

Millcreek Watershed Water Quality Data Field Notebook					
Date:		School:			
Site/ Location:		Team Members:			
Time:					
Air Temp (°F):					
Weather:					

Overall Water Quality Index:		Weighting			
Test	Results	Q-Value x	Factor =	Total WQI	
Temperature Change	C	x	0.1 =		
Dissolved Oxygen	% saturation	x	0.17 =		
BOD 5	mg/l	x	0.11 =		
pH	units	x	0.11 =		
Total/Ortho Phosphate	mg/l	x	0.1 =		
Turbidity	JTUs	x	0.08 =		
Nitrates	mg/l	x	0.10 =		
Total Solids	mg/l	x	0.07 =		
Fecal Coliform	colonies/100 ml	x	0.16 =		
Overall WQI:					

Macroinvertebrate Tally		Letter Code for estimated count :			
		A = 1 to 9	B = 10 to 99	C = 100 or more	
Group 1 Taxa	ABC	Group 2 Taxa	ABC	Group 3 Taxa	ABC
Water Penny Larvae	<input type="text"/>	Damselfly Nymphs	<input type="text"/>	Blackfly Larvae	<input type="text"/>
Mayfly Nymphs	<input type="text"/>	Dragonfly Nymphs	<input type="text"/>	Aquatic Worms	<input type="text"/>
Stonefly Nymphs	<input type="text"/>	Crane Fly Larvae	<input type="text"/>	Midge Larvae	<input type="text"/>
Dobsonfly Larvae	<input type="text"/>	Beetle Larvae	<input type="text"/>	Pouch Snails	<input type="text"/>
Caddisfly Larvae	<input type="text"/>	Crayfish	<input type="text"/>	Leeches	<input type="text"/>
Riffle Beetle Adult	<input type="text"/>	Scuds	<input type="text"/>		
Other Snails	<input type="text"/>	Clams	<input type="text"/>		
		Sowbugs	<input type="text"/>		
Number of Taxa	<input type="text"/>	Number of Taxa	<input type="text"/>	Number of Taxa	<input type="text"/>
X		X		X	
Index Value of 3	<input type="text"/>	Index Value of 2	<input type="text"/>	Index Value of 1	<input type="text"/>
Cumulative Index Value:	<input type="text"/>	Stream Quality		Good (17-22)	
		Excellent (> 22)	<input type="text"/>	Poor (< 11)	<input type="text"/>
		Fair (11-16)	<input type="text"/>		

Water Temperature

Trial #	dwnstrm. (°C)	- upstrm. (°C) =	Δ Temperature	Calculation:
1st	-	=		temp. downstream - temp. upstream = temp. change
2nd	-	=		Compare your results: Temperature Change (°C)
3rd	-	=		
Official	Temp.	Δ (°C):		excellent 0 - 2 fair 5.1 - 9.9 good 2.2-5 poor > 10

Helpful Hints:

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1. Remember to take these readings in degrees Celsius, and allow enough time for the thermometer to take an accurate measurement (3 minutes). | 2. Report the most common value (mode) for Official Temperature Change. | 3. Upstream and downstream sites should be approximately 1 mile apart if possible.. |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------|

Notes:

Dissolved Oxygen (DO)

Water Temp.			Reading °C:			Helpful Hints:					
Titration Results:			1. To avoid air bubbles in the sample cap the DO bottle under water and leave water around the lip of the bottle. 2. Take the average of all the reasonable answers for DO mg/l of your test results for the official DO reading.			Compare your results: Dissolved Oxygen Levels (% saturation)					
Trial #	DO mg/liter	%sat.							excellent 91-110 fair 51-71 good 71-90 poor <50		
1st											
2nd											
3rd			Official DO: <input style="width: 50px;" type="text"/> mg/liter								
		% Saturation:	<input style="width: 50px;" type="text"/> %								

Notes:

Biochemical Oxygen Demand BOD

Calculations:			Helpful Hints:			
Trial #	DO (orig.) -	DO 5 =	BOD	After incubation for 5 days, test the DO of the collected water sample following the same directions for the DO field test and calculate: mg/l DO(original DO reading from the field) minus mg/l DO (after 5 day incubation) = BOD		
1st						
2nd						
3rd						
4th				Compare your results: Biochemical Oxygen Demand (mg/l)		
Take the average of all trials for		Official BOD mg/l:	<input style="width: 50px;" type="text"/>			

Notes:

pH		Helpful Hints:	
Trial #	pH	Run the pH test immediately after sampling, changes in temperature affect the pH measurement. Report the most common value (mode) for the official pH reading.	
1st		Compare your results: pH units excellent 6.5 - 7.5 fair 5.5 - 5.9, 8.1 - 8.5 good 6.0 - 6.4, 7.6 - 8.0 poor <5.5, >8.6	
2nd			
3rd			
4th			
	Official pH Reading:		

Notes:

Orthophosphate or Total Phosphate

Helpful Hints:			
Trial #	mg/liter Phosphate		Divide the reading from the color wheel scale window by the appropriate phosphate range calculation to obtain the mg/l phosphate. (Normally the low range test is sufficient - divide your readings by 50) Take the average of the readings for official phosphate reading.
1st	/50 =		
2nd	/50 =		
3rd	/50 =		
Official Phosphate Reading:			Compare your results: Phosphate (mg/l) excellent 0 - 1 fair 4.1 - 9.9 good 1.1 - 4 poor >10
		mg/l	

Notes:

Turbidity

				Helpful Hints:	
Trial #	# 0.5 additions	x 5 or x 10	= JTUs	Multiply the number of 0.5 mL additions times 5 if a 50 mL graduation was used and by 10 if 25 mL. Take the average for official turbidity reading.	
1st		x	=		
2nd		x	=		
3rd		x	=		
Official Turbidity Reading:				Compare your results: Turbidity (NTUs/JTUs/Feet) excellent 0 - 10 good 10.1 - 40 fair 40.1 - 150 poor > 150	

Notes:

Nitrates (NO₃)

				Helpful Hints:	
Trial #	Reading	=	mg/l	Multiply each reading by 4.4 to convert to mg/liter nitrate. Take the average of the readings for the official nitrate reading.	
1st		x 4.4 =			
2nd		x 4.4 =			
3rd		x 4.4 =			
4th		x 4.4 =		Compare your results: Nitrates (mg/liter) excellent 0 - 1.0 good 1.1 - 3.0 fair 3.1 - 5.0 poor > 5	
Official Nitrate Reading:					

Notes:

