

waterlines

COVEHEAD-BRACKLEY WATERSHED NEWS

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ENHANCEMENT WORK PLANS 2013

2013 will be another busy summer and fall for FCBB's five employees with the following planned watershed enhancements:

- ◆ Clean all 5 streams from springs to estuaries
- ◆ Plant 3000 native trees and shrubs with rabbit protection
- ◆ Update FCBB website and Facebook sites
- ◆ Promote clean drinking water and wastewater practices
- ◆ Cooperate with Parks Canada to restore the Acadian forest
- ◆ Monitor erosion rate locations
- ◆ Community Aquatic Monitoring Program/Youth Education
- ◆ Estuary Monitoring for Sea Lettuce growth
- ◆ Monitor anoxic events and dissolved oxygen levels
- ◆ Beach cleanup volunteer coordination
- ◆ Install more brush mats to collect silt
- ◆ Install more bird and bat boxes
- ◆ Monitor eagle banding and osprey nesting
- ◆ Displays at Canada Day and Earth Week
- ◆ Weekly water testing at 5 stream stations
- ◆ Monitor 5 stream temperatures with dataloggers
- ◆ Sample cores from silt and bay berms
- ◆ Publish and distribute summer and fall newsletters and clean water information
- ◆ Collect sea lettuce for compost trials
- ◆ Collect data on fish migration patterns



FCBB Work Crew 2013: Nathan, Justin M, Justin W, Brianna, Wanson.

CONNECT WITH FCBB ONLINE

FCBB has a website and a link to Facebook at www.fcbbwatershed.pe.ca.

Our website will show a lot of information and pictures of watershed enhancements.

The Facebook site will provide weekly summaries of activities and up-to-date pictures.

FCBB will display wildlife and nature scenes that residents wish to share by email at coveheadbrackley@gmail.com

Sign up for youth fish sampling CAMP program during July 25th and August, 8:30-10:30 am. Please phone 672-2182 to confirm dates and a spot.

NUTRIENT MANAGEMENT AND WATER QUALITY

FCBB is interested in improving the water quality in the 5 streams and estuaries leading to Covehead and Brackley Bays. Over time, silt and nutrients from agriculture, highways and other sources have resulted in shallow water, excessive algae, sea lettuce growth and annual anoxic events during warm weather. Sea lettuce grows fast with extra nitrogen, then dies with anaerobic bacteria creating a light green or white colour, oxygen is greatly reduced and can kill shellfish in this area. Anoxia may continue under the water for long periods even when the top of the water is clear. FCBB works with the many responsible farmers and PEI Highways to help reduce the impact of silt and nutrients.

Wheatley River and Kensington North watersheds have completed a 2 year study on nitrates with PEI Government and local farmers. Study results indicate that small

reductions in streams and well nitrate levels could be achieved by the following changes: 3 year crop rotation – 2.6%, Marginal land retirement – 1.8%, 5% more reforestation - .3%, Spring plowing - .3%, Change to 50% use of Prospect potato variety – 20%, Knowledgeable nutrient management – 14.4%, Change to a nitrogen-fixing variety – 80.8%. A new nitrogen-fixing potato variety has recently been developed on PEI, but grower and marketplace acceptance of a new potato species is unknown.

There is a new government website on Acute Toxicity Hazard of Pesticides to Freshwater Fish, (http://www.gov.pe.ca/photos/original/af_factrel1299.pdf). These charts show the level of toxicity to fish health of agriculture herbicides and pesticides commonly used in potato production on PEI. For example 0.000047grams of Bravo 500 added to 1 litre of water would kill 50%

of the fish in 96 hours. There is no mention as to whether these same chemicals impact human health.

FCBB and the North Shore Community Council office also has a large variety of free information on maintaining clean drinking water and regular maintenance on septic systems which can pollute nearby wells if not working properly and emptied regularly.



Agricultural field with buffer zone above Bell's Creek.

CAMP / YOUTH EDUCATION PROJECT

Community Aquatic Monitoring Project is a monthly monitoring of the health and marine productivity of PEI bays and estuaries. Fisheries & Oceans Canada cooperate with PEI watersheds during the summer months to collect biological data on captured and released small fish and crustaceans with a 15 metre seine net. Data collected include fish identification and numbers of each species, water temperature, salinity, dissolved oxygen and vegetation types. This data may be analyzed and compared over time

to note any differences that may indicate the health of the bay and the fish species stocks which larger fish and wildlife consume.

This year FCBB would like to invite local residents and children to participate in identifying and counting the fish and then gently releasing them. A brief review of fish identification and the importance of the small fish and crustaceans to bay health will be offered before each seine collection.

Please contact FCBB at 672-2182 or at coveheadbrackley@gmail.com to attend a CAMP project during two hours of one day during July or August.



Planting a Sugar Maple along Auld's Creek

ACADIAN FOREST RESTORATION PROJECT



Old-Field White Spruce growing on an abandoned farm field.

A lot of the softwood forest on PEI was once farmland cleared by early settlers at great effort. Many of these old fields grew up in white spruce when they were no longer used for farmland. One such area is located in Stanhope and includes part of the PEI National Parks. White spruce only lives 50-70 years on abandoned farm land. If harvested in narrow strips and oriented at 90 degrees to prevalent winds to reduce windthrow, strips

of white spruce may be replaced with long-lived hardwoods (Sugar Maple, Red Oak, Yellow Birch) and long-lived softwoods (White Pine, Hemlock, Red Spruce). Most long-lived trees will grow well in partial shade and over time create a healthy, mixed wood forest similar to that present before European settlement. FCBB is planning a project in the Stanhope area to demonstrate low-impact forest restoration .

PARKS CANADA INVITES PARTICIPATION IN PLANTWATCH!

In an effort to learn more about the ecosystems in Prince Edward Island National Park and how they may be affected by climate change, Parks Canada would like to encourage people living near the park to participate in PlantWatch by tracking and recording first bloom dates of various plants found in the coastal ecosystem.

The Environmental Monitoring and Assessment Network (EMAN) Nature Watch program "Plant Watch" is designed to help researchers discover how common plants are responding to climate change. Tracking first bloom dates can aid in the understanding and prediction of climate change and the affect on the ecosystems. Changes in bloom dates can affect ecosystem function as a direct influence with timing of breeding seasons, foraging patterns and migration cycles.

In 2007, Parks Canada Resource Conservation staff began gathering data on first bloom dates of selected plant species in three ecosystems in PEI National Park —forest, coastal and wetland. The data is submitted to EMAN's PlantWatch data base and also serves as a measure for EI monitoring in PEI National Park. Participating in the program and recording first bloom dates for plants in areas outside the park will assist park staff in monitoring trends over time.

PlantWatch is part of a national NatureWatch series of volunteer monitoring programs designed to help identify ecological changes that may be affecting our environment. The program enables "citizen scientists" to get involved by recording flowering times for selected plant species and reporting these dates to researchers

through the Internet or by mail. To enter your data and for more information please check <http://www.naturewatch.ca/english/plantwatch/>

Parks Canada welcomes the valuable contributions and support of local communities, stakeholders and partners towards the protection of ecological integrity in PEI National Park.



Wild Strawberry (Fragaria Virginiana/vesca)

Photo: www.naturewatch.ca

SEA LETTUCE TRIALS AT HARRINGTON

Raw and composted sea lettuce was spread onto a field of hay by Agri-Foods Canada during the summer of 2012. Growth and volume are dramatically increased in plots with composted sea

lettuce. These trials indicate the potential value of using sea lettuce to grow agricultural crops and also increase the organic content in the soil.



Roger Henry in sea lettuce growth plots at Agri-Foods Canada, Harrington.

STREAM TEMPERATURE AND FISH GROWTH

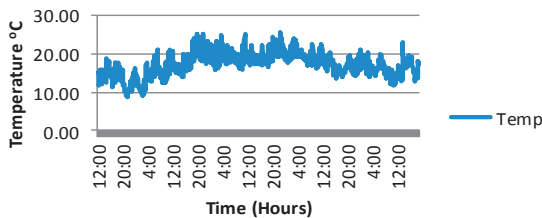
Stream temperature is a key indicator of ecosystem health which includes fish, invertebrates, aquatic plants and all the species that frequent the riparian area.

the streams to record temperatures every 2 hours all summer. In September, data loggers are collected and Parks Canada shares data for each location.

growth, but has the advantage of cooling streams and ponds.

Aulds Creek, Black River and Bells Creek all showed excellent temperatures for growth (12-14°C range). Other factors including food sources, water depth, oxygen content and toxicity also impact fish growth. Please see the temperature charts for Bell's Creek and Cass's Pond which exceeded optimum temperatures and may have served as a barrier to summer fish migration in Bell's Creek.

Temperature of Cass's Pond 2012

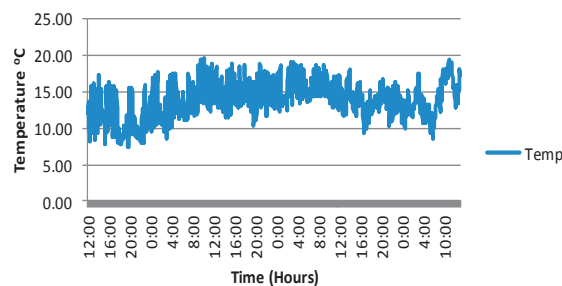


FCBB has been measuring stream temperatures, dissolved oxygen, phosphates, and pH at the same locations weekly during summers during the past four years using YSI meters and probes. In cooperation with Parks Canada, we placed 7 dataloggers in selected locations in

FCBB are interested in measuring for any changes, whether temperatures are available are optimum for fish growth and what impacts what the past watershed stream improvements may have on changes to optimum stream temperatures.

June 15th to September 15th are the most important growing periods for brook trout with a temperature range of 11-18°C is the best range for maximum growth. Temperatures above 20°C stress fish, while very cool spring water (7°C year round) can reduce

Temperature of Bell's Creek 2012



FUNDING PARTNERS 2013

Friends of Covehead-Brackley Bay Watershed wish to thank the funding partners and great volunteers, without which, very little could be accomplished.

2013 Funding Partners:

- PEI Dept. of Environment, Labour & Justice
- Honourable Robert Vessey
- Rural Jobs Initiative
- Greening Spaces Program
- Parks Canada
- PEI Jobs For Youth
- Walmart-Evergreen Program
- North Shore Community Council
- Canada Summer Jobs
- FCBB Volunteer Board of Directors
- Charitable Donations

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Parks Canada
Parcs Canada

FCBB has a lot of free information on drinking water testing and waste water disposal at our office 2784 Bayshore Road

FCBB now has a new website www.fcbbwatershed.ca where you can find a link to our Facebook page and follow our latest projects and events.



@Friends of Covehead Brackley Bays

