



Photograph of Sandhill cranes flying in East Point, courtesy of Roberta Palmer.

Souris & Area Watershed News

Souris and Area Branch
of the PEI Wildlife Federation

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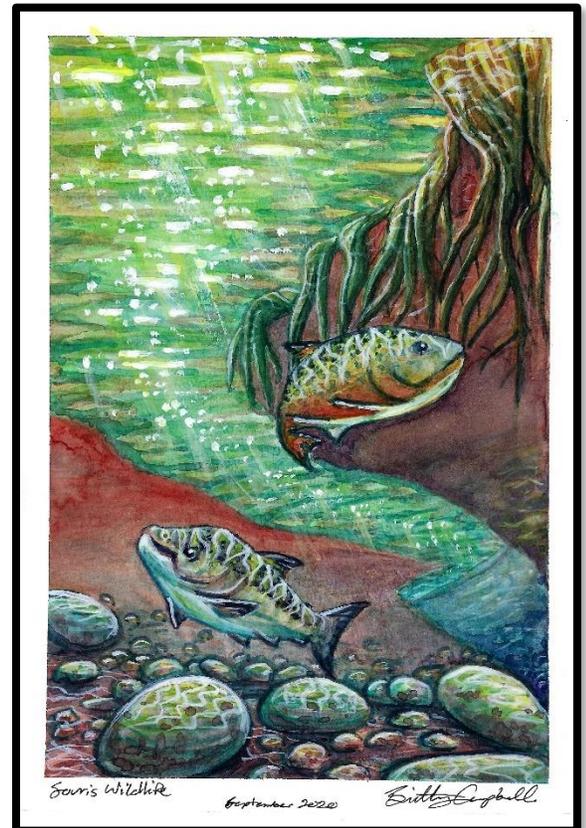


WELCOMING A NEW CCC PARTICIPANT

"My name is Jenna Shemmans, and I am the newest member of the Canadian Conservation Corps to be placed with Souris Wildlife. As a Canadian Conservation Corp (CCC) participant, I get to embark on new, exciting experiences related to conservation. In a three-part program, a CCC participant gets to experience an exciting wilderness expedition, be paired with a conservation groups in Canada and create a project related to conservation. The purpose of the CWF Canadian Conservation Corps, is to provide an opportunity for youth across Canada ages 18-30 to learn from experts in the field of conservation, and learn and experience different parts of Canada while developing useful skills such as wilderness first aid, education, and awareness.

In Stage 1, with my cohort of 9 CCC participants, I got spend 14 days canoeing in Georgian Bay with Wild Outside, where we paddled over 150Km from Kill Bear National Park to Killarney.

For the second stage of the program, each CCC participant is paired with a field placement, and I got the privilege of being partnered up with PEI Wildlife Federation, in Souris PEI. Though I have only been here a mere few weeks, I have already learned a tremendous amount about conservation, and its various aspects in relation to PEI wildlife and watershed management. Thus far, Souris Wildlife has taught me about the green crab an invasive species that threatens native species such as the Blue mussel, and how they impact the growth of Irish Moss, endemic to the Basin Head Marine Protected Area. Additionally, I have learned how to catch, measure, and identify Brook trout and Atlantic salmon in the Hay River in order to understand population growth of various native fish species. Finally, I have learned about water and soil sampling, an important task needed to ensure the betterment of various habitats and the growth of crops here on PEI.



Painting by Brittany Campbell, CCC participant.



Brittany Campbell and Jenna Shemmans, CCC participants.

So far, this experience has been better than I could have asked for, as someone initially not from the east coast, growing up in Ontario before recently moving to Nova Scotia, I have been able to enjoy the beautiful landscapes and be near the ocean for the first time in my life. I am excited for the next two months, and am eager to learn new skills, and become more knowledgeable about the different ecosystems and watersheds here in Eastern PEI.”
 --Jenna Shemmans

As we are welcoming a new member of the CCC program, we are saying goodbye to another. Brittany Campbell started with Souris Wildlife in July, quickly being immersed in the height of our field season. From making and planting clumps at Basin Head, to conducting electrofishing surveys, Brittany has experienced almost all of the major projects that Souris Wildlife regularly conducts. As an artist, she has also used her experience here to develop beautiful paintings. Pictured above is an Atlantic salmon and a Brook trout in one of the local rivers.

ANNUAL REDD COUNT SURVEYS

Habitat improvement is considered one of the most important things that we can do to help sustain and improve fish stocks in our local rivers. Redd surveys for Atlantic salmon and Brook trout to identify active spawning areas in rivers and to help pinpoint additional spawning habitat through GPS documentation also aids in indicating future river restoration ambitions in our area. Conducting annual Atlantic salmon and Brook trout redd surveys each fall is just one way of confirming if all of our in-stream habitat enhancement initiatives are successful or not. Sufficiently identifying spawning areas helps us to highlight current and pending river restorative areas and to focus in on specific initiatives that will directly improve valuable fish habitat in usual or preferred spawning areas. Fish population size can be determined by looking at data from redd numbers, along with fyke net (weir) counts. Baseline data analysis prior to stream enrichment work does allow quantification of habitat enhancement success, meaning that if our redd counts increase over time in each river then our habitat enhancement initiatives have ultimately worked.

Redds, a salmonid spawning nest or bed, are depressions that are made in the streambed by female salmon or trout as they prepare to lay eggs in hopes that they will be fertilized by a fitting male suitor. Males can sometimes be seen competing and darting back and forth in the water as the females are building the redds. Redds are built by female Atlantic salmon and Brook trout every mid-October through to mid-December in our management area. Water temperature has to be optimal though for these spawning fish. For Atlantic salmon, its 14 to 20 degrees Celsius (57-68 Fahrenheit) while Brook trout preferred water temperature for spawning is between 4 and 10°C (40-49 Fahrenheit). Walking rivers looking for active spawning areas or females who are in the act of spawning helps to verify the identification of what is suitable or preferred spawning habitat for Atlantic salmon or Brook trout. Prior to heading out annually into the streams we identify all of our traditional spawning areas from past data to find the active spawning areas in rivers. Survey conditions can be quite good, meaning adequate water levels and clear water that makes it fairly easy to see the reddish coloured nests in dug up substrate. Survey conditions can also be quite poor. The past couple of years our surveys were affected by winter coming early and high, very dark water that made it difficult to see the redds. Flushing, swirling water that shroud redds can also make redd identification really tough. As can active or even inactive



Walking a local stream in December to count salmon and trout redds.



SAB Supervisor Mike Jacklyn pointing out an Atlantic salmon redd in Cross River.

Watershed	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
North Lake Creek	56	40	213	251	262	183	333	106	355	205
Priest Pond Creek	22	4	150	70	138	129	151	21	20	13
Cross River	33	59	192	170	238	193	268	83	190	100
Hay River	13	4	15	41	36	15	43	3	1	N/A
Bear River	0	1	7	35	13	3	16	0	0	N/A
Naufrage River	74	43	89	108	154	217	453	43	429	33
Cow River	8	13	38	56	67	12	50	1	4	N/A
Souris River	N/A	N/A	N/A	N/A	0	2	0	0	0	N/A
Fortune River	N/A	N/A	N/A	N/A	2	0	N/A	N/A	N/A	N/A
Total	206	164	704	731	910	754	1314	257	999	351

Atlantic salmon redd counts in our management area over the past 10 years.

beaver dams that have created unexpected blockages in the streams and make it next to impossible for Atlantic salmon or Brook trout to breach in order to reach preferred spawning areas above the obstruction. We use beaver management plans in each of our watersheds to ensure blockages will not affect fish migration in our systems for spawning or feeding purposes. All Atlantic salmon and Brook trout redds are documented using GPS waypoints and placed on maps through GIS mapping software every year. This information is available on our website at souriswl.com under "Watersheds". We will keep you updated through our social media sites and our next newsletter as to how our redd count surveys go this year!

TIE UPDATE ON LOCAL ROAD WORK

Transportation, Infrastructure and Energy - Road updates:

- **Little Harbour** – the culvert in the dip of the Highway #2, at the end of Longaphie Road has been assessed and is in need of repair. This will take place this fall.
- **Black Pond/Greenvale Roads** – the work to remove the damaged culvert at Black Pond on Highway #2 and replace it with a bridge has been postponed until 2021. This is because the structure mentioned above was in need of more urgent repair and was therefore prioritised first. In the meantime, TIE will be carrying out work this fall to reduce the amount of sediment entering Black Pond Creek from the unpaved roads in the surrounding watershed. This will be a larger project that will consist of adding millings to the roads and constructing storm water retention ponds.
- **Little River Road** – work is ongoing to remediate sediment run off issues through grading and sediment traps.
- **Hermitage Road** is officially closed by the old stream crossing with the dilapidated culvert removed so there is no through access to Hughey Joseph Road. The banks around the old structure have been stabilised using gabion baskets.
- **Johnson's Pond** – the fish ladder will be repaired by the end of the year and the water level raised again, restoring the pond.



Culvert removal on Hermitage Road.



Culvert removal on Hermitage Road.

REVAMPED ELECTROFISHING SURVEYS

We are once again back at it! Our 2020 Electrofishing surveys have begun in Hay River for our Atlantic Salmon Conservation Foundation project that is trying to determine the Atlantic salmon population that calls Hay River home. With the data collected this year we are able to get

approximate population numbers of both Atlantic salmon and Brook trout, adding to the data collected over the last 3 years. By conducting these surveys over consecutive years, we can see how our stream enhancement activities are benefiting the stream.

Souris Wildlife uses a method of electrofishing called the Zippin 3-Pass Method. This involves blocking off a known length of stream with barrier nets at either end. For each pass, the certified electrofishing operator makes their way upstream with two people using dip nets to catch the shocked fish. These fish are then placed in a fish pan with an oxygen bubbler providing a steady stream of oxygen for the fish, while the rest of the section of stream is completed. Upon completion of the first pass, all fish are individually identified by species and total length measurements are recorded. The fish are then released downstream of the blocked off section, minimizing the risk of recapture during the next two passes. This process is then repeated twice, making a total of three passes for that section of stream.

So far, we have surveyed 960 metres and we have seen lots of fish! We have caught and measured 2726 fish: 704 Atlantic salmon, 2019 Brook trout, 2 American eels, and 1 Stickleback. This is a large increase when compared to last years numbers. Though using a slightly different method, we are seeing 5 times the amount of Atlantic salmon than last year! This is very encouraging as these numbers start to show that our stream enhancement activities in Hay River are benefiting the fish living in it. In addition to our extensive survey in Hay River, Souris Wildlife

assists UPEI with their electrofishing surveys in North Lake and Priest Pond. We also hope to complete electrofishing in more of our stream systems such as Naufrage and MacAskills.



Measuring a precocious Atlantic salmon.



WETLAND CREATION

Wetlands are fantastic ecosystems to have alongside agricultural fields as they help reduce sediment and nutrient inputs, as well as providing habitat and increase biodiversity for flora and fauna.

As part of our Living Lab- Atlantic project, funded through Agriculture and Agri-Food Canada, we're taking wet, unfarmable sections of agricultural land and creating wetlands in them. The wetlands have been designed in partnership with Ducks Unlimited with a focus on water quality improvement. The landowners, farmers, and local businesses are consulted as part of the design process to ensure that the new habitat will not negatively impact them in any way.

This year, we have two wetlands installations within our management area. One is in Souris River watershed, along Bear River Road, and is in partnership with Townshend Potato Company. The other is beside Leslie's Pond in Souris West, in partnership with Rollo Bay Holdings Ltd. The wetlands will work by selectively directing and holding surface run off from the surrounding fields using shallow depressions and berms. They will consist of wet, boggy sections of land supporting large amounts of vegetation with only some having open sections of water, depending on the specific site. Water quality samples in the nearest streams have been taken and will continue to be collected on a biweekly basis to measure the effectiveness of the wetland.



Newly created wetland area in Bear River.

EUROPEAN GREEN CRAB UPDATE



Connor Ching manning the boat while fishing.

As the season begins to change and the weather starts to get a bit cooler, we start to approach the end of our European green crab fishing season. This season, which started all the way back in July, has seen a large increase in the number of crabs being trapped compared to previous years. There could be a couple contributing factors as to why we are seeing such a large bump in numbers this year. One possible factor could have been the mild winter temperatures this year. Large numbers of green crab die off naturally during harsh winter months, but the mild winter (in PEI terms) may have not gotten cold enough for the crab to freeze. Therefore, we are finding an abundance of crab all over the basin.

Another factor for the increase in the number of crabs trapped this year is the addition of 10 more "Luke" traps to the usual 28. The "Luke" traps, which were first deployed in 2018, are a miniature version of snow crab pots, and are very effective in not allowing the crabs to easily escape while keeping by-catch numbers down. These "Luke" traps are being used for all 38 traps as they have been found to be the most effective option. The 10 new traps have been placed throughout the lagoon where most crab are being found. This year the crab is not just being caught in the lagoon, but throughout the entire arm. We are trapping large numbers of crab from the bridge entering Basin Head all the way up the North east arm to Bothwell. With the addition of the new traps, we are trapping on average about 2100 green crab a day. To date, we have caught 57 667 green crab since July!



European Green Crab.

We are seeing positive outcomes in the basin as a result of our fishing efforts. There has been a complete turnaround in the amount of eelgrass growing. The lagoon is almost completely full of eelgrass and we are now seeing it grow in parts of the Northeast arm. We believe that our trapping has had a direct and positive impact as a result of the eelgrass explosion. With the increase in eelgrass we are seeing greater diversity of waterfowl, due to an increased number of small fish using the eelgrass as cover. We will continue to fish until the end of October in hopes of removing as much crab as possible while continuing to monitor the populations and distribution of crab in and around the basin.

BAT MONITORING

Through the PEI Watershed Alliance, on July 7 Souris Wildlife placed 12 bat monitoring devices around our management area with help from funding from the Habitat Stewardship Program. The monitoring device placed furthest west was located on the west side of Fortune and the furthest east



Hibernating Bats. Photo Credit: Jordi Segers, Canadian Wildlife Health Cooperative.

being placed at East Point. These bat monitoring devices record the ultrasonic wave lengths created by bats that they use to communicate and locate their food. With the data collected, which is analyzed by the PEI Watershed Alliance, we can distinguish between the different species of bats by their own unique wavelength they create. The devices were placed in four different types of habitats (open farmed fields, wood roads, forested streams, and large ponds/ wetlands) in 3 different sectors that were further subdivided into 4 subsectors to identify which types of bats frequent what areas and when. The bat monitoring devices were placed in their zone for one week then removed, and the data extracted to be analyzed. Souris Wildlife hopes to redeploy these monitoring devices over the next few weeks within our management area for further understanding and to gather more data on the bat population in our area. We hope to be able to finish this before the bats go into hibernation for the winter by the end of November. If you notice any bats or bat colonies, you can always call the PEI Bat hotline at 902-368-4683 and this helps with the conservation of bats across the island.

HERITAGE DAY



Drew Ching and his catch on Heritage Day.

On September 19 Souris Wildlife, in partnership with Ducks Unlimited, hosted a waterfowl Heritage Day in St. Charles Pond. The event was planned to give youth hunters a chance to experience and learn the ins and outs of waterfowl hunting and the conservation efforts that surround it from experienced mentors. While the event was planned last minute, the event gauged lots of interest. A youth hunter in order to participate needed their completed hunter safety course which unfortunately some did not. With advanced planning for years to come, we hope to be able to get more youth their hunter safety certification in advance and be able to participate in this Heritage Day event. This year, only one youth hunter had all of his requirements. Drew Ching and his mentor from Souris Wildlife, Luke Chaisson, participated in this years Heritage Day. Ducks Unlimited supplied the ammunition for the hunt and constructed the blind, while Souris Wildlife supplied the rest of the equipment (canoes, paddles, life jackets, shotguns, calls, and decoys) for the day. This year's hunt went quite well with Drew taking home 2 ducks on the day, a blue winged teal and a mallard hen, with a flying 40-yard shot of a lifetime on the mallard. After the hunt Luke showed Drew how to properly breast and extract the meat from the bird, and how to properly store it until ready to be cooked. Drew said he had a blast and was very much looking forward to it next year. Next year, Souris Wildlife hopes to put on many more informational and educational days just like this. Activities would focus on outdoor learning including hunting, trapping, fishing, tree and bird identification and more.

FUNDER SPOTLIGHT

The Atlantic Salmon Conservation Foundation is an independent, federally incorporated, non-profit organization with a goal to help achieve healthy and sustainable wild Atlantic salmon stocks within Atlantic Canada and Quebec. ASCF promotes and improves conservation planning at the local watershed level and provides a strong resource for community-based organizations like Souris Wildlife. Established through a one-time \$30 million grant from the Government of Canada, ASCF earns money for funding through gained interest from this grant. It is the money gained through interest that funds all projects approved by ASCF. Project proposals get approved by the ASCF Board of Directors based on the recommendations from the six advisory committees (one scientific and five provincial committees). This year, Souris Wildlife received \$25 000 from ASCF.



The project that Souris Wildlife has ongoing with ASCF is titled "Atlantic Salmon Population Baseline Watershed Survey in Hay River".

In summary, this multi-year project is looking to use Hay River as a model watershed to determine the best conservation efforts that could be modelled in other watersheds on PEI. Due to its smaller size and is a known Atlantic salmon bearing stream, Hay River is ideal for this. Even though there is a general conservation model for Atlantic salmon rivers within Atlantic Canada, they tend to be geared towards larger salmon rivers such as the Miramichi River in New Brunswick or the Margaree River in Nova Scotia. In order to create this model watershed, the status of the Atlantic salmon within Hay River must be known. Each year, electrofishing and redd count surveys are conducted that gives us year after year data on the estimated population of Atlantic salmon within Hay River. This way, we are able to detect drops in the number of salmon in Hay River and adjust our conservation measures accordingly. Through our stream enhancement activities, we are creating a more connective environment that has no barriers to fish passage, as well as enhancing spawning habitat that would provide better and safer habitat for young salmon as they develop. Specifically for this project, we will be



Blowdown in Hay River: Before.

installing a temporary fish trap to determine the number of adult Atlantic salmon entering Hay River to spawn. New this year, we will be PIT (Passive Integrated Transponder) tagging the adult salmon to answer questions we have about food webs and overall movement patterns within the system.

In order to hold funded projects accountable, ASCF conducts site visits to see project progress. Souris Wildlife welcomed Conservation Program Coordinator, Allyson Heustis, in the fall of 2019 for a site visit, but unfortunately due to Covid-19, site visits were put on hold for the 2020 field season. During the 2019 site visit, Allyson was taken on a tour of our primary monitoring site in Hay River, as well as a few other salmon rivers in our management area.

Souris Wildlife has been receiving funding from the Atlantic Salmon Conservation Foundation since 2009, looks forward to continuing this valued partnership with the ASCF in the future to ensure the sustainability of Atlantic salmon within Prince Edward Island. We look forward to continuing the work that we have been doing over the past decade, to help lay the needed groundwork needed for exceptional salmon health and well-being as well as thriving populations in our watersheds.



Blowdown in Hay River: After.

2020 FUNDING PARTNERS

We'd like to kindly thank the following funders: you have made our work over the past year possible! Thank you!!



Agriculture and Agri-Food Canada



Fisheries and Oceans Canada

Pêches et Océans Canada

Wildlife Conservation Fund



Agriculture and Fisheries



Souris and Area Branch of the PEI Wildlife Federation Membership & Donation Form

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Payment

Please check one or both:

- Membership (\$10)
- Donations

Amount enclosed: \$ _____

Note: An official tax receipt can only be issued for the value of the donation and will not include the \$10 membership fee.

PRESIDENT'S COMMENTS: NATHAN CHEVERIE

With the growing concern around St. Margaret's beach access, Souris Wildlife, along with Island Nature Trust and PEI Fish and Wildlife, consulted with members from Transportation, Infrastructure and Energy PEI to devise a plan for the restoration of the current path, and form a new, more ecologically-friendly beach access. This plan was developed with local insight at the forefront of the decision-making process. From this meeting, it was agreed that Island Nature Trust would lead the dune restoration, with assistance from Souris Wildlife. A raised, removable boardwalk is being proposed that would be placed over the existing dune area, and would lead to small set of aluminum stairs as the dune structure does not allow a gentle grade down to the beach without causing permanent damage to the sand dune. The boardwalk would be built allowing sunlight as to enter through the cracks onto the grasses below. The removability of the boardwalk would allow it to be in place during high traffic times but be removed during the low traffic months. A small, pre-existing path would be used during the offseason for beach access. This plan is the most ecological friendly while still trying to use all the feedback from locals in the area to make sure that their voice is heard and the solution possible is put into action.

COORDINATOR'S COMMENTS: FRED CHEVERIE

We are disappointed with the Minister of Environment, Climate Change and Water Natalie Jameson's decision to sign the approval of the Prince Edward Island Energy Corporation's Eastern Kings Wind Farm project. We are supportive of the PEI Government's green energy initiatives but believe that a more suitable, less fragile location would be best. Construction of this proposed wind farm within a designated Important Bird Area and Migratory Flyway would simply be a catalyst for habitat fragmentation, large old growth deforestation and wetland destruction, none of which should have to be given up to accommodate such green energy ventures on Prince Edward Island.

ABOUT US:

The Souris and Area Branch of the PEI Wildlife Federation is a non-profit, environmental organization dedicated to the conservation, protection, and enhancement of watersheds in north eastern Kings County. Our management area accounts for approximately 62,000 hectares representing about 9.6% of PEI, including 27 individual watersheds.

The goals of our organization include:

1. To establish North Eastern Kings County as the "Sports Fishing Capital" of Prince Edward Island.
2. The management of natural resources and enhancement of fish, wildlife and their habitat through watershed planning, protection, and restoration initiatives
3. To become the model watershed group on Prince Edward Island
4. To bring unprecedented environmental awareness to our stake holders to create a more informed public, capable of eliciting progressive environmental action
5. To promote our management area as one of the most pristine natural areas in Prince Edward Island through ecotourism ventures to attract visitors to the local area

We meet the 2nd Wednesday of every month at the Souris Wildlife Lodge, 1358 Souris Line Road.

Meetings start at 7 pm and all are welcome to attend.

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