WATER CHEMISTRY DATA SHEET

Please check the box next to the "Site #" ***if this is a new site and please be sure to attach a map.*** (PLEASE PRINT)

☐ Site # _____ Stream _____ County _____

Site Location _____

Date _____ Time (military time) _____ Rainfall (inches in last 7 days) _____ Water Temp. (°C) _____

Trained Data Submitter (responsible volunteer) _____ Stream Team Number _____

Trained Participants _____

	Kit Type Used: (Please circle)	Calibration and/or Expiration Date		Measurement
Weather Conditions (cloud cover)				
NO_3 - N (mg/L) - Nitrate please circle kit type used →	LaMotte - NCR Hach - NI-11 Hach - Pocket Colorimeter	**Mixed Acid Expiration Date:**		
		Nitrate Reducing Reagent Expiration Date:		
Air Temperature (°C)				
Water Temperature (°C)				
Dissolved O_2 (mg/L)		**DO #1 Expiration Date:**		
		DO #2 Expiration Date:		
		DO #3 Expiration Date:		
		Sodium Thiosulfate Expiration Date:		
Dissolved O_2 % Saturation				
pH		**Date Calibrated:**		
		pH 7.0 Solution Expiration Date:		
		pH 10.0 Solution Expiration Date:		
Conductivity (µS/cm)		**Date Calibrated:**		
		Sodium Chloride Standard Expiration Date:		
Turbidity (NTU)				
Chlorides (mg/L)	High Range Chlorides Low Range Chlorides			
Hardness (mg/L)				
Alkalinity (mg/L)				
PO_4 (mg/L) please circle kit type used →	Hach - Pocket Colorimeter Hach - AccuVac			
NH_3 - N (mg/L) - Ammonia please circle kit type used →	Hach - NI-8 Hach Cube, Ammonia Hach - Pocket Colorimeter Hach - AccuVac			
Other Parameter (list)	Write in kit type and model #			

Comments (mention any changes from your usual readings) _____

_____

_____

Fish Present (Please Mark) **Yes** ❑ or **No**❑

PLEASE KEEP A COPY AND SEND ORIGINAL DATA TO: Stream Team Coordinator/Water Protection Program
Department of Natural Resources
PO Box 176
Jefferson City, MO 65102-0176

Water Quality Volunteer

Acceptable Ranges for Chemical Parameters

Certain water quality measurements usually tend to fall within a well-defined range. Values outside this range are due to unusual water quality conditions or analyst error. **If any of your water quality measurements fall outside the following range it may be unusual for that stream, so please make two more measurements of that water quality parameter and report all three measurements on the data sheet.**

Nitrate (NO_3-N) Nitrogen

1. ***An unusual reading for most streams is one greater than 2mg/L. If the sampling site is less than 2 miles downstream of a wastewater treatment plant discharge, and unusual reading would be one greater than 10 mg/L.***
2. The nitrate reducing agent (white powder in brown bottle) has a short shelf life. Be sure to check the expiration date on the label. If the reagent is expired, or becomes clumpy or gray, do not use and call for a replacement.
3. ***Containerize all nitrate waste separately in a heavy walled container and label it nitrate waste***. Do ***NOT*** mix with any other chemical waste.

Water Temperature 0° - 34° C ***is within the normal range***

Be sure to read water temperature while the thermometer is submerged and shaded.

Dissolved Oxygen 5-15 mg/L ***is within the normal range***

Trouble shooting procedure for an unusual DO reading:

1. Check the dates on the packaged chemicals. If outdated, don't use. Please call 1-800-781-1989 (Stream Team voicemail) to request replacement chemicals or visit our website www.mostreamteam.org/datasheets.asp.
2. If chemicals are not outdated, repeat the procedure with the following considerations:

- Be sure to rinse all glassware 3 times in the stream water prior to collecting another sample.
- It's critical that no air bubbles are in the bottle in steps 2 and 3. If there are, discard the sample and start over.

HINT: Over fill the bottle in step #1 prior to dropping the stopper in place.

- If the second result is not within 1 mg/L of the first result, repeat the procedure a third time and report all three readings on your Water Chemistry Data Sheet.

Dissolved Oxygen % Saturation

Use your water temperature and dissolved oxygen reading and determine % saturation using the pink chart in your notebook.

pH 6.5 - 9.0 Standard units ***is within the normal range.***

1. Always perform a two-point calibration of the pH meter to 7.0 with the yellow "Buffer solution, pH $\pm$ 0.02," and 10.0 with the blue "Buffer solution, pH $\pm$ 0.02" prior to each sampling event (***preferably within 12 hours***). Before calibrating, you may want to soak the meter (no deeper than the cap line) over night in the buffer solution or tap water to ensure the bulb is hydrated.
2. To calibrate, turn the meter on using the button on top. Submerge the meter up to the cap line in the calibration solution and adjust the screw labeled pH 7 on the back of the meter with a screw driver until the pH pen reads 7.0. Do not re-use calibration solutions. Since it is a salt solution you may pour it on the ground or down the drain. Store the meter with a damp piece of paper towel in the cap.

Conductivity

1. Always calibrate the conductivity meter with the Sodium Chloride Standard Solution prior to each sampling event (***preferably within 12 hours***). It should be calibrated to read 1000 µS/cm ± 10 µS/cm. Do not re-use calibration solution. Since it is a salt you may pour it on the ground or down the drain.
2. After calibration, turn the meter off, rinse the bottom of the meter and dry the probes. The meter's probes should be stored dry.

Turbidity

When analyzing water for turbidity, be sure to read the sample immediately. If the turbidity tube is full and you can distinguish the black and white pattern on the bottom, enter < 10 NTUs.

Ammonia (NH_3 - N)

An unusual reading for most streams is one greater than 2 mg/L. If the sampling site is less than 2 miles downstream of a wastewater treatment plant discharge, an unusual reading would be one greater than 3 mg/L.

Do not use any of the multipliers mentioned at the end of the directions found in the chemical kits. Don't feel bad about using up all the chemicals in your kit. Please notify us if you need more.

***Remember to containerize your nitrate waste in a heavy walled container separately from your other chemical waste.**