





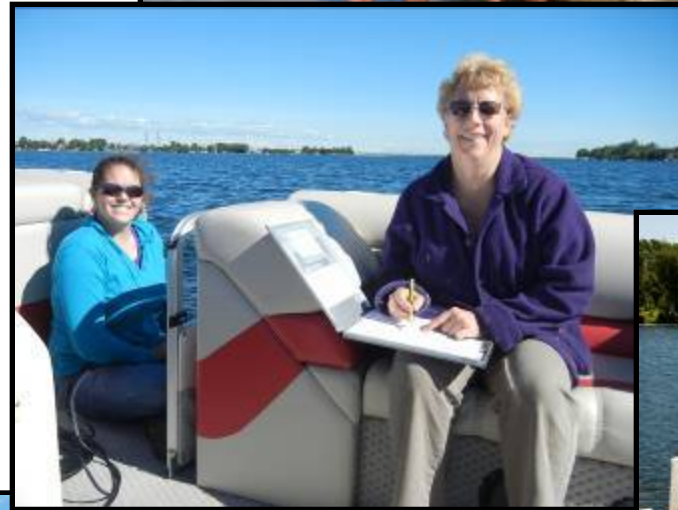
- Began in 1991 as a non-profit organization.
- Purpose: increasing Albertans' awareness and understanding of lakes and watersheds.
- Goal: improve or maintain the health of lakes and watersheds by engaging Albertans.





- Monitoring program which allows individuals or stewardship groups to track the health of their lake over time.
- Sampled over 100 unique lakes throughout Alberta since 1996.





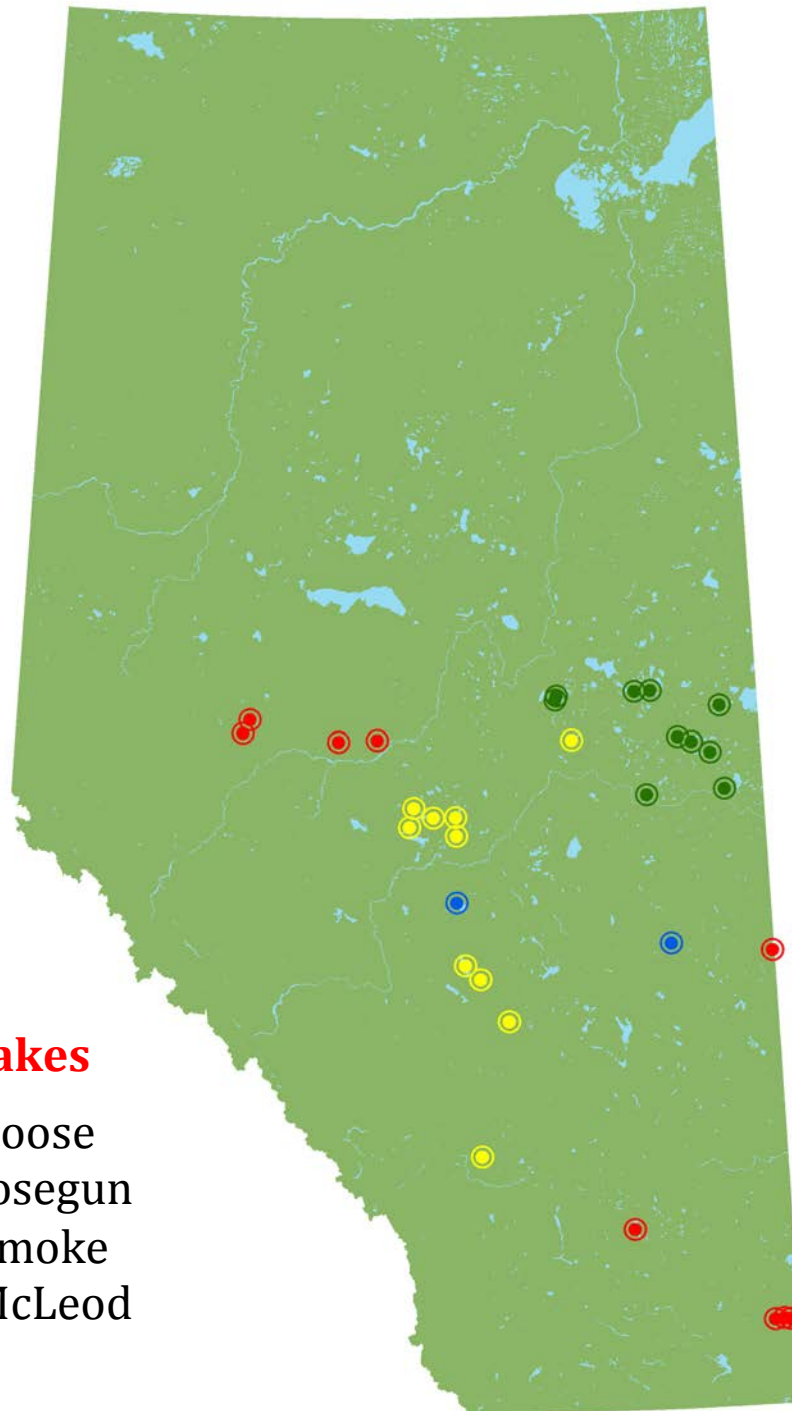
- LakeWatch program is dependent on volunteers.
- Volunteers meet technicians 5 times throughout the summer.
- Volunteers provide transportation!

Base Lakes:

- Chestermere
- Lacombe
- Hanmore
- Hubbles
- Lac La Nonne
- Lake Isle
- Lessard
- Matchayaw
- Gull
- Pine

Parks / EDF / Central Lakes

- | | |
|-----------------|-----------|
| ○ Elkwater | ○ Goose |
| ○ Reesor | ○ Iosegun |
| ○ Spruce Coulee | ○ Smoke |
| ○ Dillberry | ○ McLeod |
| ○ Newell | |



LICA Lakes:

- Muriel
- Minnie
- Moose
- Lac Santé
- Crane
- Laurier
- Pinehurst
- Skeleton North
- Skeleton South
- Elinor

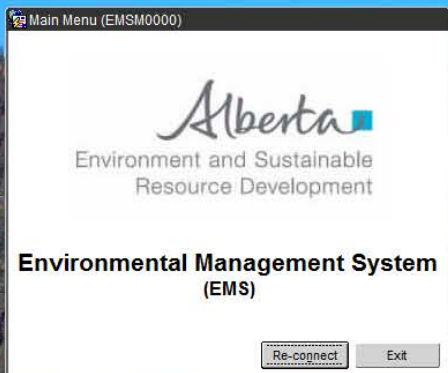
Additional Lakes:

- Pigeon
- Hardisty



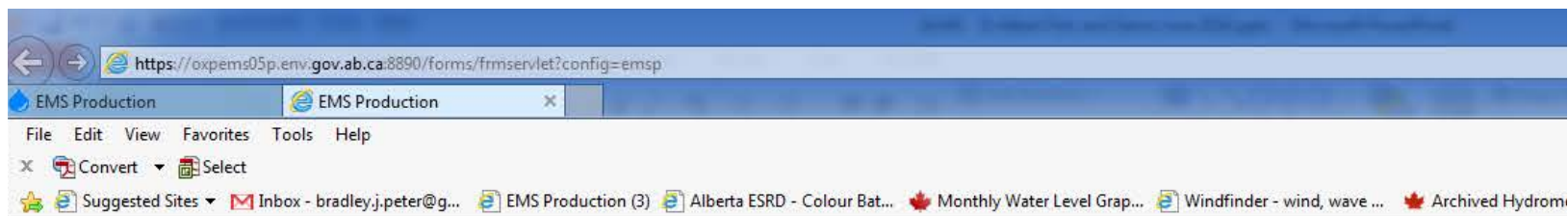
- Parameters collected include:
 - nutrients (TP, TDP, TKN, Nitrates, Nitrites),
 - metals (29 Total Recoverable),
 - temperature and dissolved oxygen profiles,
 - chlorophyll-*a*,
 - water clarity,
 - cyanobacterial toxins,
 - phytoplankton,
 - invasive mussels, etc...





Connect to the Oracle database using existing or new password.

Record: 1/1



File Edit Systems Window Help — ESRD

Ent Qry Exc Qry Can Qry Clr all Ins Rec Clr Rec Del Rec List Edit Item Spell Help

Sample Entry (WDSF1200)

Samples Samplers Measurements Lab Samples Archive Details

Sample Number: 16SWE07798 Sample Category: 1 SAMPLE - CHEMICAL ANALYSIS Archive: ☐

Station Number: AB06AC0405 MOOSE LAKE

Station Description: FRANCHERE BAY COMPOSITE

Parent Station:

Project Number: ABS020 ALMS LAKES (ALBERTA LAKE MANAGEMENT SOCI) qc: ☐

Group Sample Number: 16SWE07797 Sample Cross Reference: Class: A

Sample Date/Time: 27-JUL-2016 11:30:00 End Date: ☒ Time Usable

Time Zone: MST Sample Depth: Number Caught: Number Kept:

Owner Stakeholder: 00065162 Monitoring Branch Find Agency: 211 ALBERTA ENVIRONM

Sample Type: 13 EUPHOTIC COMPOSITE Sample Matrix: 0 WATER

Collection Code: 133 WEIGHTED SAMPLING TUBE WITH ONE WAY VALVE

Comment: Air Temp: +25degC. Wind Speed: None. Wind Direction: None. %Cloud: 30-40%. Wav

☐ System Validated ☐ Field Validated ☐ Office Validated ☐ Signed Off

Updated By: BPETER Updated: 05-OCT-2016 14:02:30

Bio-Items Validate Migrate

OK Cancel Apply

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

Page 1 of 7

RESULTS:	Bradley Peter	780-415-9785	CLIENT SAMPLE ID		GROUP SAMPLE ID		PROJECT NUMBER				
	Alberta Lake Management Society (ALMS)		16SWE07585		16SWE07584		ABS020				
	McIntyre Center		STATION ID		SAMPLER ID		Matrix				
	4816-89 St		AB05FA2096				Water				
	Edmonton		STATION DESCRIPTION: Lacombe Lake								
	AB	T6E 5K1									
INVOICE:	Bradley Peter	780-415-9785	DATE SAMPLED:		03-Oct-16	9:30	DATE RECEIVED:		07-Oct-16		
	McIntyre Center		REPORT CREATED:		27-Oct-16		REPORT NUMBER:		16100074		
	4816-89 St								VERSION:		Version 01
	Edmonton		AGENCY		MATRIX		TYPE		COLLECTION		
	AB	T6E 5K1	211		0		13		133		
Lab ID	Parameter		Qualifier	Result	Units		RDL	VMV	Method	Analysis Date	
16100074-001	Chlorophylla (Phytoplankton)			9.6	ug/L		0.1	99212	AC-020	11-Oct-16	

Report certified by: Rebecca Holgate, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

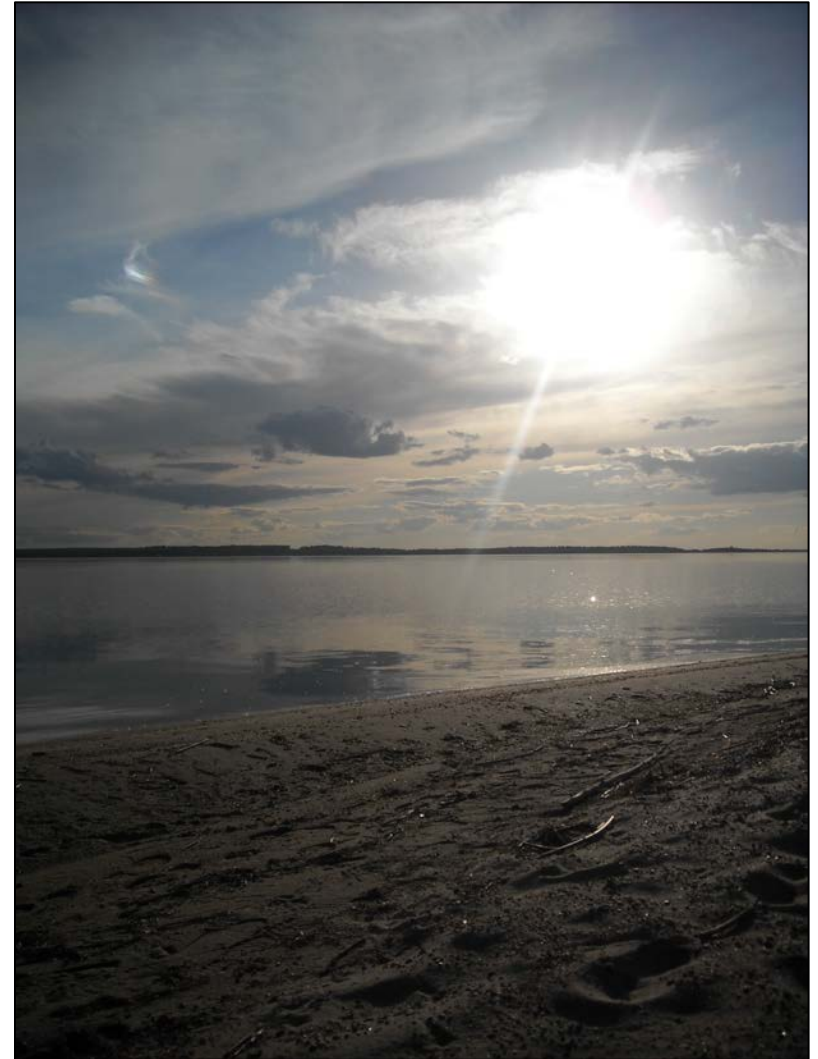
Date: Thursday, October 27, 2016

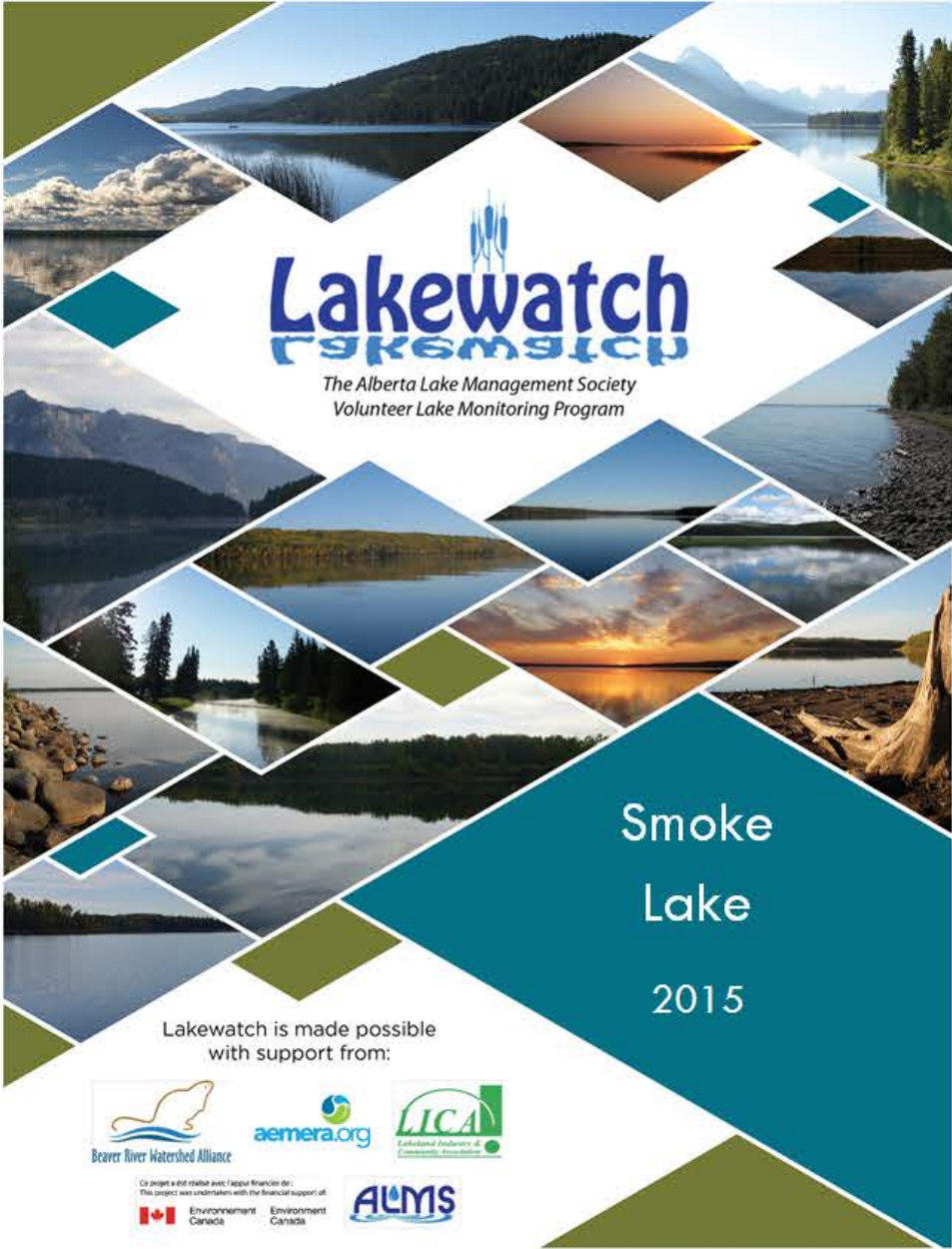
Inquiries: (780) 632 8455

E-mail: EAS.Results@albertainnovates.ca



- Data Validation:
 - Laboratory Errors
 - Field Technician Errors
 - QC Samples
- Time consuming process.
- Project Biologist sign-off.





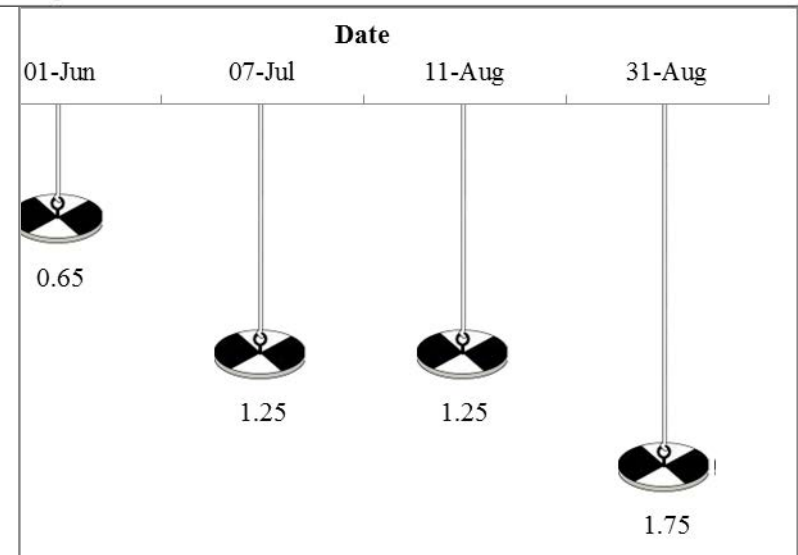
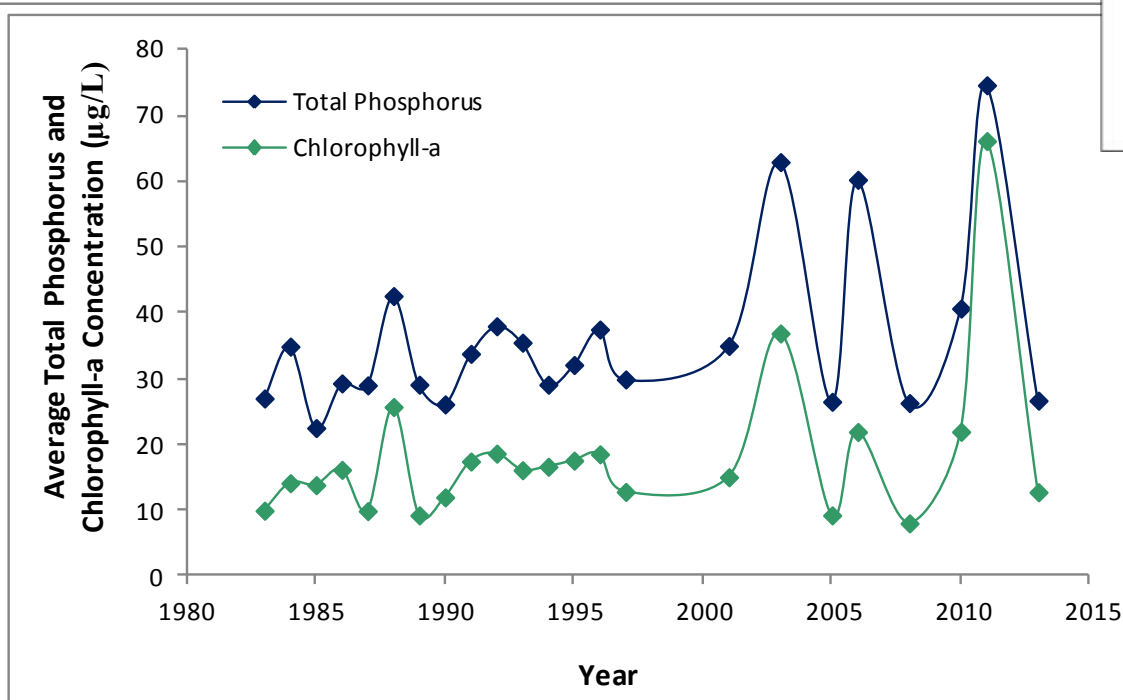
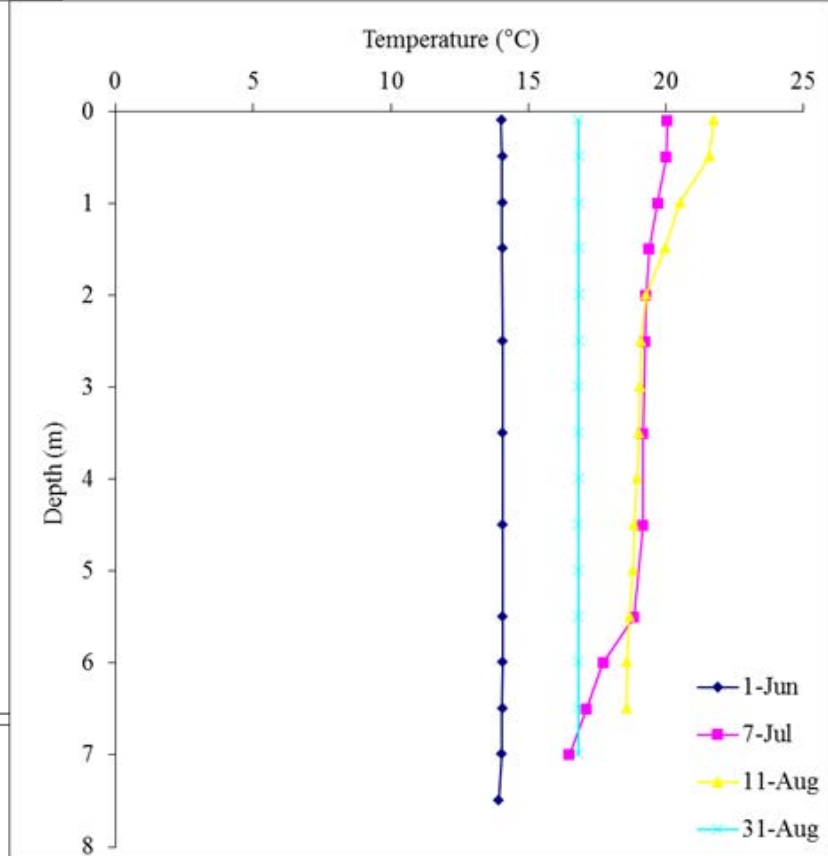
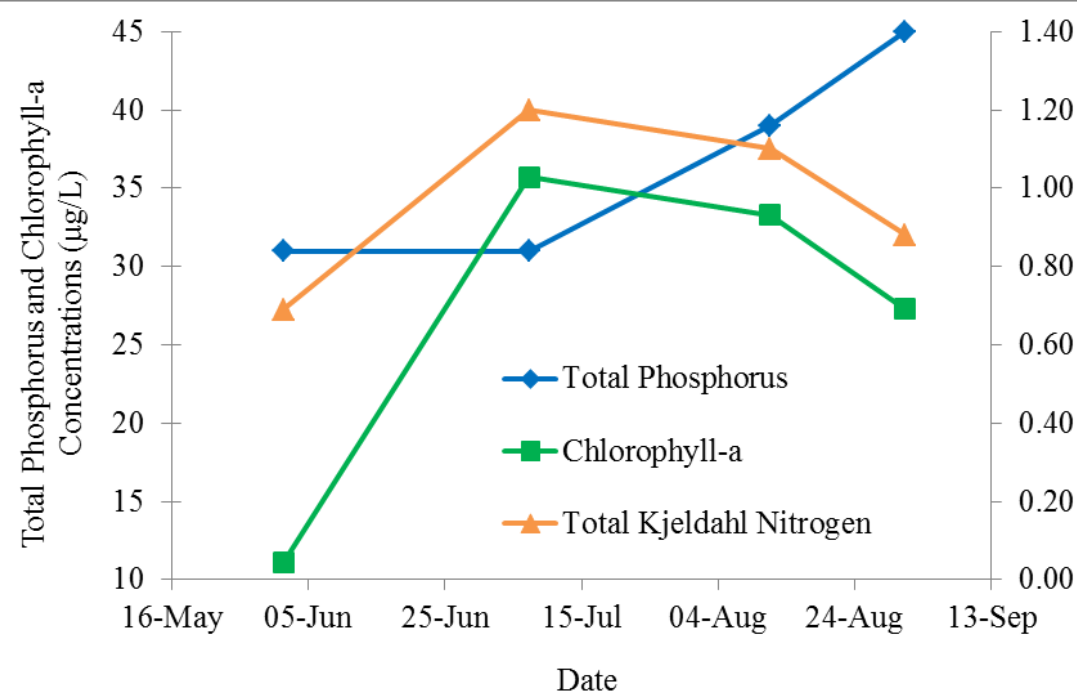
Lakewatch

The Alberta Lake Management Society
Volunteer Lake Monitoring Program

Smoke
Lake
2015

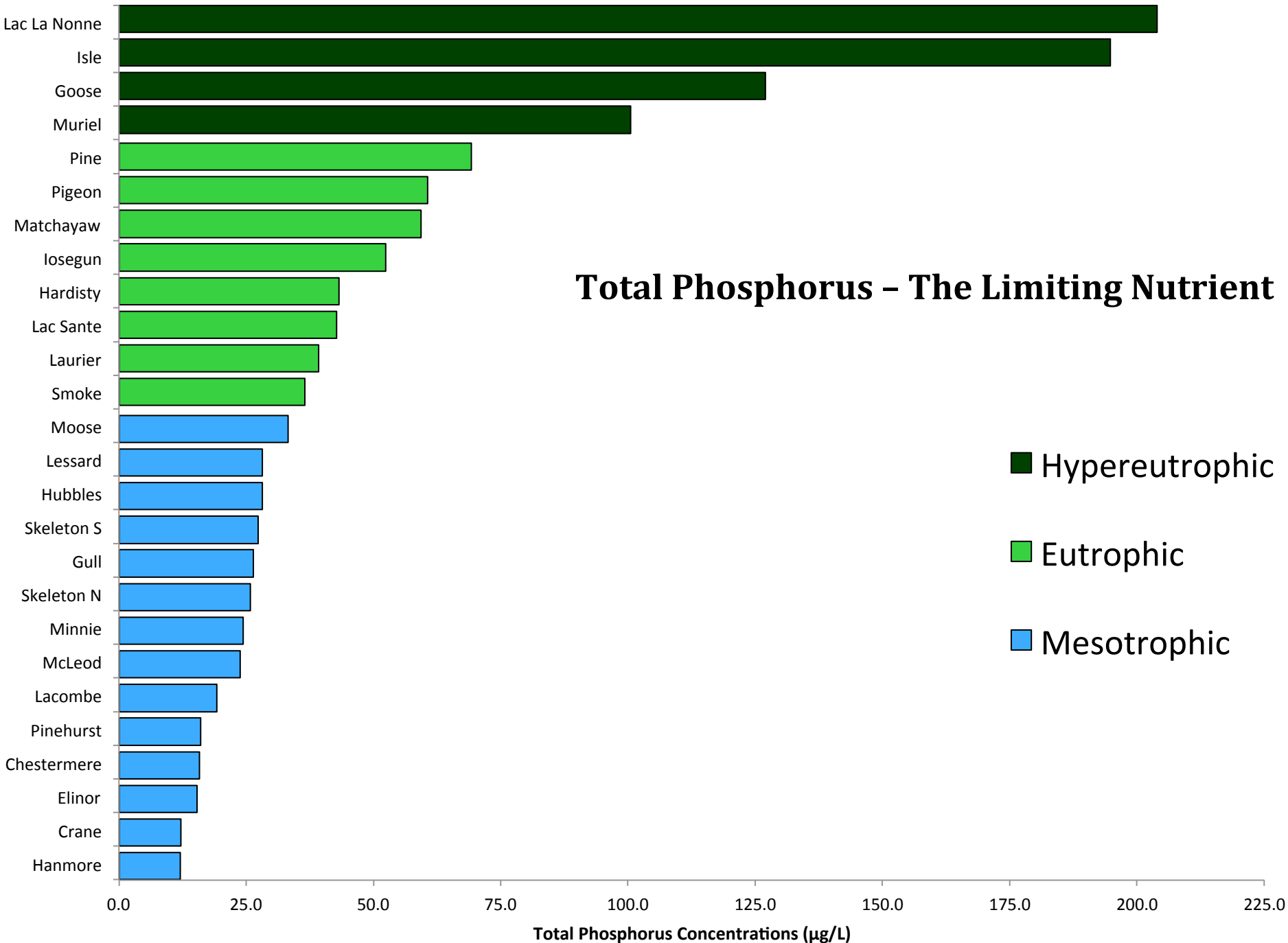
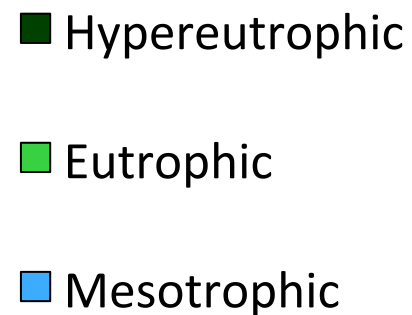
Lakewatch is made possible
with support from:

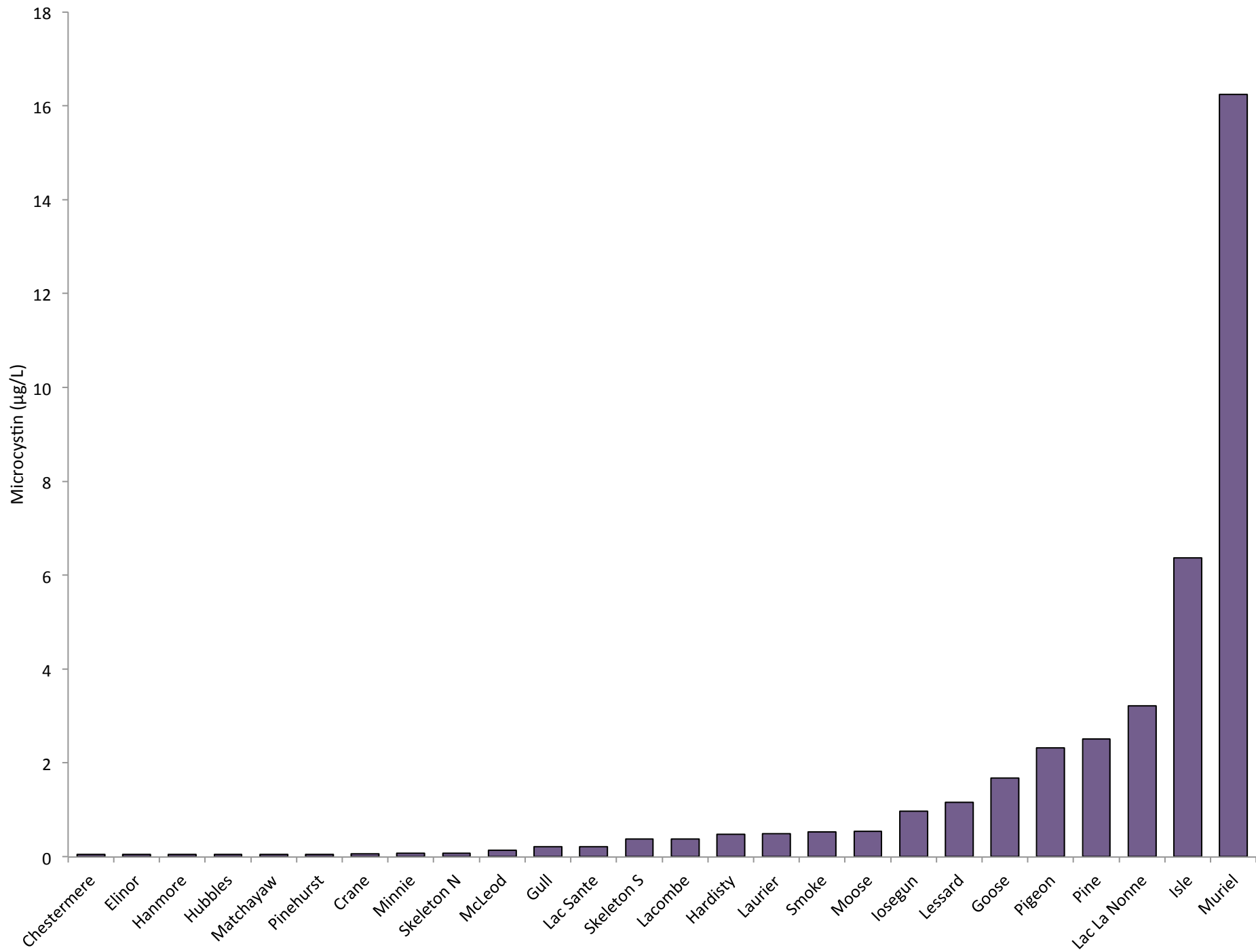




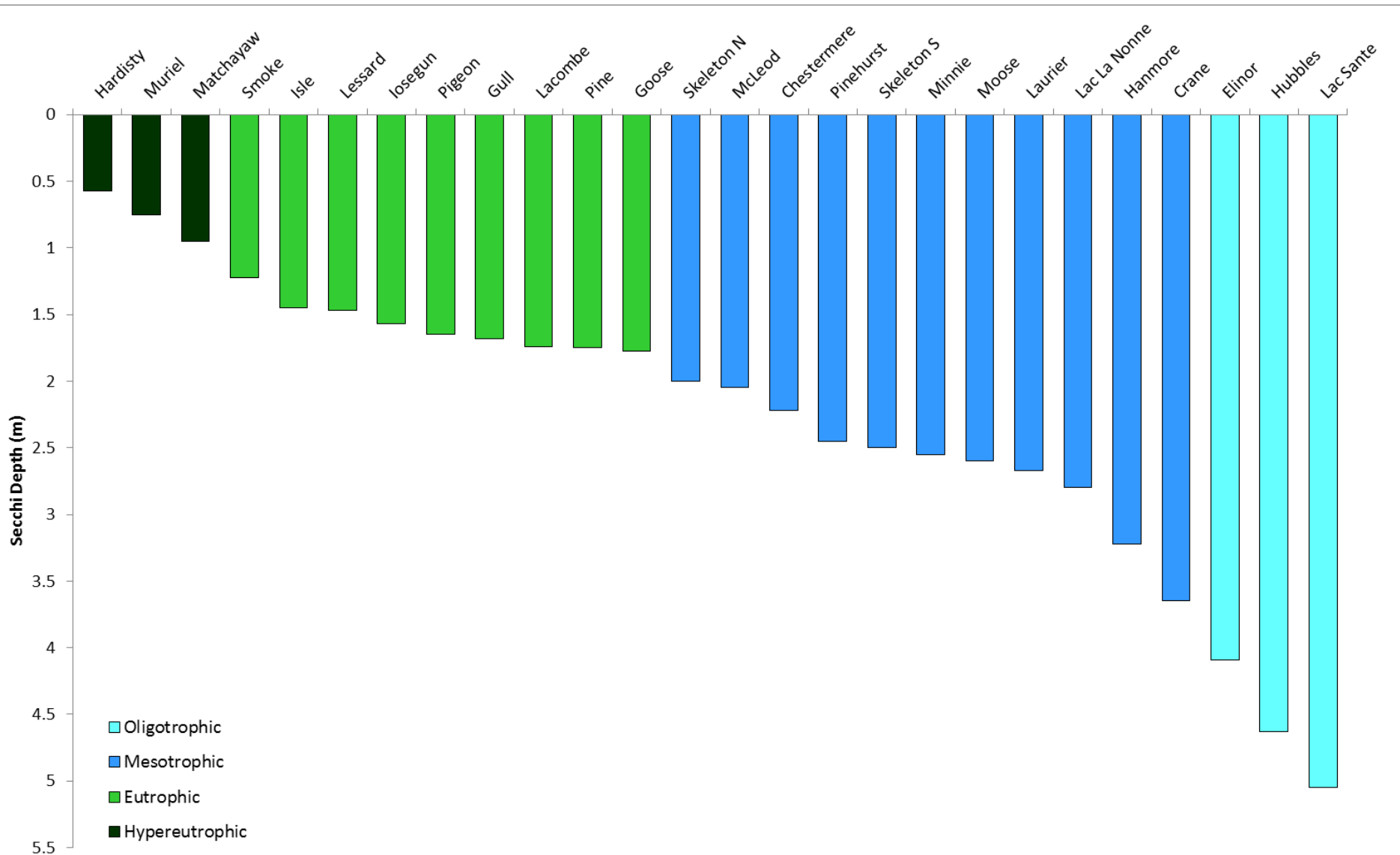
<i>Parameter</i>	<i>1983</i>	<i>2014</i>	<i>2015</i>
TP (µg/L)	52.92	93	37
TDP (µg/L)	19.21	43	10
Chlorophyll- <i>a</i> (µg/L)	25.02	32.0	26.9
Secchi depth (m)	/	1.85	1.23
TKN (mg/L)	0.78	1.2	0.97
NO ₂ and NO ₃ (µg/L)	2	27.5	4.4
NH ₃ (µg/L)	9.83	113	25
DOC (mg/L)	17.55	23	15
Ca (mg/L)	21	23	26
Mg (mg/L)	4.92	6.8	7.5
Na (mg/L)	8.15	12	13
K (mg/L)	0.98	1.3	1.4
SO ₄ ²⁻ (mg/L)	10.85	10	20
Cl ⁻ (mg/L)	1.4	4.0	4.3
CO ₃ (mg/L)	/	3.1	0.90
HCO ₃ (mg/L)	93	117	115
pH	8.00	8.11	8.25
Conductivity (µS/cm)	178.75	222	233
Hardness (mg/L)	71	86	96
TDS (mg/L)	91	128	138
Microcystin (µg/L)	/	0.93	0.53
Total Alkalinity (mg/L CaCO ₃)	77.25	95	95

Total Phosphorus – The Limiting Nutrient





Secchi Disk Depth:





- Pros:

- Easy to query
- Data used by wide variety of stakeholders.
- ‘Stamp of Validity’.
- Minimal work with lab.





- Cons:

- Appearance of government association?
- Data ownership?
- Recognition of CBM?





- Wish-list:
 - Statistical analysis.
 - Sample design specificity
 - Easily accessible raw data.





Bradley Peter
780-415-9785
programs@alms.ca

