

NB Power Field Report

Completed by: Austin Paul

Report covering the period from: June 2nd- 23rd, 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.

Date: June 2nd, 2017

Activities Conducted

Assisted CRI staff with Atlantic Sturgeon studies for the purpose of implanting acoustic tracking tags.

Pertinent Tasks

- ❖ Travel via watercraft to permitted gill-net locations near Carter's Point. The nets must be checked daily if they are to be left in the water. The nets used for the study have a 10 inch mesh: only the large fish are caught.
- ❖ Overall, 6 sturgeon were caught in the only net location for this study.
- ❖ When the nets are being checked, sturgeon are pulled into the boat one at a time and freed of the netting.
- ❖ After all of the Sturgeon are on-board, the fish are measured and their sex is determined. Next, the sturgeon are fitted with a Floy tag, this tag is external and provides an identification number.
- ❖ The sturgeon were also pit tagged, (pit: passive integrated transponder) is a small tag placed under the fish's skin and can be detected with a receiver.
- ❖ The 3 smallest sturgeon were released back into the river, the 3 largest were taken back to shore where they were fitted with an internal acoustic tag in a controlled environment.

- ❖ To implant the acoustic tag, a surgery must be performed. A small incision is made using a surgical scalpel, the tag is inserted into the stomach cavity and the incision is closed with sterile sutures. While the surgery is taking place, fresh water is pumped into the sturgeon's gills. The fish is then carried back to the river for recovery.

Interests and Potential Concerns from a First Nations Perspective

During the field season of 2016, the base of a projectile point was found on the beach of Carter's Point. The artifact was recorded and delivered to Archaeological Services NB.

Seeing as the same boat launch would be used for the current study, I felt it prudent to take time to walk the beach looking for traces of stone tools and other cultural material. No cultural material was present on the beaches of Carter's Point at the time of the study.

Most of the shoreline is privately owned, however there is an adequate boat launch near Grand-Bay/Westfield which would provide access to the productive fishing areas. The coordinates are as follows: 45°20'56.33"N 66°13'27.56"W. Atlantic Sturgeon populations are seemingly strong in the area and could be of interest for ceremonial and/or commercial interests of First Nations individuals.

Photographs



Above: CRI staff recording data collected from 6 Atlantic Sturgeon



Above: CRI staff freeing a female Atlantic Sturgeon from the gill net.

Dates: June 1st and 6th, 2017

Activities Conducted

The Canadian Rivers Institute conducted muskellunge tracking near the Mactaquac Generating Station (MGS).

Pertinent Tasks

- ❖ The team would make their way to predetermined stops along the shoreline near the diversion sluiceway of the MGS.
- ❖ Using a specialized receiver and hand-held antenna, the team would attempt to pick up the signals of muskellunge that have been radio-tagged during previous field seasons.
- ❖ When fish are detected, the team records the tag ID number, the location and the time of day.

- ❖ The overall goal of this aspect of the study is to track the muskellunge movements in an effort to gain insight into the spawning patterns and how flow activities induced by the dam may affect their behavior.

Interests and Potential Concerns from a First Nations Perspective

None of this work involved the retention of any natural resources and no sensitive land use sites were impacted. As the tasks related to this study simply involved tracking of fish, I do not see any negative issues associated with the fieldwork.

Photographs



Date: June 12th, 2017

Activities Conducted

Stantec carried out migratory and nesting bird surveys near the Mactaquac Generating Station (MGS).

Pertinent Tasks

- ❖ Two sites were chosen near the MGS to conduct migratory and nesting bird counts.
- ❖ One site was located near the parking area of the MGS and the other was located near the head pond on the north-side of the river.
- ❖ Ten minutes would be spent at each location recording the number of birds of each species observed. We alternated between the two sites throughout the morning. In the location of the first point count, we observed many bald eagles, cormorant, ring gulls, cliff swallows and crows. The species present at the second point count were: barn swallows, cliff swallows, ring gulls and the occasional eagle.
- ❖ Throughout the field season the locations of the point counts will change as will the time of the surveys.

Interests and Potential Concerns from a First Nations Perspective

The bird surveys merely involve observation and pose no threat to current or past land use.

Photographs



Above: Point count locations for bird surveys.

Fundy Isles Project

Project Background

The Fundy Isles Project is a replacement of existing sub-sea transmission cables in the Quoddy region. The sub-sea cables provide power to both Campobello and Grand Manan.

Date: June 15th, 2017

Activities

Stantec conducted drill work for geotechnical studies associated with the Fundy Isles Project on Campobello Island. The goal of the study is to ascertain the bedrock geology in preparation for the installation of transmission cables scheduled for 2019.

Pertinent Tasks

- ❖ The geotechnical study was carried out using a drill rig equipped with a 2 inch core tube.
- ❖ Four borehole locations were drilled of a depth of 34 feet to explore the characteristics of the bedrock.
- ❖ The Project Development Area (PDA) had been archaeologically surveyed in the fall of 2016, at which time a light dusting of snow covered much of the landscape. The beach was thoroughly surveyed and no cultural material was found. Seeing as the land was somewhat obscured, it was hard to judge what was bedrock and what was soil. A relatively flat area was delineated for future testing. When I arrived one-site, it was apparent that the area did not offer a great deal of potential and was situated on a bedrock knoll with very little over-burden. As per regulation, the overburden was placed in a sterile bag for further examination.
- ❖ While monitoring the collection of the over-burden and subsequent drill work, no traces of cultural material were found.
- ❖ A tree had fallen down very close to the borehole site and its roots exposed soil and rock. This exposure was carefully examined prior to the commencement of drilling. No cultural material was found.

Interests and Concerns from a First Nations Perspective

Wilson's beach has a gentle slope and is composed mainly of small pebbles and cobble. The area would offer a great location to safely land a canoe. Whales frequently pass by the area in the late summer/

early fall. I have little doubt that the area would contain archaeological sites; however, none have been identified in the project development area. As the work was relatively non-invasive (very little ground disturbances), no sites of archaeological value were negatively impacted by the geotechnical work that has been carried out. The portions of the project development area that are located on the island proper are steeply sloped and situated on a bedrock knoll, greatly reducing the archaeological potential of the area. The adjacent landforms are more suitable for the presence of archaeological sites; however, the area has been altered by residential development.

Photographs



Above: Drill coring on Wilson's Beach, Campobello Island



Above: Core Samples from the Wilson's Beach site.



Above: Bore-hole location adjacent to the existing riser station on Campobello.

Kedgwick Transmission Line Replacement

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.

Date: June 21st-23rd, 2017

Activities Conducted

Assisted Stantec Consulting with an archaeological walk over survey of the proposed Kedgwick transmission line realignment.

Pertinent Tasks

- ❖ This walk-over survey was carried out by a team of 3 covering a 30 meter wide study corridor.
- ❖ The team walked the study corridor noting features of interest and delineating areas for future testing on a Flint GIS device. This device also records a track log that shows the areas that have been covered.
- ❖ Many of the areas had been previously surveyed in the 2016 field season; however, due to some rerouting of the line, there were gaps to fill.
- ❖ As there are few areas that have exposed soil, the team uses their own instincts and judgment to define areas for future testing. Areas that are slightly elevated from a watercourse with a slope of less than 10 degrees are usually recommended for testing.
- ❖ Linear stone features (rock walls) were encountered during the walk over which correlate to property boundaries that have been mapped.

Interests and Potential Concerns from a First Nations Perspective

The watercourses surrounding the PDA were not of substantial size. I would not anticipate finding any large pre-contact settlements; however, small sites can be just about anywhere. It is important to note that there are beautiful stands of hardwood trees present along aspect of the study corridor. Maple, beech, yellow birch and paper birch are abundant. The paper birches, although not fully matured, have some of the nicest bark that I have seen: there are very few blemishes/knots. There is also an abundance of hazelnut in the area. All of the resources mentioned would be useful to First Nations individuals.

One member of the team found a large antler that a moose had shed: 9 impressive points. Judging by the presence of shed antler, the abundance of moose scat and forest composition, I believe that the area would be a highly productive hunting ground. It seems appropriate that any archaeological sites that may be present in the area surrounding the PDA would be associated with hunting and/or resource gathering activities. Additional work in the form of shovel testing will be carried out at a later date. The testing will be carried out in areas identified as being of high archaeological potential that are currently planned to be disturbed as a result of infrastructure installation.

If there are any questions or concerns regarding the fieldwork that has been outlined in this report, do not hesitate to contact Austin Paul: apaul@nbpower.com