

Background

In 2007, CLMN created a protocol to document the accuracy and precision of the field data collected by volunteers. The protocol followed is the same used by WDNR staff. These tests document the accuracy and precision of the data collected and look at natural variability and sampling error.

Volunteers are selected randomly from the list of chemistry monitoring sites. Ten percent of chemistry stations are chosen annually and asked to participate.

Definitions

A “blank” sample is produced in the field and is used to detect analytical problems during the whole process (sampling, transport and lab analysis). Since blank samples contain pure deionized water, they should have no detectable level of phosphorus (ND). The field blank is collected by running deionized water through the integrated sampler and water collection bottle.

Duplicate samples are those obtained when two or more samples are taken from the same site, at the same time, using the same method, and analyzed separately. Duplicates can be used to detect both the natural variability in the environment and that caused by field sampling methods.

There is natural variability in a duplicate and regular sample. No two samples collected on a given day at the same location will be exactly the same.

The precision limit for duplicate total phosphorus is 10%

The precision limit for duplicate chlorophyll-a is 15%

2016 Quality Assurance

67 sites scheduled to participate

39 sites participated

Things to remember

- The duplicate and blank are collected on the same day as your regular sample
- The duplicate and blank are sent together with your regular sample
- Good idea to send two mailers in order to keep the samples cold
- Please remember the lab forms!



2016 Results – blank samples

PRIMARY_STATION_NAME	COUNTY_NAME	Total Phos (Blank)Txt
Jordan Lake - Deepest Point (East Basin Deep Hole)	Adams	0.00507
Lake Sherwood - Deep Hole Just Above Dam	Adams	0.00657
Little Dummy Lake - Deep Hole	Barron	ND
Fish Lake (4-40-14) - East Basin-Site 1	Burnett	0.00800
Beaver Dam Lake - Deep Hole (Denning Point)	Dodge	0.0103
Leader Lake - Near Deep Pt E Basin	Douglas	0.0152
Eau Claire Lake - West End	Eau Claire	0.0114
Lake Lucerne - Deep Hole	Forest	0.00589
Little Green Lake - Deep Hole (central east)	Green Lake	
Rice Lake - (43 03e 23) Deep Hole	Iron	0.00546
Turtle Flambeau Flowage - Baraboo - Deep Hole	Iron	0.0104
Lilly Lake - Deep Hole	Kenosha	0.0104
Big Twin Lake - Deep Hole	Langlade	0.00613
Lower Post Lake - Deep Hole	Langlade	ND
Upper Post Lake - Deep Hole	Langlade	0.00504
Pigeon Lake - Deepest Part	Manitowoc	0.00543
Williams Lake - Deep Hole	Marquette	
Moshawquit Lake - Deep Hole	Menominee	0.00711
Lake Tomah - Deep Hole	Monroe	0.0788
Deadman Lake - Center	Oconto	0.00957
Blue Lake - West Basin	Oneida	ND
Flannery Lake - Deep Hole	Oneida	ND
Indian Lake - Deep Hole	Oneida	0.00657
Tomahawk Lake - Deep Hole	Oneida	0.00672
Boelter Lake - Deep Hole	Portage	
Springville Pond - Deep Hole	Portage	0.0200
Blockhouse Lake - Deep Hole	Price	
Lac Sault Dore - Deep Hole	Price	ND
Round Lake - Deep Hole	Price	ND
Waubeesee Lake - Deep Hole At Sth 20 2m (Bi)	Racine	
Amacoy Lake - Deep Hole	Rusk	ND
Lake Chetac North Basin Deep Hole	Sawyer	0.00658
Tiger Cat Flowage - Lower Twin	Sawyer	ND
Whitefish Lake - Deep Hole	Sawyer	ND
Pine Lake - Deep Hole	Shawano	0.0104
Lake Esadore - Deep Hole	Taylor	
Big Arbor Vitae Lake - Deep Hole	Vilas	ND
Carpenter Lake - Deep Hole	Vilas	0.00674
Cochran Lake - Deep Hole	Vilas	ND
Lake Lorraine - Deep Hole	Walworth	0.00922
Turtle Lake - Deep Hole	Walworth	ND
Lower McKenzie Lake - Deep Hole	Washburn	0.00760
South Twin Lake - Deep Hole	Washburn	ND
Friess Lake - Deep Hole	Washington	ND
Lake Five - Deep Hole	Washington	0.00601



Blank Samples

- **Number of blanks (with values greater than 0)**

	# samples	>detect	>0.010
2007	37 samples	1	1
2008	44 samples	3	1
2009	26 samples	2	2
2010	22 samples	4	2
2011	31 samples	9	1
2012	29 samples	10	3
2013	44 samples	11	2
2014	35 samples	8	1
2015	40 samples	26	3
2016	39 samples	25	7

2017 QA Participants

1	Station Name	County	Lead First Name	Lead Last Name
2	Big Roche A Cri Lake - Site 1 - West End - Deep Hole	Adams	Chuck	Hillman
3	Crooked Lake - Deepest Point	Adams	Shirley	Schultz
4	Lake Sherwood - Deep Hole Just Above Dam	Adams	Linda	Feldman
5	Mason Lake - Deep Hole	Adams	John	Konkel
6	Peppermill Lake - East/Central (Site #128)	Adams	Robert	Cropp
7	Big Dummy Lake - Deep Hole	Barron	Holly	Joseph
8	Echo Lake - Deep Hole	Barron	Trudy	Stachowiak
9	Echo Lake - Deep Hole	Barron	Terry	Johnson
10	Lower Vermillion Lake - Deep Hole	Barron	Steven	Nyquist
11	Silver Lake - Deep Hole	Barron	Bob	Wellhoefer
12	Cranberry Lake - Deep Hole (44 9w 30)	Bayfield	Bob	Hammond
13	Ellison Lake - Near Center	Bayfield	Mary	Walters
14	Bass Lake (T38 R15w S08) - Deep Spot	Burnett	Mary	Jacobsen
15	Des Moines Lake - Deep Hole	Burnett	Steven	Markes
16	Little Trade Lake - Deep Hole	Burnett	Rick	Thill
17	Long Lake (T41n R14w S33) - Deep Hole	Burnett	Steve	Hunnicutt
18	Tabor Lake - Deep Hole	Burnett	Pat	Steingruebl
19	Wood Lake (Big) - North Basin-Site 1	Burnett		
20	Holcombe Flowage - 300 Yards Upstream Of Hwy M Bridge	Chippewa	Doug	Olson
21	Swan Lake - Deep Hole	Columbia	Jim	Watson, Jr.
22	Lake Monona - Squaw Bay	Dane	Rebecca	Fox-Blair
23	Leader Lake - Near Deep Pt E Basin	Douglas	John	Leeb
24	Lake Metonga - Deep Hole	Forest	Grant	Reed
25	Turtle Flambeau Flowage - Trude Lake - Deep Hole	Iron	Jean	Burns
26	Turtle Flambeau Flowage - Baraboo - Deep Hole	Iron	William	Stewart
27	Lower Spring Lake - Deep Hole	Jefferson	Greg	Smith
28	Red Cedar Lake - Deep Hole	Jefferson	Paul	Garrison
29	Rock Lake - Deep Hole	Jefferson	Patricia	Cicero
30	Paddock Lake - Deep Hole	Kenosha	Robert	Leick
31	Heidmann Lake - Deep Hole	Kewaunee	Brandon	Lensmire
32	Deer Lake - Deep Hole Site #5	Lincoln	Pamela	Mack
33	Kasbaum Lake - Deep Hole	Manitowoc	Roger	Sieben
34	Long Lake - Deep Hole	Manitowoc	Frank	Scharenbroch
35	Archibald Lake - West Basin-Site1	Oconto	Tim	Counihan

2017 QA participants page 2

35	Archibald Lake - West Basin-Site1	Oconto	Tim	Counihan
36	Hom Lake - Deep Hole	Oconto	Raymond	Krutowski
37	Deer Lake - Deep Hole	Oneida	Uble	Jalinski
38	Big Lake - Deep Hole	Oneida	Ed	Cottingham
39	George Lake - Deep Hole	Oneida	Pam	McVety
40	Horsehead Lake - Deep Hole	Oneida	Mike	Esler
41	Lake Thompson - Deep Hole	Oneida	Charles	Smith
42	Margaret Lake - Deep Hole	Oneida	Cael	Hansen
43	Milred Lake at Maximum Depth	Oneida	Sandy	Ellen
44	Pelican Lake - Deep Hole	Oneida	Dave	Hard
45	Big Brake Lake - Deep Hole/Main Basin	Polk	Shawn	Perkins
46	Deer Lake - West	Polk	David	Baumann
47	Pipe Lake - Deep Hole	Polk	Tim	Schmuck
48	Wind Lake (Round) - Deep Hole	Polk	Kohn	Kobemick
49	North Spent Lake - Deep Hole	Ponce	Vicki	Kroiss
50	Pike Lake - Deep Hole	Ponce	Rick	Sironi
51	Clear Lake - Deep Hole	Rusk	Richard	Martin
52	Lake Chatae North Basin Deep Hole	Sawyer	Pete	Rowson
53	Bearskin Lake - Deepest Part	Shawano	Jonathan	Schedler
54	Grass Lake - Deep Hole	Shawano	Richard	Thurow
55	Pensaukee Lake - Deep Hole - West Basin	Shawano	Pat	Resch
56	Jersey Valley Lake - Deep Hole	Vernon	John	Frame
57	Big Lake (142 R06 504) - Deep Hole	Vilas	Darry	Polivka
58	Cochran Lake - Deep Hole	Vilas	Rick	Moran
59	Dead Pike Lake - South Bay	Vilas	Nancy	Guzzetta
60	Fishtrap Lake - Deep Hole	Vilas	Leslie	Gauberti
61	Harris Lake - Center- Main Body Of Lake	Vilas	Timothy	Nickels
62	Horsehead Lake - Deep Hole	Vilas	Al	Boyce
63	Little Portage Lake - Deep Hole	Vilas	Michael	Schweizer
64	Little St Germain Lake - South Bay Near St Germain WI	Vilas	Tom	Best
65	North Turtle Lake - Deep Hole	Vilas	Steve	Budnik
66	Steams Lake - Deep Hole	Vilas	Tom	Gartner
67	Lulu Lake - Deep Hole	Walworth	Jerry	Zogler
68	Insp Lake - Deep Hole	Walworth	Ginny	Coburn
69	Long Lake - Deep Hole/Site A	Washburn	Everett	Griffey
70	Fowler Lake - Deep Hole	Waukesha	Kathy	Buss
71	Pine Lake - Deep Hole	Waukesha	Cody	Lincoln
72	Long Lake (Chain Of Lakes) - Deep Hole	Waupaca	Scott	Panzwibagen
73	Pope Lake - Deep Hole	Waupaca	Jackie	Stanislawski
74	Marl Lake - Deep Hole	Waushara	Michael	Fletcher