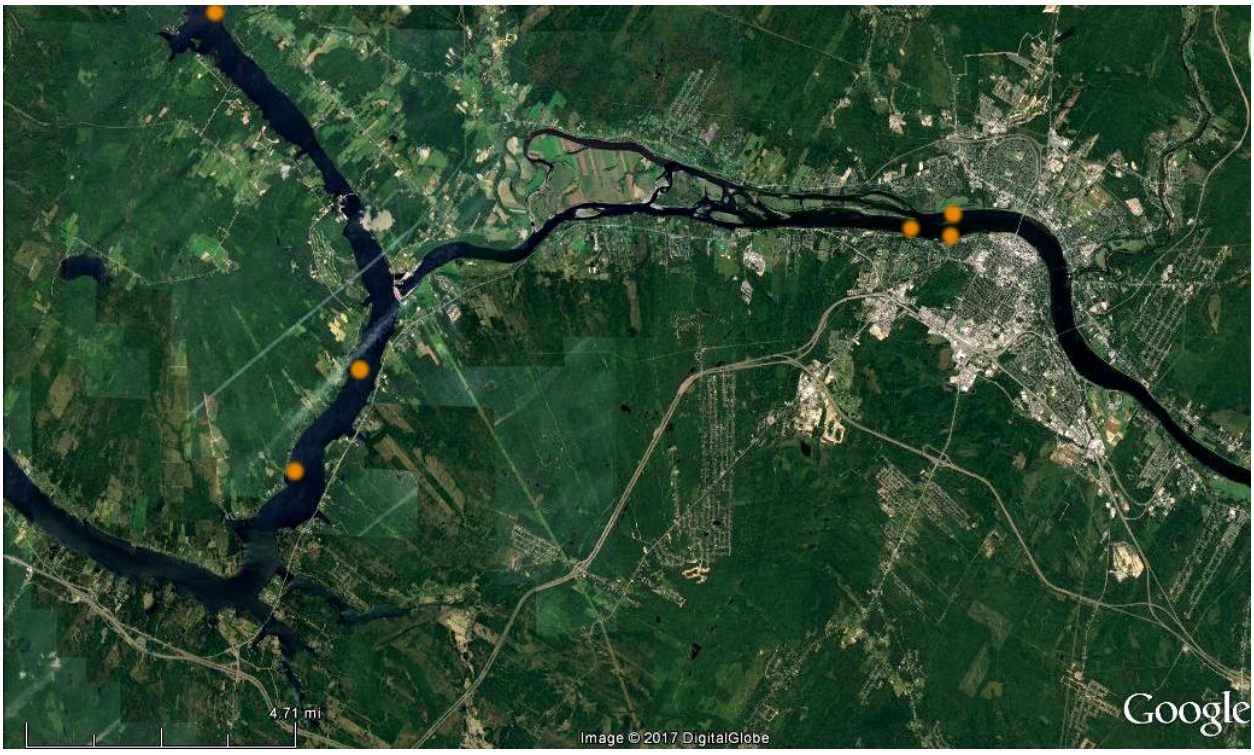
- A three person crew is implemented for boat electrofishing: two people to net fish and place in live-well, and a boat operator to navigate and manage the electricity being delivered.
- The electrofishing boat would begin delivering electricity in deeper water, slowly moving to the shallows along the shoreline. Two crew members stand at the bow of the vessel and use dip nets to capture fish that have been stunned by the electric field. These fish are placed in a live-well. Once a site has been thoroughly surveyed, the vessel would be grounded on the shore and the fish processed. This process includes weighing, measuring and recording the species of fish. After all of the data has been gathered, the fish are released back into the river.

- Naturally, the most productive areas were those that hosted macrophyte beds (aquatic vegetation). Fish species encountered include: Small mouthed bass, yellow perch, bull head, pumpkinseed sunfish, fall fish, alewives, blueback herring and golden shiner. A site tested in the upper reaches of the Mactaquac Arm produced most of the above mentioned fish, along with large mouthed bass (invasive) and American eel.

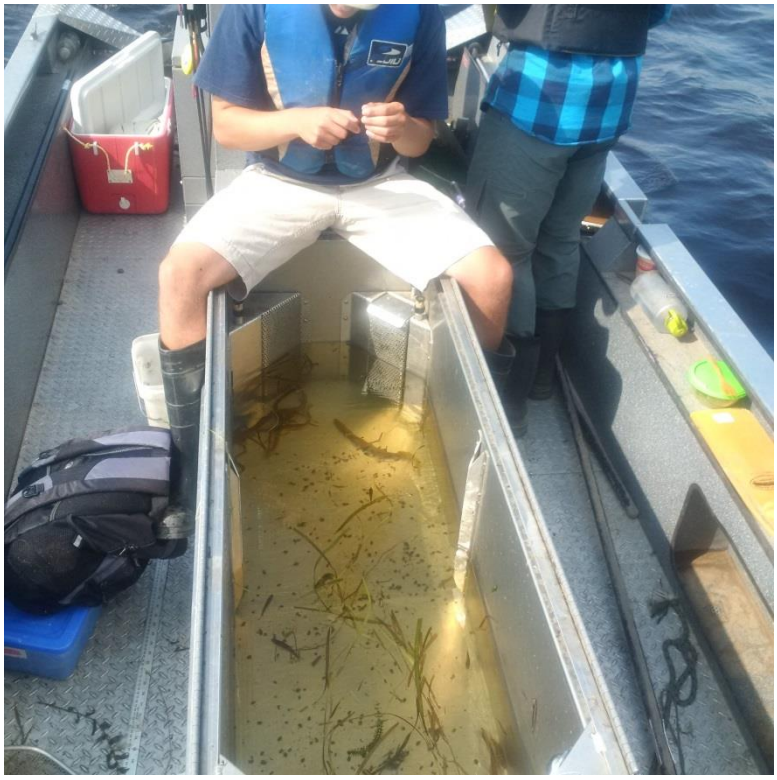
Interests and Concerns from a First Nations Perspective

Seeing as the work is relatively non-invasive I see no issues or concerns with the fieldwork being carried out. It is interesting that large mouthed bass and American eel are present within one particular portion of the Mactaquac Arm. This data will help to inform the eel studies currently being carried out by the Canadian Rivers Institute.

Photographs



Above: Electrofishing locations along the Wolastoq River



Above: The live-well with American eel

Above: Large mouthed bass from the upper reaches of the Mactaquac Arm.

Above: CRI staff using dip nets to capture fish on the electrofishing boat.

The Houlton Waters Project

Project Description

NB Power is proposing to construct and operate a 15.7 km, 69kv transmission line, beginning in Woodstock and extending to the Maine-New Brunswick border. The study corridor associated with the project is located adjacent to the twin-highway which leads to Houlton Maine.

Date: August 22nd, 2017

Activities Conducted:

Assisted Stantec Consulting with an archaeological walkover survey of the proposed Houlton Waters Project transmission line.

Pertinent Tasks:

- A three person crew was used to conduct a walk-over survey of the 30 meter wide study corridor. Over three kilometers were covered on August 22nd, which finished off the walk over aspect of the archaeological survey for the Houlton Waters Project.
- The team walked the study corridor looking for linear stone features (rock walls and piles) and species of First Nation concern (black ash and butternut). In accordance with the regulations set forth by the Archaeological Services Branch NB, special attention is always paid to watercourses: an 80 meter buffer is assigned to watercourses (both sides) that indicates heightened archaeological potential. When surveying the areas of heightened potential, the team assesses the landforms for the most suitable areas to host an ancient encampment or resource procuring site. Shovel testing is recommended in these areas: 0-50 meters from a watercourse is tested in a grid formation at 5 meter spacing. 50-80 meters from a watercourse, testing is carried out in a grid formation, testing at 10 meter spacing. In cases which the 80 meter buffer is steeply sloped or has standing water present, testing may be recommended outside of the archaeological potential buffers. Shovel testing has not been scheduled at this time.

Interests and Concerns from a First Nations Perspective

Both black ash and butternut were encountered along the study corridor, GPS waypoints were recorded for both resources when encountered. Many of the butternut trees present along the Right of Way have been assessed for the presence of canker, this information is contained in a report received from Stantec Consulting and will be sent out in the near future.

Photographs

Above: A butternut tree on the edge of the Right of Way. All of the adult trees have been assessed as having the canker present.

Kedgwick Transmission Line Replacement Project

Project Description

In an effort to improve the reliability of the transmission line (138 KV) infrastructure in the Kedgwick area, a replacement of poles and wires is planned. The project corridor extends for 5.3 kilometers through a mixed forest. The project also involves the decommissioning of a 25 kilometer section of transmission line, which will be carried out at a later date.

Dates: August 28th-31st, 2017

Activities Conducted

Assisted Stantec Consulting with an archaeological assessment involving shovel testing in areas of heightened archaeological potential. This work carried out by Stantec/NB Power field staff under the permit of Ramona Nicholas (Green Eagle).

Pertinent Tasks

- Trails would have to be blazed to access the testing areas; this involved the clearing of brush and branch removal. The forest disturbance is quite minimal.
- Once the testing area has been accessed, a central datum point is established from which a north-south baseline is flagged out. Flags are spaced at 5 meters or 10 meters depending on the archaeological potential assessed during the walk over surveys. An east-west baseline is then flagged and the grid subsequently filled in.
- Minimal brush clearing is required at each shovel test pit location for worker safety purposes.
- Using shovels and/or trowels, depending on the ground conditions, 50x50cm test pits are excavated. All soil is screened through bipedal sifting screens using 1/4inch wire mesh. The pits are dug until glacial till or bedrock is encountered. Excavated test pits are recorded by: indicating if cultural material (artifacts/features) is present or absent, taking photographs of the soil profile of an excavation wall and recording the color and character of each soil horizon present in the test pit. After the shovel test pit has been excavated and recorded, the pits are back filled to prevent incidental animal injuries.

Interests and Concerns from a First Nations Perspective

No cultural material was present in any of the excavated test pits. The watercourses within the Project Development Area were quite small, the bulk of the archaeological sites in the area are most likely situated more closely to the larger salmon-bearing watercourses.

Photographs

Above: A shovel test pit associated with the Kedgwick transmission line. Note the abundant cobbles removed from the pit. All pits were excavated using only a trowel as it was nearly impossible to get a shovel in the ground. No archaeological material was present.

If there are any questions or concerns associated with the fieldwork depicted in this report, do not hesitate to contact Austin Paul for further clarification. apaul@nbpower.com