

Freshwater Ecology (BIOE 155) Assignment #2

Lake Washington's recent history; W.T. Edmondson

The objective of this homework is to get you thinking about the dynamics of eutrophication and Lake Washington by reading the work of W.T. Edmondson. Dr. Edmondson was a professor at the University of Washington, and his science inspired the management of Lake Washington. The material in this homework is likely to be on the mid-term exam.

I. Please read the following paper. The PDF is on the class website.
(<http://bio.research.ucsc.edu/people/moore/BIOE155.html>)

Edmondson, W.T. 1994. Sixty years of Lake Washington: a curriculum vitae. *Lake and Reserv. Manage.* 10 (2): 75-84.

II. Please answer the following questions:

1. List 3 anthropogenic alterations and their dates which have profoundly influenced the biology of Lake Washington (between 1900 and 1994), according to W.T. Edmondson.
2. *Daphnia* have appeared and disappeared in the last century in Lake Washington. They are a center piece of the lake's food web.
 - a. Describe *Daphnia*'s role in the food chain (i.e. what eats them and what do they eat)?
 - b. What factors did Edmondson propose that regulate *Daphnia* in Lake Washington?
 - c. What data are not shown in figure 2 (Edmondson 1994, p.78) or in the text but that may help further convince you of Edmondson's explanation of *Daphnia* population changes?
3. What characteristics of Lake Washington may have contributed to its rapid recovery from eutrophication?
4. Write a question you have about the work presented in the papers.

WHEN AND HOW TO SUBMIT YOUR ANSWERS

When: Oct. 21, at the beginning of class.

Where: At the classroom

How: Bring a hard copy of your answers. Please don't forget to write your name at the top the first page.