2015 Field Report: August 17 to December 30

Sarah Wheatley

Staffing

Luke and Kristina both left in mid-August, so we then had no chainsaw operators and no field supervisors. Sarah supervised a smaller crew for the remainder of the summer and additional staff members were hired for the fall.

Summer Staff				Fall Staff		
Name	**Start**	**End**		**Name**	**Start**	**End**
Luke Peters	May 4	Aug 15		Lucas Sherry	Sept 13	Sept 19
Kristina Ivkov	May 25	Aug 14		Andrew Fizzard	Sept 17	Sept 30
Gavin Toombs	June 8	Aug 18		Nathan Gillis	Sept 18	Sept 25
Carter McQuaid	June 8	Aug 18		Beth Essery	Sept 19	Sept 19
Brenton Sanford	June 15	Aug 29				
Tessa Doncaster	June 8	*Full time in summer, part time in fall*				Oct 10
Arnaud Perron-Bouchard	June 29	Aug 6		Benjamin MacNeill	Sept 19	Nov 28
Maxime Laroche	June 29	Aug 6		Shawn Feener	Sept 19	Dec 12
Ryan Snyder	June 29	Aug 26		Jill Poirier	Sept 21	Dec 11
Hilary Shea	July 27					Jan 12

Andrew, Nathan and Jill were available to work during the week, while Lucas, Beth, Shawn, Ben and Tessa were only available on weekends. So we worked most Saturdays through the fall.

Tree planting

Fall staff finished tree planting 1005 trees. Most of this planting was done at a property in Blooming Point which bordered on Tracadie Bay to one side, a stream on another side, and has ponds which were constructed by Ducks Unlimited. Landowner gave us latitude to plant whatever species, quantities and locations that we thought best for wildlife.

Trees were also given to landowners with waterfront properties for them to plant on their own. One local business did extensive tree planting around their entire property. Tree planting was mostly done on weekends in October.

Stream Cleaning

The summer crew did approximately 3km of stream in Friston and a small section near York. Chainsaw operators Tessa and Shawn were in school but were available on weekends, so we cleared streams on the weekends in the last half of September. We cleared approximately 1km of Friston South and 1.7km of MacLauchlan in three intense days of work. A small section of Friston North was also cleared using hand tools only when the chainsaw operators were not available.

Figure 1. Clearing debris to improve fish passage.

Figure 2. Removing debris from a barely visible stream.

Figure 3. Large pipe that was impeding fish passage was cut up and removed from stream.

Brush mats

We installed 2 medium and 2 giant brush mats. The Saturday crew had two chainsaw operators who cut branches for part of one day. We received help from BBEMA who lent us a chainsaw operator for half a day and from FCBB when coordinator Justin Walsh and a helper came for half a day. Board chairperson, George Coade, cut trees for part of one day. We also used hand saws to cut some branches.

Figure 4. Installation of the largest brush mat.

Stream Surveys

Staff members walked along the streams that flow directly into Tracadie Bay to assess these areas for future work prioritization. We based our methodology on that used by Gauthier & Parkman in their 2009 survey of the main branch of the Winter River, then added extra categories on stream substrate, erosion issues, beaver activity, and the status of previous enhancement projects. The total distance of streams surveyed was approximately 30km, which included Piper's Creek, Beaton's Creek, MacAulay's Creek, Black River, and sections of the Van Westerneng Branch and the main branch of the Winter River. Lowe's Creek was dry on November 16 and thus was not surveyed. This information will be very valuable for future watershed management planning.

Culvert Surveys

We assessed culverts at 39 public road or public trail crossings and 33 private crossings for their ability to allow fish to travel through and looked for any other problems. The information collected was used to create a priority list for the Department of Transportation, Infrastructure and Energy, of where repairs and upgrades would be most beneficial to the ecosystem.

Figure 5. The worst culvert that we found.

Water monitoring

Temperature loggers were retrieved successfully from York, Pater, Wheatley and Cudmore branches in late October. We have been unable to find the temperature loggers at the head of Officer's Pond, the head of Hardy's Pond despite several attempts. The loggers at the Mazer branch and MacLauchlan pit seem to have been lost. The rebar was found at the correct location in the stream, but the logger was no longer attached to the rebar. A group of four Minilab temperature loggers were lost prior to being deployed in Officer's Pond.

Depth loggers which are used to calculate water flow, and also measure temperature, were left in stream until the end of November. This data can provide information on how the stream level changes over the course of the year, and about the flashiness of streams. Next year some loggers will be redeployed for winter data collection.

Flow readings at the data logger locations were not as frequent during mid summer as I would have liked, but if we use the same locations year after year, we can continue to collect data, and can go back and reanalyze logger information using better flow vs depth curves that are developed over time.

V-notch weirs were used to continue to monitor spring flows on a bi-weekly basis. Weirs were removed from locations where fish appeared to be using the area, but where left in some locations until the end of December to monitor late fall increases in flow rates. The springs in Brackley which run dry due to water extraction by the City of Charlottetown did not start flowing again until late December.

Water velocity readings were taken within the fish ladder at Officer's Pond in conjunction with monitoring the fish trap. This will provide information on the fish species that are able to travel through this fish ladder and which would have difficulty swimming against the current.

Monthly water samples were collected from a subset of the springs where water flow was recorded, and from locations where depth loggers were deployed on a monthly basis to continue a project started in 2013 but on a lesser scale due to budgetary limitations.

Sediment levels were assessed in late fall. We collected water samples immediately after a heavy rain and measured the amount of suspended sediment in these samples by filtering and drying the material at the Environmental Applied Science Technology lab at Holland College. Comparison water samples were taken from the same locations two weeks later and analyzed the same way. This information was used to prioritize work needed to reduce erosion in branches of the river where suspended sediment levels were the highest, either on a chronic basis or after heavy rainfall events.

Figure 6. Water samples to measure suspended sediment.

Fish trap

The fish trap was removed at the start of December after 189 days of monitoring. Total live counts during this time included 180 Brook Trout, over 4000 Gaspereau moved using buckets (numerous others were allowed to move freely while trap was moving during peak migration period), 42 American Eel and 4 White Perch.

Figure 7. Large trout caught in the fish trap.

Beaver dams

Removed 3 inactive beaver dams in time for trout to move upstream to spawn.

Figure 8. Beaver dam removal in progress.

Redds

Recorded during stream surveys and also opportunistically while performing other activities. Plans to walk entire sections of rive to specifically look for redds were frustrated by frequent heavy rainfall events.

Sean Landsman, PhD student at UPEI, came to visit some of our identified trout spawning locations to take some of his popular underwater photographs.

Figure 9. Trout underwater.

Figure 10. Trout underwater.