

Water Quality Assessment

Date: _____

Time: _____

Site Name: _____

Group Members: _____

Site Description- *Take pictures!* _____



PHYSICAL / CHEMICAL ASSESSMENT

Weather: (circle any that apply) Sunny Partly Sunny Cloudy Rain/Snow Windy Calm

Air Temperature: _____ ° Fahrenheit

Water Temperature: _____ ° Fahrenheit

Transparency: _____ cm

pH: (circle one) 4 5 6 7 8 9

Dissolved Oxygen: (circle one) 0 1 2 3 4 5 6 7 8 9 10 11 12 mg/L

Stream Width: _____ meters

Maximum Stream Depth _____ meters



BIOLOGICAL ASSESSMENT

Consider what you know about water quality parameters and macroinvertebrates

1. Does the water quality you measured provide the habitat needed for “Team Clean” pollution intolerant macroinvertebrates (stoneflies, mayflies and caddis flies) to survive? Why or why not?
2. Make a hypothesis about which groups or types of macroinvertebrates you expect to find here.
3. Now go look for some macros! Record what types and how many of each type you find.
4. Does your data support your hypothesis? Explain with reference to species that you found.

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HABITAT ASSESSMENT

Stream Banks (check all that apply)

Left Bank (facing upstream)

- Eroding cut bank
- Vegetated cut bank
- Sloping bank
- Sand/gravel bar
- Rip rap
- Other: _____

Right Bank (facing upstream)

- Eroding cut bank
- Vegetated cut bank
- Sloping bank
- Sand/gravel bar
- Rip rap
- Other: _____

Bank Condition (Would erosion occur in high water?)

Left Bank (facing upstream)




- Covered stable (erosion very unlikely)
- Covered unstable (erosion likely)
- Uncovered stable (erosion somewhat likely)
- Uncovered unstable (erosion very likely)

Right Bank (facing upstream)




- Covered stable (erosion very unlikely)
- Covered unstable (erosion likely)
- Uncovered stable (erosion somewhat likely)
- Uncovered unstable (erosion very likely)

Channel shape (check one)

Left Bank (facing upstream)

- Trapezoidal 
- Rectangular 
- Inverse trapezoidal 

Right Bank (facing upstream)

- Trapezoidal 
- Rectangular 
- Inverse trapezoidal 

Canopy Cover: _____ %

Estimate percent of canopy cover from the middle of stream along transect. Hint: take a picture!

Describe the riparian zone for each bank- What types of plants are growing (trees, shrubs, grasses, etc.)? How far back from the stream does it reach? Is there exposed soil? Riprap?

Describe adjacent land use- (Examples: agriculture, timber, prairie, park, campground, boating access, etc.)

Record evidence of human use along stream- Are there people swimming, boating, or playing? Are there fire pits, trash, roads, or paths? Describe everything you see.

Record all other human activities in the watershed that could affect the stream-

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Macroinvertebrate Pollution Tolerance

Pollution Intolerant (Team Clean) = stoneflies, mayflies, caddisflies

Somewhat Pollution Tolerant = scuds, dragonflies, damselflies, gilled snails

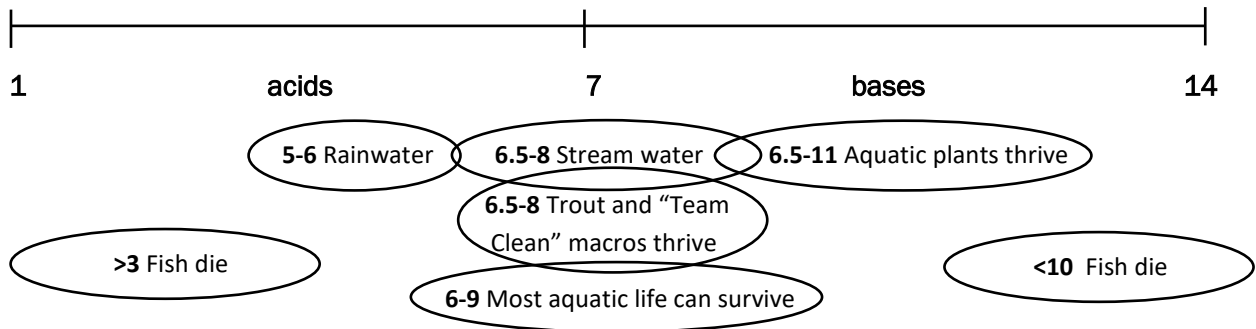
Pollution Tolerant = aquatic worms, midge larvae, blackfly larvae, leeches, lunged snails, clams

Dissolved Oxygen (DO): Macroinvertebrates, fish and other aquatic life need it to breathe!

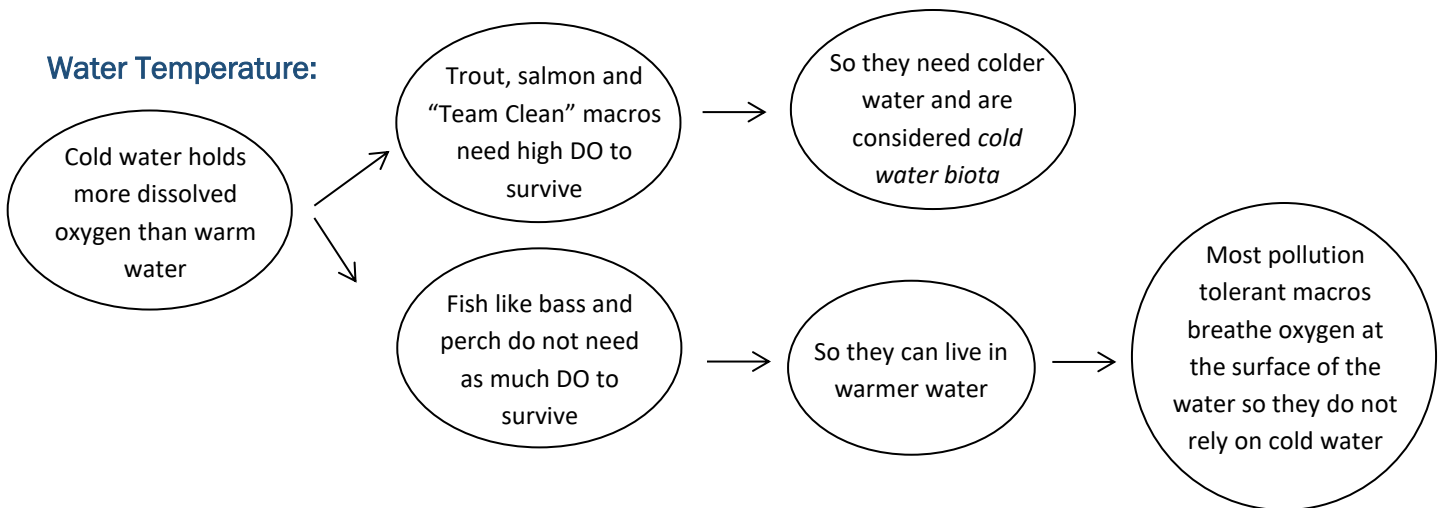
>3 mg/L	4 mg/L	5 mg/L	6 mg/L	7 mg/L	8 mg/L	9 mg/L	<10 mg/L
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Only few pollution tolerant macros can survive	Many pollution tolerant macros can survive, very few fish	Warm water fish can survive, many macros can survive	Suitable for pollution intolerant macros and most fish	Minimum for trout and salmon survival, good for "Team Clean" macros	Optimal for abundant fish growth and reproduction
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pH: How acidic or basic is the water? If it's too extreme, aquatic life can't survive!



Water Temperature:



Interrelationship among Chemical and Physical Parameters

