

THE LAKES AND RIVERS : A LIVING AND PROTECTED HABITAT

Gatineau, February 2, 2005 – With the spring and the summer coming soon, people start planning works to be done on their properties near lakes and rivers. The Quebec Ministry of Environment and the Quebec Ministry of Natural Resources, Wildlife and Parks (Outaouais region) wish to remind you that lakes and rivers as well as the shore strips along them are living and protected habitats. It is therefore important to check out if permits are needed before doing any type of work, even on private properties.

Several types of works are forbidden in accordance with municipal bylaws or with provincial laws and regulations which integrate the *Politique de protection des rives, du littoral et des plaines inondables* (Politique for the protection of shores, littoral and floodplains). For instance:

- **Cutting vegetation** (trees, shrubs, and herbaceous plants) inside the 10-meter (sometimes 15-meter) wide shore strip alongside any lake, river or stream (except for a 5-meter wide pedestrian access to the water and the removal of dead or sick trees). The usual practice of putting lawn on the shore down to the water is strictly forbidden ;
- **Digging or filling** inside the shore strip and in the bed of any lake, river or stream;
- **Laying boat launches** for private purposes;
- **Adding sand** to create a beach;
- **Removing aquatic plants** (except those jamming a water pipe or impeding access to a wharf);
- **Laying wharfs on cribs or casing** (only floating wharfs or those on wheels, poles or piles are allowed);
- **Building boathouses.**

Some types of works may be authorized under some conditions, but in most cases an authorization must be previously obtained from the Ministry of Natural Resources, Wildlife and Parks as well as a municipal permit before starting works. For instance :

- **Stabilizing shore** in case of erosion or land loss (natural stabilization methods will be recommended);
- **Building or repairing retaining walls** (rocks, blocks, gabions, concrete, etc.) alongside water edge : such works are authorized only in special situations. Usually, we recommend to fix the bank and shore strip with natural stabilization methods;
- **Digging to install water supply pipes** in the bed of lakes, rivers or streams.

Any person having done forbidden works or works requiring a previous authorization may be brought before the courts and be sentenced, on top of paying a fine, to restore the site, an operation which may turn out to be far more costly than the realization of illegal works themselves.

For any information, permit or authorization concerning works in front of water bodies, you should contact your municipality, the Quebec Ministry of Environment or the Quebec Ministry of Natural Resources, Wildlife and Parks.

The Cottage Environment

by Joann McCann

We are inaugurating a new feature in *ShoreLines* to offer some tips on how we can all be more friendly to our environment and also to provide you with some interesting reading and resources. Besides the fact that we in the OFWCA have always shown an interest in our environment, it is appropriate to note that in the past year, two new environmental organizations have been formed to protect the Ottawa River.

Environmental Ideas: The *Regina Leader-Post Carrier* Foundation has published a best-seller of recycling and energy-saving ideas and environmentally friendly alternatives for home and garden, entitled, "Environmental and Energy Money and Time-Saving Household Hints." Since recycling is a popular topic at our annual meetings, I thought that these recycling hints might be useful. Many of them have been around for a long time. You will probably recall your grandmother following some of these practises:

Dryer lint is for the birds—literally. Stash your dryer lint and, come spring, leave it outside so that birds can use it to help line and build their nests.

Use Styrofoam meat and vegetable trays as packing to protect items sent in the mail. Or cut them up and use them as protective packing for china.

Buy a reusable coffee filter instead of using disposable paper ones.

To unwrinkle and recycle ribbon, run it through a warm curling iron.

Save the inner linings of cereal boxes and use in place of waxed paper. (In most places, these liners are not recyclable.)

Finally, compost, compost, and compost! In the next issue, we will give you some tips to turn kitchen wastes into "gardeners' gold."

Also in the spring issue, we will provide some hints for the garden and the cottage!

The Ottawa River Institute: Based in Pembroke, this is a non-profit corporation whose mission "is to foster sustainable communities and ecological integrity in the Ottawa River Watershed." Check out their website at «www.ottawariverinstitute.ca» and their



Idyllic Cottage Scene, from Gwen Marchant

column in the *Pembroke Observer*. It's written by one of their directors, Ole Hendrickson, an environmental scientist. You can become a member of this organization by registering online or by calling Lynn Jones at 735-4876.

The article below, reprinted with permission, is from the website and it was originally published in the *Pembroke Observer* and the *Renfrew Mercury*.

Why Was the River So High?

By Ole Hendrickson

Why was the river so high this spring?

This spring was unusual. Not only was it cool, but water levels in local rivers stayed high much longer. In past springs, water levels dropped more quickly. After the snow melted, the flooding subsided. But not this year. Cool temperatures meant that trees leafed out slowly this year. Did that have anything to do with water levels?

As I drifted down the Indian River in my canoe on a cool and cloudy morning, I thought about all the water that trees pump out of the ground.

Trees use tremendous amounts of solar energy to move water from the soil, up their trunks, and out into the air through tiny pores in their leaves. Forests are giant humidifiers.

Broadleaved trees—the maples, aspens, birches, oaks, and such—cannot start pumping until their leaves are out. The conifers start as soon as the ground is unfrozen, but they make new leaves later in spring and become more active.

Water seeps through soil into streams and rivers, adding to their flow. Hydrologists call this shallow groundwater

recharge. The saturated area, or recharge zone, is largest in spring. It shrinks in the summer as green plants pull water through their leaves and dry out the soil.

This spring has been great for canoeists. Lots of water means a longer season for running small rivers that become too rocky in mid-summer. But I've talked to several canoeists, and none of them knew how trees were connected to this.

Most of the sun's energy is used in moving water around the world. Hydrologists have shown that the Amazon forest makes its own rain. They debate whether deforestation in Central America is creating deserts there.

China cuts down its forests and Yangtze River floods kills millions of people. Giant dust storms from China spread microbial particles and even diseases around the world. As John Muir once said, when you look you find that everything is hitched to everything else.

It's hard to think globally and act locally, but one of the best ways is to think about water. Water molecules just keep moving. In the ground, in the trees, in the air, in your lungs, around and around they go.

Nobody can really own water. It's something we all share.

Ottawa Riverkeeper: The other stewardship group dedicated to our river is the Ottawa Riverkeeper, whose mission is to "facilitate maintenance and enhancement of the river's ecological integrity through monitoring, original research, public and agency communications, and enforcement. Ottawa Riverkeeper works independently as well as co-operatively with individuals, businesses, community groups, and all levels of government on both sides of the river." This organization is based in Ottawa but our area is represented by John Almstedt of Pembroke.

The Riverkeeper has an excellent website with information on the geography and history of the river, legislation (federal and provincial) concerning the river, and other issues pertaining to our waterway. The Keeper concept started in 1966 on the Hudson River by a group of fishermen. A book, *The Riverkeepers*, written by John Cronin and Robert F. Kennedy Jr., chronicled the success of the Hudson River fishermen who reclaimed their river from its polluters. There are over 40 keeper programs across the U.S. and Canada. You can become a member by signing up online at «www.ottawariverkeeper.ca/membership.html».

Sources: The Ottawa River and its watershed are part of the larger St. Lawrence watershed. A watershed is also called a drainage basin. If you want to understand the basics of watershed ecology, look up this Canadian book: *Watersheds: A Practical Handbook for*

Healthy Water, by Clive Dobson and Gregor Gilpin Beck (Willowdale, Ont., Firefly Books Ltd., 1999). It provides a fascinating overview of the fundamentals of ecology while providing *How can I help?* sections throughout the book that include helping at the cottage. This book explains the principles of ecology but has many illustrations, making it accessible to a young student interested in the watershed cycle.

A displaced Maritimer in the Ottawa Valley! Last September, in the bird column of the *Ottawa Citizen*, it was reported that someone living along the Ottawa River near Dunrobin spotted an Atlantic puffin. Their appearance is quite distinct, having the large colourful orange bill, a white face, and black collar. This bird was far from home as its habitat is the eastern part of the St. Lawrence and the coastal islands of the Maritimes.

Things to Do This Summer

The Chutes Coulonge

The Chutes of Coulonge is an enjoyable and educational excursion. I have found that young and old enjoy the beauty and sense of past at the former logging chutes once owned by George Bryson. The admission is very reasonable and the walking tour takes you back in time when our ancestors felled the pine and ran the logs. My 91-year-old grandmother, who is legally blind, was able with a little assistance to navigate the walkways and stairs that follow along the Coulonge River. The walkways are safe but are in keeping with the natural setting. On one of the decks overlooking the falls, you will usually find artists painting scenes of the falls. This place is a gem in the Pontiac so if you want something to do or want visitors to get a feel for our history, head for the Chutes.

Exposition of Art on Allumette Island and Shores

Another fun thing to do is to take the artists' tour of Allumette Island. The artists open up their home studios for you. Many of them are situated in lovely settings along the river or on a farm. They never press to sell their works but they are hospitable, friendly, and eager to share their love of art with visitors. Last spring, this tour was organized by Claudette Spence, an accomplished artist, and she has done a fine job of pulling together artists of different media. Pamphlets are available on local businesses around the island. The tour is well marked with signs that look like artists' palettes. You've probably seen them along the roads. We will provide some pamphlets at the next annual meeting.

Boater's Exam

This website licenses Canada's boaters: «www.BoaterExam.com».

The Cottage Environment

By Joann McCann

Margaret Mead, the renowned anthropologist, said that people can make changes: "Never doubt that a small group of committed citizens can change the world; indeed it's the only thing that ever has." With that in mind, and the fact that there are over half a million cottages across Canada, cottagers can have a positive impact on the environment. Perhaps we can all try to contribute to healthier shorelines along the Ottawa. A great website with helpful tips for healthy lakes/river shorelines can be found at «www.livingbywater.ca».

1) "Shorelines are Ribbons of Life" according to the *Living by Water Project*, a Canadian organization that works toward healthier human and wildlife habitat along the shorelines of Canada. Their credo is to present choices and avoid preaching. So If you want to protect your shoreline, these are some actions that you can take:

Shoreline:

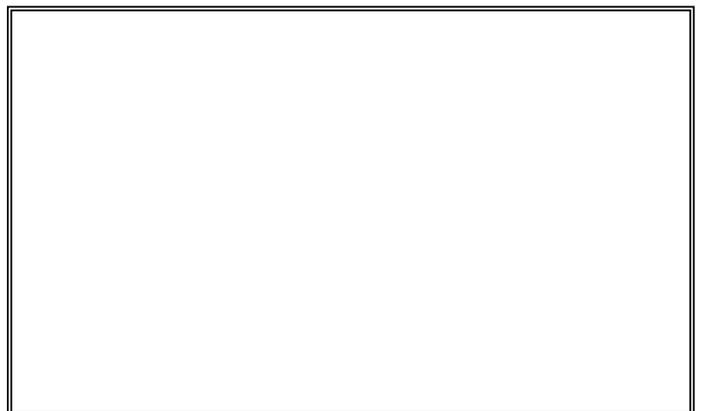
- 🌲 Start a buffer strip by leaving some grass uncut near the water's edge
- 🌲 Protect a strip of native plants along my shoreline.
- 🌲 Replant native shrubs and trees along my shoreline.
- 🌲 Check regularly for invasive plants and remove them carefully
- 🌲 Let imported beach sand erode naturally and let native plants grow back.
- 🌲 Let natural debris (e.g., driftwood and fallen trees) accumulate as much as possible.
- 🌲 Build a low-impact dock (check local regulations)
- 🌲 Keep pets and or livestock away from shoreline or streamside.

Yard:

- 🌲 Minimize the amount of trees and plants cleared during construction projects.
- 🌲 Prune trees to obtain a better view, instead of removing them.
- 🌲 Reduce the use of fertilizers and pesticides and use native species of plants.
- 🌲 Handle fuels, oil, and other chemicals with great care, and be prepared for spills.

Cottage:

- 🌲 Use phosphate free soaps and cleaners.
- 🌲 Use alternative cleaners like baking soda and vinegar instead of toxic products.
- 🌲 Pump the septic tank regularly (for a field system, every 2-3 years)
- 🌲 Avoid overloading the septic system by staggering full laundry loads through the week.
- 🌲 Conserve water by using low-flow showerheads and toilets.
- 🌲 Do not bathe in the River.



Boating:

- 🌲 Use oil-absorbing bilge cloths instead bilge cleaners.
- 🌲 Practice safe refuelling.
- 🌲 Reduce the wake by slowing down to 5km/hr within 160 m. (500 feet) from shore.
- 🌲 Purchase or use a 2- or 4-stroke motor that meets EPA 2006 guidelines.
- 🌲 Maintain the boat motor and have it inspected regularly.

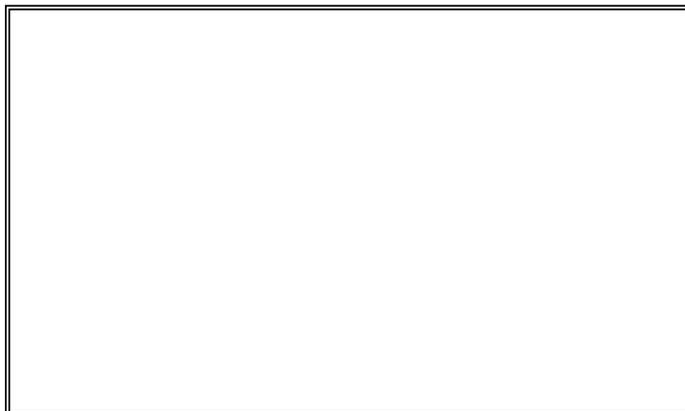
2) Again I refer to of my favourite websites concerning the ecology of the Ottawa River, «www.ottawariverkeeper.ca». This one has a report on the state of the River. There is an alarming statistic from a report: Lake Ontario gets 38% of the Ontario's sewage effluent and the Ottawa River gets 9% of the province's effluent. «www.ottawariverinstitute.ca»

Shoal Island Outhouse

At our last annual meeting, we approved the expenditure for an outhouse on Shoal Island, located between Irving (Bluff) and Oak Islands. It is occasionally used for day picnics and some cottagers camp there overnight. This is our second outhouse for the islands and we can all be proud that we are contributing to the healthy ecology of the islands and the River. Bill Brennan again constructed the outhouse and he, Andrew Perrault, and Kirk McCann and others helped to install it. Thank you to all of you. The outhouse, transportation, and installation cost \$845. It may seem like a lot of money but a good outhouse will last many years.



Sit down and enjoy the view: the new outhouse



Kelly Egan on the Ottawa Riverkeeper

The following article appeared in the *Ottawa Citizen* on Sunday, May 28, 2006, page A11, and is reprinted with the permission of the writer, Kelly Egan.

Ottawa Riverkeeper stands on guard: Despite the myriad authorities on both sides of the Ottawa River, none of them are taking responsibility for the waterway's health

In 2002, the pulp and paper industry discharged more than 163,000 billion litres of toxic effluent into the Ottawa River. The very same water travelled through 50 major dams and power stations, generating at least \$1 million worth of electricity every day, in excess of 4,000 megawatts in total.

I did not know those things. Did you?

The Ottawa River is both mother and orphan. She feeds and sustains, but without a single guardian of her own.

The Ottawa Riverkeeper is trying to arrest the sense of drift. It is giving the old girl a checkup; taking her temperature, tucking her in at night under the stars. It is, more than anything else, sitting up at night; watching, worrying.

The Riverkeeper, founded in 2001 as an offshoot of Robert Kennedy Jr.'s Waterkeeper Alliance, has just published the first of a series of reports on the state of the river. This 81-page document concentrates on the basic ecology along the 1,271-kilometre waterway and the impacts of human habitation.

Meredith Brown has been Ottawa's Riverkeeper for two years. She has been struck by the myriad of authorities on both sides of the river that have some regulatory stake in the waterway.

"One of the big messages I want people to take away is that nobody is taking responsibility for the health of the river," said Ms. Brown. "We really have a big miscommunication problem on our hands."

There is very little ongoing monitoring of water quality on the river, she explained, making it difficult to answer the question: How's the river doing?

"I get asked that question all the time and it's not an easy answer. We don't really have a great idea."

This first report is an overview and a sketch of the sectors having a major impact on the river.

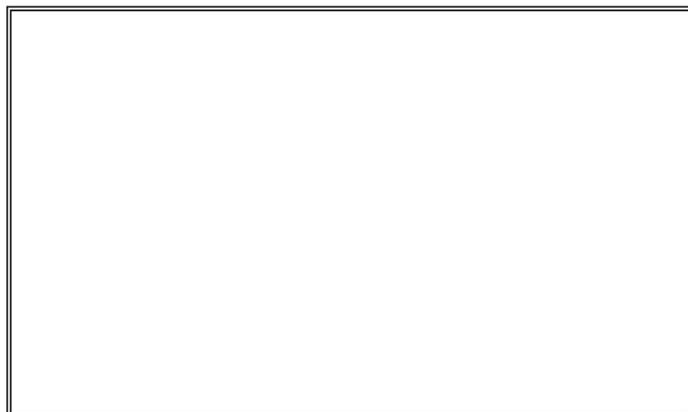
Among the findings:

- 1.7 million people live in the Ottawa River watershed, at least 25 per cent of whom are on septic systems. There are 93 municipal wastewater treatment plants in that area, with varying levels of treatment.

Ottawa, for all its multi-million-dollar investment in sewage infrastructure, still has room to improve, the report says. "The Ottawa facility is currently being upgraded to increase its capacity so that it can receive sludge from the Lemieux water filtration plant. This aluminum-laden sludge is currently being dumped directly into the river on a daily basis, despite the fact that the effluent is a pollutant and does not comply with provincial or federal regulations."

Ms. Brown says the nature of pollutants in the river is a common question. "The public knows very little about what's going into the river and they want to know. I talk to people all over the watershed and they're floored when they find some of the stuff I tell them."

- Of the nine pulp and paper makers, Tembec's mill in Temiscaming contributes the largest amount of wastewater, an astounding



158,284 cubic metres a day in 2002, or about 35 per cent of the total. "Unfortunately," says the report, "they also have the worst record of compliance with environmental regulations."

- The river is home to 96 species of fish, the largest and longest lived being the sturgeon, which can be 2.5 metres long and weigh 135 kilograms. "Within the Ottawa River, the status of lake sturgeon varies by reach," writes fisheries specialist Tim Haxton, from the Ministry of Natural Resources.

"Some of the reaches have a seemingly healthy population, meaning they display good recruitment, have diverse and size classes and decent abundance. Other reaches have poor recruitment and only few adults remaining."

- The Ottawa River has more than 50 dams or power stations; the total in the watershed (including tributaries) is in the hundreds. None of the large dams have fish ladders. Remarkably, the report says the Dumoine River is the only one without a dam in the entire watershed. The Ottawa has 13 main reservoirs, the largest two being the Baskatong and Dozois.

- Within the watershed, there are five plant species, including American ginseng and butternut on the endangered list, one fish (copper redhorse), four birds (Henslow's sparrow, barn owl, Kirtland's warbler, loggerhead shrike) and one reptile (spotted turtle). Many other species are threatened or of "special concern."

The Ottawa Riverkeeper hopes to produce a second book within a couple of years. The full report is to be on the group's website as of Wednesday.

So what we have is a good start. Finally, an organization — albeit a tiny one with two employees — is looking at the Ottawa River stem to stern, shore to shore, from plant life to plant discharge, from dams to damn catfish. The watch is on. Action, it must surely follow, cannot be far behind.

Contact Kelly Egan at 726-5896 or «kegan@thecitizen.canwest.com».

Dinner with the Riverkeeper

We had a successful dinner where over 80 cottagers and residents mingled over cocktails and appetizers before enjoying a dinner at the Hotel Pontiac on August 13, 2005. Over coffee and pie, we listened to Meredith Brown, Ottawa Riverkeeper, describe background in the environmental movement, her organization, and how we can get involved in the riverkeeper's work. She is employed as a professional Riverkeeper to facilitate the maintenance and enhancement of the Ottawa River's ecological integrity through monitoring water quality; original research; identifying breaches of the law and reporting them to the appropriate authorities. Through her expert understanding of the river's ecological values, processes, and special features, and the protective framework offered by various federal, provincial, and municipal jurisdictions she creates additional methods to sustain and enhance the ecological health of the river. Meredith also develops educational programs and projects in order to increase the public's understanding of the Ottawa River, so that they are able to become stewards of the river. Many were surprised that the River is not tested for water quality, and consequently, we are going to work with Meredith in order to seek testing of the water at various locations on our stretch of the River. Shortly after Meredith's speaking engagement at our event, the *Ottawa Citizen* ran a story on her. We'll bring copies of this article to this year's AGM on July 15, 2006.



Sheen Hall
From George Quay

On November 1, Joann and I attended a Riverkeepers tea at the Marriot Hotel in Ottawa. The guest speaker was Robert Kennedy Jr., who traced back the beginnings of the organization. As well Riverwatchers around the country were introduced.

This organization is successful largely due to volunteers, and if anyone is interested in joining our initiatives, please get in touch with one of us.

Your New Riverwatchers

by Chris Graham

Last summer the OFWCA had a dinner evening with Meredith Brown, the Executive Director and Riverkeeper of the Ottawa Riverkeeper Association. It was a huge success. I think we all learned a lot about the Ottawa Riverkeeper organization, what it does, and what it hopes to achieve. The organization is largely run by volunteers who have an interest and passion for the River.

Joann McCann had already been in touch with Meredith Brown for some time, so Joann made the suggestion that maybe we could start a Riverwatchers program for our stretch of the River.

One of the initiatives caught our interest. When Meredith stated that water samples were being tested in other parts of the Ottawa River, we thought that it was important that some water testing be done in our area. Hence, Joann McCann and I are your new Riverwatchers. Our area encompasses from the Short Turn near the Petawawa Yacht Club to Oiseau Rock. Our role will be to keep an eye out for environmental and shoreline issues, raise awareness of the River, and to participate in water testing.

Maintaining a Healthy and Beautiful River

By David Nogas

Do you ever think about the condition of the water in our river, or wonder why there seems to be an increasing amount of algae and weeds present in it? Do you sometimes worry about the bacteria levels in the water that you use or swim in? Do you notice that there seem to be fewer animals and creatures living in and along the water? Take some time to look at your cottage activities and the state of your waterfront and consider the impacts you may be having on the health and natural beauty of the river. Perhaps there are some small changes you can make that will improve water quality and help us to coexist with nature in a friendlier manner.

Shoreline Ecosystems

The land and water areas bordering a river shoreline are the richest habitats and most ecologically important areas of interdependent aquatic and terrestrial worlds. This border area is a narrow, fragile habitat that is home for many forms of life from plants and insects to fish, amphibians, and birds. The shoreline ecosystems are made up of the shallows or littoral zone and the shoreland or riparian zone. Both are essential to the survival of a healthy lake or river.

Landowner practices, in terms of construction, recreation activities, shoreline alterations, and yard-care approaches, can greatly affect the ability of the shoreline buffer to trap and retain sediments, nutrients, and toxicants. Because of their prominent roles in supporting a diversity of plant and animal species, littoral and riparian zones are protected by law along the Ottawa River.

The Littoral Zone

The shallow-water region near a shore, known as the littoral zone, is the most biologically productive part of the aquatic ecosystem. The word littoral is derived from the Latin word *litus/litoris*, which means "shore." This zone is home to most of the aquatic plant life (both rooted and floating) in a pond or lake, because the high amount of sunlight reaching the plant allows for significant photosynthetic activity.

Plants are the basic producers for a lake or river. Plants such as cat-tails, bulrushes, pond lilies, and submerged plants are found in the shallows. They clean the water by ingesting and synthesizing organic matter that has been dissolved in the water. These plants then become nourishment for the animal life that feeds in and on the lake. Plant-eating creatures such as the painted turtle benefit directly and flesh-eaters indirectly through the food chain.

Aquatic vegetation found in the shallow waters play critical roles as both protective cover and colonization sites for fish, insects, and the invertebrates upon which smaller fish feed. Different types of aquatic plants serve different roles in the littoral zone ecosystem and provide habitats for a variety of fishes. Floating leaved plants such as pond lilies provide shading and overhead cover as well as colonization sites for invertebrates, while emergent vegetation, such as pickerel weed and bulrushes, provide lateral underwater structure and egg attachment sites for both fish and amphibians.

The littoral zone provides fish, amphibians such as frogs, and creatures such as snails and crayfish with spawning sites, foraging sites, and refuge from predators. Land-dwelling animals such as raccoons, ducks, otters, turtles, and loons depend on food found in the littoral zone. Even fish that are thought of as deep, cold-water species rely on littoral areas for spawning and rearing of young. The very shallow water immediately adjacent to the shore is of special importance to small fish for hiding from predators and for finding food that has washed or fallen into the water. The use of a particular littoral area by fish and other aquatic creatures is determined by the combination of water quality, habitat quality, and existing fish population density. As cottagers, we can have a large impact on these factors.

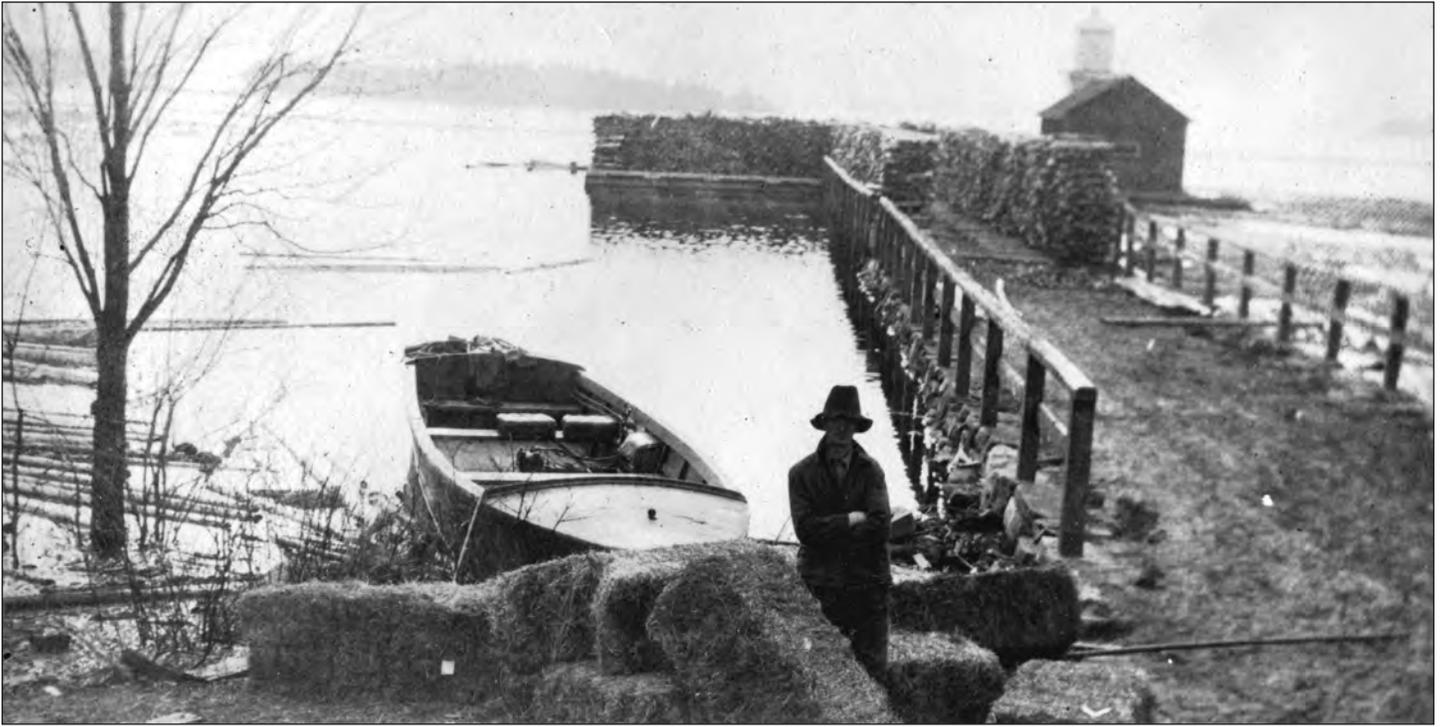
The Riparian Zone

The word "riparian" is derived from the Latin word *ripa*, meaning river bank. Ecologically, the land along the shore, or riparian zone, is the interface between the land and the river providing a living bridge between interdependent aquatic and terrestrial ecosystems. The term riparian buffer is often used to describe the natural band of vegetation that borders the banks of a lake or a river. A healthy riparian buffer can contain native grasses, flowers, shrubs, and trees that are characterized by being strongly influenced by the presence of water.

Riparian buffer zones are significant in shoreline ecology due to their role in soil conservation, their biodiversity and the influence they have on aquatic ecosystems. Riparian zones are important natural bio-filters, protecting aquatic environments from excessive sedimentation, polluted surface runoff, and erosion. They supply shelter and food for many aquatic animals and shade that can be an important part of local water temperature regulation.

Research shows riparian zones can be instrumental in improvements to water quality for both surface runoff and water flowing into streams through subsurface or groundwater flow, by reducing nitrate contamination from fertilizers and other sources that would otherwise damage ecosystems and human health. Some of the important functions of riparian zones are:

Dissipate energy: Meandering curves of a shoreline, combined with shoreline rocks, fallen branches and trees, vegetation



Fort William Wharf (note firewood for steamboat!), from Elizabeth Miller's collection

and root systems dissipate stream current and wave energy, resulting in less soil erosion and a reduction in flood damage.

Trap sediment: Reducing suspended sediments creates less turbid water and replenishes soils and build shoreline banks.

Filter pollutants from surface runoff and enhance water quality via biofiltration.

Provide wildlife habitat, increase biodiversity and forage for wildlife.

Provide wildlife corridors: enable aquatic and riparian organisms to move along river systems avoiding isolated communities.

Provide native landscape irrigation by extending seasonal or perennial flows of water.

Contribute nutrients from land vegetation (e.g., leaf litter) and insects to the aquatic food chain.

Shade shallow water to reduce water temperature increases. (A higher temperature increases algae growth.)

Play an essential role in the beauty of the natural landscape.

Preserving a Natural Shoreline

In the past, "cleaning up the shoreline" by clearing trees and vegetation, planting grass to the water's edge, and removing weeds,

rocks, and clams were seen as property improvements. Unfortunately, these practices have been shown to be adverse to water quality and the natural habitats found along a river. Alterations to the natural shoreline environment such as excavating or filling, installing boat launches, importing sand fill to create beaches, removing aquatic plants and shoreline vegetation, and constructing wharfs, retaining walls, and boathouses also cause damage.

When shoreland materials or vegetation are disturbed or removed by human activities, aquatic plants and animals will be negatively affected by elevated sediment, nutrient, and toxicant levels. Excess nutrients that reach the water stimulate the growth of aquatic plants but stimulate algal growth even more. This can create algal blooms, which consume large amounts of oxygen when they die and decompose. This process is called eutrophication. Excess sediment delivered to the water gradually fills in rocky bottom habitat and buries bottom-dwelling creatures, resulting in a reduction in numbers or even the loss of some species. This reduces the amount of food available for upper-level predators such as minnows and game fish species. Further, when fine sediments settle over coarser river bed materials, they cover essential spawning grounds or eggs or prevent emergence of recently hatched fry.

The effects of small or inadvertent human tampering may seem to be inconsequential at the time. However, it is always important

Like what we do? Help us do more!
Don't like what we do? Speak up, help out,
write an article. Do something!!

to consider the cumulative affects of everyone's detrimental actions over the long term. Even small changes repeated by many people will slowly take their toll and negatively affect the ecological health of a shoreline. By the same token, small changes made by many to improve shoreline conditions can add up to a much healthier shoreline and river.

A natural shoreline is a hard-working biological feature of a lake or river made up of complex inter-dependent ecosystems. The best approach to maintaining a healthy shoreline is to try to leave it as much as possible in a natural state. Human activities near a shore will almost inevitably have some adverse effects. However, there are many recommended "best practices" that can be employed to minimize these effects when you are considering making changes at your cottage or if you wish to improve degraded shoreline conditions.

Tips for a Maintaining a Healthy Shoreline:

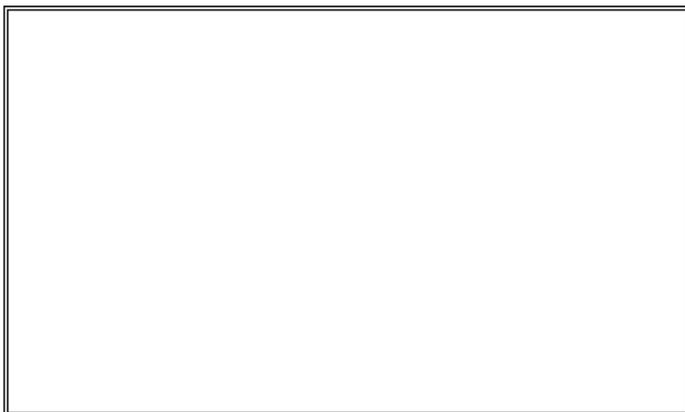
There are many ways that our cottage activities can have a much lower impact on the natural shoreline ecosystems that plants, animals and other land and water creatures depend on to survive. We can help to create and preserve healthy waterfront habitat for both ourselves and wildlife—while protecting property values and providing safer and healthier surroundings for our families. By understanding how a natural shore functions and then acting collectively to preserve, not destroy, that critical balance, individuals can make a difference.

Here are some things we can all do:

Maintain or restore the natural slope and vegetation in and along the water's edge to create a vegetative buffer (width of at least 5 meters) for a natural-looking and healthy river. Consult with proper authorities for advice on native species.

Maintain your septic system in good working order. If you aren't certain that your septic system is functioning properly, have it inspected by a qualified person.

Follow septic tank pump-out and maintenance by-laws.



A septic tank used only for some part of the year must be pumped out at least once every four years. A septic tank and used year-round must be emptied at least once every two years.

Plan your landscaping and construction projects to minimize their impact on the natural shoreline. Remember to consult with proper authorities for recommended practices and get a permit when required.

Use phosphate-free, environmentally friendly products in and around the home or cottage.

Dispose of non-biodegradable products, paints, motor oils, and unused building materials at an appropriate waste depot.

Compost kitchen wastes to use as a natural garden "fertilizer."

Float your dock above the shallows, share docking facilities, or better yet, go dock-free.

Replace hard surfaced stone, concrete, or timber retaining walls along the shore with a natural graded shoreline planted with a vegetation buffer for erosion control and natural filtration.

Locate building structures further back from the water.

Avoid cutting down trees, especially those bordering the river.

Dispose of pet litter with your garbage collection.

Join the Old Fort William River Watch program and learn more about the Ottawa River and how to respect it and keep it healthy.

Know Your Legal Responsibilities

Generally speaking, performing any shoreline alteration without prior authorization is illegal in Quebec. According to section 3.1 (*Prior authorization for activities on lakeshores, riverbanks and littoral zones*) of the Environment Quality Act, Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains, "All structures, undertakings and works that are liable to destroy or alter the vegetation cover of a lakeshore or riverbank, expose the soil or affect the stability of the lakeshore or riverbank or encroach on the littoral zone are subject to prior authorization. The pre-verification should be performed as part of the process when permits or other forms of authorization are issued by municipal authorities, the Government or its departments or bodies, according to their respective jurisdictions. ..."

Activities such as stabilizing the shore, building or repairing retaining walls, or digging to install water supply pipes require permits in advance from the Ministry of Natural Resources, Wildlife and Parks, as well as a municipal permit. Undertaking shoreline alterations without obtaining the required permits could result in proceedings against you in court and your being sentenced to pay a fine and restore the site to its original state. Many practices such as dumping truckloads of sand along a shoreline are strictly forbidden.

Shoreline development is governed through the Quebec Politic for the Protection of Shores, Littoral and Floodplains which is implemented and enforced through Quebec and municipal legislation. Cottagers should also be aware that the Ottawa River has been declared a protected habitat by Quebec's Ministries of the Environment and Natural Resources, Wildlife and Parks.

Further Information and Resources:

Provincial Information: Before making any alterations that may affect the shoreline, please make sure you have the pertinent information and are abiding the laws and regulations. Contact Chantal Picard, biologist at the Ministère de Développement Durable, de l'Environnement et des Parcs, (819) 772-3434, extension 237, or «chantal.picard@mddep.gouv.qc.ca».

Information can also be obtained from the provincial government website: «<http://www.mddep.gouv.qc.ca>».

Local Officials: Billy Brennan will also be able to assist you in determining your obligations under local municipal laws.

Publications: Excellent publications are available that explain the hows and whys of protecting and maintaining a healthy shoreline. These are available online in both French and English from Fisheries and Oceans Canada, or from any of your OFWCA River Watch representatives. We highly recommend the following:

"The Shore Primer," by Ray Ford, 22 pages, 2000

This book provides information on how to preserve your shoreline's true nature and tips on restoring an altered shore.

«http://www.dfo-mpo.gc.ca/regions/central/pub/shore-rivages-on/index_e.htm»

"The Dock Primer—A Cottager's Guide to Waterfront-Friendly Docks," by Max Burns, 23 pages.

This primer points both the confirmed do-it-yourselfer and the equally confirmed purchase-it yourselfer in the direction of good docks and good dock-building.

«http://www.dfo-mpo.gc.ca/regions/central/pub/dock-quais-on/index_e.htm»

The Living By Water project provides programs, services, and materials to promote the value of keeping natural shorelines healthy.

«<http://www.livingbywater.ca/main.html>»



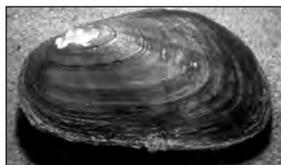
Join the Old Fort William Cottagers' Association!

*We need you! Your membership supports Sheen events (fireworks!), River projects (outhouses on the islands), and community projects, and it provides you with our newsletter, **ShoreLines**. Please make your cheque payable to the Old Fort William Cottagers' Association and mail it with this form to Angie Retty, 67 Tripp Road, Fort William, Quebec J0X 2Z0. Thank you!*

The Wonderful Life of Ottawa River Mussels

By Andre L. Martel, PhD, SCUBA diver and aquatic biologist,
Canadian Museum of Nature;
Article provided to us by the Ottawa Riverkeeper

Most outdoor Canadians have seen or noticed, at some point during their recreation time near water, empty shells of freshwater mussels, or clams, along the lake or river shore. If you are a cottage



Take care of these!

owner, canoeist, or a boater, or if you simply enjoy roaming or beachcombing along the shore, then you have already observed live mussels partly buried in the riverbed near boat launches or near the beach. But did you know that there are 55 different kinds of freshwater mussels in Canada's lakes and rivers, with 41 species in Ontario alone? In fact Canada has one of the richest and most diverse freshwater mussel fauna compared with the rest of the world—yes, the world! For example, in the Ottawa River and its tributaries (a region of interest to you), scientists have so far inventoried 17 different species of mussels, some of which are rare and unique to our region. There are more species of mussels in the Ottawa River than in the rivers and lakes of all European countries combined (only 12 species)!

But to appreciate freshwater mussels we need to know what purpose they fulfill in our waters, and how they reproduce. Their story is simply fascinating.

Freshwater mussels are filter feeders, pumping water inside their shell and eating tiny food particles, including tiny algae, bacteria, and detritus present in the water; in large numbers they literally



clean up the water! For most species this water-filtering process goes on from about April to November (some still filter-feed in the winter under the ice). Look closely as you wade along the near shore and you may see freshwater mussels with their shells gaping open, with their siphonal apertures wide open, feeding and filtering water at the same time. Another great service they provide is to mix up and oxygenate the river or lake bottom sediments. This is done thanks to a powerful muscular foot, allowing the animal to burrow into gravel, sand, or mud, and to plow through the sediment, often leaving a narrow "track" behind. This process oxygenates the bottom and increases productivity and diversity of life forms living on the bottom. They are like earthworms in your garden soil!

The fascinating story about mussel life continues when we examine how mussels reproduce and disperse in rivers and lakes.

First, mussels keep their eggs inside special gill pouches. The eggs develop into tiny embryos, or larvae, about the size of a tiny sand grain. These embryos are eventually released and must attach to a fish's fins or gills in order to complete larval development. The fish's job is then to disperse and propagate the mussel population throughout the river. Some mussels common in the Ottawa River, like the Plain Pocketbook mussel (*Lampsilis cardium*) even go fishing! The female displays a special part of its flesh that is shaped like and looks like a minnow, or fish lure, including eye spots, a long tail and dorsal fins. This "lure" is meant to attract fish. When the fish approaches the mussel's "lure," the mussel releases a cloud of tiny embryos.



Some of them will successfully attach to a fish and hitch a ride! After a few weeks or months, depending on the species, the embryo has metamorphosed into a tiny juvenile mussel, which then drops off onto the river bottom and begins its life as a mussel.

Here's lookin' at you

The freshwater mussel fauna of the Ottawa River is rich and worth preserving. Mussels need your help to survive in today's challenging time with water pollution and environmental change due to human activities. A rich freshwater mussel fauna goes along with a rich fish fauna, and that is what you want in the Ottawa River.



If you use a beach or a boat launch along the Ottawa River and mussels are a bit of a problem to the feet of some swimmers or boaters, simply take the time to remove them, by hand or with a garden rake, and relocate them to another nearby near area (perhaps 100-200 feet away, or about 50-100 meters from the launch). Have no fear to take them by hand; these are harmless animals. Mussels only move slightly along the sandy or mud bottom of the river and will likely not come back very soon to that spot. If you really want to get going on this, then we recommend doing this relocating task about twice a year. If you wish to use a mask and a snorkel to do this, it can be a fun task, although make sure you do not this alone, but with another swimmer or person. If you decide to relocate mussels, make sure you put them back quickly into the river, in deep enough water (2 to 10 feet deep is best); otherwise they may suffocate and die of heat and air exposure. Mussels are of great benefit to water quality of the Ottawa River and they need your help. Let's take care of Canada's natural filters.

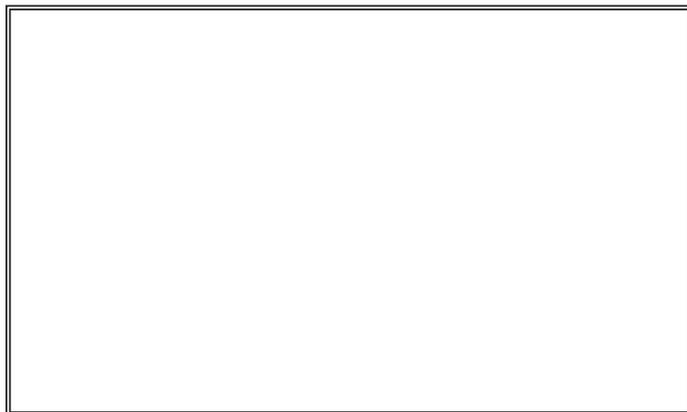
Greener Cleaners

By Reid Parker

If cottage cleaning conjures images of blue toilet bowl cleaner and white surface cleaners, it's time to think green. Many common household cleaners contain alcohol, ammonia, bleach, formaldehyde, and lye—bad substances for people and the environment.

At the cottage, what goes down the drain and into the septic system can still find its way into the River. Many detergents and soaps contain phosphates, which can fuel the overgrowth of algae, blanketweeds, and even invasive aquatic plants. This accelerated growth leads to depletion of oxygen, causing fish kills and a stagnant, murky look to the water. As well, household chemical cleaners and antibacterial soaps can destroy the "good" bacteria that help break down waste in the holding tank.

The good news is that decisions we make as consumers can help make a difference. Stock up on environmentally safe cleaners,



soaps, and detergents for use at the cottage. Ask local stores in Chichester, Chapeau, Fort Coulonge, and Pembroke to stock these products. It may be possible for the OFWCA to sell some of these products if enough cottagers express interest.

As well there are many websites where you can get information on how to make your own household cleaning products using everyday items like vinegar, lemon juice, and baking soda. For recipes visit «www.lesstoxicguide.ca».

Summer Reading

Submitted by Chris Graham

You can't think of summer on the River without thinking of lying in a hammock or sitting on the deck quietly reading a novel. It is one of the most relaxing and enjoyable things to do at the cottage.

Over the past year our book club has read some interesting novels that I would like to share with you.

The Birthhouse, by Ami McKay

Snow Flower and the Secret Fan: A Novel, by Lisa See

Glass Castle: A Memoir, by Jeanette Walls

Blood Letting and Miraculous Cures, by Vincent Lam

The Josephine B Trilogy, by Sandra Gulland

My Sister's Keeper, by Jodi Picoult

Don't Let's Go to the Dogs Tonight: An African Childhood, by Alexander Fuller

The Other Side of the Bridge, by Mary Lawson

The Shadow of the Wind, by Carlos Ruiz Zafon and Lucia Graves

Having our Say: The Delaney Sisters and the first Hundred Years, by Amy Hill Heath and Sarah and Elizabeth Delaney

Divisadero, by Michael Ondaatje

It's Not About the Bike, by Lance Armstrong

Enjoy!



itself is under strategic review by the Department of Natural Resources as it may be privatized.

Aside from the future of Chalk River, there is reason to be concerned about what the facility discharges into the local environment. Chalk River is likely the most contaminated piece of land in the country, largely because tritium and other radioactive waste, along with pollutants like lead, mercury, and PCBs, are seeping from several pits and landfills into aquifers, bogs, streams, and lakes around the facility, and ultimately into the Ottawa River. During Chalk River Laboratories' early years, radioactive wastes were handled carelessly. Since then AECL has blocked release of information about the extent of the problem and downplayed its financial responsibilities for clean-up.

The good news is that Ottawa Riverkeeper Meredith Brown sits on AECL's Environmental Stewardship Council, which, according to the Commission's website, is supposed to "enhance communications with key area stakeholders and communities" surrounding Chalk River. This forum allows Meredith to press concerns and to ask questions about the negative effects of the Chalk River facility on the River, and to look out for the ecological integrity of the River and the health of people living nearby and downstream. Recently AECL reported that it has slowed a leak from the NRU that had been contaminating the River for over three years.

More information:

http://ottawariverkeeper.ca/issues/chalk_river_nuclear_facilities
<http://www.aecl.ca/assets/publications/reports/eer-report-jan05.pdf>

Keeping It Green

A reminder that what goes down the drain and into the septic tank can still make its way to the River. Many detergents and soaps on the market contain phosphates, so check labels before you buy. Many of the "green cleaners" are widely available at Canadian Tire, Home Hardware, Loblaws, Shoppers Drug Mart, and other retailers. As well, avoid using household chemical cleaners, which destroy the beneficial bacteria that break down the waste in the holding tank. There are much less harmful alternatives now, with the proliferation of products with green certifications, such as the federal government's EcoLogo and the comeback of do-it-yourself cleaners, like baking soda, vinegar, and lemon juice (for recipes, visit «www.lesstoxicguide.ca»). The Quebec government's law forcing the closure of the dump by January 2009 also means the end of a relatively close place where your septic-tank pump-outs can be unloaded. Thus your OFWCA committee recommends that you get your tank pumped out this summer. If you wait, you may find that it is going to cost considerably more because the truck will have to travel significantly farther to a disposal site. Seasonal residents should have their septic systems pumped once every four years. Year-round residents should do so once every two years.

Shoreline Alteration

Planning any construction or additions or to buy property along the River? You need to be aware that Quebec's Ministry of the Environment and MRC Pontiac have very specific rules and restrictions with respect to building on the flood plain. Be sure to speak to Sheen building inspector Billy Brennan or a Quebec lawyer with expertise in the area and secure permits before beginning any work. Fines of \$1,000 per day can be imposed on violators, and authorities have the option to obtain court orders forcing owners to return properties to their original state. Failing that, the MRC can undertake restoration work and charge the cost of the work back to the owner.

As well, Quebec law specifically forbids cutting living trees, shrubs, and herbaceous plants inside the 10-metre wide strip alongside any lake, river, or stream. The practice of putting in fill or sod is also strictly forbidden.

Riverkeeper Healing Journey

The River Healing Journey is heading to Fort William to continue to spread the message of the importance of clean water in our lives. This section of the Ottawa is part of the vital watershed that provides drinking water for over 1.5 million people in towns and cities including Ottawa and Gatineau. Last year, 30 people in voyageur canoes paddled the Ottawa River and raised \$2,000 for Ottawa Riverkeeper. This year they are paddling our stretch of the River, and your support is sought in welcoming them.



River Healing Journey II will take participants on a five day guided excursion through Renfrew County and the Upper Ottawa Valley, starting at Ryan's Campsite near Point Alexander, and ending at Westmeath. The group will be at Oiseau Rock on Tuesday, July 8. Joann McCann will show them the pictographs and share the history of the Rock. On the next day, they will paddle to Fort William for visit to the Hotel Pontiac and a tour of the former H.B.C. post. Cottagers and residents are invited to join in welcoming them to Fort William. Come to the Hotel on Wednesday, July 9, during the late afternoon. Likewise, if you see them on the River, paddle out and wish them well on their journey! We will try to have updates (including times) on the web site.

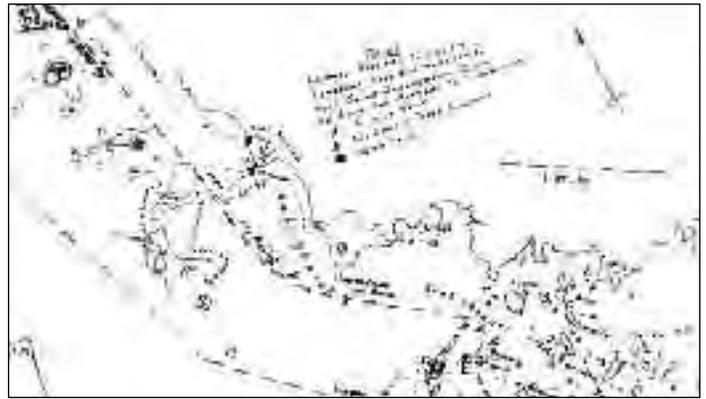
Nutrient Runoff and Dead Zones

By Kevin McCann

Humans have long flocked to coastal areas. It may not be surprising, then, that some of the biggest ecological problems we face are aquatic in origin. Human activity, both on the land and in the water, continues to contribute to massive changes in our freshwater and marine ecosystems.

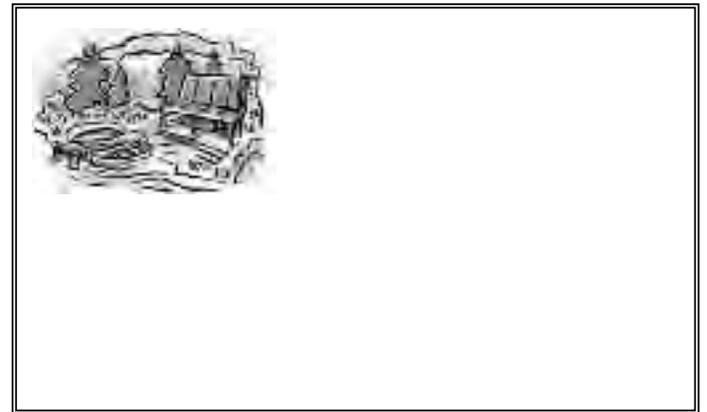
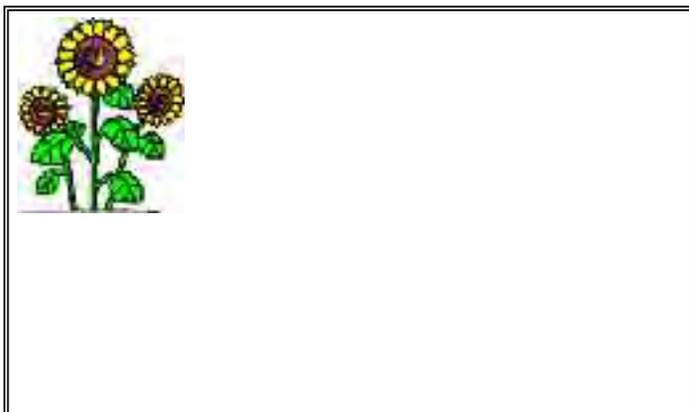
Arguably the largest influence on aquatic ecosystems comes from the ability of humans to alter the natural level of nutrients like phosphorous and nitrogen. The application of fertilizers, sewage, waste, and contaminants is a major factor in generating high levels of nutrients on the landscape. Much of these human-derived nutrients are ultimately swept up by rainfall that runs over the soil ending up in our groundwater, lakes, rivers, and oceans (nutrient runoff).

Since nutrients are one of the major fuels that govern the production of plant and animal life, one might think that increased nutrients ought to simply ramp up the abundance of plants and animals. Sadly, this tends not to be entirely the case. Instead, scientists have found that such nutrient-intense runoff appears to consistently impair the functioning of aquatic ecosystems, producing numerous



Old River Chart (DLP collection)

cases of what people are now calling "dead zones." These dead zones all have a familiar story. Human-derived nutrients flow over the landscape and into the water where these nutrients become fuel for algae (the microscopically small plants of lakes, rivers, and oceans). Unfortunately, though, most of the algal growth is directed towards a specific kinds of nasty blue-green algae—algae that are not easily consumed by animals (it can even be toxic). Since this abundant plant life is effectively not eaten, it eventually dies and sinks to the bottom of the water body. There it is colonized by bacteria that thrive on this otherwise inedible mass of plant life. Bacteria grow to great numbers and so consume great amounts of oxygen. Bacteria have sometimes been found to reduce the oxygen in these systems to such low levels that most other organisms cannot survive, creating "dead zones." These dead zones are not inconsequential: in some cases they have extended over 100,000 square km (e.g., Gulf of Mexico), accompanied by enormous losses in sport and commercial fisheries.



These dead zones are a Canadian issue as well. Lake Erie, for example, has found itself the bearer of an enormous yearly summer dead zone, and even the Ottawa River has developed a temporary dead zone due to the influence of a wastewater treatment plant (*Ottawa Citizen*, 2003). Even if runoff is not so dramatic, increased nutrient loading in our aquatic ecosystems still tends to reduce fish populations and harm drinking water. As coastal communities on the Ottawa River continue to develop, we may expect this problem to increase. Coastal development and the removal of trees and plant life usually increase the loss of sediment and nutrients into the water, enhancing the influence of runoff (plants and trees stabilize the land and absorb nutrients running over the landscape). It becomes critical for landowners to leave the trees and shrubs along the shoreline, use phosphate-free cleaners, give up lawns and their treatment along waterways, and ensure that septic systems are functioning properly with regular emptying.

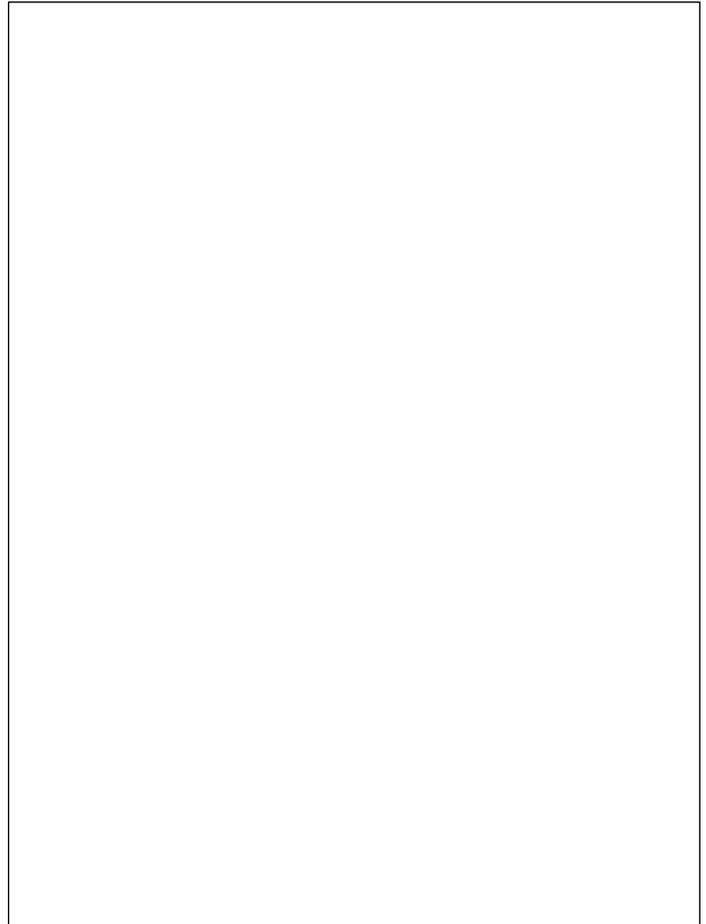
For further information see:

«http://en.wikipedia.org/wiki/Dead_zone_%28ecology%29»

«<http://en.wikipedia.org/wiki/Eutrophication>»

«http://ottawariverkeeper.ca/news/city_of_ottawa_unable_to_fix_deadly_water_treatment_problem/»

Kevin McCann is Associate Professor, Dept. of Zoology, at the University of Guelph, and a cottager in Downey's Bay.



Pontiac County Internet Project

David L. Prentice

Over the winter, the first subscribers in Sheenboro were hooked up to the county-wide wireless Internet system. These people tend to be concentrated where the antenna towers are: in the village, within sight of Brennan's Hill, and downriver from the Fort (a tower is in Petawawa). As I write, the first "neighbourhood project" to provide service to a number of subscribers who are not in direct sight of a tower is about to be set up. Nine customers (six year-round, and three seasonal) in Meehan's Bay, including one cottage far from the Bay but with a clear line of sight, got together and made a pitch and are shortly going to receive a signal bounced from a cottage on the south side of the Bay that can see the Tower on Brennan's Hill.

I hope that this may be the first of several such neighbourhood projects. It is quite possible that other groups of people, say in a bay or all along in a row on the waterfront, will get together and launch their own effort as we did. Given Sheen's topography, it is likely that some kind of a tower may have to be built, but perhaps several such groups can come up with a way to receive and bounce signals around local areas. I urge you to canvass your neighbours, ask around, and try to come up with some numbers of people who would be interested, and then get in touch with WePC and Picanoc to find out how a plan can be put into action. Email me for contact information and news on other projects that may be under way.

We would like to remind you that there is a significant high-speed Internet service at the Municipal building in Sheenboro. As this building and its computer are locked most of the time, we realize that access can be an issue, but if you are laptop-enabled, you can cruise up to the door facing the church and go online wirelessly. (And of course we can't help asking that there be no idling of engines there to foul up our fine Sheenboro air.) As of this writing, the network is passworded (ask for it), but this restriction may be removed shortly.

Some people have reported good results with the Rogers USB Internet stick or their other option that contains a wireless router. My understanding is that Rogers will lend you one to try out for a week. The company has a store in the Pembroke Mall.

 **GOT SOMETHING TO SELL? SEE THE EXCHANGES PAGE ON THE OFWCA WEB SITE!** 

Laws That Apply To Our Shores And Beachfronts

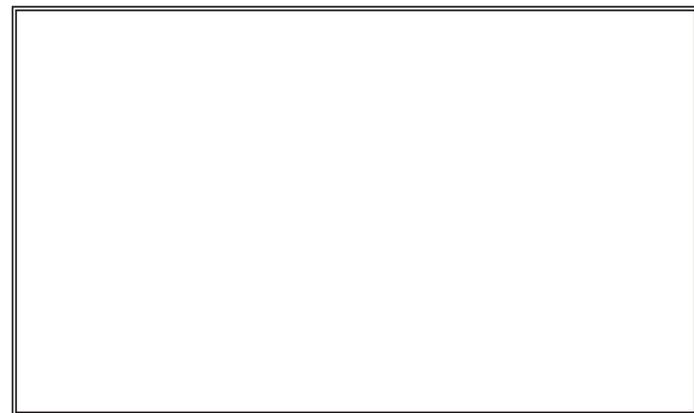
By Cathy Galligan

Did you know that there are several laws that apply to cottage owners, contractors, and others, which are aimed at protecting the Ottawa River shorelines? These will regulate what you may legally do to your shoreline. Here is a quick primer to keep you in the know so that you don't run afoul of the law:

Quebec Politic for the Protection of Shores, Littoral and Floodplains: This politic has been implemented by the Sheen Municipality through its by-laws, and in particular, Zoning By-Law 14-2003. This by-law protects shore/banks and the littoral of the Ottawa River by prohibiting the cutting of trees and vegetation along the shore except in rare circumstances, or for a small opening to access the water. It prohibits the dumping of fill.

In addition, the dumping of fill and the cutting of trees and vegetation within the high-velocity zones of floodplains (0-20 years) violate article 22 of the Quebec Environment Quality Act and are prohibited by article 4. 2 of the Regional County Municipality of Pontiac by-law number 117-2006 (By-law to deal with the determination and Protection of the Floodplains along the Ottawa River). Violation of this by-law makes one liable to pay significant fines. A violation of the Environmental Quality Act also renders one liable to significant fines and the Ministère du Développement durable, de l'Environnement et des Parcs can fix the damage at the expense of the owner.

Article 6.2 of the Regional County Municipality of Pontiac by-law number 117-2006 provides that the Regional County Municipality of Pontiac "may, upon being informed that this By-law has been violated, exercise all other recourses available to it under civil



law and, without limitation, all other forms of recourse provided for in Articles 227 to 233 of An Act Respecting Land Use Planning and Development” (Quebec). These later articles allow both the Regional County Municipality of Pontiac and the Quebec Attorney General (for the Ministère du Développement durable, de l’Environnement et des Parcs) to obtain an order of the court requiring the owner of the property to cease all activity and to demolish the work and return the property to its former state. If the owner will not, the Regional County Municipality of Pontiac can do the work and charge the cost of the work to the owner. If the owner refuses to pay, then the cost of the work becomes a charge (like a mortgage) upon the property that will be collected by the Regional County Municipality of Pontiac upon the sale of the property (voluntary or forced).

Finally, under the federal Fisheries Act no one may carry out a work or undertaking that will cause the harmful alteration, disruption, or destruction of fish habitat unless it has been authorized by Department of Fisheries and Oceans, Canada. Those who do not comply with the Fisheries Act may be liable to penalties, and even criminal prosecution under the Fisheries Act. Elsewhere on the Ottawa River in Ontario, the Federal Ministry of Natural Resources and the Department of Fisheries and Oceans investigated an individual who was eventually convicted and fined \$6,000 for harming fish habitat on the river by filling in a section of the river with soil. The individual was also ordered to restore the habitat that was destroyed by the infill. In addition the contractor he hired was fined \$8,500.

A useful directive by the Quebec Ministry of Environment and Ministry of Natural Resources, Wildlife and Parks called “The Lakes and Rivers: a Living and protected Habitat” dated February 2, 2005, sets out the following type of forbidden works:

- Cutting vegetation (trees, shrubs, and herbaceous plants) inside the 10-meter-wide (sometimes 15-meter) shore strip alongside any lake, river or stream (except for a 5-meter wide pedestrian access to the water and the removal of dead or sick trees). The usual practice of putting lawn on the shore down to the water is strictly forbidden;
- Digging or filling inside the shore strip and in the bed of any lake, river or stream;
- Laying boat launches for private purposes;
- Adding sand to create a beach



- Removing aquatic plants...;
- Laying wharfs on cribs or casing (only floating wharfs or those on wheels, poles, or piles are allowed);
- Building boathouses.

A helpful resource for landowners with shorelines is the The Rideau Valley Conservation Authority’s LandOwner Resource Centre. See its notes on shorelines at: «http://www.lrconline.com/Extension_Notes_English/pdf/shrlns.pdf».

These notes explain that the natural vegetation along the shoreline protects water quality, prevents soil erosion, and preserves the ecological balance of aquatic environments. Vegetation within the water provides much needed habitat for fish and other marine life. Indeed, shorelines sustain 90 percent of the life found in any lake or river. The following extract from the notes sets out benefits to our natural shoreline and the harm you can cause by altering it:

Natural Shoreline Vegetation —

- provides shelter and food for wildlife
- supports spawning beds for fish
- enhances water quality
- traps runoff and excess nutrients
- shades and cools water
- discourages growth of algae and aquatic plants

Having no Shoreline Vegetation —

- does not provide shelter and food for wildlife
- degrades spawning beds for fish
- decreases water quality
- increases runoff and excess nutrients
- warms water
- encourages growth of algae and aquatic plants

This may help to explain why there are so many laws to prohibit activity on the river that may seem benign but in fact is not.

