

First Nations Liaison (Field Monitor) Weekly Report

Completed by: Austin Paul

Report covering the period from: June 15th- June 22nd, 2015

Date: June 15th, 2015

Staff: Lauren Fitzpatrick and Austin Paul

Activities Conducted: Fish tracking in the Mactaquac head pond, near Nackawic, working in conjunction with The Canadian Rivers Institute's Mactaquac Aquatic Environmental Study (MAES).

Pertinent tasks:

- Safely Navigate watercraft.
- Conduct active monitoring of Salmon (smolt/adult).
- Stop the vessel every kilometer and record the G.P.S. coordinates. Deploy a Vemco omni-directional hydrophone and listen for "pings" generated by tagged fish in the area. These signals are detected by a Vemco acoustic receiver. The listening process is carried out for 180 seconds.
- When tagged fish are detected, their identification number is displayed on the receiver. A log book, carried on-board the vessel, contains all of the information regarding the individual fish's information (life stage, size and location of release).
- Once a fish has been detected, the omni-directional hydrophone is removed and a direction hydrophone is used to find the exact location of the fish relative to the boat. This device is manipulated manually. The boat is repositioned; the goal being, to get as close as possible to the tagged fish in order to accurately chart their movements.

Interests and Potential Concerns from a First Nations Perspective

Traditional resource sites: Not applicable, as the entire river has been traditionally used for travel and sustenance.

Traditional Land Use Sites: Although unknown archaeological sites could be found in the area, as of yet, they remain undiscovered. All of the known archaeological sites are located below the water contained within the head pond and have remained inaccessible and will remain so unless option 3 (River restoration) is chosen.

Photographs

The photograph depicted below is a Vemco acoustic receiver, used to monitor tagged fish.



Dates: June 17th-18th, 2015

Staff: Austin Paul, Gordon Shupe, Stephan Keefe, Mattieu Duplesis

Activities Conducted Monitored the drilling of core samples near the Mactaquac Generation Station (MGS) working in conjunction with AMEC Consulting; a subcontractor supporting Hatch's preliminary engineering.

Pertinent Tasks

- The drilling of core samples near the MGS is required for studies pertaining to option 1: repower. The bedrock in the study area was a form of greywacke; a sedimentary stone formed from fine sediment and clay deposited in an oceanic shelf environment. Void-infilling quartz seams can be found often throughout the deposit.
- The goal was to drill 40 meters into bedrock, although the size of the sample tube was 5 feet; meaning only 5 feet of core could be drilled in one sitting, a very time consuming process.

- At the level of 26 feet below the surface, the drilling attachment was switched out for a packer bit. This packer bit had an inflatable upper portion and a means of injecting water below. The purpose of the packer bit was to determine the permeability of the bedrock.
- After conducting the packer tests, drilling was resumed, however, packer tests were carried out at increments of 10 feet.
- Once core samples were extracted, Gordon and I measured the entire length of the specimen, noted how many transverse fractures were present and measured each individual section. When core boxes were full, they were labelled, secured shut with duct tape and eventually transported back to the AMEC office.
- During lunch hour, I stopped into the KFN band office in order to solidify a communication plan. A councilor; Lynn Dunbar took the time to meet with me. She recommended that weekly or monthly reports be sent to Patrick Polchies, Gabby Atwin and Ryan Dunbar (she informed me that KFN is engaged in a partnership with Dillon Consulting and want to keep them in the loop). I gave Lynn all of my contact information and encouraged her to get ahold of me at any time if there are questions or concerns that need to be addressed.

Interests and Potential Concerns from a First Nations Perspective

Traditional resource sites: I am unaware of anyone using the site in terms of resource procurement, although I collect St. John's Wort in the area for use as traditional medicine. Tincture of St. John's Wort is helpful for treating anxiety and/or depression if used sparingly. This plant typically grows in well-drained, disturbed soils. This resource is abundant and is not being threatened.

Traditional Land Use Sites: This area is in proximity of a swimming hole, locally known as: "the cliffs".

Photographs: The drill rig used for coring near the Mactaquac Generating Station



Below is a close-up photograph of a core sample: greywacke sedimentary stone



Date: June 22nd, 2015. **Staff:** Austin Paul, Brittany Dixon, Aurelian Simon, Alexandre Piroley

Activities Conducted Participated in Eel/elver studies on the St. John and Nashwaak Rivers, working in conjunction with the Canadian Rivers Institute's Mactaquac Aquatic Environmental Study.

Pertinent Tasks

- The studies were carried out with the aid of a motorized watercraft, although some work was also conducted from the shoreline.
- Eel traps, consisting of a concrete block, a collection pot with attached hemp strands to simulate grass, and a rope attached to a buoy were pulled from the water and analyzed. The contents of which, were carefully dumped into a plastic tote and strained through a fine dip-net.
- Upon the detection of eels/elvers, a cooler was used to mix a solution of water, ethanol and clove oil. The specimens were placed in this solution which acts as a sedative. Once the eels were sedated, they were measured, weighed and then placed in a tote of fresh water until they recovered. The eels could then be released back into the river.
- At every trap location, the water temperature and velocity (flow) were measured and recorded.
- When on shore, I took a few moments to analyze the erosional faces of the banks to ensure that no archaeological sites were actively eroding, no traces of cultural material were found.

Interests and Potential Concerns from a First Nations Perspective

Traditional resource sites: The eel traps are placed in and around the area known as Ekpahaq (The head of the tide), and has been traditionally used for fishing and gathering by Native people for thousands of years. Fiddlehead ferns are plentiful in the area.

Traditional Land Use Sites: Some eel traps are located near the banks of Hart Island, which is a known archaeological site. More traps located in the Nashwaak River could very well be located near archaeological sites. I am unaware of any sites in the immediate area (near the eel traps), although the area would be suitable as a summer congregation point. The area is heavily inundated with water in the early and late spring. No Pre-Contact Native artifacts were exposed on the river banks.

Note: The eel pots being used and methods of deployment and extraction are very unobtrusive and do not represent a threat to any resources or sites of traditional value.

Photographs

Below is a photograph of an eel trap being emptied into a plastic tote, the second photo is a yellow eel during the measuring process prior to being released.



Feedback: The staff members from both the Canadian Rivers Institute and AMEC Consulting were great to work with. They were very accommodating and interested in my perspective as a First Nations member.