

2022 Water Quality Data Solicitation Minimum Data Requirements

Summary tables of most common data types for lakes/reservoirs (Table 1) and streams/rivers (Table 2), excerpted from draft 2022 *Wisconsin Consolidated Assessment & Listing Methodology* (WisCALM) guidance document. Monitoring methods are available in the reference section of 2022 draft WisCALM, if needed.

Table 1. Minimum data requirements of conventional parameters for lakes and reservoirs.

<i>Parameter</i>	<i>Min. Sample Quantity/Frequency</i> ¹	<i>Sampling Period (Season)</i>	<i>Sampling Protocol</i>
Chlorophyll <i>a</i>	3 monthly values from each of two years	July 15 - September 15	Surface grab or integrated samples from top 2 m
Total phosphorus	3 monthly values from each of two years	June 1 - September 15	Surface grab or integrated samples from top 2 m
Dissolved oxygen	10 values from separate calendar days	Ice-free period	Discrete epilimnetic measurements, except Two-Story Fishery lakes ²
Water temperature	20 values from separate calendar days	Year-round	Discrete epilimnetic measurements, except Two-Story Fishery lakes ²
pH	10 values from separate calendar days	Year-round	Discrete epilimnetic measurements, except Two-Story Fishery lakes ²
Toxic substances	2 values w/in a 3-yr period	Year-round	Surface grab or integrated samples from any depth
<i>E. coli</i>	5 values for GM, 11 values for STV ³	May 1 – Sept. 30	Surface grab

¹ Smaller datasets may be considered in certain cases, such as a high magnitude of exceedance.

² Two-Story Fishery lakes require temperature, dissolved oxygen, and pH depth profiles, multiple per year if possible, for assessment.

³ *E. coli* data are compared to two thresholds, a Geometric Mean criterion and a Statistical Threshold Value criterion; having enough data for STV comparison is recommended.

Table 2. Minimum data requirements of conventional parameters for streams and rivers.

<i>Parameter</i>	<i>Min. Sample Quantity/Frequency</i> ⁴	<i>Sampling Period (Season)</i>	<i>General Sampling Protocol</i>
Total phosphorus	6 values (one sample per month) ⁵	May - October	Surface grab sample
Dissolved oxygen	3 days of continuous measurements	July - August	Continuous measurements collected at a frequency of no less than once per hour
Water temperature	20 daily average values	May - October	Continuous measurements collected at a frequency of no less than once per hour
pH	10 values from separate calendar days	Year-round	Surface measurement
Toxic substances	2 samples w/in a 3-yr period	Year-round	Surface grab sample
<i>E. coli</i>	5 values for GM, 11 values for STV ⁶	May 1 – Sept. 30	Surface grab
Macroinvertebrates	2 samples (one sample from each of two years)	March – May or September – November	WDNR protocol, June 2000 (available on request)
Fish surveys	2 surveys (one survey from each of two years)	Generally, during base flow conditions	WDNR protocol, March 2001 (available on request)

⁴ Smaller datasets may be considered in certain cases, such as a high magnitude of exceedance.

⁵ Two years of total phosphorus monitoring (six monthly samples per year) may be required for impairment listings in the absence of a corroborating bioassessment showing biological impairment or high magnitude of total phosphorus criteria exceedance.

⁶ *E. coli* data are compared to two thresholds, a Geometric Mean criterion and a Statistical Threshold Value criterion; having enough data for STV comparison is recommended.