

Environmental Concerns of Canada



Environmental Issues in Canada

- 1. Acid Rain
- 2. Pollution of the Great Lakes
- 3. Extraction of Natural Resources on the Canadian Shield
- 4. Timber Industry in Canada



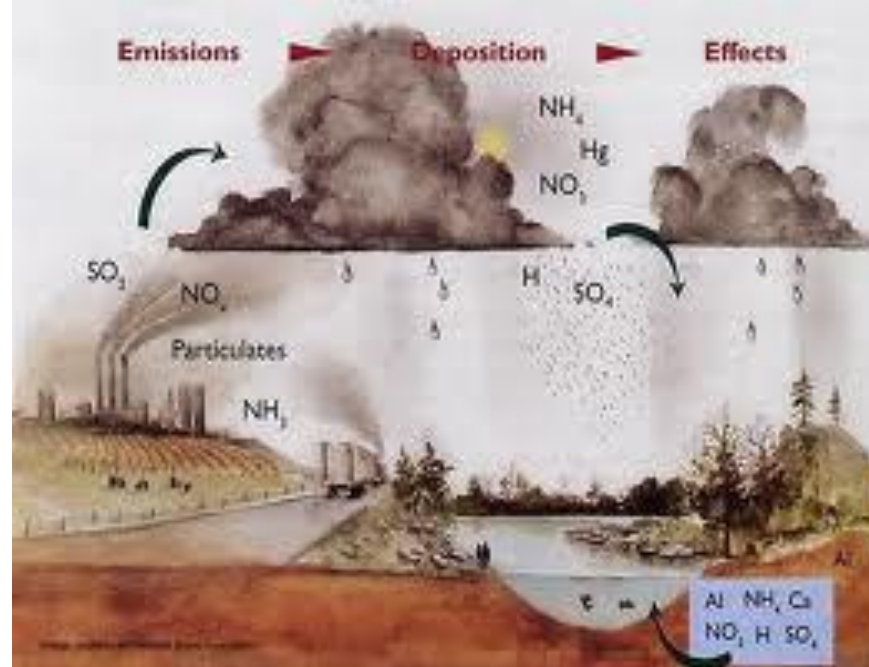
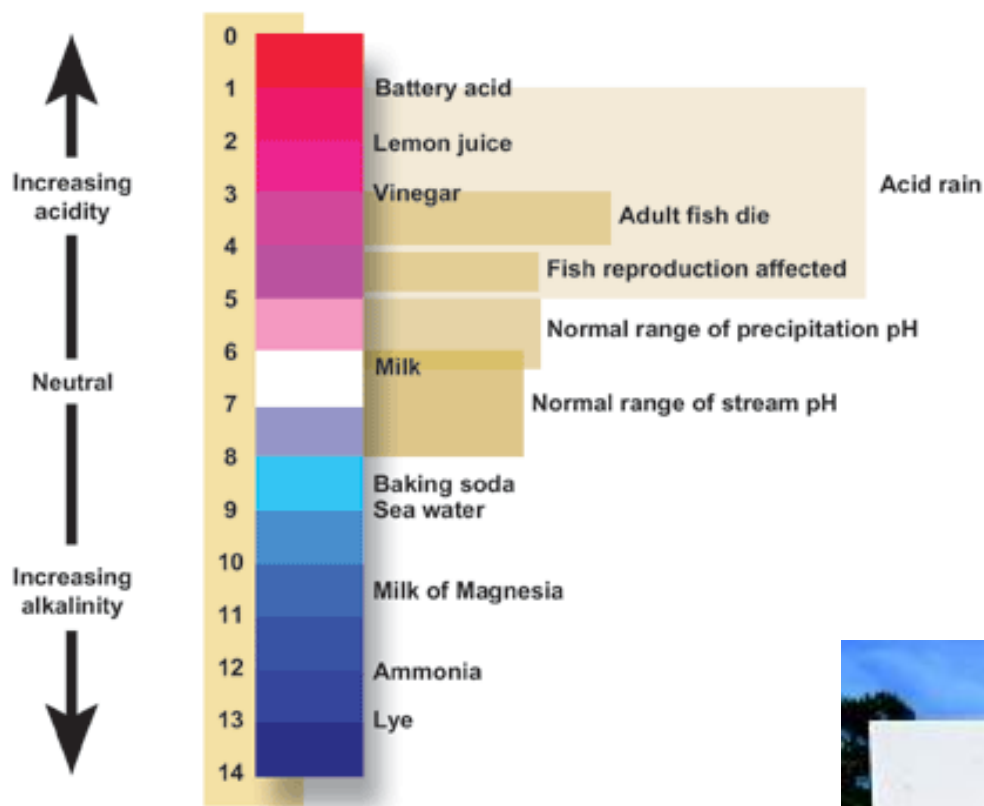


Acid Rain

- Coal-burning power plants, factories, and vehicles release chemicals that pollute the air
 - The pollutants mix with water molecules in clouds and turn the water acidic
- High levels of acid in rain can damage or kill trees and pollute lakes enough to kill fish
- Houses, buildings, statues can also be damaged







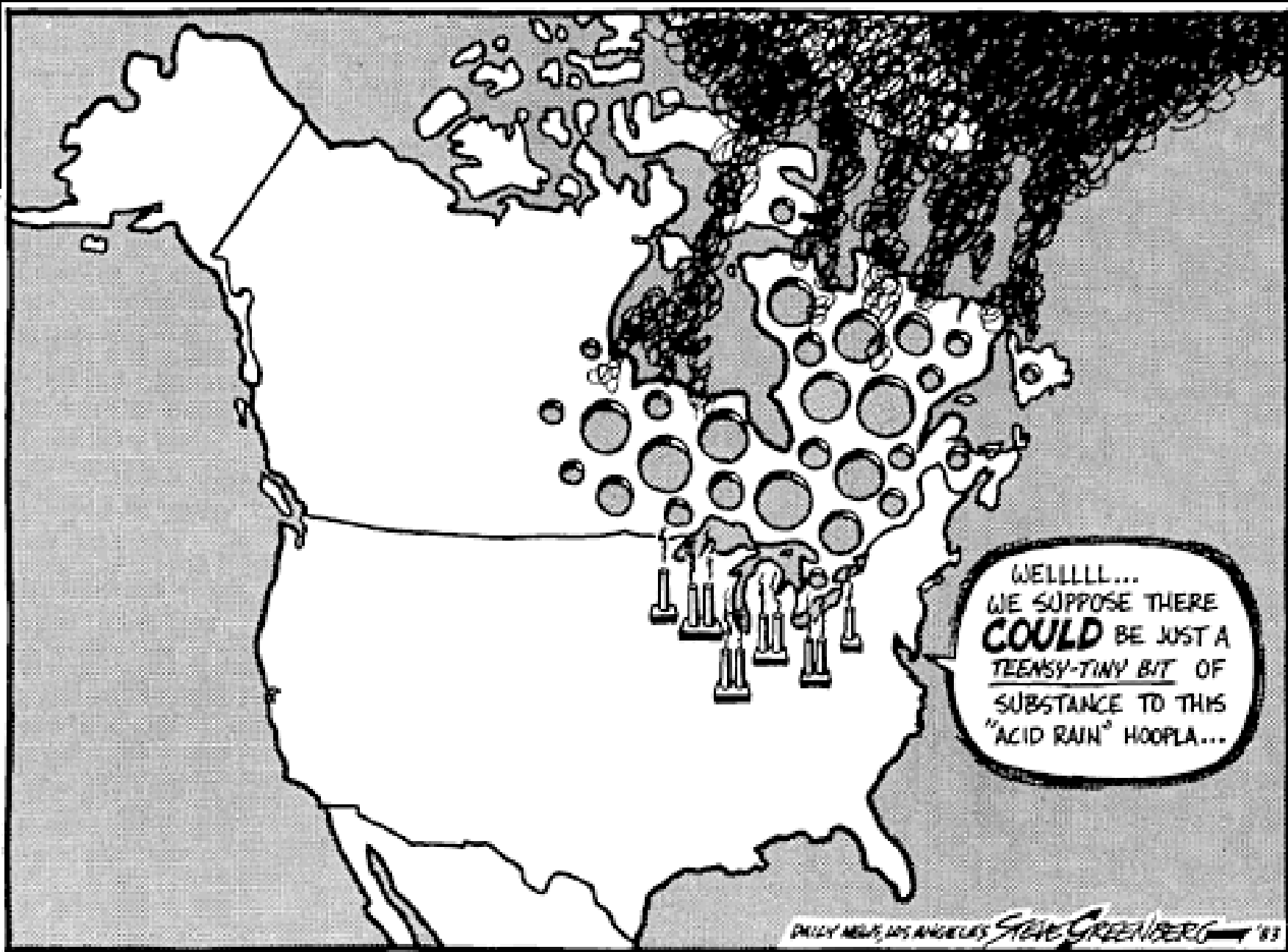
**ACID RAIN KILLS RIVERS
THIS RIVER IS DYING**

THIS PROJECT SPONSORED BY THE
ATLANTIC SALMON FEDERATION
AND THE
NOVA SCOTIA SALMON ASSOCIATION

Acid Rain

- Southern Canada (near the Great Lakes region) experiences the highest levels of acid rain
- 50-75% of the pollution that causes acid rain actually comes from the US
 - Wind patterns tend to move the pollution from the US north into Canada

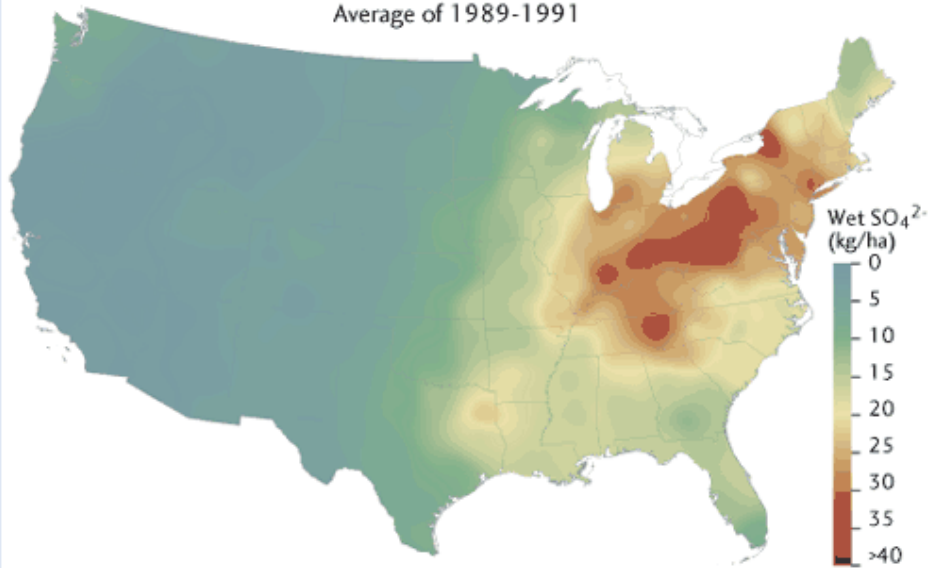




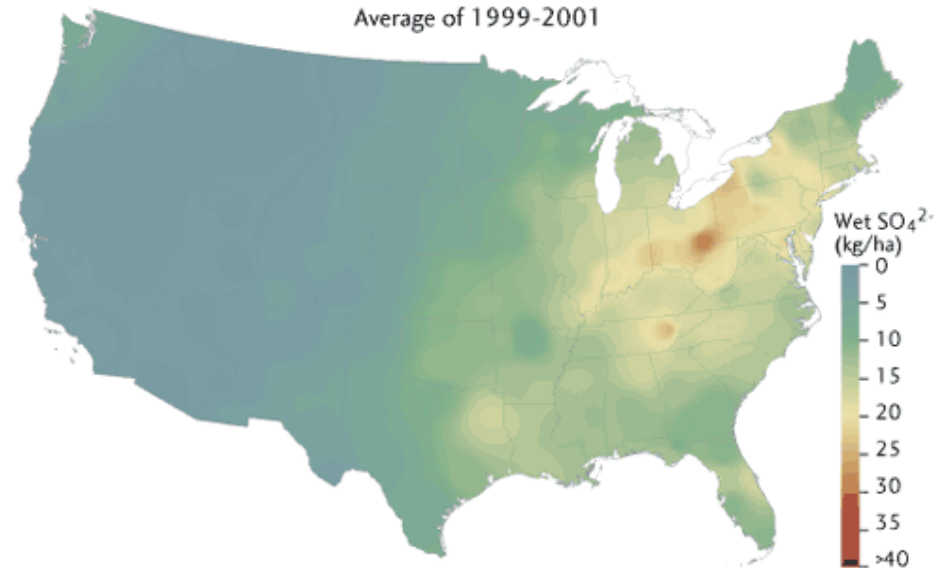
WELL...
WE SUPPOSE THERE
COULD BE JUST A
TEENSY-TINY BIT OF
SUBSTANCE TO THIS
"ACID RAIN" HOOPLA...

Exhibit I-6: Wet sulfate deposition, 1989-1991 vs. 1999-2001

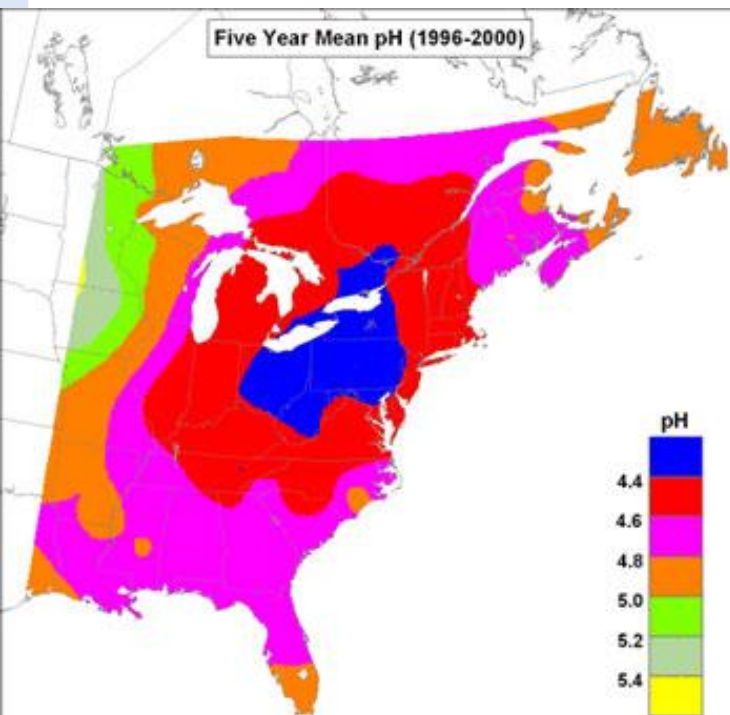
Average of 1989-1991



Average of 1999-2001



Five Year Mean pH (1996-2000)



EPA Acid Rain Program: 2001 Progress Report. November 2002.

Pollution of the Great Lakes

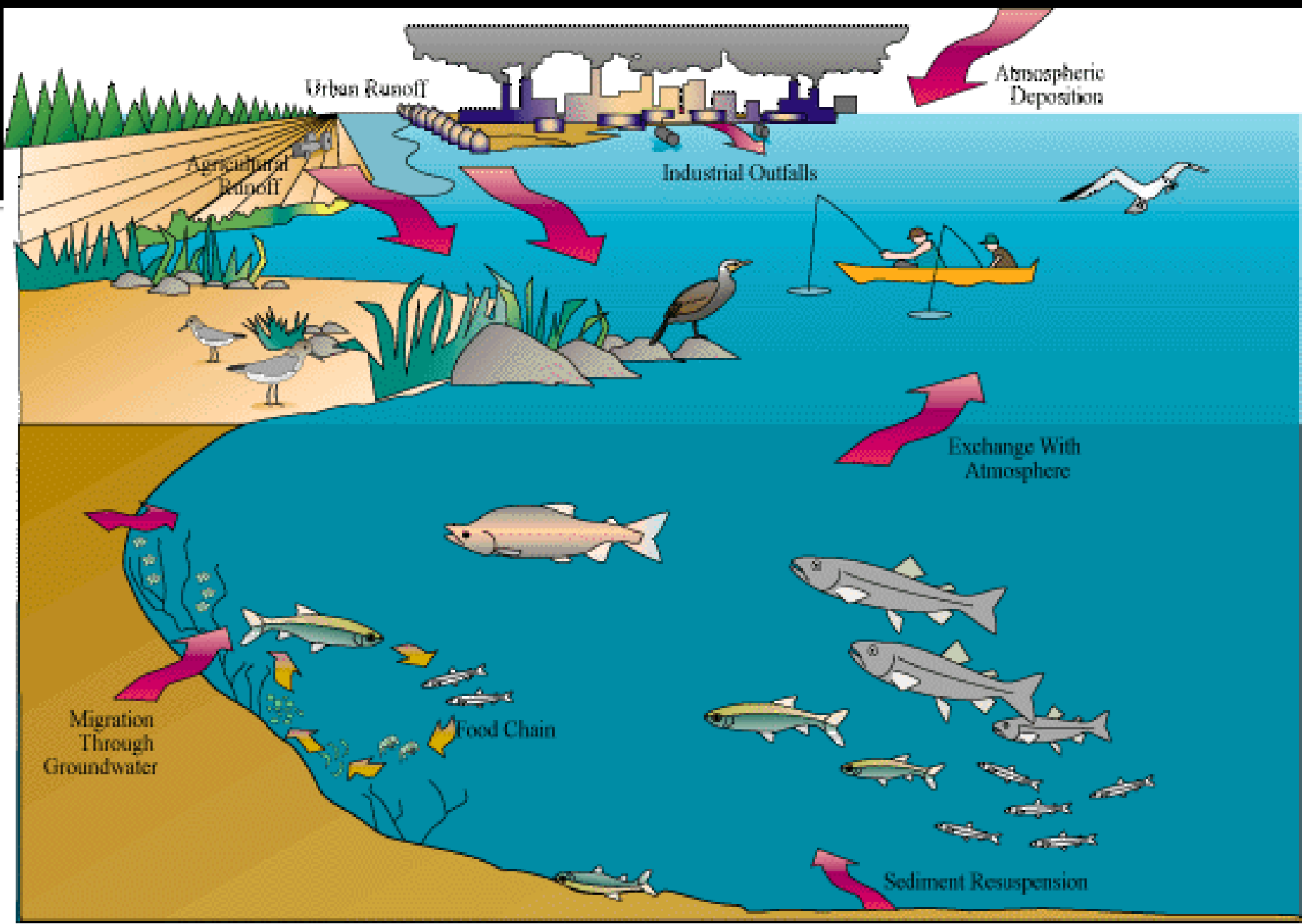
- 1970s: Great Lakes had high levels of water pollution
 - Fishing was unsafe; tons of animals and plants were harmed or killed
 - Factories around the region used the lakes as a place to dump wastes
 - Factories also used the chemical *phosphorus* when producing things like toothpaste, fertilizer, pesticides, detergents, etc.
 - Really bad for lakes because it caused a rapid increase in algae





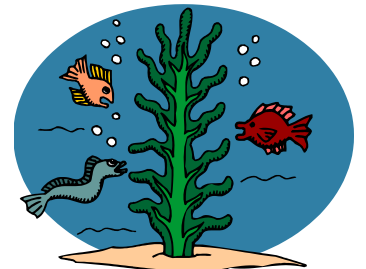
Industrial pollution in Indiana Harbor, near Chicago.

photo courtesy US Environmental Protection Agency, Region V



Pollution of the Great Lakes – The Solution

- **1971: Great Lakes Water Quality Agreement was signed by US and Canada (renewed in 2002)**
- **Goal was to restore the lakes' environment and prevent further damage**
 - Working together to reduce amount of human wastes dumped in lakes
 - Working to make sure that chemicals (like phosphorus) are not put into lakes

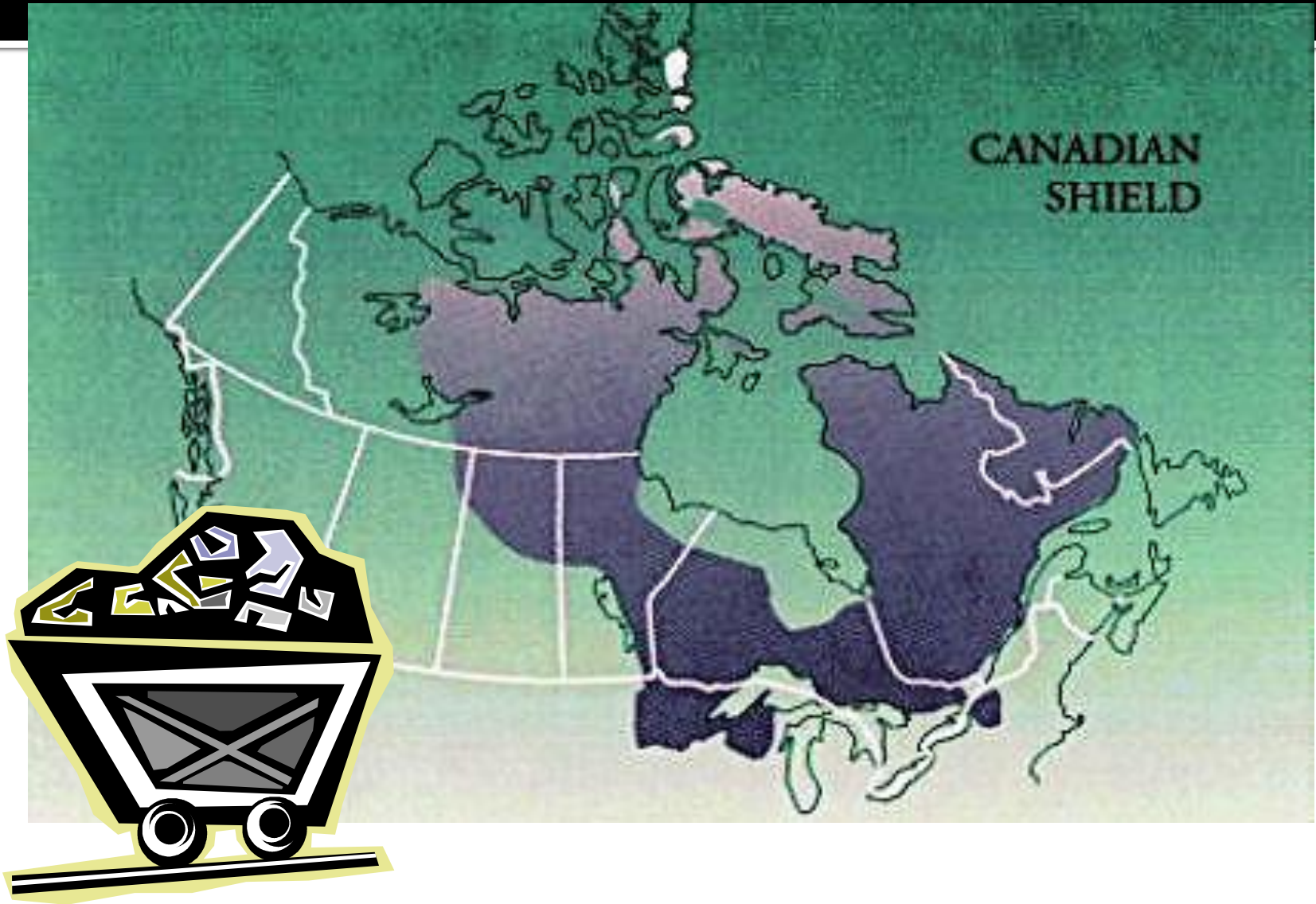


Natural Resources on the Canadian Shield

- Canadian Shield is a large area of thin, rocky soil that surrounds the Hudson Bay
 - Beneath the soil is one of Canada's most valuable resources: minerals (gold, silver, copper, zinc, lead, iron ore, uranium, & nickel)
- Very important to Canada's economy (mineral deposits and jobs)
 - 1.5 million people make their living in the mining industry in this area



The Canadian Shield





Minerals of Canada / Minéraux du Canada



DISCLAIMERS
 The Mineralogical Association of Canada is a non-profit organization that is not responsible for the accuracy of the information provided in this document. The Mineralogical Association of Canada is not responsible for the accuracy of the information provided in this document. The Mineralogical Association of Canada is not responsible for the accuracy of the information provided in this document.

DISCLAIMERS
 This document was prepared as a reference guide and is not intended to be used as a substitute for professional advice. The Mineralogical Association of Canada is not responsible for the accuracy of the information provided in this document. The Mineralogical Association of Canada is not responsible for the accuracy of the information provided in this document.



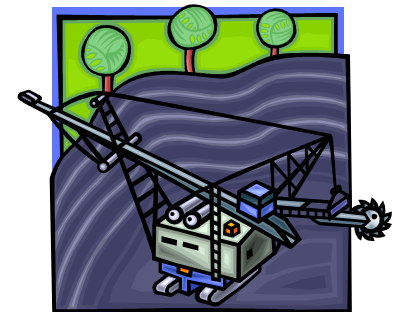






Extraction and Use of Resources on the Canadian Shield

- Blasting & digging with heavy machinery causes the land around mines to be damaged and the environment is often ruined
- *Slag*, or leftover rock from the smelting process, is often dumped in any convenient place
- Mining processes release harmful chemicals into the air, which causes acid rain





Photograph by Peter Ewert



Alberta Tar Sands



Extraction of Resources -- The Solution

- Canada's government has made new rules about mining
 - Some rules reduce the amount of pollution allowed in waterways
 - Government hopes to keep its fish alive and safe to eat

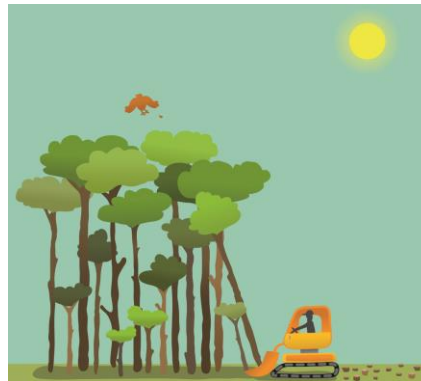
<http://ngm.nationalgeographic.com/2009/03/canadian-oil-sands/essick-photography>

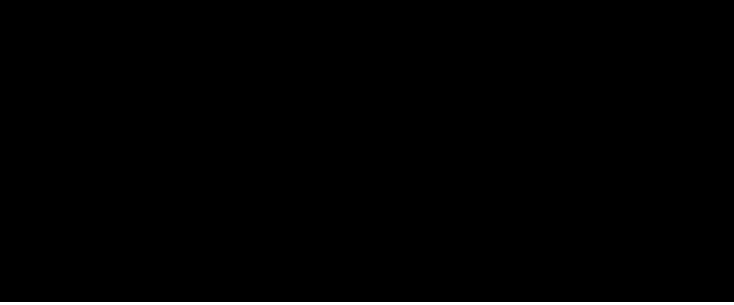




Timber Industry

- With almost half its land covered in forests, Canada is a leading producer of timber products
 - products include lumber, paper, plywood, and wood pulp
- The major timber-producing provinces include British Columbia, Quebec, and Ontario.

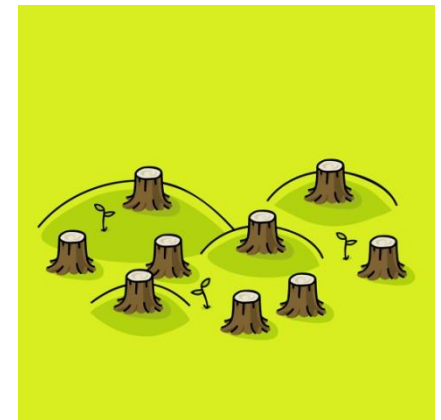




Copyright Forest Cities

Timber Industry

- Citizens are concerned that logging is destroying the forests
- Most timber companies cut all the trees in a given area, leaving large treeless gaps in the forest (called *clear-cutting*)
 - Reduces water quality, causes erosion, & kills animals' habitats
- Heavy machinery leaves the forest floor compacted
 - Makes it hard for new growth to start





Timber Industry – The Solution

- **Government and industry are working together to manage use of the forests:**
 - **Hundreds of millions of seedlings are planted each year**
 - **Billions of dollars are spent on managing and protecting the forests**
 - **Over \$100 million is spent each year by the logging industry to protect wildlife & their habitats**



What were the four issues?

- 1. Acid Rain
- 2. Pollution of the Great Lakes
- 3. Extraction of Natural Resources on the Canadian Shield
- Timber Industry in Canada

Ticket out the Door

1. What is deforestation?
2. Why don't most Canadians live in the northern region?
3. Assess yourself on our Canada so far. (1 – I don't know anything; 2 – I somewhat know what we are talking about; 3 – I feel very confident with what we are learning)