

ROUGH TRANSCRIPT  
CBC RADIO ONE – MAINSTREET NOVA SCOTIA  
STEPHANIE DOMET  
INTERVIEW WITH DR. LINDA CAMPBELL  
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The haunting cry of a loon is iconic in many parts of Canada.

But mercury pollution could sound a death knell for the water birds.

A new map charts levels of mercury concentrations in lakes across Canada -- and shows just how serious the problem is in Eastern Canada -- particularly in Nova Scotia.

It's the first time the issue's been looked at on a national scale -- looking at levels of methyl-mercury in yellow perch, a fish that makes up a healthy part of a loon's diet.

Methyl-mercury occurs when airborne mercury enters lake systems through rain... and, due to water chemistry and bacteria, transforms into a new substance... one that is highly toxic, and prone to building up in food chains.

Linda Campbell is an associate professor in environmental studies at St. Mary's University.

She's been working on the project, along with Environment Canada scientists, for nearly four years.

Karen Staples is an ASL interpreter who works with Linda, she joined us for the interview .

1. How many fish did you have to test to come up with the data for your map?

Well we gathered data for 230,000 fish across Canada

2. What does your map reveal?

It's a model of how mercury is distributed across Canada

3. Why do we seem to have higher levels of mercury pollution here than in other regions? Is it because of our own coal-fired power plants, or is it coming from elsewhere?

Mercury comes from many sources, industry being one of them. Coal burning being one of the main ones. But the lakes in eastern Canada are what i like to call a goldilocks lake, they are just right for mercury biogeochemistry. And the lakes in eastern Canada particularly are more acidic than you might find in other areas, similar to the level of acidity in coffee.

4. Why's that?

Well it's naturally occurring and industry processes also have an impact but they're naturally acidic in the first place.

5. Mercury toxicity in loons is not a new issue in Nova Scotia... what do you hope this research will do?

We wanted to show how the sensitivity of the lakes compared across Canada. And so we wanted to show that in eastern Canada the lakes are more sensitive. that helps us, as scientists, where we want to invest our resources. And so it really helps us plan better for the future.

6. Have we crossed the point of no return?

It's not too late, no. At this stage many industries and power plants have identified the issue and they're working really hard to reduce mercury already. And so we want to show the areas with the highest sensitivity, especially to methyl-mercury and the idea is to reduce it to zero emissions if we can

7. And so will it just get better over time, if they emissions are reduced to zero, will the levels of methyl-mercury just drop away

It would take time, the damage has been done already but hopefully yes, that would be what you'd see

8. What can NS do to tackle high levels of Methyl-mercury in our lakes?

well what we can do right now is do research close to home. we want to be be sure that we are aware of what light bulbs we're using. so those energy saving light bulbs that we commonly use now have mercury inside. those are things that you cant throw into the regular garbage. Another thing you can do is try and reduce your use of fossil fuels. so driving less, using less energy, burning less oil. And do as much as you can to reduce emissions

b) Why not just treat the pH levels in lakes, wouldn't that stop methyl-mercury from being produced?

Some countries have tried to use liming to do that, but it has had mixed success. that's something that would need further analysis and you'd have to evaluate the lake very carefully before you'd do something like that. There has been some success in southern NS for Salmon River. There's been some success there for that program but I wouldn't recommend it for a lot of other lakes.

9. Why's that, is it because you're adding something to the lake that might otherwise disturb the natural ecosystem there?

Right. And the lime itself can kill algae and a lot of the small plankton that would live there. and that's something that's really important for the food web and everything that lives in that lake.

10. How urgent is the need to address this?

It is urgent yes. we're very lucky that the UN recently signed a treaty in Japan, it would have been last month. It was called the Minamata treaty, and i think there were 130 different governments from across the world that agreed to try and reduce mercury emissions to zero within the next ten years, which is amazing, that's wonderful, it's great news for all of us. but that's one step, and it's at the international level. but right now we can do things. we need to act now

11. Was Canada one of the signatories to that?

Yes, they were. Canada's doing a pretty good job of analysing the mercury across Canada and the Canadian government has established a program that's called the clean air regulatory agenda, and that included mercury controls and monitoring mercury. There's a lot of different programs working together looking at the same issue.

12. What's at stake?

I think a lot of fish would be impacted. we can already see that loons have been impacted reproductively, and so fish have probably been impacted as well.

Linda Campbell, thank you for speaking with us about this.

Thank you for having me here

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