

The Wheatley River Improvement Group

Summer 2012 Supervisor's Report

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Field Crew Supervisor

The Crew

During this summer the field crew consisted of myself, Beverly Ward, and Jennifer Noble. I have just finished my undergraduate degree at the University of Prince Edward Island, making my name three letters longer (BSc). Jennifer will be returning to the University of Prince Edward Island this year to finish her bachelor's of science in Wildlife Conservation, a combined program between UPEI and Holland College. With Jennifer's strong interest and knowledge in all things outdoors, she has been an invaluable asset to the Wheatley River Improvement Group's field crew. We were also lucky to have Desiree Samson volunteer with us for part of the summer, which helped Jennifer and I to complete our summer objectives.

Summer Objectives

This year the field crew's goals were to **complete 1 km of stream restoration work, plant 800 trees, and improve the east bank of Rackham's pond**, where a large section of the bank has exposed soil that is subject to erosion. As in past years, the Wheatley River Improvement Group (WRIG) will continue to reach out to the community members by attending functions such as Canada Day in North Rustico. This summer the WRIG field crew and board members also hope to **put on *A Day on Our River***. This festival was once a long standing tradition in the community where WRIG helps community members celebrate the beauty of our watershed!

Preparation

In anticipation of a hard summer of work, the Watershed Alliance Organization assisted all local watershed groups by providing a **day of training July 10, 2012** in the beautiful Richmond Watershed. It was on these training days that we visited various sites to see what a brushmat was and how it is made, how to plant a tree, proper tool maintenance, and other stream restoration techniques. We also were shown methods to enhance quality of life for fish such as how to install digger logs, cover logs and creating deeper pools in streams. From this training day, watershed workers were able to see that hard work and perseverance does pay off.

Another day of preparation was used for **First Aid training**. Since our field crew is often out in the woods away from civilization and cell phone reception, knowing how to react in emergency situations is crucial! While we hope that nothing ever goes wrong in the field, the security of knowledge in First Aid is vital the safety of our team.



Shawn Hill talking about stream health and ecology at the watershed training days in Richmond, PE.

Tree Planting

The main focus of the beginning of the summer was on tree planting. We had **ordered 992 trees** from the J. Frank Gaudet Tree Nursery. Of these **1044 trees**, **138** were ordered specially to enhance the **East Bank of Rackham's Pond**, which was a bare slope, subject to erosion. Due to the dry nature of the East Bank, we chose trees and shrubs that have deep roots and would be able to stand drought conditions. A total of **63 were planted along the East Bank of Rackham's Pond** and the remaining **75 were planted along the Rackham's Pond trail** (located on the West Bank of Rackham's pond). Species included: Willow, Common Elder, Wild Raisin, and Bayberry.

Those trees that were not specifically ordered for the Rackham's Pond project were planted on four different properties. The first **property planted was 888 New Glasgow Road, where we planted approximately 300 trees on both sides of a spring that feeds into the Wheatley River**. This spring had almost no tree cover over it, and was set in the middle of a hay field. While the landowner avoided cutting near the spring, the tall grass on the banks of the stream did not provide sufficient canopy coverage.

The second property that we planted was **443 Crooked Creek Road**. This area boarded a small spring fed stream that ran into Crooked Creek. Here we **planted 175 trees to help stabilize the banks and provide canopy cover**. This property also boarded Cooked Creek so we helped the land owner by filling in a previously planted hedgerow of spruce that boarded Crooked Creek.

The third place that we planted was along another tributary of the Wheatley River, specifically **1331 Church Road (Stephen's)**. While this location did have some tree coverage, trees were only one row thick, not extending the full 15 metre buffer zone; as such we planted the full buffer zone to **improve the Riparian zone**. At this location we planted **182 trees**. **Remaining trees were planted along the Rackham's pond trail**, to help provide canopy cover and esthetic appeal to the pond.

Why do we focus such a large effort on improving riparian zones? Answer: because a healthy riparian zone has an amazing capacity to help filter pollutants (such as fertilizers, pesticides, and silt) from reaching waterways. A healthy riparian zone also provides tree coverage over the streams so that fish are not as exposed to predators' watch. Tree coverage also helps to provide shade over the streams, which helps to maintain cooler water temperatures; tree roots help to stabilize the bank which guard against erosion, and gives animals a protected route

to travel. The trees that we do plant to enhance the riparian zone are tree species that are native to Prince Edward Island. WRIG makes every effort to restore the Acadian Type forest that covered Prince Edward Island when early settlers arrived. With this in mind, tree species planted include: Black Spruce, White Spruce, Red Maple, Sugar Maple, Eastern Larch, Yellow Birch, White Pine, Eastern Hemlock, and Red Oak.

A map of work completed can be viewed on the last page of this document.



Left: Jennifer Noble planting trees on the East Bank of Rackham's Pond. **June 18, 2012**

Stream Work

After planting trees we moved onto stream work. To begin we **re-visited the sites where we had worked last year (2011)**. Here we found that the work we completed last summer had vastly improved the Wheatley River. Specifically we were able to see that our brushmats had been filled with silt, thus stabilizing the banks in addition to filtering silt out of the water. Since brushmats were built last year, we have been able to see gravel on the river bed, making a more desirable location for fish spawning. Wanting to ensure that we don't lose the progress made on this section of the river, we decided to **re-brush mat this area, making 7 new brushmats along the river banks**. The brush mats were **spread out over about 700 metres** of the Wheatley River.

After we completed the **Art Ford Cross area**, we moved onto a section of **Chapel Creek where it borders Buffalo Road**. This area was choked with alders, making the creek flow wide shallow. With this in mind we cut alders that were clogging the stream and would catch debris. This area is now more open to fish passage and hopefully the stream will return to a more healthy state. The total length of improvement on **Chapel Creek was about 300 metres**.

A map of work completed can be viewed on the last page of this document.



Left: Brush mat built in 2011. The silt has been trapped between the thick layers of soft wood branches.
 Right: A new brush mat completed in 2012 that will collect silt and will look like the picture on the left after the high waters in spring and fall.

Rackham's Pond

At the end of the summer we were extremely fortunate to have the opportunity to help out a little boy with cerebral palsy. This young child was part of *Starlight Canada* which is an organization which helps to bring joy to sick children and their families. As such the young boy decided that he wanted to learn how to fish. The Wheatley River Improvement Group assisted by offering a location where individuals with physical disabilities were able to fish. The event was organized by Rosanne MacFarlane of the Prince Edward Island Forest, Fish and Wildlife division. Rosie also brought out her electro-fisher since the fish just weren't biting. This gave the child a chance to see fish up close and personal! For this event and also in preparation for *A Day on Our River Festival*, Jennifer, Desiree, Norman (coordinator), Jack (board member), and I cut and raked grass to make the pond look as beautiful as possible!



Left: Family from Starlight learning how to fish

Right: Rosie MacFarlane and crew demonstrating electro-fishing.

Bat boxes

On the days that it was too miserable to work outside, Jennifer and I went indoors to build bat boxes. The design for the bat boxes came from the Bat Conservation Organization, with a few adaptations of our own. The bat boxes are built from cedar to provide longevity, where the backs of the boxes are made to unscrew for easy cleaning. These bat boxes were placed throughout the watershed to provide bats a home for hibernation/ hibernacula from September to June. Hopefully these bat boxes will provide a sanctuary for the bats that may protect them from White Nose Syndrome, which is caused by a fungus that wakes the bat from hibernation in the winter. This premature awakening causes the bats to leave their safe environment and go out into the cold winter, where no food source is readily available. As such most bats that come into contact with this fungus will die from either the cold or starvation. These bat boxes will be cleaned out in subsequent in an attempt to prevent White Nose Syndrome.



Left: Jennifer Noble working on building a bat box.

Right: Bat box after placement on a tree at Rackham's Pond.

Community Events

WRIG kicked off the summer by attending **Canada Day in North Rustico**. Here WRIG and the Hunter Clyde Watershed teamed up to **give away 120 trees** to community members. Once again these trees were well received and will be planted throughout our watersheds. Also at Canada Day, children were able to win prizes by completing a scavenger hunt. The Hunter Clyde crew also provided critter dipping, where children were able to look at stream invertebrates and learn about the ways each adapts to stream living. One prime example is provided by the Caddis Fly who builds a little cocoon out of rocks and sand that shelters the caddis fly from the fast moving waters and predation.

Later in the summer WRIG attended **Rendezvous Rustico**. This time community members had to work for their trees! In the hopes of enticing people to A Day on Our River Festival, we had people toss ducks into a bucket of water. As soon as one duck went into the bucket, they would win a tree! We were also available to answer questions about the responsibilities and work completed by WRIG.

Community events are vital to enhancing our connections with community members and also ensuring that individuals know what they can do to improve the health of our watershed. Not to mention that every tree someone else plants means a little less work for us!

Board Member Day

While it is important to reach out to community members it is also important to show your appreciation to the board members of the Wheatley River Improvement Group. Every individual who sits on the board works hard to maintain a healthy watershed for everyone to enjoy. Not only do they offer their time, but they also offer up invaluable knowledge in all different fields. For example: WRIG is extremely fortunate to have a chair who is a professor of biology at UPEI, a treasurer with extensive financial expertise, and a past chair who brings the farmers' perspective. These are just a few of examples of the extensive diversity and knowledgeable individuals within WRIG.

Consequently we must show our appreciation from time to time and **August 9th** was the day to do it. We held a BBQ for the board members and afterwards Jennifer and I took a few brave individuals out to look at some of the work completed during the summer. While we were out there, I took advantage of the opportunity and let them try their hand at building a brush mat.



Left: Jack Hanley (board member) pounding in stakes for a brush mat.



Right: Stephen Lowe (treasurer/ board member) pounding in stakes for a brush mat.

Working with Other Watersheds

This summer WRIG worked closely with the Hunter Clyde Watershed Group where we would exchange hours to help each other on large projects. HCWG also worked closely with WRIG to help set up Canada Day in North Rustico. We also had an opportunity to meet other watershed groups at the training days. When watershed groups work together we get an opportunity to share knowledge and learn about the problems that other watersheds are facing. For example some watersheds centralized in more developed areas face problems such as litter, pollution from traffic and problems caused by diverting the natural waterways.

Estuary Monitoring

Unfortunately because the summer was so warm and sunny, an area of the estuary just North of Oyster Bed Bridge became anoxic. The field crew monitored the event each day from when it was first reported until it cleared up after a heavy rainfall. **The monitoring consisted of taking pictures of the anoxic event and also drawing a sketch of the area to review how it developed and grew over time.**

Anoxic events are an unfortunate occurrence within watersheds throughout Prince Edward Island. Anoxic events are caused by nutrients entering in the water from sources such as

fertilizers on farm fields, crops and golf courses. These nutrients combined with warm temperatures and sunlight cause the rampant growth of sea lettuce. Eventually this sea lettuce dies and the bacteria that assist in its decomposition use the oxygen from the water, depleting the water of its oxygen. When the water is depleted of the oxygen, we call it an anoxic event.

During the anoxic events the water can turn a white, grey or green colour and stink like rotten eggs. Severe anoxic events also cause stress to fish and sometimes death. If you see signs of an anoxic event, please contact your local watershed to report it!



Left: Dr Jim Kemp and Beverly Ward getting ready to do estuary monitoring

Right: buoys at Rackham's Pond which have light and temperature sensors beneath them.

Next Year

Next year's tree planting can be guided by land owner permission forms which contain information on who indicated that they would be interested in tree planting or stream work done on their properties. Stream work can also be done on the stream that runs behind 1331 Church Road. This was in the plan for the summer but unfortunately we did not have time to complete this area.

Also it should be noted that if the field crew needs assistance at the beginning of the summer on learning how brushmats are constructed and how they work, they can contact Mike MacDonald with the Trout River Environmental Committee. We worked with Mike last year to learn stream restoration techniques and he is extremely knowledgeable in all watershed matters.

In terms for Rackham's Pond next year's team should put in more work into maintaining the Rackham's Pond trail. Either cutting a path with a wiper sniper or using shovels should help to provide a clear idea about where the path runs. It would also be nice to plant some perennials around the base of the trees and signs. These would help to add some colour, while not increasing the amount of maintenance requirements.

Map of Work Completed in Summer 2012

