**Nova Frontline Video Lesson: Poisoned Waters: A Case Study of the Great Lakes**

**Environmental Issues discussed in this video:**

**Economic/Ecological decline in fishing industry**

**History and political power of EPA**

**Effects of the Reagan Era on environmental regulation**

**Effects of big business agriculture (poultry, swine and cattle) practices on water**

**Aquatic dead zones**

**PCP’s, drinking water purification and Endocrine suppression**

**Biomagnifications in Orcas**

**Superfund**

**Discussion Questions: Read over the questions below. As you watch the video, make notes that apply to the questions so that you can write a thorough answer to the question using examples from the video. You will turn in your notes and answers to the questions after watching the video. This assignment counts as 2 daily lessons.**

1. How has the fishing industry along the Great Lakes changed in the last 25 years? What are some economic and ecologic reasons for this change?

2. Compare the history of the fishing industry of the Great Lakes region with that of McIntosh County. How are they similar and how are they different?

3. What causes dead zones and give 3 specific locations on Earth where dead zones are found? Describe what happens to fish if they can not “escape” a dead zone.

4. What events prompted the formation of the Environmental Protection Agency (EPA)? During which presidency was it formed and how has the power of the EPA changed during its history?

5. How did deregulation of industry during the Reagan years affect water quality and the overall power of the Environmental Protection Agency? What does “voluntary compliance” mean? Why do businesses favor voluntary compliance? Why did Reagan decrease the power of the EPA and loosen pollution standards during his presidency?

6. How do the practices of big business agriculture industries, such as poultry, swine and cattle, lead to an increase in water degradation?

7. The Clean Water Act of 1972 allows citizens to sue alleged offenders if government agencies do not act. Why is that provision of the law important?

8. The expression “canary in the coal mine” means an early warning of danger. (Coal miners would carry canaries or small animals with them into mines to detect deadly but odorless and tasteless methane gas.) Give one example seen in *Poisoned Waters* of a specific “canary in the coal mine” and explain how it applies to water quality.

9. What are endocrine disruptors and what do they do? What evidence are biologists using to study their effects? What every day products contain endocrine disruptors and why are they so prevalent in our water supplies?

10. What family of chemicals are causing the problems with the Orca’s (Killer Whales) in the Puget Sound? Even though these chemicals have been legally banned for the last 30 years, why are they still a problem?

11. Twenty million Americans took to the streets for the first Earth Day in 1970 as a result of pollution they could *see and smell*: The Cuyahoga River in Cleveland burned, with flames that towered eight stories high; the1969 oil spill in Santa Barbara closed virtually all the beaches in Southern California; people had declared Lake Erie dead.

* 1. How, according to the film, have both pollution and people's reaction to Earth Day changed since 1970?
  2. Why does the success of environmental policies depend on “public engagement”?
  3. Whose responsibility, industry, government, and/or individuals, should it be to ensure that environmental policies are enforced?