

Water Resource Management: Geography/Environmental Studies 4411

Lecture 2: Assignment 1
 Research Topics

Course Evaluation

Five (5) Assignments/Briefings (5 x 4)	20
One planning exercise	10
Midterm:	30
Independent Research Project: (Proposal, Abstract, Paper)	30
Debate/focused discussion	10

Field Trip: January?

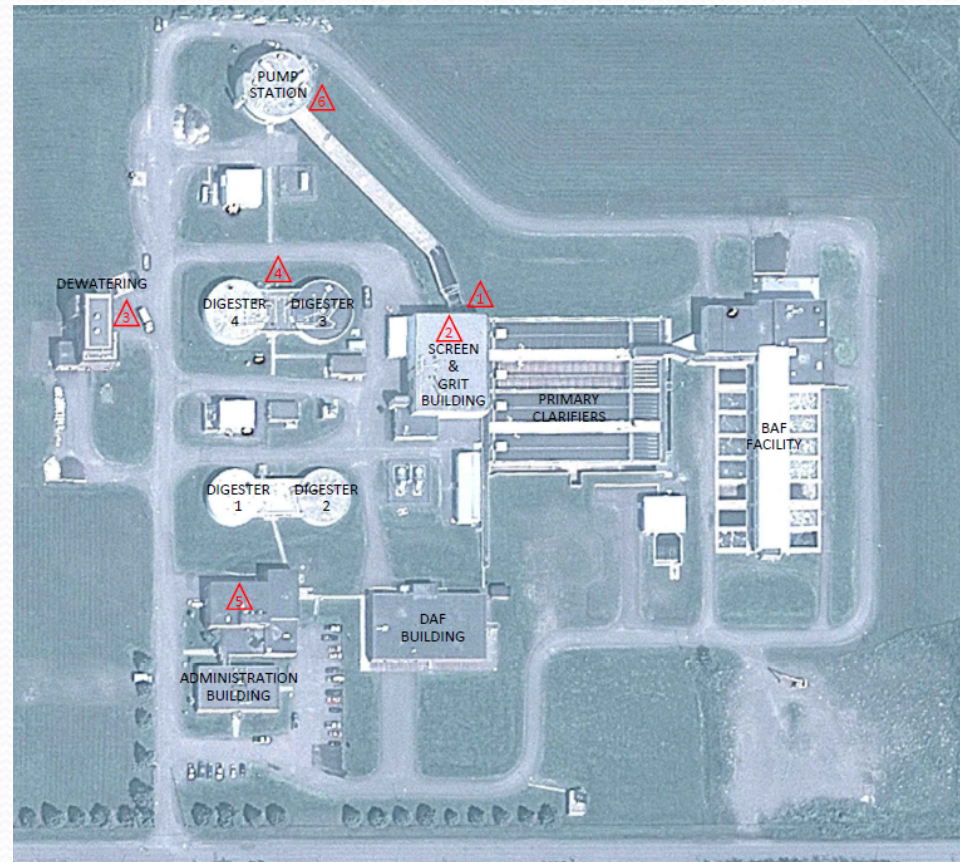
Atlantic Avenue Water Pollution Control Plant (WPCP)

OR

Bare Point Water
Treatment Plant

Leave LU at 1415 am

Return approx. 1645



Assignment 1

Public lecture by David Schindler

Bio of David Schindler: research and expertise in fish, mercury, various aquatic issues

Public lecture by David Schindler (recorded on June 18, 2014) in Waterloo, Ontario. The lecture was titled *Canada's Freshwater in the 21st Century* - 61 minutes

Due: January 18, absolute deadline on January 23

Word count: 400 to 500

Potential Research Topics

Research Topic Proposal for 4411

- Your proposal provides a description of purpose and methods for your chosen topic. It is not a fixed blueprint because it involves research and one cannot predict results and findings beforehand or abide by initial expectations.
- The proposal identifies a problem or situation in the broad area of water resource management and outlines your methodical approach. [**On one page**]
- Include your name and academic program.
- (Working) **Title** of your planned research report
- The title probably will be from the list of topics. You may modify it to better describe the subject of investigation

Potential Research Topics (cont.)

- **Abstract/summary statement of the research project:**
This (working) summary focuses on current and relevant aspects of the research topic and should be 120 to 150 words.
- **Review of research literature**
List three academic papers likely to contribute to your research.
- **Outline the project**
Detail your research procedure (to the end of February and include a timetable).
- **This proposal counts for 4 percent of the term grade. Please submit a printed report by January 18. The absolute deadline is January 23.**

Potential Research Topics (cont.)

ARCTIC OIL: POLICY, LAW, AND INTERNATIONAL COOPERATION

Canada has four international legal disputes in the Arctic:

- Hans Island dispute
- Lincoln and Beaufort Sea boundary disputes,
- Status of the Northwest Passage

Resolution would help provide certainty concerning the applicability of Canadian law -including safety and pollution prevention regulations, exploration licenses, insurance and liability regimes, royalties, etc. - across all of Canada's Arctic.

DISSOLVED ORGANIC MATTER IN NORTHERN DRINKING WATER

Dissolved organic matter (DOM) plays a dominant role in determining overall water quality. It can influence water taste, odour, colour, and treatability. For example, DOM can react with chlorine during the treatment of drinking water to form carcinogenic disinfection byproducts.

Potential Research Topics (cont.)

IMPLICATIONS OF WATER PRIVATIZATION IN CANADA

BULK WATER SHIPMENTS IMPLICATIONS AND CASE STUDIES

CAMPUS OR MUNICIPAL STORMWATER MANAGEMENT AND DESIGN

SHOAL LAKE: WINNIPEG'S CONTROVERSIAL WATER SUPPLY

THUNDER BAY'S NORTH HARBOUR: SEDIMENT EVALUATION AND MANAGEMENT

**WATER QUALITY IN FIRST NATION COMMUNITIES IN CANADA/
ONTARIO**

Potential Research Topics (cont.)

WATER MANAGEMENT AND TREATMENT IN MINING

SOCIAL RECOVERY AFTER FLOOD AND OTHER EXTREME EVENTS

IMPACTS OF CLIMATE CHANGE ON DISASTER INSURANCE

ECONOMICS OF CONVERTING SALT WATER TO FRESH WATER

EXPLORING THE EFFECTS OF OIL SPILLS ON FRESH WATER

**NORONT RESOURCES CONSIDERS THUNDER BAY FOR
FERROCHROME PROCESSING FACILITY**

The Great Lakes Basin



- A shared resource between Canada and the U.S.
- 20% of the world's surface fresh water
- Drinking water - more than 45M people
- Rich biodiversity
- Vital role in supporting central Canada's economics



Political Stakeholders



History of Great Lakes Environmental Programs



- 1909 - Boundary Waters Treaty established the International Joint Commission (IJC)
- 1970 - National environmental agencies:
 - Environment Canada (EC)
 - U.S. Environmental Protection Agency (U.S. EPA)
- 1972 – Ontario Ministry of the Environment
- 1972 - The Great Lakes Water Quality Agreement (GLWQA)



History of Great Lakes



Past historical disputes and agreements of water flowing along or across the boundary, notably for navigation:

- Europe
- Mexico and United States
- Canada – US Disputes included:
 - St. Mary and Milk Rivers in the west
 - Rainy River
 - the Chicago Diversion of Lake Michigan (which lowered lake levels by 15 cm)
 - St. Mary's River at Sault Ste. Marie and the Niagara River



Signing of the 1972 Canada-U.S. Great Lakes Water Quality Agreement



Goals of the Great Lakes Water Quality Agreement



- The Great Lakes Water Quality Agreement is an Executive Agreement between Canada and the United States. It is not a Treaty.
- The Agreement commits the two countries to *restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem*.
- The Agreement is a relatively successful model of Canada-United States binational cooperation.

