



Alberta Envirothon Aquatic Ecology Key Points

Students should be able to:

1. Identify the process and phases for each part of the water cycle.
2. Describe the chemical and physical properties of water and explain their implications for freshwater and saltwater ecosystems.
3. Analyze the interaction of competing uses of water for water supply, hydropower, navigation, wildlife, recreation, waste assimilation, irrigation, industry, and others.
4. Discuss methods of conserving water and reducing point and non-point source pollution.
5. Identify common aquatic organisms and plants through the use of a key.
6. Delineate the watershed boundary for a small water body. Understand stream order classification.
7. Explain the different types of aquifers and how each type relates to water quantity and quality.
8. Briefly describe the benefits of wetlands, including both function and value.
9. Describe the benefits of riparian areas, including both function and value.
10. Describe the changes to the aquatic ecosystem based on alteration to the aquatic and riparian habitat.
11. Know methods used to assess and manage aquatic environments and be able to utilize water quality information to assess the general water quality of a specific body of water. This includes sampling, technique and water quality parameters used to monitor point and non-point source pollution.
12. Be familiar with major methods and laws used to protect water quality (i.e. both surface and ground water) and utilize this information to make management decisions to improve the quality of water in a given situation.
13. Know methods used to assess and interpret watershed and landscape changes. This includes air photo interpretation, calculating sinuosity ratios and understanding why and how this information is helpful in interpreting watershed changes and management.