

PCBs and Five Island Lake

Five Island Lake Community Liaison Committee • Newsletter #11 • January, 2002



Dear Fellow Residents

We are very pleased to announce that the remediation of North Bay has been completed! After removing 6,850 tonnes of PCB contaminated sediments from the Bay, the final piece of clean-up equipment left the site in November. The weir built across the entrance to North Bay has been opened and the Western Brook is now running along its original course. All restrictions on swimming and boating in North Bay have been lifted.

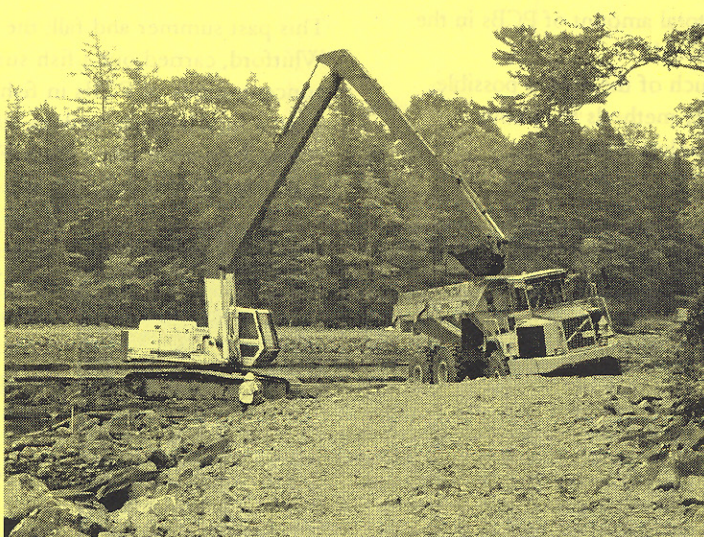
The completion of the clean-up means that there are now fewer PCBs available to move through the food chain, and we have received the good news that fish in Five Island Lake appear to be recovering much more quickly than originally expected. There have been significant reductions in PCB

concentrations in fish since the last time they were tested in 1994. As a result, the Department of Health is no longer advising people not to eat fish caught in the nine lakes upstream and downstream from Five Island Lake. However, the health advisory remains in effect for Five Island Lake but will be reviewed again in 2003 after another fish survey.

It has been a long haul for the community since the Associated Metals and Electronics Salvage Yard at Five Island Lake was identified as a problem in 1988 and placed under a Ministerial Order by the NS Department of Environment. In 1994 the sediments and fish in Five Island Lake were tested and found to be highly contaminated by PCBs. The first community meeting was held in October of

that same year, and the Community Liaison Committee formed shortly afterwards.

The CLC has been a collaborative effort between community representatives and the government. A great deal of effort went into providing public input into difficult decisions about the best way to proceed. Budget constraints meant that the remediation did not always move ahead as quickly as the CLC would have liked, but the results now look promising – a large amount of PCBs have been removed from the environment, the North Bay is open for recreational use again, and there is clear evidence that the lake ecosystem is recovering.



For the past seven years the CLC has focused mainly on the PCBs in North Bay because they were in an uncontrolled situation, and could easily move through the lake system and through

the food chain. While we are pleased to report the completion of this phase of the PCB remediation, there is still more work to be done.

This newsletter brings you information about the completion of the North Bay clean-up, what we know about the remaining contamination in soils and sediments, and some options for the future. As always, we appreciate hearing your comments, questions or suggestions. Please return the feedback form, e-mail us at fiveislandlake@hotmail.com or call any of the community representatives on the Committee.

The Committee will now be considering the next steps and will hold a community meeting in the spring to share

information and get your views and ideas. We will notify you about this meeting in our next newsletter.

Previous issues of this newsletter can be found at www.gov.ns.ca/tran/Projects/FiveIsland.stm.

Your Community Representatives on the Five Island Lake Community Liaison Committee

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North Bay Clean-up Facts

- A total of 6,850 tonnes of contaminated sediments containing approximately 74.2 kg of PCBs have been removed from North Bay. It is estimated that this is about 98.5 percent of the total amount of PCBs in the bay before the clean-up started.
- Contractors dredged as much of the area as possible, then followed up with other methods to remove sediments in shoal and shoreline areas.
- The clean-up took place over three years. As each section of the Bay was dredged, it was protected over the winter by silt curtains to stop contaminated sediments from moving back in.
- While the clean-up was being undertaken, the main body of Five Island Lake was protected from the North Bay by a control weir and additional silt curtains.
- After the contractors removed a layer of sediment, the remaining sediment was tested to see if levels of PCBs were within the target of 1 ppm. If the PCB concentrations were still high, the contractors went back to remove more.
- A few small areas, where it was impossible to remove contaminated material from between rocks, were covered by a layer of fresh rocks.
- Before the clean-up started, analysis showed concentrations of PCBs in North Bay sediments ranging from 13 to 220 ppm. After the clean-up, sediment concentrations are now generally around 1



ppm except for a few small areas where they are higher (up to 82 ppm in places). Contractors made several attempts to remove this material but could not get at the sediments pushed down between rocks.

Swimming, Boating, Fishing — Good News

Since the PCBs and heavy metals were first found in Five Island Lake, the Department of Health has recommended, through an official advisory notice, that people not swim or boat in North Bay. This was to avoid stirring up contaminated sediments that might then have moved out of the Bay into the main body of the lake. On January 3 2002, Dr Robert Strang, Public Health Services, Central Regional Health Board, informed the Department of Environment and Labour that the advisory notice had been lifted. Residents may now both swim and boat in North Bay. The control weir between North Bay and the rest of the lake has been removed, so boats can once again move freely throughout Five Island Lake.

This past summer and fall, the consulting company, Jacques Whitford, carried out a fish survey to compare concentrations of PCBs in fish tissues and livers to results from a similar study back in 1994 before the clean-up began. Fish were taken from Five Island Lake, and also from Big Hubley Lake (downstream from Five Island Lake), Frederick and Sheldrake Lakes (upstream from Five Island Lake) and Round Lake (not connected to the Five Island Lake system and used as for comparison purposes). The results were very encouraging.

- The concentration of PCBs in fish muscle in species caught in Five Island Lake showed the most significant improvement. For example, PCBs in perch declined by approximately 92% compared to 1994 levels (13 ppm down to 1 ppm). Overall, in the four lakes sampled, PCB concentrations had decreased by between 60 and 99 percent.
- Almost half the fish sampled in 2001 had PCBs below detection limits (0.05 ppm).
- Only three fish caught in 2001 (all in Five Island Lake) had PCB tissue concentrations greater than 2 ppm — the acceptable limit for consumption recommended by Health Canada.

- For more information see the full results of the 2001 fish survey at www.gov.ns.ca/tran/Projects/FiveIsland.stm.

It's important to note that even in Round Lake, trace amounts of PCBs were found in Golden Shiners. This has nothing to do with the contaminated sediments in the Five Island Lake system, which is not connected in anyway. Unfortunately it simply indicates how PCBs have spread throughout our environment, traveling via wind, rain and snow.

Because of these results, the Department of Health has lifted the health advisory notice, in place since 1994, that recommended not eating fish caught in Sheldrake Lake, Birch Hill Lake, Holland Marsh Lake, Lizard Lake, Frederick Lake, Five Island Lake Run, East Duck Pond, Hubley Big Lake and Long Lake.

The health advisory will remain in effect for Five Island Lake itself for at least another year. Fish in this lake will be sampled again in 2003, and, depending on the results, it may be possible to lift the advisory for Five Island Lake at this time. However, residents are reminded that the Department of Fisheries has applied a catch-and-release regulation to lakes in the Woodens River Watershed, including all the lakes mentioned above. This regulation requires anglers, when fishing trout, to use only single hook lures or artificial flies (no natural bait) and to release all trout caught. The purpose of this restriction is to rebuild trout stocks (for more information visit the Department of Agriculture and Fisheries' website, www.gov.ns.ca/fish/nsaf).

While this means that you will still not be able to eat a trout caught in one of our local lakes, lifting the health advisory from the eight lakes sends a positive message to the public about improvements in environmental quality in the Woodens River system. And eventually we should be rewarded for our patience with a larger, healthier stock of fish.

What's Next?

While the clean-up of North Bay has had a high profile, other steps have been taken to manage or improve the PCB contamination problem on the site of the former salvage yard. The Committee will be continuing to review information about the following activities and to seek community input. We need your opinions about future priorities. Please return the feedback form or give one of us a phone call with your views or questions.

- **Removing the steel containers from the site**
When the Department of Transportation and Public

Works cleaned up contaminated soils from the site and neighbouring properties, soils with higher PCB concentrations were placed in steel containers (50 ppm or higher is considered a hazardous waste and requires special treatment). Of the original 52 containers, twenty had been emptied, the soils treated appropriately, and the containers removed, cleaned and put to other uses. This winter, the Department plans to remove between 14 and 16 additional containers. The CLC considers it a high priority to remove all the remaining containers from the site as soon as possible. Meanwhile they are inspected regularly to ensure compliance with the PCB Storage Regulations.

- **Looking at cleaning up additional areas of sediments in Five Island**

Unfortunately, over the years, PCBs from North Bay had escaped into the rest of Five Island Lake and beyond. The CLC recognized early in the process that most of them would never be retrieved because they were distributed so widely and also in very low concentrations. There are, however, a few areas close to North Bay where concentrations of PCBs are quite high. The CLC will be discussing with the Department of Transportation and Public Works what remediation may be possible.

- **Ongoing groundwater monitoring**

There are still PCBs buried below the surface of the soil on the site of the former salvage yard, together with other chemicals such as heavy metals. In 1989, an initial assessment of the site showed significant quantities of buried debris (scrap metal, wood etc) extending down to bedrock. This debris was mixed with PCB contaminated soil, with concentrations nearing 20,000 ppm. In addition, waste ash from the old mini-smelter at the salvage yard was used as fill, creating large areas of heavy metal contaminated soil.

Before the CLC was formed, the first priority in managing the site was to collect all the contaminated material that could be removed from the surface of the site, and to protect the remaining area from rain infiltration and surface run-off. The provincial government's objective was to prevent long term migration of more contaminated material down to adjacent properties and into the lake. In order to make sure that the PCBs and other chemicals down below the surface of the site are not moving anywhere, the Department of Transportation and Public Works constructed a number of monitoring wells around the site. By testing groundwater as it moves through these wells, they can determine if any of the contamination is moving off-site.

So far, the results show that the PCBs and other chemicals seem to be stationary. But this is obviously an issue of big concern to the CLC. We will continue to press for regular monitoring and will review the results.

• **Options to finish the job**

Ideally “finishing the job” would mean remediating the whole site and removing or treating in place the PCBs and other chemicals that are deep down in the soil and bedrock. The CLC recognizes that there are no easy solutions, but, now that the situation in North Bay is vastly improved, we do want to consider possible options and new developments in treating or managing contaminated sites. If there were any indication that the contamination was moving off the site, the government would need to be ready to take action immediately. And maybe, some day it might be possible to clean the site, although at this stage effective containment may be the only real option.

Woodens River Watershed Environmental Organization AGM

The Woodens River Watershed Environmental Organization will hold its Annual General Meeting on **Tuesday, February 26th, 7:30pm**

at the Bay Road Fire Hall near Lewis Lake.

Progress reports will be presented on water quality testing, the PCB remediation work on Five Island Lake, the Sheldrake Lake aeration project, the Bluff Trail, and the Five Bridge Wilderness Heritage Trust. All are welcome to attend and participate. For more information visit the WRWEO website at: www.chebucto.ns.ca/Environment/WRWEO/

We Need To Hear From You ...



Please take a few minutes to complete this feedback form and return it to:
The Five Island Lake Community Liaison Committee, Fax (902) 421-1990,
or e-mail us at fiveislandlake@hotmail.com

I have the following questions or comments about (1) the remediation of North Bay, (2) the current state of the Five Island Lake system (3) ongoing management of the site, (4) next steps, or (5) any other matter.
