

ENVIRONMENT

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Renfrew County Stewardship Council

NOW

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The economics of water quality improvement

Clean H₂O equals a healthier operation

Ken Oakley and Bob Dobson both say they're seeing results from work done on their farms under the Renfrew County Rural Water Quality Program.



Bob Dobson with one of the solar panels powering alternative water sources for cattle.

In a business as complex as farming, it is impossible to define the full effects of any single project. Are the pastures healthier because the drainage has been improved, or is it because the weather's better? Are the cattle heavier because the feed has more nutrients, or is it because the water quality has improved?

While it is rare, if not impossible, to assign a precise dollar figure to the return on any particular investment, farmers generally know whether a new project is working or not.

"I'm 90% sure that I'm seeing livestock that require less treatment, less antibiotics," says Dobson.

Measures to keep the cows out of the water have meant fewer cases of foot rot and pink eye. In addition to the reduced costs for medication, the benefits include less time invested in bringing cattle in from the fields for treatment, and no loss in weight gains.

Oakley was still working on his improvement projects early this fall, so he won't know the full results until he's monitored things for a year or more. However, he does know that the pasturing on his farm was markedly better this year than last, and he doesn't think it was all due to better weather.

The work on the Oakley farm has included fencing off livestock access to a wetland area, providing alternative sources of water for the cattle, and dividing the farm into six paddocks.

"We're getting a lot more grass to feed our cattle," the farmer says, noting that the

animals are now moved from one paddock to another, allowing each area to regenerate as the season progresses.

Last year, the cows had to be pulled off the pasture in August. This year, they were chewing grass all summer long. Beyond the new fences, a stream ran throughout the summer. In previous years, it was always reduced to a swampy lowland after the spring run-off. With free access, the herd was trampling the wet ground and expanding the swampy territory.

"The bottom line was, my cows were just mucking up the stream," Oakley says.

He spent approximately \$10,000 on the improvements, and is eligible for up to \$5,000 funding through the Renfrew County Rural Water Quality Program.

Dobson's work has included extensive fencing, alternate water systems, and planting hundreds of trees and shrubs.

The vegetation will help take up any nutrients leaching into the groundwater from the farm operation, he says. As the trees mature, they will also provide shelter for the cattle, making them more comfortable and reducing their need for additional feed in colder weather. Dobson cites reports that estimate savings in feed costs of five to 10 per cent by reducing the animals' energy requirements to keep warm.

"If you look, you can find endless potential benefits," he says. Among his examples: More trees bring more birds, which can help keep rodent populations like mice under control.

"It doesn't take long to realize, it's just the right thing to do," he concludes.



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Constructed wetlands can reverse drainage's drain on water quality

A number of research projects in eastern Ontario are studying the merits of creating or re-creating wetlands.

As recently as the 1980s and 1990s, it was taken for granted that draining marginal farmland was a good thing. It was done to expand tillable area and bring unusable land into production. Federal, provincial and municipal programs provided assistance for farmers who wanted to drain their land.

But a few years later, tiles needed replacing, installations needed maintenance, and the water quality in nearby ponds or streams was clearly deteriorating.

"Wetlands play a critical role in our environment," says Erling Armson, Eastern Ontario Conservation Program Leader for Ducks Unlimited Canada.

"In marginal areas, a lot of that land should not have been drained in the first place," he maintains, noting that the benefits were minimal because much of the land was simply poor in quality and unproductive agriculturally.

The negative results of draining this marginal farmland in the 1980s and 1990s were clear. Overall water quality had degraded, there was more prolonged

flooding without natural retention areas, run-off was a problem, and sediment loading resulted in cloudy water and fewer underwater plants in existing streams and water bodies.

Ducks Unlimited (DU) has been involved in a number of projects to restore and construct wetlands.

The largest projects have been undertaken in the area east of Ottawa, where DU and other organizations like the South Nation River Conservation Authority, the Prescott-Russell Stewardship Council, and Alfred College have led the way.

In the Atocas Bay area about 50 km east of Ottawa, nearly 2,000 acres of territory has been acquired by DU and partners, including the Ministry of Natural Resources. The drains have been plugged in approximately 300 previously drained wetlands, and the water table is rising.

"You can see the wildlife starting to come back," Armson says.

Research predicts that the restoration of the wetlands will also improve overall

water quality in the area through the natural filtering processes wetlands provide.

A little further east, Alfred College is leading wetland research projects that treat municipal sewage and agricultural run-off. Findings show that wetland waste water treatment can offer huge savings and low maintenance requirements, given the right combination of accessible acreage and effective soil types.

At the Dignard farm site near Embrun (photo below), water from a lagoon and wetwater system is tested for the levels of nitrogen, phosphorus, organic matter, bacteria and total suspended solids.

Water coming out of the wetland system consistently meets provincial standards.

The research is now focusing on specific aspects of wetland water quality management, such as the effects of wetland shape, aeration, and different plant species.

Constructed wetlands are still a rare sight in Ontario, but researchers are confident they will be part of our future.



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The Bonnechere River Watershed Project gratefully acknowledges the financial support of the Ontario Trillium Foundation, an agency of the Ministry of Culture. The Foundation receives annually \$100 million in government funding generated through Ontario's charity casino initiative. The Foundation provides grants to eligible charitable and not-for-profit organizations in the arts, culture, sports, recreation, environment and social service sectors.



This wetland area near Embrun was constructed in the mid-1990s to treat liquid milk house wash water waste and run-off from the solid manure pile and cattle exercise yard on the adjacent dairy farm.

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Cross-county check-up

Stewardship takes a variety of forms in Renfrew County. Here's a brief summary of some of the activities underway within the Renfrew County Stewardship Council membership. If your organization would like to be included in this calendar, contact Mitch Baldwin at (613) 732-5523, or e-mail mitch.baldwin@mnr.gov.on.ca. For additional copies of this newsletter, please contact Frank Ahern at (613) 754-2822.

Algonquin College Forestry Program

- The Timbersport team continues to raise the profile of the logging industry. Team members helped with set-up and provided demonstrations at the Renfrew County Outdoor Woodlot Conference. They also planned to hone their skills by competing at the provincial level in Lindsay on November 8.

Arnprior Fish and Game Club

- Work continues to establish a Get Outdoors program for young people. There is clearly an interest – 42 youngsters attended a recent Jake's Day hosted by the club in conjunction with the National Wild Turkey Federation. Participants enjoyed a barbeque and built duck boxes and bird houses to take home with them.

Renfrew County Cattlemen's Association

- Members have been actively lobbying for government support in face of the beef market crisis related to BSE. Two separate groups traveled to Parliament Hill this fall, to meet with Agriculture Minister Lyle Vanclief and to attend a session of the Standing Committee on Agriculture. The need for a change in trade rules, an opening of the US border, and financial compensation were all highlighted.

Renfrew County Federation of Agriculture

- The regular meeting which would normally be held on November 24 has been rescheduled to December 1, because many members will be away at a convention. As usual, the meeting will be held at Opeongo High School beginning at 7:30 p.m.

Ottawa Valley Tourist Association

- The OVTA website has been re-designed, featuring web-tracking features and the ability to order brochures online. Since the launch of the site, increased inquiries have been noted from foreign markets including China, Japan, Europe and various other countries.
- The 2004 Travel Guide and Map will be launched in January.
- The ninth annual Rural Ramble attracted nearly 3,000 people to local farms and rural enterprises in September, offering a variety of educational and interactive experiences. The self-guided tour featured 27 sites, including 10 new participants this year.

Renfrew County Soil and Crop Improvement Association

- The annual meeting will be held December 12 in the Galbraith Room at the Renfrew Armoury from 10:00 a.m. to 3:00 p.m.

Bonnechere River Watershed Project

- Education endeavours continue with Citizen Environment Watch stream studies involving two classes from Opeongo High School and the introduction of the Adopt-A-Class Green Wing Program in cooperation with Ducks Unlimited at the elementary level. Organizers hope to involve four grade 4 classes in the educational project.

- The Adopt-A-Stream program is focusing on Smith's Creek in Renfrew, in cooperation with the Renfrew Rotary Club, the Ontario Rangers, the Stewardship Rangers, elementary schools and high schools in Renfrew. Information sessions will be held with local landowners to explore potential projects such as riparian planting and livestock fencing.
- Find more information at www.bonnechereriver.ca

County of Renfrew


- A workshop hosted by the county economic development department on October 22 focused on the potential for new initiatives, growth and value-added enterprises in the forestry sector. County officials say the session was the first step in getting more involved with the local forestry sector to help build new partnerships, cooperative efforts and to support existing businesses.

Renfrew County Chapter, Ontario Woodlot Association

- A half-day workshop on November 1 was planned to team up local association members with interested teachers to promote a focus on woodlots in elementary classrooms. Participants reviewed a package designed to promote investigative learning with a focus on science. The goal was to have teams ready to take the material into the classroom this school year.

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Tomorrow's leaders take action as Ontario Stewardship Rangers

How do you get a 17-year-old to voluntarily jump out of bed at 6:00 a.m. every morning, get his own breakfast, and be ready and waiting for his ride to work?

Enroll him in the Ontario Stewardship Ranger Program, advises Fred Runge of Renfrew.

Fred's son Alec spent eight weeks this summer working with three other teenagers and a team leader in various parts of Renfrew County.

"His morning routine says it all," says his father. "Anyone who knows teenagers will tell you that's exceptional."

Alec readily says he'd do it again if he had the chance. The grade 12 student enjoyed working outdoors and doing something different every day. Projects this summer included installing wood duck boxes on the Bonnechere River, trail maintenance, tree marking and planting, and building beaver baffles.

"The rangers gained valuable experience working in a team," says Team Leader Tammy Richard.

She notes that the education component of the program provided a rich experience that both she and the stewardship rangers enjoyed. "I added work experience, leadership skills, and a better understanding of the flora and fauna of Renfrew County to the tool box of skills I already have," Richard says.

Under the Ministry of Natural Resources-run summer program, the stewardship team worked with about 20 different partners, including the Bonnechere River Watershed Project, County of Renfrew, Ottawa Valley Forest and private landowners.

"Our partners have been just phenomenal," comments Mitch Baldwin, the Renfrew County Stewardship Ranger coordinator.

He notes that each host partner spent time in the field with the stewardship rangers, helping to ensure that every project was educational.

In addition to the practical experience, 10 per cent of the participants' time was

dedicated to educational sessions such as seminars on various aspects of resource management.

"We're trying to promote the resource management field," explains Baldwin.

The combination of good projects, committed partners, and an enthusiastic team of rangers has built Renfrew County's reputation over the past four years as one of the strongest programs in the province.

"Really, it all comes down to a win-win situation," says Richard. "The partners get help in completing a task, the rangers and team leader get valuable contacts and work experience, and the MNR and Stewardship Council demonstrate that they are handling environmental or ecosystem sustainability issues."

If you know someone who would benefit from this kind of work next summer, please contact Mitch Baldwin, (613) 732-5523, mitch.baldwin@mnr.gov.on.ca.



Renfrew County Stewardship Ranger projects included installing beaver baffles, above, and wood duck boxes complete with predator guards, right.



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