

St. Louis River - River Watch Data Sheet for Physical and Chemical Parameters

School Name _____

Site Name _____

Latitude/Longitude (if available) _____

	Date	Time	Temperature		Transparency cm. above disk	Dissolved Oxygen		pH	Nutrients	
			Air (C°) *	Water (C°) *		(mg/L)	% saturation*		Nitrate (mg/L)	Phosphate (mg/L)
Sample 1										
Sample 2										
Average										

* see back side of this sheet for conversion charts

	Date	Time	Biochemical Oxygen Demand (BOD)		
			Initial	Final	Uptake
			DO (mg/L)	5 Day DO (mg/L)	BOD * (mg/L)
Sample 1					
Sample 2					
Average					

*BOD = initial DO - 5 Day DO

Water quality expectations for our region		
Water Temp.	< 18° C	trout & salmon require cold water for spawning ($\leq 9^{\circ}$ C) and for growth ($\leq 19^{\circ}$ C)
Transparency	> 41 cm	problems arise for stream creatures when transparency deviates from its background levels for a long time
D.O.	> 7 mg/L	the higher the D.O., the more oxygen available to support variety of life in the stream
D.O. sat.	80-125%	D.O. saturation is a measure of how close the absolute D.O. value (mg/L) is to the equilibrium value for that temperature and air pressure
pH	7.9-8.1	changes in pH can be caused by acid rain, the surrounding bedrock, and certain wastewater discharges
Nitrate	< 0.5 mg/L	sources include fertilizer runoff, failing septic systems, wastewater treatment plants, and industrial discharges
Phosphate	< 0.5 mg/L	sources include rocks and soil, disturbed land areas, wastewater treatment plants, and fertilizer runoff
BOD	< 1.7 mg/L	high BOD values indicate rapid depletion of oxygen by microorganisms that decompose organic matter in the water

Other streamside observations of interest: