



Name:

Date:

Worksheets - Grade 9 Biological Diversity and Environmental Water Chemistry

1. What is biodiversity? Why is biodiversity so important?

2. How do invasive plant species affect biodiversity?

3. What are the sources of the chemicals that influence water quality in the Elbow River? (It is 120 km in length and has a watershed of over 1,200 km²)

4. During your field-trip look for and identify three organisms living in symbiotic relationships:
 - a. where each organism benefits the other (mutualism)
 - b. where one organism benefits and the other is unaffected (commensalism)
 - c. where one organism benefits and one loses in the relationship (parasitism)

Activity Title: Abiotic Water Quality Factors

Time Required: 45 min

Leader: Naturalist

Materials Needed: Workbook
Pencil
Water quality testing kits
Thermometer

Background: This activity shows students the different factors that influence water quality. It teaches them that there are many important abiotic factors that should be studied when examining water quality, including chemical and physical factors. It will also allow them to compare abiotic water quality factors with biotic ones (next activity).

Directions: Fill in this table with the help of the materials provided by the naturalist.

	Site #1 Oxbow	Site #2 Beaver Lagoon	Site #3 Elbow River
Turbidity: 0 - 10			
Water temperature: Surface (°C)			6°C
Middle (°C)			5°C
Bottom (°C)			4°C
Water Velocity (m/s)	0 m/s	0.7 m/s	
Dissolved Oxygen (ppm)			7.5 ppm
pH			
Nitrate (ppm)			<2.5 mg/l
Nitrite (mg/l)			0 mg/l
Ammonia mg/l)			0 mg/l
Phosphate (ppm)			



Activity Title: Biotic Water Quality Indicators

Time Required: 45 min

Leader: Naturalist

Materials Needed: Nets
Containers
Pencils

(In this activity the Naturalists and helpers will catch the invertebrates so not too many will be taken).

Background: This activity shows students the importance of invertebrates and shows student that there are many forms of life in fresh water that most people are unaware of. It teaches them the importance of aquatic invertebrates as water quality indicators.

Directions:

1. Draw and identify 3 aquatic invertebrates observed at each wetland.

Site #1	Site # 2
Name:	Name:
Name:	Name:
Name:	Name:



