

Lake & Reservoir Nutrient Values & RTAG Benchmarks

	Reference Lakes	Trisection Method	Literature Values	RTAG Benchmarks
Chl-a (ug/l)	7.4	6.8	8	8
TP (ug/l)	31.5	35	35	35
TN (ug/l)	755	610	650	700

Nutrient Benchmarks: Streams

Parameter	Literature ¹ (range)	Nutrient Regions ⁴ (range)	Reference Streams (median)	Tri-section ⁵ (median)	25% (percentile)	MEANS (all methods)	Benchmarks
Total nitrogen (mg/L)	0.7 – 1.5 ¹ 0.15 – 1.10 ² 0.51 – 0.54 ³	0.54 – 2.18	1.08	0.81	0.82	0.964	0.9
Total phosphorus (mg/L)	0.025 – 0.075 ¹ 0.023 – 0.060 ² 0.027 – 0.043 ³	0.01 – 0.128	0.08	0.07	0.07	0.052	0.075
Sestonic chl- <i>a</i> (µg/L)	10 – 30 ¹	0.9 – 3.0	3.3	2.8	2.0	6.0	8.0
Benthic chl- <i>a</i> (mg/m ²)	20 - 70 ¹	NA	24.2	20.3	11.9	25.4	40.0

1. Dodds WK, Jones JR, Welch EB (1998) Suggested classification of stream trophic state: Distributions of temperate stream types by chlorophyll, total nitrogen, and phosphorus. *Water Res.* 32, 1455-1462. These values are for streams in the mesotrophic range.

2. Dodds, W.K. and R.M. Oakes 2004. A technique for establishing reference nutrient concentrations across watersheds affected by humans. *Limnology and Oceanography Methods* 2: 333-341.

3. Dodds, W.K., V.H. Smith, and K. Lohman 2002. Nitrogen and phosphorus relationships to benthic algal biomass in temperate streams. *Canadian Journal of Fisheries and Aquatic Sciences* 59: 865-874.

4. From EPA 822-B-00-017, -18, -019, -020; EPA 822-B-01-013, -014, -016

5. Tri-section values are for upper one-third streams in US EPA Region 7 having highest total richness for macroinvertebrates.