Fall 2009

Aquatic Biology BIOL 372

Essay

The essay is an opportunity to delve into a topic of aquatic biology in more detail. Appended below are 40 suggested topics listed on the next page, however, other topics are certainly possible but check with me first. Some of the topics overlap to some degree, but it would be best (for my sanity) if each person in the class did a different topic. So get started early and get a good topic while supplies last!

Expectations: Each essay should be well written, which is to say in grammatically correct English, full sentences, structured paragraphs and good flow from start to finish. The essay must also be well researched, demonstrated by references to published works. Good scholarship requires consideration of multiple sources of information, and whenever possible, from primary sources. Primary sources are those where information is first published, not a book or a web site with another author's interpretation of the primary literature. Essays should be typed (word processed) in font 10 or 12 and double spaced. Length should be 8 to 10 typed pages, not including a separate bibliography section at the end. A minimum of 10 good sources is required. Summary books and web sites can be used, but not at the exclusion of primary sources. You will have to dig up papers at the library at MSUM, UMN. Government reports are "gray literature" that are typically not available online and must be acquired through interlibrary loan. This takes time so plan ahead. Essay structure will depend on the nature of the topic chosen, but the goal is to provide a succinct, terse and informative exposition. The grading scheme will be as follows:

Clarity (5): readability (2), flow (2), formatting (1)
Scholarship (10): breadth of sources (4), synthesis (4), balance in coverage (2)
Total = 30 pts

Time line:

Decision on essay topic:	October 8
First draft due:	November 19
Final draft due:	December 3

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Some potential essay topics:

1. Dams: chemical and biological effects downstream
2. The politics of the Garrison Dam project: past and present
3. Balancing historical rights of first nations peoples with rights of non-native peoples
4. Colorado River: politics of maintaining sufficient flow for downstream needs
5. Devils Lake outlet: current events
6. Wetland loss in the US: historical decline and future prospectus
7. Conservation of the Everglades
8. Conservation and management of the Pacific salmon fishery
9. The rise and fall of the Atlantic cod fishery
10. Sea lamprey: The rise and fall of the Great Lakes lake trout fishery
11. The rise and fall of the anchovy fishery: people, tuna, & El Niño
12. Lake Victoria: past, present, future
13. Coral reefs in peril: mitigation and recovery
14. Project Seahorse
15. Keeping large marine mammals in captivity: good/bad thing?
16. Conservation, exploitation and "research" of whale populations
17. Issues around management of groundwater supply
18. Plight of desert pupfish
19. Reintroduction of endangered species from hatchery populations: are species reservoirs genetic bottlenecks?
20. GMO's? Genetically modified fish stocks: their promise and compromise
21. The economic, ecological and genetic effects of hatchery-reared fish on fisheries
22. Land use practices that lead to desertification, and methods to prevent it
23. Land use practices that lead to salination, and methods to prevent it
24. Land use practices that lead to siltation, and methods to prevent it
25. Erosion control practices
26. The case of the snail darter: landowner and development rights vs endangered species
27. Zebra mussels: effects on native molluscs, other macroinvertebrates, and industry
28. Noxious exotic species: sea lamprey, spiny water flea, zebra mussel, round goby, orange ruffe
29. Agricultural eutrophication: seriousness of problem and methods of mitigation
30. Mercury contamination: sources and management strategies
31. The causes and effects of acidic precipitation
32. The promise of aquaculture in developing countries, and the USA
33. Global decline of frog populations: status report
34. Shoreline development: effects of macrophyte removal
35. Methods for managing thermal pollution
36. Endocrine disruptors: sources, effects and solutions
37. Polydactylous frogs in MN: causes, effects and solutions
38. The potential effects of global warming on lakes in the Midwest
39. The role of mangrove swamps in coastal ecosystems
40. The national park system in the US: their origins and their future in the age of the "nature deficit" generation