

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.

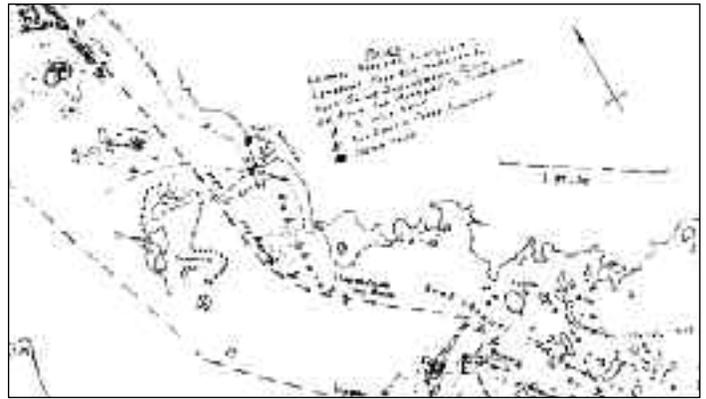
Nutrient Runoff and Dead Zones

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.

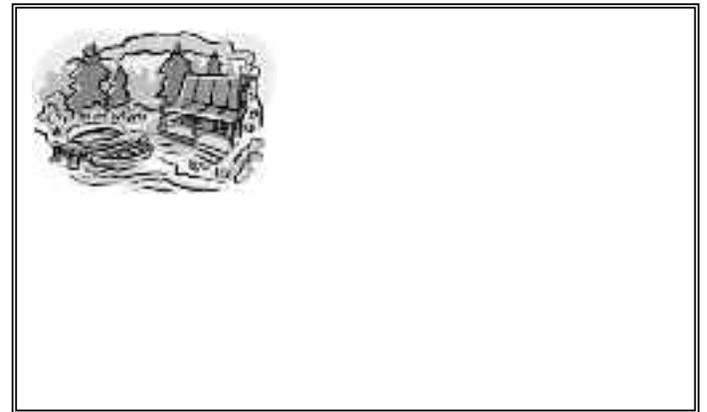
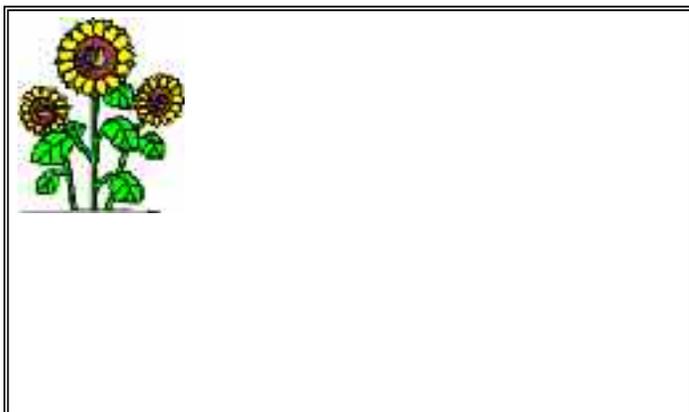
Arguably the largest influence on aquatic ecosystems comes from the ability of humans to alter the natural level of nutrients like phosphorous and nitrogen. The application of fertilizers, sewage, waste, and contaminants is a major factor in generating high levels of nutrients on the landscape. Much 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.

