



Currents

WINTER RIVER-TRACADIE BAY WATERSHED ASSOCIATION | WINTER ISSUE 2013



WINTER RIVER - TRACADIE BAY WATERSHED ASSOCIATION

ENHANCEMENTS & EFFORTS

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JUST SAYIN'



HABITAT MANAGEMENT EFFORTS IN 2012

2012 was a great year in terms of environmental enhancement. We started early this year by draining the water from Hardy's Pond in May. The purpose was to reduce the amount of sediment in the pond, providing improved fish habitat and reducing temperatures in the shallow pond. The pond was gradually re-flooded during early July, with tremendous support from Ducks Unlimited staff.

We had a fantastic group of hard working students and supervisor/assistant coordinator, Chris Mutch. We hired four students: Nicole Murtagh (3rd year as an employee), Luke Peters (2nd year), Nick Matheson (2nd year) and Janelle Cheverie (1st year).

Through a joint initiative with the P.E.I. Wildlife Federation we obtained the services of Samantha Hughes (2nd year) and Evan Power (1st year). Through cooperation with other environmental groups, we also had help from Ryan Morrison and Madison Dunn for the first six weeks of the summer. Bruce Smith, the watershed coordinator, divided the season between working with students early in the summer and the watershed management plan later in the year.

The first task of the spring was to assess previously planted trees for survival rates and condition. This provided data on survival of various species planted over the last 2 years. In general the surviv-

al was excellent, at over 90%. At some sites abundant snowshoe hare populations had snipped many branches, but most seedlings sprouted new branches and didn't die. Once the inventory was done, tree planting started and continued until mid-July when the ground became too dry.

In early June, following classroom presentations about water, elementary students from L.M. Montgomery and Sherwood schools visited the watershed. Following a tour of nearby enhancement initiatives they planted trees to help restore natural habitat in an abandoned shale pit.

Another initiative was the..(page 2)

building of bird nest boxes by the summer staff. Nest boxes for kestrels, Barred Owls and tree swallows were built and erected, especially where the elementary students had planted trees. The kestrel boxes will be attached to power poles early next spring.

Due to concern about Gaspereau passing through the fishway at Officers Pond, it was decided to catch about 2000 of these fish and move them above the fishway. The young fish are important for the food chain in the pond and stream ecology.

In-stream enhancement efforts consisted of four main activities:

- Blockages were removed. Many had appeared since last year as a

result of sediment movement.

- 14 springs were cleaned, allowing easier flow of water into the stream and providing habitat for fish spawning.

- 162 Brush mats were created. These are mounds of branches fastened to the stream edge where sediment would naturally settle, trapping sediment from within the system.

- Silt traps were cleaned. The large holes in the bottom of the stream, silt traps, were emptied of the sediment that had settled into them over the last two years.

In the fall, the river was surveyed to determine the presence of fish and possible spawning. While two schools of brook trout were sighted, little evidence of spawn-

ning was found. The frequent rain during autumn created much turbidity in the water preventing accurate counts.

We are making progress in restoring the watershed habitat, with the hopes that when water extraction levels are reduced and the springs start flowing again we will see major improvements to the river's ecology. We can always use help, so if you can spare some time next spring or summer, please contact any member of the board of directors.

CONSERVATION

WATER CONSERVATION THAT YOU CAN DO!

JUST SAYIN'

Have you ever sat down and thought about much how life has changed in just the last 50 years? As a society, especially in rural PEI, we went from hand pumps to electricity. With that came electric pumps, water and sewer service, lights, washing machines, dryers, refrigeration etc. Our lives have certainly become easier and our quality of life has increased. Yet life can get so easy and convenient that we may lose contact with where it all comes from.

Our community and the City continue to grow. How many schools, university and college buildings, rinks, hospitals, waste management plants, gyms, industries, senior citizens homes, condos, hotels, car washes, apartments, etc. have been built and developed over the past 50 years?

Water from our watershed is needed to support all this development. The question is how much water extraction is enough and how much is too much? How much can our watershed sustain? Other questions arise. What do we value? How much do we value streams and rivers and the ecosystems they support? How much does all this development jeopardize the health of our ecosystem? Those are the real questions that need to be debated.

The province is developing new stream flow regulations that might help reduce extraction. But the City needs more water and is considering digging more wells in our watershed in addition to their planned new wellfields in Miltonvale Park. We each need to consider the impact this would have on our already overstressed watershed. Is this sustainable?

When we change our thinking and behavior we can save a lot of water! Here's a breakdown of our indoor home water use in Canada: toilet- 30%; bathing and showering- 35%; laundry- 20%; cleaning-5%. So we offer a few tips for reducing your water use at home.

- Never let the water run when you are not using it (e.g. brushing teeth, washing dishes).
- Install water-saving shower heads. Check out "The Incredible Head": it's cheap and efficient.
- When you limit your shower to 5 minutes or less, you will save water and electricity! Using a timer can help increase your awareness and reduce your shower time.
- Wash only full loads in the dishwasher and washing machine.

Whenever replacing appliances, consider high efficiency models that save water and electricity (and \$\$!), and low flow, dual flush toilets. Rebates may be available for toilets and shower heads: Contact PEI Office of Energy Efficiency.

FIX LEAKY TAPS; THEY WASTE LARGE AMOUNTS OF WATER!

WHAT WE'VE BEEN UP TO

We've had an active year. Along with field work, much of our attention has gone into addressing the impact of the ongoing water extraction by the City of Charlottetown, currently about 18 million litres per day. These impacts became particularly apparent over the dry summer, when two major branches of the river were almost continuously dry over several months.

This is an issue of the highest priority for our watershed and we took a number of actions to raise awareness and to move forward:

- Posing a 'water challenge' to the City to reduce their extraction to sustainable levels (Guardian, March 22).
- Writing letters to Ministers of Environment and Agriculture and to DFO.
- Participating in interviews with The Guardian for an article on the issue (March 20).
- Presentations to ECO-PEI (February), Sean Casey's Town Hall on Water (October).
- Developing the "Save Some Water for Me" campaign.
- Meetings with the Charlottetown Water and Sewer Utility Committee (WSUC), and with City Council.
- Meetings with Dept. of Environment staff on standards for sustainable water extraction.
- Hosting stream visits with MP Sean Casey, MLA Hal Perry, Holland College students, City Utility staff, and delegates from a conference for water engineers from across Canada.
- Recording interviews with CBC for coverage on radio and television.



We are encouraged by the increasing awareness of water supply issues among city residents and others and we sense strong support for our work in the watershed. We will continue to move this agenda forward.

Other activities during this past year included:

- Watershed management planning (see article below).
- Hosting a volunteer tree planting day, including a walk on the Winter River Trail and lunch.
- Collaborating with the City and other groups on environmental education programs for students. Over 200 children from L.M. Montgomery and Sherwood schools visited the watershed and participated in restoration activities.
- Giving presentations to Grade 8 Stonepark students regarding groundwater and conservation.

WATERSHED MANAGEMENT PLANNING UPDATE

We've made major steps in developing a management plan to guide our work in the watershed. We worked with the excellent community input we received at our planning meeting in 2011, from the survey we circulated early in 2012, and from consultations with various groups. In November 2012, we released a draft of the Watershed Management Plan for Winter River and Tracadie Bay, which was very well received at a public meeting on November 15.

We are completing our final revisions to the plan and need feedback from as many of you as possible. You can obtain a copy at www.wintertracadie.ca or by calling 394-0266 (Cathy) or 629-1590 (Don). Please write to us to indicate whether you endorse the plan and send any other comments or questions you have by **March 15th, 2013** to winterstream@live.com or mazer@pei.sympatico.ca. We look forward to hearing from you.

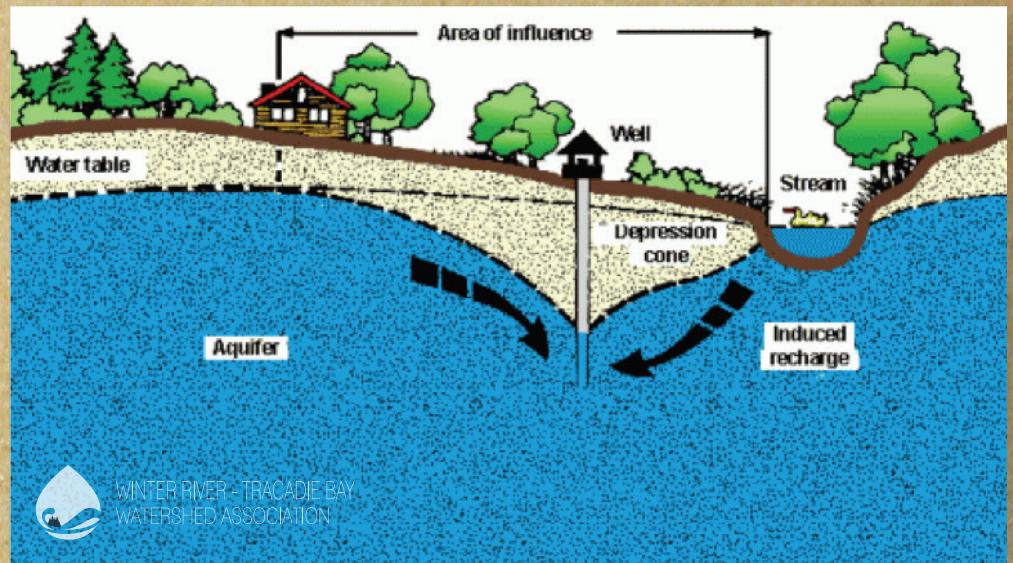
THE EFFECTS OF DEEP WELLS ON STREAM FLOW

To help visualize how groundwater wells work, think of a straw in a glass of water. When you draw on the straw the water level in the glass is drawn down. In the case of a well the straw becomes the well pipe and the glass of water is the underground aquifer where water has collected. However unlike the glass, an aquifer does not have defined sides so the drawdown effect spreads outward drawing water from all the surrounding area. This results in a cone shaped water starved area extending out from the well called a cone of depression. How large this cone may be depends upon the depth and drawing power of the wells. If wells are placed too close together, the cones of depression will intersect and cause a considerably greater draw-down.

It is also obvious, that a group of wells in a given area will have the effect of lowering the overall water table of that area.

The water from an aquifer normally comes to the surface of the ground in the form of springs. These springs occur at natural low points in the terrain where the water table is close to or at ground level. All streams on PEI are spring fed. When a deep well is in operation near springs, the bottom of the well pipe becomes the new low point, and the water that would normally supply the

springs, flows to the well pipe and the springs go dry. Ground water studies at Cornell University, Oregon have concluded that deep wells within .25 miles of a stream can have an effect on flow. The city of Charlottetown has well fields in three different locations in the Winter River watershed. There are 4 wells at the Brackley location, 5 wells at the Union Road location and 4 wells at the Suffolk location.



Most if not all of these wells are within the .25 mile range from streams and even as close as 50 yards. Most of the well pipes are 12 inches in diameter, and range in depth from 207 feet deep to 507 feet deep. Two of the wells in the Brackley area are 14 inches in diameter, extend to a depth of 507 feet, and are capable of pumping 832 imperial gallons per minute. A river depends upon a network of tributary streams to feed into it, in order to maintain flow.

Runoff after a thaw or heavy rain, give streams a quick flush which is soon gone, but has little effect in maintaining flow. A major problem with flow level in the Winter River is that two of the Charlottetown well fields are located in the immediate area of a network of streams that arise at the very source of the river. Much of the flow of underground water that would normally go to the springs that feed these streams gets drawn to the wells, and the springs go dry. When springs go dry, streams go dry.

The Brackley feeder stream went dry even during the Summer of 2011, when we had a higher than average rainfall. So deep wells with powerful pumps located close to streams will result in dry streams.

UPCOMING EVENTS...

Stay up-to-date by checking out www.wintertracadie.ca for all board member contact information, special announcements, local events, as well as information on our Spring Yard Sale and other local upcoming activities!

THANKS TO OUR SUPPORTERS

