

Environmental Science Outline 2006-2007

First Semester

Aquatic Ecology

Objective:

- Sampling the biotic (chemistry), abiotics (biological) and geophysical factors of the Jump River and Buccaneer pond to determine the water quality.
- Using a watershed approach to determine the overall health of the Jump River.
- Identify standing water (ponds and lakes) eutrophication process
- Identify human activities that degrade aquatic ecosystems
- Identify solutions for potential water quality problems
- Understand the importance of fresh water ecosystems as the source of life for all biological levels
- Determine the sources of Prentice water supply
- Understand the process of waste water treatment
- Act on water quality solutions by stenciling storm water gutters as a project and by making environmentally friendly household cleaning products

Local fieldtrips during class time (45 min) to Buccaneer Pond (3-4 times), Jump River (3-4 times), Sewage Treatment Plant

All day to Cranberry Lake in canoes and to Lake Superior for water quality sampling – early **October** ?

Population

Objective:

- Understand the process and stages of pollution growth of living organisms

Wildlife management

- Using the White Tail Deer species to understand population process through Wildlife management.
 - List basic deer behaviors such as scent marking, scraping, rubbing, social grouping etc.
 - Manipulate data to determine the size of a deer herd using the Sex Age Kill Method of game management.
 - Compare the advantages and disadvantages of the Sex Age Kill method with the Quality Deer Management method.
 - Manage a hypothetical deer herd with supplement data.

Endangered Species

- Understand why certain populations are decreasing by studying endangered species
- Identify Wisconsin Endangered / Threatened Species

Wolf Ecology

- Identify the Wolf as a natural predator controlling the White Tail Deer population
- Identify misconceptions and views toward the wolf species

All day tracking fieldtrip mainly in the federal forest in February when there are snow on the ground. I do a little teaching of tracks and tracking before we go out, but we track everything to see what wildlife are moving around.

Second Semester is some where in the Wolf Ecology unit

Human Population

- Identify the human population growth and global impacts
- Identify the rate of human population growth

- Understand the stages and potential for certain population of the world to grow
- Identify solutions to curve human population growth

Energy (covers extensively)

- Understand methods of generating energy
- Identify energy users of the world
- Identify alternative energy sources that are sustainable
- Audit home energy use
- Evaluating and organizing individual lifestyle changes to reduce energy consumption

Local fieldtrip to airport with wind data for a wind analysis lab for sitting windmill.

All day fieldtrip (late April) to the Ashland area to look at hydro powerplant, coal/wood powerplant, a bunch of energy conservation and alternative energy stuff at Northland College and two strawbale houses

Air Quality (a little bit because what we do with alternative/green energy solves the air quality issues)

- Recognize the causes of air pollution and its sources
- Evaluate, analyze and understand results of air pollution by critically looking at ground level ozone, atmospheric ozone, acid precipitation, mercury fall out and global warming.

Planting Native Plants around town and on the our school prairie

- Discuss why plant native plants and also identify what is an exotic species and its effect on native environment as we are planting (we have a greenhouse)

All day fieldtrip (middle of May) to a few houses in the areas that show energy conservation/efficiency/alternative energy, area land fill, and then a hike along the Jump River to appreciate a natural area and identify some of the spring flora.