



BLUE JAY IN SOURIS, TAKEN BY WANDA BAILEY

## Souris & Area Watershed News

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## Are Green Crabs Disrupting Basin Head's Ecosystem?

Contributed by: Siobhan Curry, Oceans and Habitat Management Biologist with the Department of Fisheries and Oceans

Basin Head is a special ecosystem, believed to be the only place in the world where you can find a unique form of Irish moss which is a type of seaweed. The type of moss in Basin Head is unique because it does not attach to the bottom and is significantly larger than the normal plant found elsewhere. As well, there is a rich diversity of fish, birds, mammals and plants such as eelgrass that live within Basin Head. To protect this unique environment, the Government of Canada designated Basin Head as a marine protected area in 2005, a special status that limits human and commercial activity that may be harmful to the area.

Since the arrival of the green crab – an invasive species - the moss' biomass has been declining. Other factors that have been identified as possibly impacting the Irish moss include nutrient input and poor water quality. European Green Crabs, like the name suggests are originally from Europe. They were first discovered in Basin Head in 1999 and we think they arrived here by ballast water, which is water discharged from a vessel.

Green crabs are not new to North America; in fact, the first recorded sighting on the east coast was in 1817 in New York and New Jersey. But with time, they moved north, populating and expanding their range to practically every estuary in New England, South shore Nova Scotia and in the Southern Gulf of St. Lawrence. It is suggested that the colder waters are limiting their northern range but only time will tell...



SAB Field Supervisors Michael Jacklyn and Tony Meade pulling in one of thirty-five green crab traps set in the Basin Head lagoon and The Northeast Arm.

## Green Crabs in Basin Head - continued from page 1

When I began working for the Oceans Section at Fisheries and Oceans Canada (DFO) I was tasked to develop a green crab removal program for Basin Head. When the Basin Head file was transferred over to me, I was so excited, because even though I am not an Islander, I studied in P.E.I. for several years and made numerous trips to the amazing singing beaches of Basin Head. If you haven't spent any time there, you must add it to your bucket list as this place is truly magical!

The Souris and Area Branch of the P.E.I. Wildlife Federation (SAB) collaboratively worked with DFO by conducting an 8 week green crab removal pilot project in October and November of 2016. In that short period of time; more than 30,000 crabs were removed. Thirty-one traps were placed in the lagoon and four more in the Northeast Arm. About 2/3 of the catch were males and the sites with the highest catches were by the Ching's bridge, in shallow fresh water. This is actually a very interesting fact since crabs usually prefer deeper cool estuarine water. More in depth research is being carried out at the University of P.E.I. to better understand the interaction between Irish moss and green crabs.

The Irish moss has a symbiotic relationship with the blue mussels found in Basin Head: the threads of the mussels and the fronds of the moss fuse together. The problem with the crabs is that they prey on the mussels, and if there are no mussels for the moss to grow, the moss will disappear.

The Basin Head Marine Protected Area remains an important ecological area due to its biodiversity and biological productivity. A large part of the Department's work at Basin Head focuses on protecting the moss and understanding threats to its survival.

It is very important for DFO, SAB and the community to keep working together to maintain Basin Head's biodiversity. We look forward to working closely with our partners to continue this important work at Basin Head in 2017.



Top Photo: A trap full of European Green Crabs.

Bottom Photo: Watershed Coordinator Fred Cheverie starting to sort through an overflowing green crab trap in Basin Head MPA.



## AGRICULTURAL SPOTLIGHT: BLACK POND FARMS

Contributed by: Erica MacDonald, Manager of Operations and Agronomy at Paradigm Precision A&L Canada Laboratories Inc.



As I travel throughout the province I am constantly reminded of the impact that agriculture has on our island. Of the 1.4 million acres on PEI, approximately 594,000 acres have been cleared for agricultural use. You don't have to travel far to find cropped or pasture land, and various farms of all shapes and sizes. Agriculture is the largest industry on PEI and provides jobs for many people. I expect quite a few of you reading this newsletter either work in agriculture or know someone who does.

Agriculture can also have a very negative impact on the surrounding landscape we call home, if good environmental stewardship is not considered a priority. This is a losing situation for all, as often an environmental issue involves a loss of inputs from cropping systems. No producer wants to negatively impact the environment and upset their neighbours, while wasting expensive inputs. I feel fortunate to be part of such a progressive watershed group who has positive relationships with

## Agricultural Spotlight: Black Pond Farms - continued from page 2

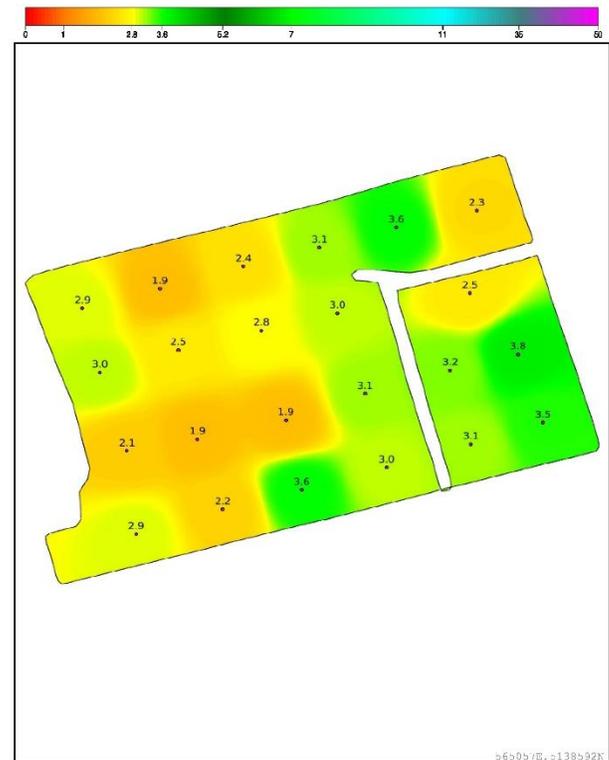
farmers, as that is not always the case. Farmers in our area have identified environmental stewardship as an important part of their agricultural practices. I see evidence of this every day, and there are even some great things happening that I can't see from the road.

Black Pond Farms (Nathan & Peter Ching) are an example of a farm who closely manage the inputs needed to grow a profitable crop, while leaving little opportunity for losses to the environment. Over time, this farm has moved to site-specific soil sampling their entire acreage once within the normal crop rotation. Each field is sampled on a 2.5 acre grid, and the samples taken from each point are analysed for nutrient content. This intensive sampling method identifies the variability within a field, and variable rate application of inputs attempts to balance out this variability. Sometimes the total application of nutrients applied variable rate is less, and sometimes the total product applied remains the same but nutrients are applied only where needed. Weekly potato petiole samples are analysed for nutrient content, and additional nutrients are applied through foliar application only if recommended. In addition to the soil data and in-season assessment, Black Pond Farms also closely monitors crop yield through use of a yield monitor. Generating numerous data layers is key in making good management decisions.

Research has been included as a standard practice at Black Pond Farms. With the changing climate and constant pest pressure, it is critical to continually look for ways to improve sustainability. The farm has participated in quite a few research projects over the years, and usually try to manage a few in-field trials of their own. Investigating the leaching potential of fall applied potash, and evaluation of rotation crops to improve soil health are a couple of examples. Nathan is a member of many boards and organizations, many of which aim to improve current agricultural practices. This is just a taste of some of the good things happening in agriculture in the Souris River watershed. Keep an eye out for the next newsletter for more great examples close to home.

### Black Pond Farms

Potassium (%)



Above image: Example of soil sampling measured for potassium levels.

## LEGACY PARK 2<sup>ND</sup> MEMORIAL CEREMONY

On the 8<sup>th</sup> of October, we held a Memorial Ceremony at Legacy Park to commemorate past members of Souris and Area Wildlife Branch. This year we dedicated sugar maple trees to George Roach (1949 – 2016), C. Roy White (1910 – 1987) and Mickey Roy MacDonald (1937 – 2016) in recognition of their commitment and support of Souris Area Wildlife.

C. Roy White was a dynamic and invaluable member of Souris Wildlife for many years whose interest in wildlife conservation came primarily through his strong interest in hunting and fishing. He was recognized during his lifetime for his instrumental work, receiving a Conservation Award at SAB's first ever wildlife dinner in 1982 and that same year receiving "Souris' Outstanding Sportsman and Outdoorsman" award.

George Roach was a very active member of our Board during his time, particularly with the wildlife dinner where he made an impression through dressing up in a chef's hat and carrying around carving knives for everyone's entertainment. His passion for and knowledge of fishing was a huge asset to our organization, giving us valuable insights into the recreational fishing world.



SAB Watershed Coordinator Fred Cheverie and President Kevin Robertson welcoming everyone to the memorial ceremony.

## Legacy Park 2<sup>nd</sup> Memorial Ceremony - continued from page 2

Mickey Roy MacDonald, aka Mickey Roy Frank Sandy MacDonald, served on our Board for a long time, holding the position of President for many years. He was in his glory most prominently at the wildlife dinner which he never missed whilst his health allowed, even receiving the distinction of winning PEI's Liars Contest at one dinner in recognition of his colourful character.

The dedication and affection for SAB by these past members has had a hugely beneficial impact on the organization and they are all greatly missed. The land for Legacy Park was kindly donated to us by the McVarish family, formerly of Souris Line Road, and has been developed by us through planting native Acadian trees, creating paths, cutting back alders and erecting interpretive signage. The site used to be the location of New Harmony train station and we hope to be able to recognize the heritage of it in the future. All community members are welcome to submit a nomination form for future ceremonies through our website, [www.souriswl.com](http://www.souriswl.com).



Mickey Roy MacDonald's son Cory and wife Theresa with SAB's Frances Braceland and Kevin Robertson.

## NORTH LAKE CREEK ATLANTIC SALMON PROJECT UPDATE

Souris and Area Wildlife Branch partnered with Abegweit First Nation, Atlantic Salmon Conservation Foundation, Fisheries and Oceans Canada, Atlantic Salmon Federation, PEI Wildlife Conservation Fund, Canadian Rivers Institute, the University of Prince Edward Island and PEI Fish and Wildlife, last spring by installing 39 acoustic tags in Atlantic salmon smolt to track their progress in their migratory journey to the North Atlantic feeding grounds.

We are pleased to present the results of this project as 37 of the 39 salmon smolt passed through the North Lake run which is an amazing success story. Of the 37 salmon, 17 were recorded passing the Strait of Belle Isle which is approximately 46% of the original tagged salmon. This is consistent with the percentages of salmon which pass through the Strait from larger rivers, such as the Miramichi in New Brunswick.

This coming summer we plan to electro fish for salmon parr in Hay River, Cow River, Naufrage River, Priest Pond Creek and Bear River (if we can find any). We will take fin clippings from these parr and send them away for DNA analysis to determine if they are 'genetically distinct/potentially ancestral', the same as the salmon found in North Lake Creek and Cross River.

For more information on this project visit our website, [souriswl.com](http://souriswl.com) or read the following CBC article from when they visited the fish trap last summer <http://www.cbc.ca/news/canada/prince-edward-island/atlantic-salmon-p-e-i-tagging-1.3590568>.



SAB Field supervisors Tony Meade and Mike Jacklyn checking the fish trap.

## SOURIS WILDLIFE PD DAY SNOWSHOE EVENT

We have just hosted our second snowshoe day in partnership with Eastern Region Sports and Recreation Council and the Souris Striders Ski Club. The weather leading up to the walk wasn't the best, with rain and warmer temperatures but thanks to the hard work from folk at the ski club the trails were still in fantastic shape! Unfortunately, the lack of fresh snow meant we could not see much in the way of animal tracks but the kids had a great walk anyway, spending time in the beautiful woodland. We did see two Bald Eagles circling in the skies above us though, an adult and a juvenile. We had a very enthusiastic group of 22 people (and 2 dogs!) attend the event who ran, skipped and jumped their way around the 3.25km trail in no time at all, ending up in the lodge for a well-deserved hot chocolate and a snack. We would like to say a big thank you to the Souris Striders Ski Club for allowing us to use their trails, snowshoes and the lodge for the event. If you haven't been out to the ski trails this winter, we encourage you to go!



*Out on the trails.  
Photograph courtesy by Lacey Patey.*



*The whole team at the end of the walk.*



*Sophie Kickham and Ava Ching having a rest  
along the trails.*

## COMMUNITY WILDLIFE SESSIONS

How much do you know about the natural history of Eastern Kings? Since the 24<sup>th</sup> of January, we have been running a series of presentations, in partnership with the Eastern Kings Community Council at the Eastern Kings Community Center, covering a variety of topics including bird identification, winter tracking, the local and natural history of Basin Head, coastal erosion, climate change and 'A Year in the Life of Souris Wildlife'. We've also had Garry Gregory, Wildlife Biologist for the Province of PEI, host a split session on fur bears and land designation in Eastern Kings.

We have had a fantastic turnout at all the talks with excellent feedback from the attendees and we have really enjoyed hosting them as well. Most importantly, we hope that everyone went away knowing something new, such as the best food to put out for different kinds of birds or how to tell coyote tracks from doggy foot prints, and that everyone feels inspired, engaged and better informed about the beautiful natural surroundings of Eastern Kings.



*Above image: Watershed Coordinator Fred Cheverie discussing bird boxes with the group.*

# REDD SURVEYS

We started our annual Atlantic salmon and Brook trout surveys on 18<sup>th</sup> November, walking North Lake, Priest Pond, Cross River, Hay River, Naufrage River and Cow River. Redds are the nests which salmon and trout females make in the river beds in which they deposit their eggs. The male then releases his milk over the eggs to fertilize them and then the female uses her tail to cover the eggs over with sediment. They are identifiable in the streams as the disturbed sediment is much redder in colour than the surrounding, settled sediment and there is often a depression left if the fish did not fully fill in the hole. Salmon redds tend to be larger and more oval shaped than trout redds and are more often found in areas with larger cobble. Brook trout prefer smaller sediment, usually in headwaters and near a fresh water spring. We count the redds in our streams every year to gain an estimate of population numbers of salmon and trout in our streams.



SAB field supervisor, Mike Jacklyn, pointing to a large salmon redd in Cross River.

This year, we initially struggled to find many redds but the water level was very low in November and we were receiving reports of salmon still jumping in North Lake estuary so

they may have been late moving upstream to spawn due to the low water levels. We were soon faced with the opposite problem though as the rains began in earnest around 25<sup>th</sup> November and lasted a fair while. By the time we could get in the streams again, the water level was so high that it made identifying redds very difficult and the slightly older redds were indistinguishable in the stream bed as the higher water velocity disturbed all of the sediment in the stream bed, meaning the bright colour of the redds did not stand out as prominently as they usually do. This led to our official numbers being ~30% down on previous years but we believe this is not an accurate reflection of the actual number of spawning fish in our streams. It is a gamble every year as to when to start the counts as the earlier we do it, the fewer redds we see as not all of the fish will have swam upstream yet, but the later we leave it the more we run the risk of rainfall interfering with our ability to walk the streams and identify the redds. This year we lost the gamble but we are very confident that we still have healthy, thriving populations of Atlantic salmon and Brook trout in our streams.

Watershed	2016	2015	2014	2013	2012	2011	2010	2009	2008
Bear River	35	13	3	16	0	0	n/a	n/a	n/a
Cow River	56	67	12	50	1	4	n/a	n/a	n/a
Cross River	170	238	193	268	83	190	100	70	120
Hay River	41	36	15	43	3	1	n/a	n/a	n/a
Naufrage River	108	154	217	453	43	429	33	32	100
North Lake	251	262	183	333	106	355	205	213	200
Priest Pond	70	138	129	151	21	20	13	8	11
Souris River	N/A	0	2	0	0	0	N/A	N/A	N/A
Fortune	N/A	2	0	N/A	N/A	N/A	N/A	N/A	N/A
<b>Total</b>	<b>731</b>	<b>910</b>	<b>754</b>	<b>1314</b>	<b>257</b>	<b>999</b>	<b>351</b>	<b>323</b>	<b>431</b>

## SOURIS WILDLIFE BRANCH VOLUNTEER PROFILE: ERICA MACDONALD

Erica MacDonald (nee Maclsaac) was raised on a farm in Bear River, PEI along with her three siblings (Ryan, Sarah and Megan). As a child, Erica could often be found in the barn or in the fields. After high school she continued on to UPEI to complete a BSc and B.Ed., respectively. Erica then worked as an agrology specialist for Souris & Area Wildlife Branch, and the main duties of that position included working with farmers in the Souris watershed. At the end of the term Erica began working for the Provincial Department of Agriculture in the area of nutrient management.

In 2014 she took on the role of manager of Paradigm Precision for the Maritimes, the agricultural arm of A&L Canada Laboratories Inc. The company specialises in precision agriculture and focuses on soil sampling, plant tissue sampling, nutrient management planning, UAV operation and ongoing research. Erica happily resides in Little Pond with her husband Norman, and sons John Allan and Walter.



# 2016 FUNDERS

We would like to thank the following funders who have made our work over the past year possible:



Agriculture and Agri-Food Canada

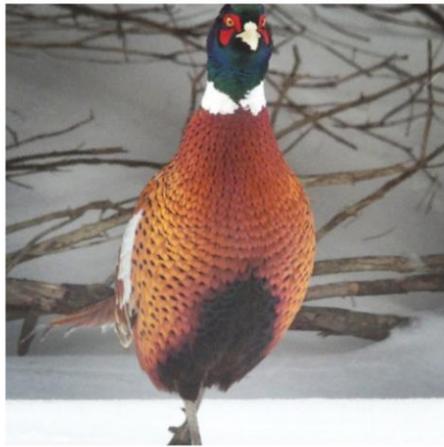


Fisheries and Oceans Canada / Pêches et Océans Canada

Wildlife Conservation Fund



Agriculture and Fisheries



Male pheasant in New Zealand, photograph courtesy of Jane Hanlon.



Flying squirrels in St Catherine's, photograph courtesy of Sandra Meade.



Black-capped Chickadee on a feeder in Souris West, photograph courtesy of Marcy Robertson.

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

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
 \_\_\_\_\_

City/Province: \_\_\_\_\_

Postal Code: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

### 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: KEVIN ROBERTSON

This winter has proven so far to be the best for pheasant sightings. We have been very pleased to receive reports, and many beautiful photographs, of these fantastic birds all around our area including New Zealand, Rollo Bay, Lower Rollo Bay, Fortune, Chepstow, MacKinnon Point Road, Souris Line Road, Souris West, Kingsboro and Souris River. This is wonderful news and shows that this remarkable looking bird is starting to thrive on PEI. We would like to say a huge thank you to everyone who has reported sightings, sent us in photographs and put out seed for the pheasants, as well as to the Wildlife Conservation Fund who have given us funding to buy cracked corn for our residents who have the birds on their land. Due to the low numbers, hunting these birds is completely prohibited and if you see any suspicious activity please let us know so we may immediately call a Conservation Officer as we all want to do our best to protect these wonderful birds. For more information about the majestic Ring-necked Pheasant, please check out the following link: <http://novascotia.ca/natr/wildlife/conserva/ring-necked-pheasant.asp>.

## COORDINATOR'S COMMENTS: FRED CHEVERIE

I get asked a lot when December rolls around if I'm getting a break and if that's us finished for the winter... however, this is not the case at all! While it is certainly true that the majority of our field work ends with the coming of winter, this also signals the beginning of the busiest period for office work. Pop into the office any time during the winter and you'll find myself, Keila Miller, Crystal Jarvis and Frances Braceland working away on any number of tasks. This wide variety of tasks includes preparing funding applications for future projects; transferring hastily hand written, water-stained field notes and numbers into coherent, tidy, digitised documents, databases, graphs and tables; writing reports for funding bodies for our completed and current projects; researching new areas of interest for our area; attending many meetings to catch up with similar groups and organisations to share knowledge and ideas, and exploring areas of potential collaboration; delivering outreach and communication opportunities for the local community; trying to get our financial records neatly sorted for the end of the fiscal year; and finally, preparing for the start of another busy field season as April will be here in the blink of an eye! So yes, we do certainly get a break from field work during the cold, dark, winter months but things with Souris Wildlife never quite seem to slow down enough to get a break – and we wouldn't have it any other way!

### ABOUT US:

The Souris & 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 general 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 2<sup>nd</sup> Wednesday of every month at the Souris Striders Ski Lodge. Meetings start at 7pm. The next meetings are scheduled for April 26<sup>th</sup>, our Annual General Meeting, May 10<sup>th</sup> and June 14<sup>th</sup> and all are welcome to come.

### CONTACT INFORMATION:

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