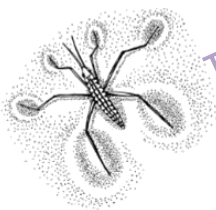




French Basin Marsh, Annapolis Royal



The

Waterstrider

News from CARP's frontline

Working through a time of transition

As many of you already know, CARP is in the midst of a transitional period that requires we identify new and creative ways to generate the revenue required to cover our organizations core costs. We would like to thank everyone who has reached out to us since our press release was issued in the Annapolis County Spectator on February 23, "Clean Annapolis River Project aiming for financial sustainability after federal funding loss". For those who did not have a chance to read this article, you can find a copy on our website "Publications" page.

We have a number of initiatives on the go, aimed at getting us through this transition. Many of these initiatives are featured in this edition of the Waterstrider:

- Become a member of CARP! *Page 2*
- Join our Fund Development Committee or volunteer at fundraiser events *Page 7*
- Attend one of our upcoming fundraisers, including the Annapolis River Festival
- Contribute to our current crowd source funding campaign through the Small Change Fund *Page 3*
- Adopt-a-turtle to support our ongoing work to help this species at risk *Page 6*

CARP membership drive

While CARP has been a member-based organization for many years, the importance of developing a strong base of members has been largely overlooked. In response to this we have revised our membership program with an updated fee structure as well as new member incentives. Becoming a member not only contributes financially to our organization, but it helps us demonstrate public interest and support for these initiatives.

Individual (\$25), students (\$15), family (\$50) and lifetime (\$250) memberships are available. 80% of membership fees are directed towards our various programs and projects. Because supporting local youth on their path to becoming environmental stewards is so important to our vision, 20% of membership fees will be contributed to the Hawboldt Environmental Studies Bursary. This bursary is offered annually to students from the watershed who are pursuing environmental studies at a post-secondary institution.

Local businesses can now become partnering members, offering discounts that can be accessible with CARP member cards. Our Membership Committee will continue to grow this list in the months to come. Current partnering business members include:

- Annapolis Natural Foods, Annapolis Royal: 10% off entire store
- Big Scoop Family Restaurant, Middleton: 10% off all lunch and suppers
- D'Aubin Family Meats, Bridgetown: 10% off all freezer items
- Rona Home & Garden, Kingston & Middleton: 15% off all paint and paint supplies
- Bunchberry Nurseries, Upper Clements: 10% off all stock

Annual memberships run from June to June each year, timed with our AGM. If you purchase in the last quarter of the year (March-May), your membership will be extended to cover the following fiscal year. That means if you buy now you will get the best bang for your buck!

Help us build a community of citizens who are engaged in efforts to build a healthier, sustainable environment.

Thank you Acadian Seaplants

We are the lucky recipient of a new Evinrude outboard motor. This will allow us to safely and efficiently continue our work in the estuary.



From left to right: Nalan Thirupathi, Levi Cliche, Josie Todd, Murray Freeman, and Michael Larsen.

Make a Splash!

AT THE 3RD ANNUAL

JULY 15 2017

JUBILEE PARK / BRIDGETOWN, NS
9-5:30 / FREE ADMISSION

PLEASE BRING YOUR OWN CAMPING CHAIR

ANAPOLIS RIVER FESTIVAL

Events include:

Dragon Boat Races*
Canoe Races***: obstacle course, sprint, paddle-portage
Guided Interpretive Boat Tours**
Skill Sharing Expo
Food & Beverage Tent: rib dinners by D'Aubin Family Meats, beer from Lazy Bear Brewing, and other vendors
Live music all day
Kids activities all day

*Advanced registration required
**Advanced registration recommended

A fun-filled all day event open to everyone, celebrating the environmental, historical, cultural, and recreational values of the Annapolis River.

In support of the Clean Annapolis River Project (CARP)

INFO & UPDATES AT:

CARP's Annapolis River Festival
www.annapolisriver.ca/annapolis-river-festival

The student experience at CARP

Contributed by Samantha Hudson

During the months of May through August 2016, I had the opportunity to volunteer and gain summer employment through CARP. My experience with this environmental non-for-profit organization has been nothing but positive.

Some of the projects that I contributed to included:

Wood Turtle monitoring through visual surveys, nest protection site surveys and radio telemetry; **Culvert Assessments, Sand wading** in the Nictaux River with NSLC Adopt-A-Stream; **Tree Planting** of edible fruit trees consisting of apple and cherry trees, **Annapolis River Festival** participating in the event by running the touch tank and selling 50/50 tickets; **Outreach Events** such as: teaching students the concept of going green through environmental games and crafts; **Natal Day Parade** designed a theme and constructed props as well as a float to be in the parade; **Promotion of the Marsh Tours** which take place at the French Basin Marsh, located in Annapolis Royal; **Trail maintenance** in collaboration with Bear River First Nations, located on their Medicine Trail in Bear River; **Construction of vortex rock weirs** to improve fish passage, and much more.

While participating in the many events throughout my months at CARP, I felt very passionate knowing that my work was assisting in making the environment and world a better place and knowing that I was helping important species such as the wood turtle, a species at risk. The staff are very friendly and committed to their jobs, and I would recommend anyone to get out and get involved with the Clean Annapolis River Project if they can!



Left: a group of wood turtle volunteers led by CARP staff on a radio-telemetry and visual survey

Right: Sam Hudson with a wood turtle. This was the first observation ever recorded for this individual

Help us crowd source for a new pH probe and turbidity meter

High quality data is fundamental to all of our projects, and in order to collect good data we need good equipment. Unfortunately, this does not often come cheap. We are in need of new pH probe for our YSI Professional Plus, and the turbidity sensor for our Hydrolab Quanta water quality monitoring meter, which collects key data including: pH, temperature, turbidity, dissolved oxygen saturation, dissolved oxygen, and salinity.

The Small Change Fund is featuring the River Guardians Program to help us crowd source funds for this equipment. **Small Change Fund will match donations 1:1 up to a maximum of \$1500.**

Donations must be made through the Small Change Fund website:

<https://smallchangefund.org/project/jmy4nMiMBrMN8F6pa>



smallchangefund

You can also help by simply sharing this information through social media or to your contacts.

Community Outreach Highlights

In 2013, in response to our strategic planning process, CARP decided to create new position in the organization for a Communications and Outreach Coordinator. By doing so our organization has been able to strengthen collaborative partnerships, support community partners, and better raise community awareness about local environmental issues and the ongoing initiatives to address them.

Between April 2016 and March 2017 CARP organized and/or participated in 60 outreach events, reaching a total of 3484 participants. This ranged from field days with groups such as the Young Naturalists Club and Girl Guides, a full week of enrichment programs with Champlain Elementary School, leading activities for youth at the Fundy YMCA, special events such as World Fish Migration Day and the Annapolis River Canoe Race, and guest presentations to classrooms and community organizations.

As an organization we plan to continue improving on our ability to deliver high quality outreach and educational programming across the watershed. We were very excited to learn in February 2017 that St. Mary's Elementary School in Aylesford was the successful recipient of a WWF Go Wild Schools grant. This grant will support a project developed by CARP to engage students in our wood turtle project, allowing us to deliver curriculum linked educational programs to grade 4 and 5 students.

We are also looking forward to working with partners including Bluenose Coastal Action Foundation to deliver outreach programs as part of their Canada 150 project, Nature Nova Scotia for their Nova Scotia Nature Weekend, and the Marathon Canoe Association for the annual Annapolis River Canoe & Kayak Race (May 27).

And finally, we are happy to announce that we have received small grants through Active Kids Healthy Kids in Annapolis and West Kings, which will support the **Youth Leading Environmental Change Program** for the 2017 field season. Registration information will be available in April.

Photos from top to bottom

1. Identifying fish and invertebrates caught from the estuary with students at Champlain Elementary School
2. Tree planting in Cornwallis with the Annapolis West Education Center O2 class
3. Setting out for an adventure at the "Kids River Walk" event held in partnership with the Paradise Active Healthy Living Society
4. Tracking wood turtles with the Aylesford Girl Guides
5. Learning how to tag fish on World Fish Migration Day



Investigating temperature trends on the Moose River

Amber Stoffer, Fish Habitat Project Leader

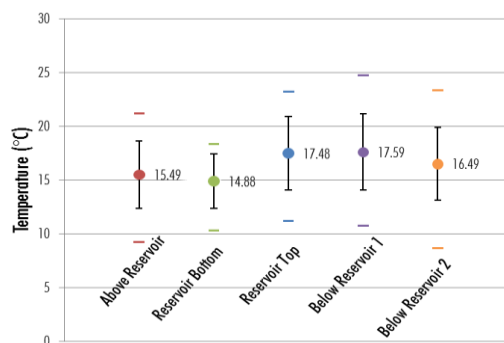
Among the many ecological components that affect aquatic life, one of the most common limiting factors is water temperature. Each fish species has a range of temperatures in which it will thrive, grow, and reproduce, as well as a thermal limit for its survival. Temperature also directly impacts the amount of oxygen in the water, and the availability of certain food sources, like aquatic insects. The temperature within a river system therefore plays a major role in determining the suitability of its aquatic habitat for different fish, determining the distribution and abundance of various species.

Brook trout and Atlantic salmon, members of the salmonid family, require cool water habitat in order to survive. Brook trout, the Provincial Fish of Nova Scotia, are one of the most sensitive salmonids to warm water. Generally, waters above 20 degrees Celsius are considered stressful and potentially lethal to salmonids. Currently, many Nova Scotia streams warm to temperatures that are considered to be seasonally unsuitable for salmonids, and studies suggest that an increase of just 2°C in summer temperatures could result in a significant loss of existing cool water habitat.

There are a number of factors that can influence the temperatures of our streams. Land use practices within a watershed have the potential to increase water temperatures, decrease flow rates, and lower water levels, among many other impacts. One of the most prevalent practices in Nova Scotia's waterways is the installation of dams. Dams are used to provide services like hydroelectric power, flood control, and a water source, but they also have a great capacity to alter fish habitat. At a dam impoundment site, the slowing of water movement and increase in water depth can cause temperature stratification – a cold water layer at the bottom of the impoundment, and warm layer on top. Impoundment areas such as reservoirs can trap heat on its surface and when surface waters flow downstream, as in the case of “surface-release” dams, it can shift the downstream fish community towards favouring warm water species.

The Moose River has shown evidence of dam impacts. About 9 kilometers upstream of the mouth of the river is a municipal reservoir that supplies water for Cornwallis Park. This reservoir was designed to draw upon the warmer surface waters and transfers them downstream. Data gathered by CARP staff for previous projects suggested that warm surface waters from the reservoir may be influencing downstream water temperatures. To investigate this phenomenon further, several temperature loggers were placed at strategic points within the Moose River during the summer of 2016, taking temperature readings at 30 minute intervals. The temperature data collected showed marked differences between sites upstream and downstream of the reservoir. On average, sites downstream of the reservoir were 2°C warmer than sites upstream, and had 3-4 times more temperature readings above levels safe for fish (20°C). Based on this data, it was determined by CARP staff that warm temperatures downstream of the Moose River reservoir could be a significant limiting factor for the survival of native, cold water species.

Graph showing mean temperatures collected during the summer of 2016 within the Moose River



CARP staff are currently investigating options to moderate the impacts of high summer water temperatures. These may include removing barriers to fish movement as they seek out colder tributaries, restoring in-stream habitat to increase the number and quality of cool water pools, riparian zone planting to increase stream shade, and the use of a siphon to mix cold water from the reservoir bottom with water from the reservoir top before it heads downstream. With the future warming of our rivers through climate change, the restoration of cool water habitats will remain central in sustaining our native fish species.

Adopt-a-turtle program to launch in April

As a fundraiser for our ongoing *Wood Turtle Monitoring and Stewardship* program we are launching an "Adopt-A-Turtle" program in April 2017.

Our wood turtle program began in 2012, and aims to ensure the long term persistence of this species at risk. The wood turtle is listed as threatened under both the Federal Species at Risk Act and the Nova Scotia Endangered Species Act.

Project activities include:

- Collecting ecological data through visual surveys, and radio-telemetry;
- Assessing habitat use by sub-populations in the Annapolis River watershed;
- Implementing an outreach program to engage communities within the watershed to create awareness and promote education about the ecological needs and importance of the wood turtle;
- Recruiting, training and re-training volunteers in project activities, in order to build organizational capacity and develop a skilled and engaged volunteer base;
- Engaging landowners and stakeholders in the development and adoption of stewardship activities.

Turtle adoptions are priced at \$25 per individual turtle.

Packages include:

- Adoption certificate
- Information sheet for your individual
- Charitable tax receipt
- Annual project update
- An invitation to participate in a field survey

Look for the program web page in April 2017!




Sarah



Nick Jr.



Sam



WOOD TURTLE
conservation at the
**NOVA SCOTIA
FEDERATION OF AGRICULTURE**

Do you have **wood turtles on your property?**
By implementing certain **best management practices (BMPs)**, you may be **eligible for financial incentive payments**

BMPs include:

- delayed haying,
- modified hay harvest,
- monitoring programs,
- increased mowing height,
- establishing & widening vegetated buffers near water

Up to
\$15,000
per farm

Looking for farms in areas of wood turtle habitat

The Nova Scotia Federation of Agriculture is piloting a program to combine financial incentives with conservation agreements to implement best management practices on farms in critical wood turtle habitats.

Cost sharing up to 100% is available for some best management practices including; delayed haying, modified hay harvesting, increased mowing height and establishing and widening vegetated buffers.

We are working collaboratively with this program, and are actively seeking farms in the Annapolis River watershed to participate in the program.

Finding some common ground on 'social enterprise'

We strongly feel that CARP's path forward will include the development of some type of social enterprise. One of the first hurdles in working towards this is coming to a shared understanding of a definition for social enterprise.

Here is an explanation from the BC Center for Social Enterprise (www.centreforsocialenterprise.com)

The widest definition

Social enterprises are revenue-generating businesses with a twist. Whether operated by a non-profit organization or by a for-profit company, a social enterprise has two goals: to achieve social, cultural, community economic and/or environmental outcomes; and, to earn revenue.

On the surface, many social enterprises look, feel, and even operate like traditional businesses. But looking more deeply, one discovers the defining characteristics of the social enterprise: mission is at the centre of business, with income generation playing an important supporting role (from The Centre for Community Enterprise).

Are you running a social enterprise?

One test for a non-profit or charity that believes it is operating a social enterprise: what are you selling? It could be that you are operating with an entrepreneurial mindset within your organization, but if you are not selling a good or service into the marketplace, you aren't running a business: you may be running a social program, but not a social enterprise.

And a test for a traditional business that believes it is operating a social enterprise: to what degree do social / environmental goals steer your ship? If profit is paramount (and particularly if individual owners or shareholders are personally benefitting), you may be engaging in socially

conscious purchasing or corporate social responsibility, rather than operating a social enterprise.

Another possible definition: A social economy enterprise operates like a business, produces goods and services for the market, but manages its operations and redirects its surpluses in pursuit of social and environmental goals. (from Western Economic Diversification).

An equally noble goal of social enterprise (aside from generating revenues to pursue a mission) is the training and/or employment of people who are typically excluded from the mainstream economy, thus creating capacity and self-sufficiency for individuals, and impacting their communities and lessening reliance on the social safety net. This element alone can denote a social enterprise.

Does this sound like something that matches your skills and interests? Our Fund Development Committee would love to hear from you!

Interested in learning more about social enterprise? Check out the Social Enterprise Network of Nova Scotia: <http://senns.ca/>

Stay Connected:



www.annapolisriver.ca



CleanAnnapolisRiverProject



@CARPAnnapolis

Thank you to our current project funders and supporters

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TD Friends of the Environment Foundation

