First Nations Liaison/Field Monitor Report

Completed by: Austin Paul

Report covering the period from: August 26th-September 19th, 2016

Date: September 12th, 2016

Activities Conducted:

American eel studies were carried out by the Canadian Rivers Institute in support of the Mactaquac Aquatic Ecosystem Study.

Pertinent Tasks

V.I.E. tagging (Visible Implant Elastomer)

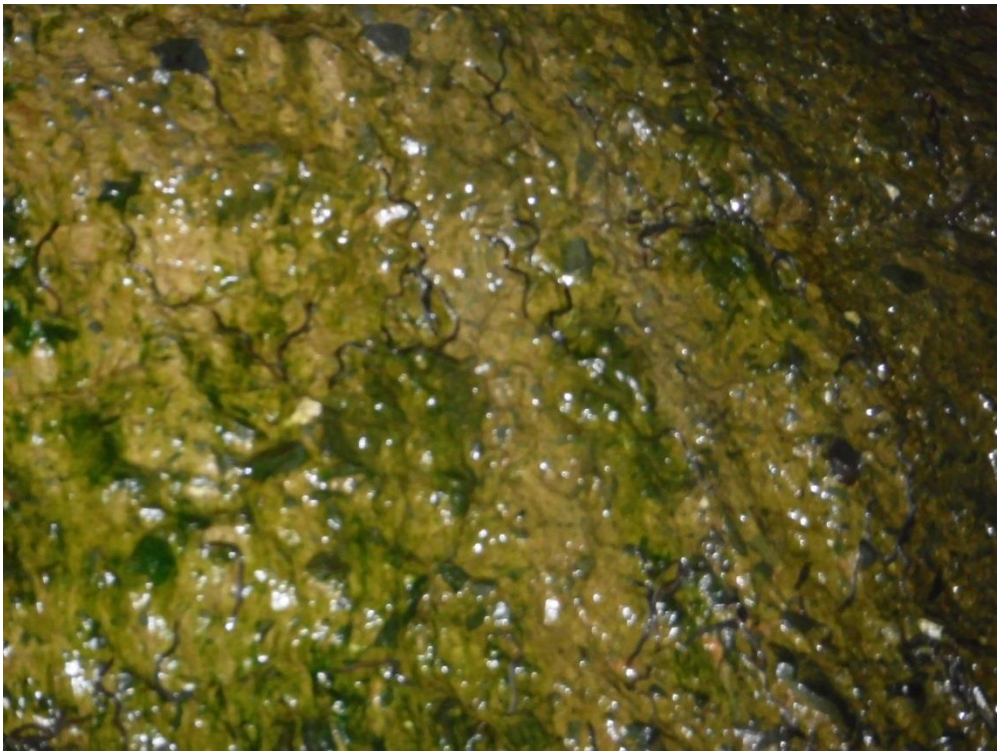
The eel team conducted studies on both the diversion spillway and main spillway ramps. Hundreds of eels attempt to ascend the spillway ramps in the cover of darkness. Our team would carefully remove eels from the ramps and sedate them in a mixture of fresh water, ethanol and clove oil. Once sedated, the eels would be weighed and measured. Two liquid chemicals are combined to form a plastic-like substance which is reactive to U.V. light. This substance is injected into the skin of the eels before their release back into the river. The V.I.E. tagged specimens can be readily identified using a black light.

Interests and Potential Concerns from a First Nations Perspective

The eel studies are relatively non-invasive and do not pose a threat to traditional resource procurement areas and/or archaeological sites.

Photograph

Below: Juvenile eels ascending the diversion spillway ramps.



Dates: August 30th, September 2nd and September 6th, 2016

Activities Conducted:

Dragonfly studies in the Grand Lake Meadows region as well as various sites on the lower St. John River valley are being carried out by the Canadian Rivers Institute in support of the Mactaquac Aquatic Ecosystem Study.

Pertinent Tasks

Benthic Sampling

Using a specialized dip net, a team member would wade into the water and plunge the dip net into the riverbed to stir up sediment. As the sediment becomes suspended into the water column, it is captured inside of the dip net. The contents of the dip nets are carefully transferred into sterilized plastic containers. Various D.N.A. and isotope analysis will be conducted using the specimens acquired through this method of sampling.

Macrophyte Sampling

Macrophyte (water adapted vegetation) samples are acquired from the sample areas by simply wading into the water and collecting small pieces of the aquatic vegetation that is present. The samples are stored in sterilized containers and will be used to conduct various D.N.A. and isotope studies.

Detritus Sampling

Detritus (decaying organic matter) samples are acquired from the shoreline in the immediate vicinity of the study areas. A team member would walk the shoreline and collect dried samples of leaf litter, dried grass and any other dried vegetation that is present in the area. This material will also be used to conduct various D.N.A. and isotope studies.

Biofilm Sampling

Stones that are submerged within the study areas are covered in a gritty, slimy substance known as biofilm. A team member would wade into the water adjacent to the study area and collect stones that exhibited a fair amount of biofilm. Using a razor or steel knife, the biofilm would be carefully scraped into sterilized plastic vials. This material will also be used to conduct D.N.A and isotope studies.

Interests and Potential Concerns from a First Nations Perspective

The fieldwork associated with this study is relatively non-invasive and does not pose a threat to traditional resource procurement areas and/or archaeological sites.

Photographs

Below: A CRI staff member preparing to use a specialized drift net used to acquire benthic samples.

Date: September 8th, 2016

Activities conducted

Fish community studies are being conducted along the Wolastoq River. This work is being carried out by the Canadian Rivers Institute in support of the Mactaquac Aquatic Ecosystem study.

Pertinent Tasks

Fyke nets

Two fyke nets were used in the study. The nets are left out over-night, near the mouth of the Keswick River and subsequently removed from the area. Fyke nets generally have 2 wings and a lead line which guide the fish into a series of cages. Once inside the cages the fish cannot find their way out. The Fyke nets were used for 2 days and held a wide variety of fish species: banded Killifish, common shiners, gold shiners, white perch, yellow perch, small mouthed bass, gaspereaux and American eels.

Interests and Potential Concerns from a First Nations Perspective

The fieldwork associated with this study is relatively non-invasive and does not pose a threat to traditional resource procurement areas and/or archaeological sites. All of the fish samples acquired through the study are released back into the river.

Photographs

Below: CRI staff members removing a Fyke net from the Wolastoq River.

Dates: September 13th and 19th, 2016

Activities Conducted:

Migratory bird surveys were carried out near the Mactaquac Generating Station. The work is being conducted by Stantec Consulting in support of the Mactaquac Aquatic Ecosystem Study.

Pertinent Tasks

Point counts were conducted near the tailrace of the Mactaquac Generating Station. We would observe migratory birds for 3 hour intervals, recording the species and number of specimens. Once the point counts were completed, we would travel to areas that we had assessed as stop-over areas (Duplesis'

farm and Jewett's mill). At the stop over areas, we would once again observe and record the different species and the number of specimens per species present. Species of birds identified during the study include: common gulls, ring gulls, mergansers, cormorants, eagles, ospreys, kingfishers, American crows and common pigeons.

Interests and Potential Concerns from a First Nations Perspective

The migratory bird surveys are non-invasive and do not pose a threat to resource procurement areas and/or archaeological sites. No birds were harmed during the study.

Photographs

Below: A flock of mergansers taking a break from fishing gaspereau in the tailrace of the MGS.

Upcoming work

Over the course of the next 2 weeks, I will be assisting CRI staff with fish community studies, substrate mapping and the retrieval of submerged fish tracking receivers. I will also continue to participate in the migratory bird surveys that are being carried out by Stantec Consulting.