



BUREAU OF CLEAN WATER

**QUANTITATIVE PLANKTON SAMPLING METHOD FOR LAKES
(MODIFIED STANDARD METHOD 1002A)**

DECEMBER 2015

QUANTITATIVE PLANKTON SAMPLING METHOD FOR LAKES (MODIFIED STANDARD METHOD 1002A)

1. Anchor boat over sampling location and record the following information on the Lake/Reservoir Field Data Sheet (3800-FM-BPNPSM0050) (Appendix A).

Station Number	Dissolved Oxygen profile (Hydrolab or equivalent)
Date	Temperature profile (Hydrolab or equivalent)
Time	Meteorological conditions
Water depth	Air temperature
Water transparency (Secchi Disk)	Wind speed/direction
Latitude and Longitude	Percent cloud cover

2. Execute two vertical plankton tows with a simple conical or Wisconsin style net (5" or 8" diameter opening) rigged with No. 20 (80 micron) nylon mesh and collection cup. Each tow should be initiated at the depth where dissolved oxygen is ≥ 2.0 mg/L (oxic). Traverse the water column at a rate of approximately 0.5 meters/second (hand retrieval speed).
3. Rinse net after each tow to collect organisms into the sample container (125, 120, or 500 ml bottle). Both tows are composited into one sample preserved with Lugol's solution applied at the rate of one milliliter per 100 milliliters of sample (1%). Record net mouth diameter and depth of tows on field sheet.
4. Alternatively, if surface bloom counts are needed, collect a 500 ml grab-sample at a depth of 0.5m by hand. Preserve as above with Lugols solution. Record longitude and latitude if different than lake station locations.
5. Properly label sample and forward to the DEP Bureau of Laboratories (BOL) in Harrisburg via courier service. The sample should be accompanied by a completed DEP BOL Sample Submission Sheet with Chain of Custody information, available on the BOL website.
6. Calculate the volume of lake water filtered during the two tows by multiplying (sample depth) x (2) x (area of plankton net opening). Use this information along with BOL plankton identification counts to calculate plankton density per liter of lake water (n/L) for standardization.
7. Field observations, including the temperature and Dissolved Oxygen profile and latitude/longitude must be entered into Sample Information System (SIS) within 14 days of sample collection.

Appendix A

Lake/Reservoir Field Data Sheet



LAKE/RESERVOIR FIELD DATA SHEET

Lake Name _____ County _____
 Station _____ Lat. _____ Long _____
 Date _____ Time _____ Collectors _____
 Weather _____
 Cloud Cover (%) 0 25 50 75 100 Comments (Hazy/Foggy)
 Wind Conditions: None Light Moderate Heavy Direction _____
 Rain Conditions: None Drizzle Light Moderate Heavy
 Surface Turbulence _____ Air Temperature (°C) _____
 Station Depth (meters) _____
 SECCHI DISK READING (TENTHS OF A METER) _____

FIELD MEASUREMENTS

DEPTH (meter)	TEMP (°C)	D.O. (ppm)	pH	Sp. Cond. (Umhos)	DEPTH (meter)	TEMP (°C)	D.O. (ppm)	pH	Sp. Cond. (Umhos)
surface					11M				
1M					12M				
2M					13M				
3M					14M				
4M					15M				
5M					16M				
6M					17M				
7M					18M				
8M					19M				
9M					20M				
10M									

SAMPLES COLLECTED

TYPE/DEPTH	SAC	VOLUME FILTERED	TIME COLL.	COLLECTION NUMBER
WATER QUALITY (Top)				
WATER QUALITY (Bottom) Depth of Sample:				
CHLOROPHYLL A				
OTHER (blank/dup.)				
PLANKTON TOW (2x _____ m net diameter = _____")				

COMMENTS:
