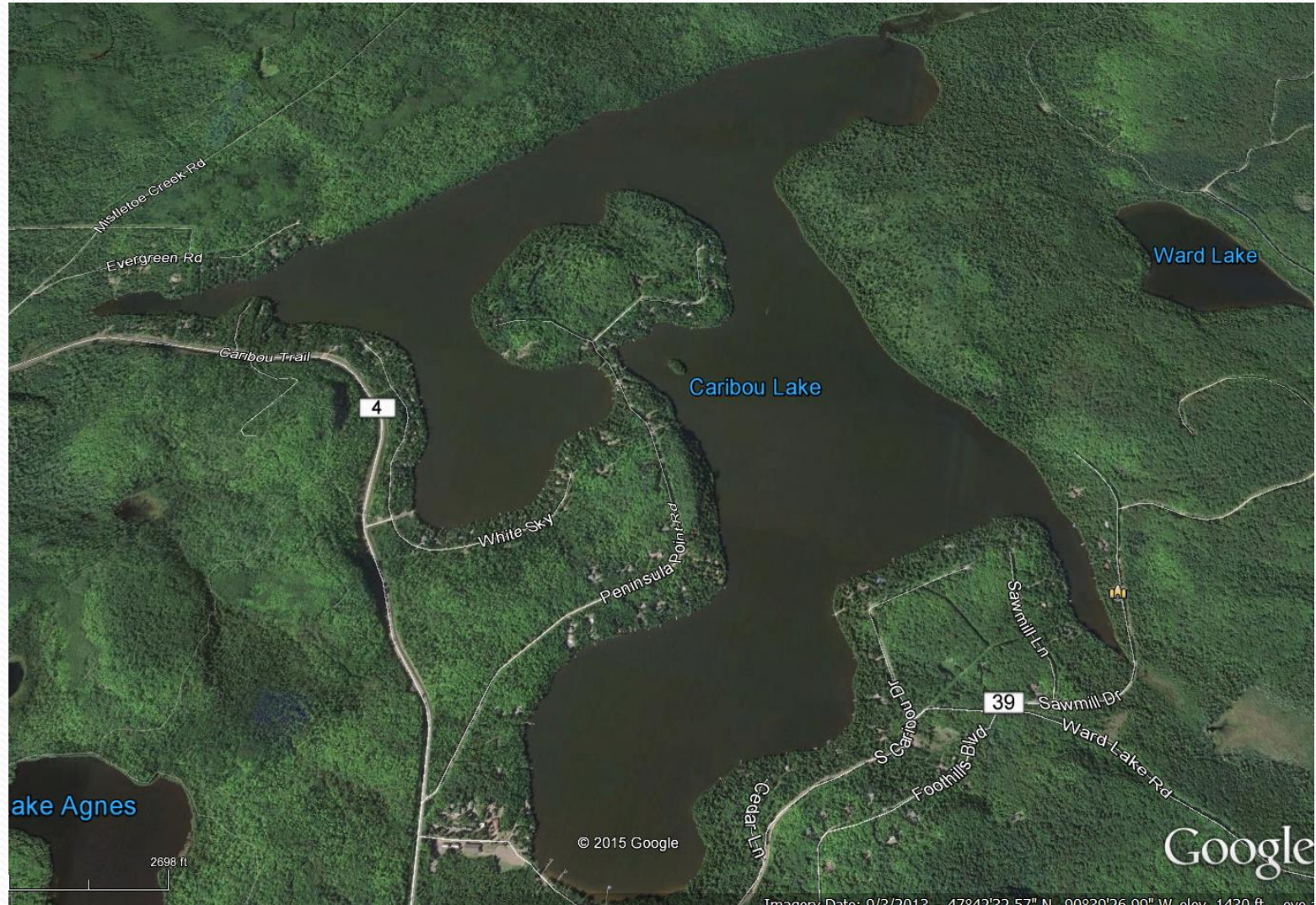


Caribou Lake Property Owners' Association



AGENDA

I. Introduction of Board Members, attendees, and guests

II. Reports and Official Business

A. Approve minutes of 2017 Annual Meeting

B. Treasurer's Report - Louise Suomi

C. CCCoLA Report - Irene Mullen

D. Water Quality Report - Larry Mullen

E. Report from Commissioner Storlie

F. Nomination and election of Board Members - Julie Bittinger

II. Guest Speakers

A. Tim Nelson - Land Services Director, Cook County

B. Steve Persons - DNR Fisheries Supervisor

III. Issues from the floor

IV. Adjourn

CCCoLA Report

Cook County Coalition of Lake Associations

CCCoLA Activities

- June
 - Matt Weberg – DNR Fisheries
 - Septic and Well Seminar – U of M and U.S. Dept. of Health
- August
 - Hosted Lake Stewardship/Management Planning workshop
 - Lake Survey
- September – Arrowhead Electric – Policy/Plans for using chemicals on right of ways

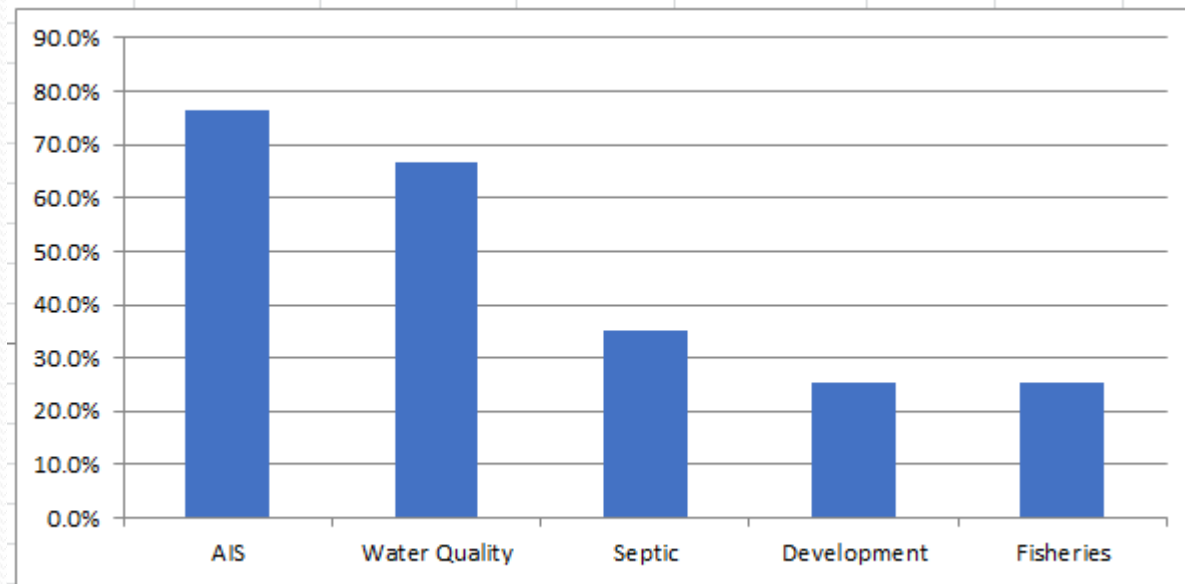
CCCoLA Lake Stewardship Workshop



Top Concerns for Lake Conservation (asked to pick 3)

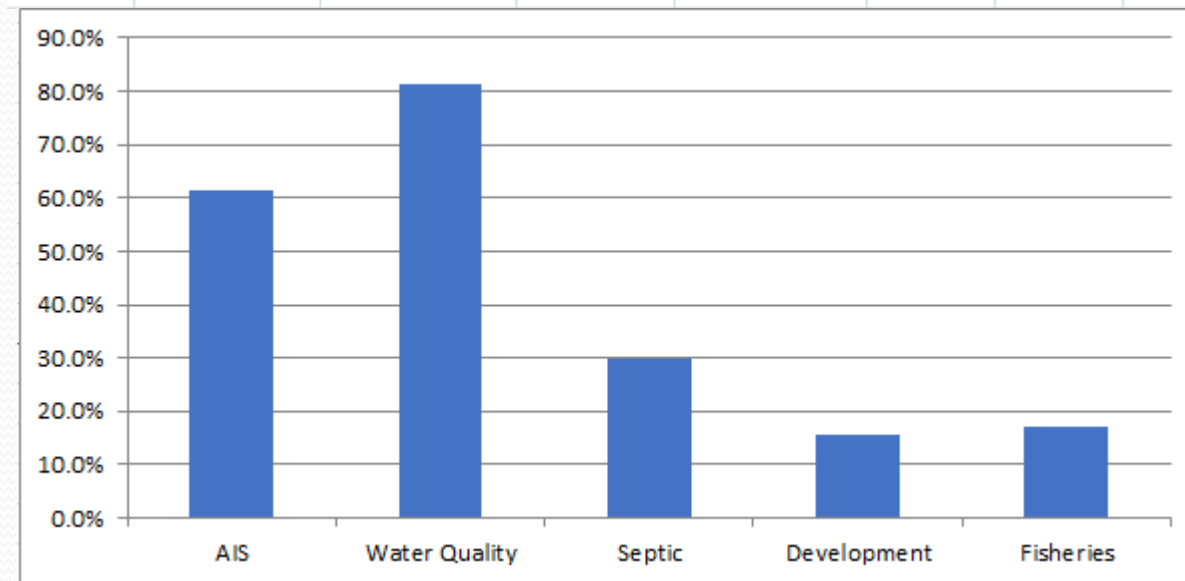
Caribou Lake

Presence & Prevention of AIS	76.5%
Overall Water Quality	66.7%
Septic System Runoff	35.3%
Shoreline Development	25.5%
Declining Fisheries	25.5%



10 Other County Lakes

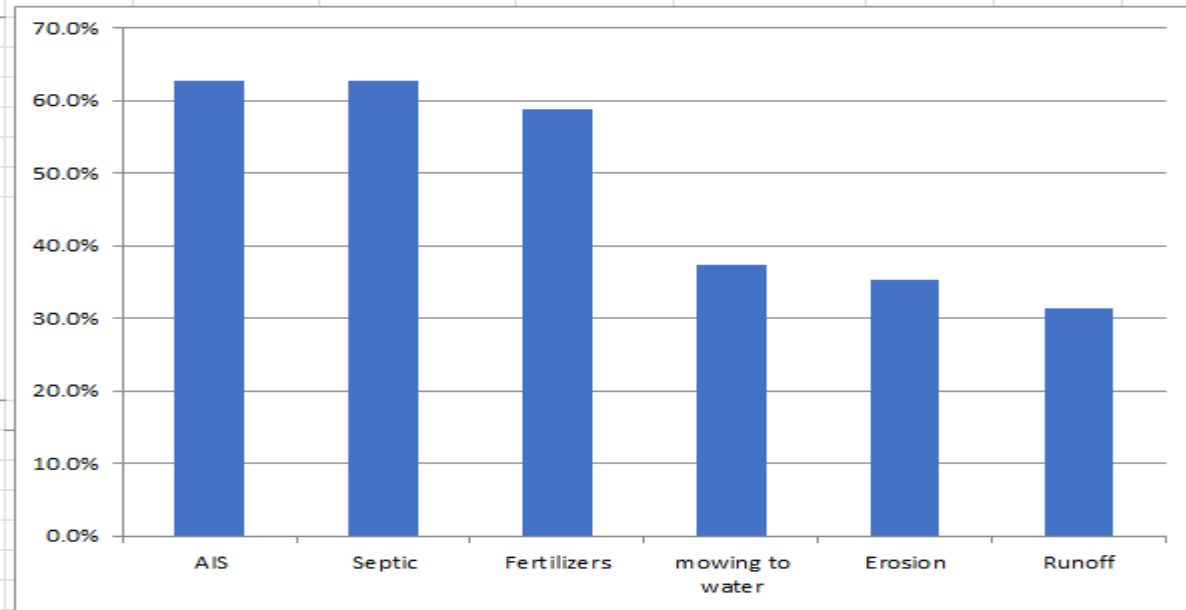
Presence & Prevention of AIS	61.4%
Overall Water Quality	81.4%
Septic System Runoff	30.0%
Shoreline Development	15.7%
Declining Fisheries	17.1%



Greatest Contributors to Surface Water Problems

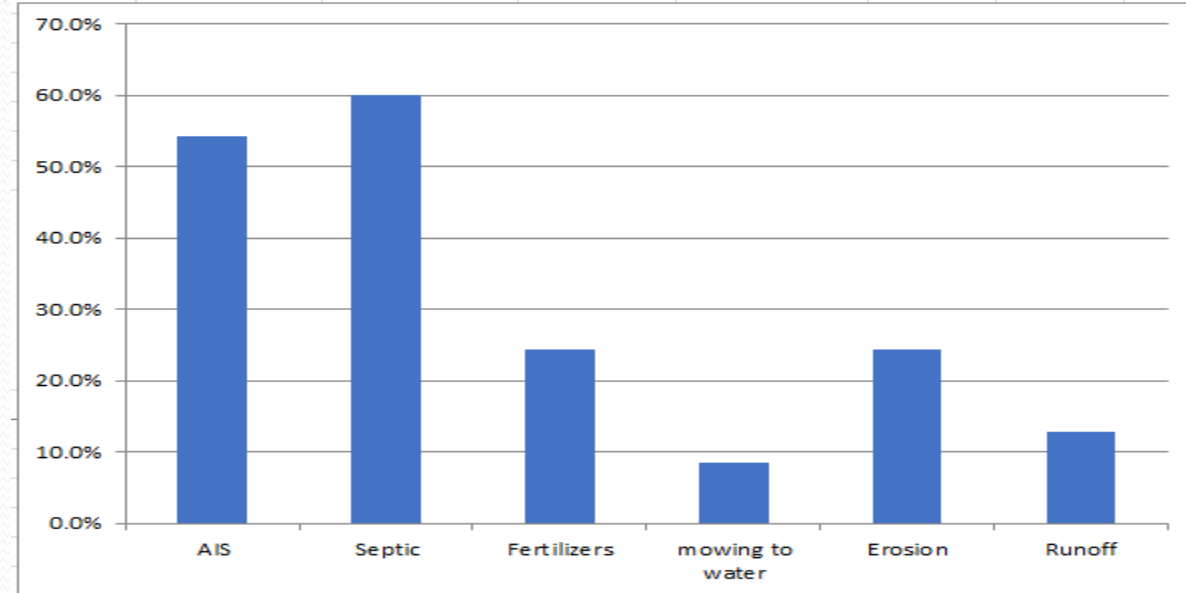
Caribou Lake

AIS	62.7%
Septic Systems	62.7%
Fertilizers/Pesticides	58.8%
Mowing to the Water	37.3%
Erosion	35.3%
Storm water Runoff	31.4%



10 Other County Lakes

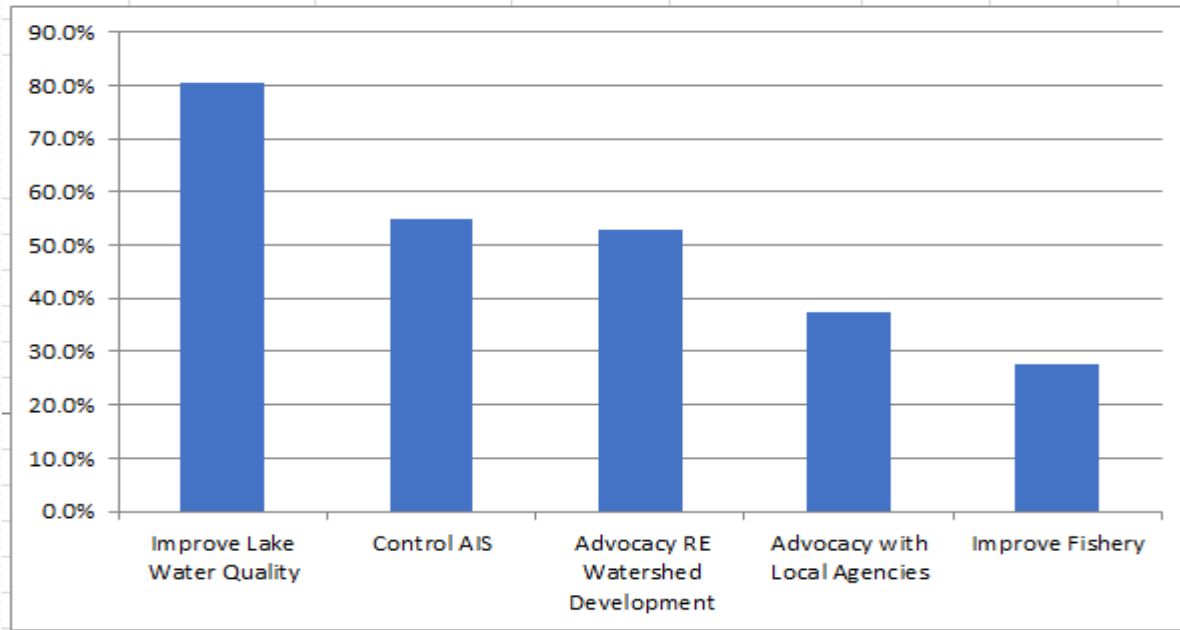
AIS	54.3%
Septic Systems	60.0%
Fertilizers/Pesticides	24.3%
Mowing to the Water	8.6%
Erosion	24.3%
Storm water Runoff	12.9%



Most Important Roles of Your Lake Association (asked to pick 3)

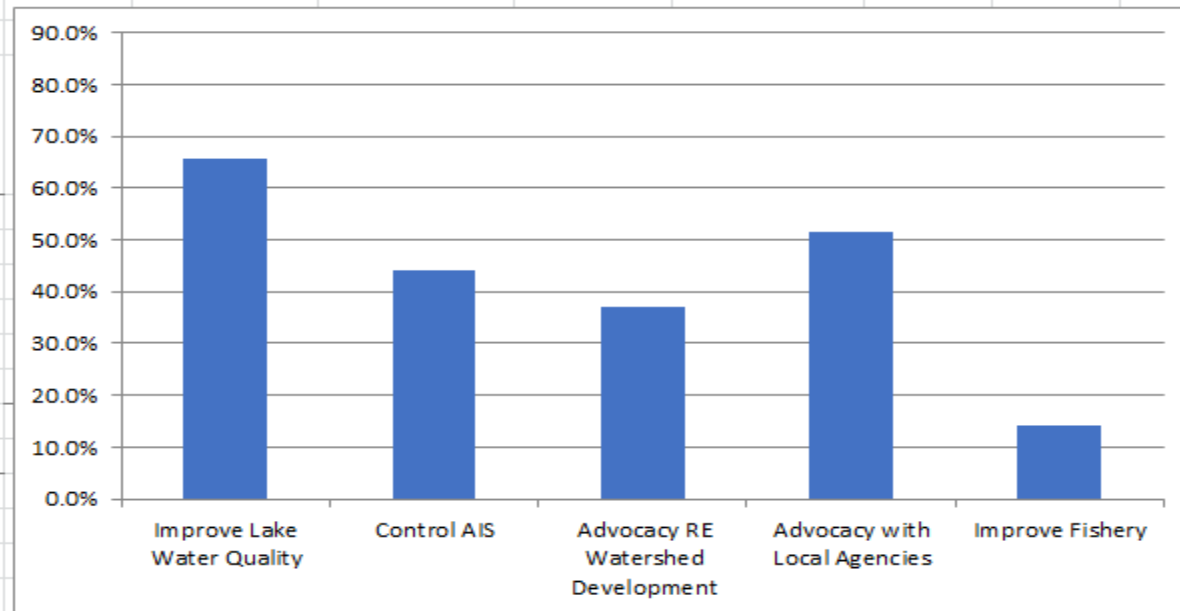
Caribou Lake

Improve Lake Water Quality	80.4%
Control AIS	54.9%
Advocacy re Watershed Development	52.9%
Advocacy with Local Agencies	37.3%
Improve Fisheries	27.5%



10 Other County Lakes

Improve Lake Water Quality	65.7%
Control AIS	44.3%
Advocacy re Watershed Development	37.1%
Advocacy with Local Agencies	51.4%
Improve Fisheries	14.3%



Next Year's CCoLA Plans

- Continue to support Cook County Lakes as they develop their Lake Management Plans
- Work with Cook County Soil and Water to initiate a county wide well testing program
- Host a presentation by Dr. Mark Edlund, St Croix Watershed Research Station, on core sampling done on Cook County lakes

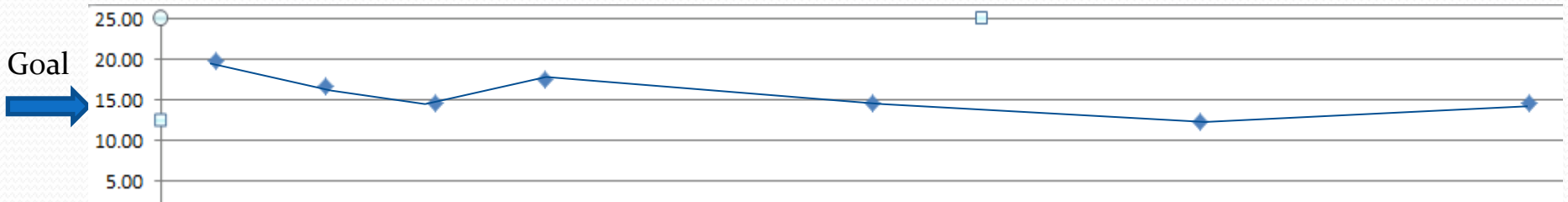
Water Quality Report

Phosphorus
Chlorophyll-a
Secchi Disk
Oxygen
Calcium
AIS

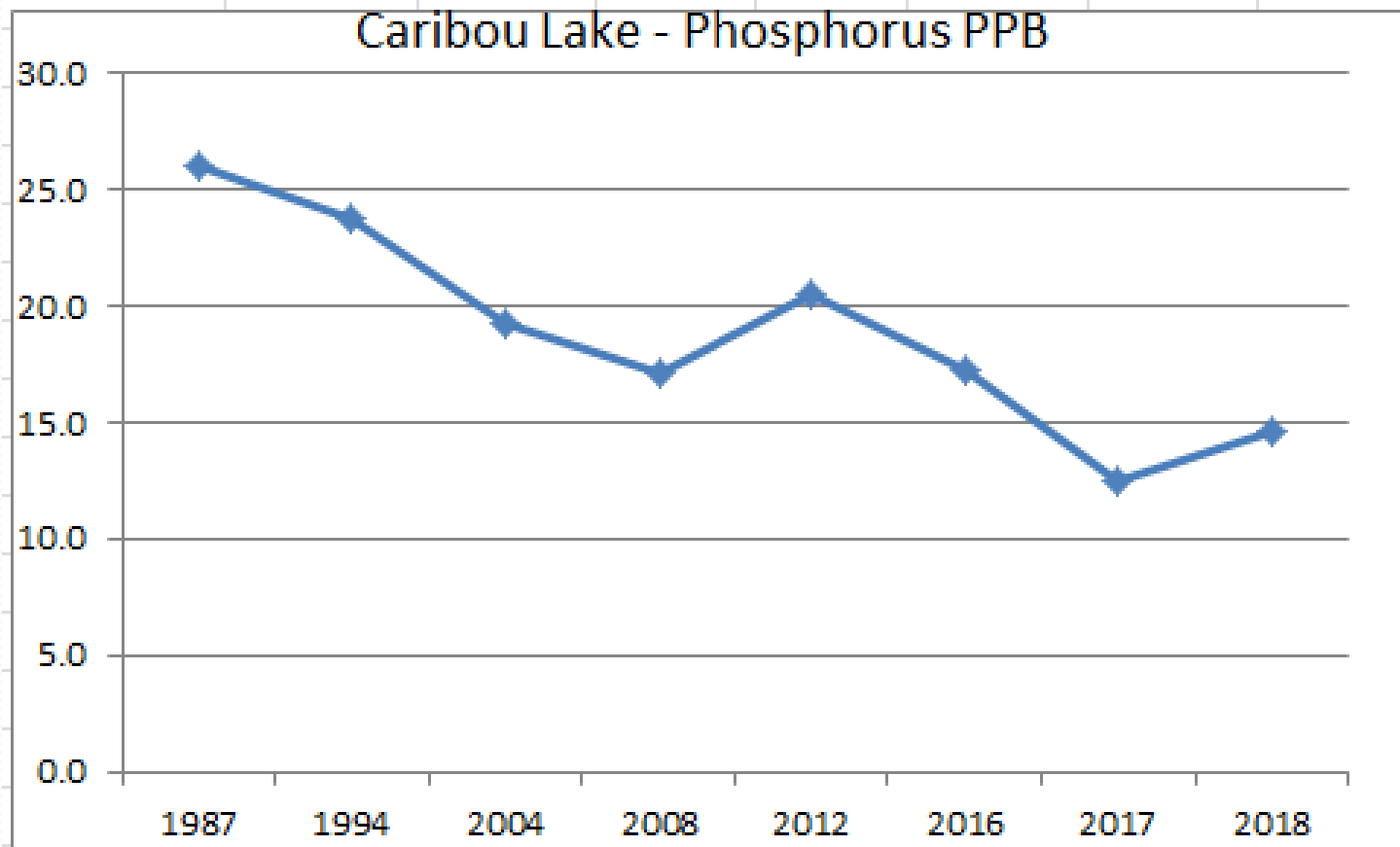


Phosphorus

Site	2012	2013	2014	2015	2016					2017					2018				
	Ave	Ave	Ave	Ave	1-Jun	5-Jul	1-Aug	6-Sep	Ave	1-Jun	27-Jun	8-Aug	19-Sep	Ave	5-Jun	9-Jul	7-Aug	Sep	Ave
Phosphorus (PPB) Goal = 15 or less																			
203 (Camp)	20.50	16.25	14.75	16.25	12	17	15	11	13.75	10.0	13.0	9.0	12.0	11.00	10.0	11.0	20.0		13.67
210 (Island)	22.50	23.25	16.00	16.50	11	18	17	8	13.50	9.0	13.0	14.0	16.0	13.00	9.0	12.0	20.0		13.67
205 (Fosters)	20.50	16.25	14.00	20.50	12	15	18	24	17.25	11.0	10.0	16.0	13.0	12.50	12.0	13.0	19.0		14.67
103 (Landing)	18.25	13.75	13.75	16.25	13	16	17	9	13.75	10.0	12.0	18.0	19.0	14.75	20.0	15.0	17.0		17.33
201 (Isthmus)	17.00	14.25	14.25	18.25	20	14	15	8	14.25	10.0	12.0	8.0	12.0	10.50	14.0	15.0	12.0		13.67
Average	19.75	16.75	14.55	17.55	13.6	16	16	12	14.50	10.0	12.0	13.0	14.4	12.35	13.0	13.2	17.6	0.0	14.60

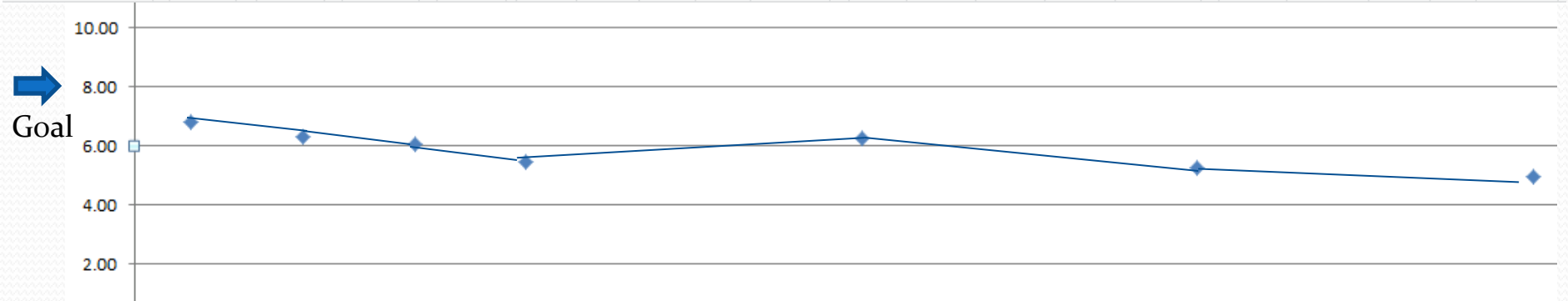


Site 205 Average							
<u>1987</u>	<u>1994</u>	<u>2004</u>	<u>2008</u>	<u>2012</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
26.0	23.8	19.2	17.2	20.5	17.3	12.5	14.7



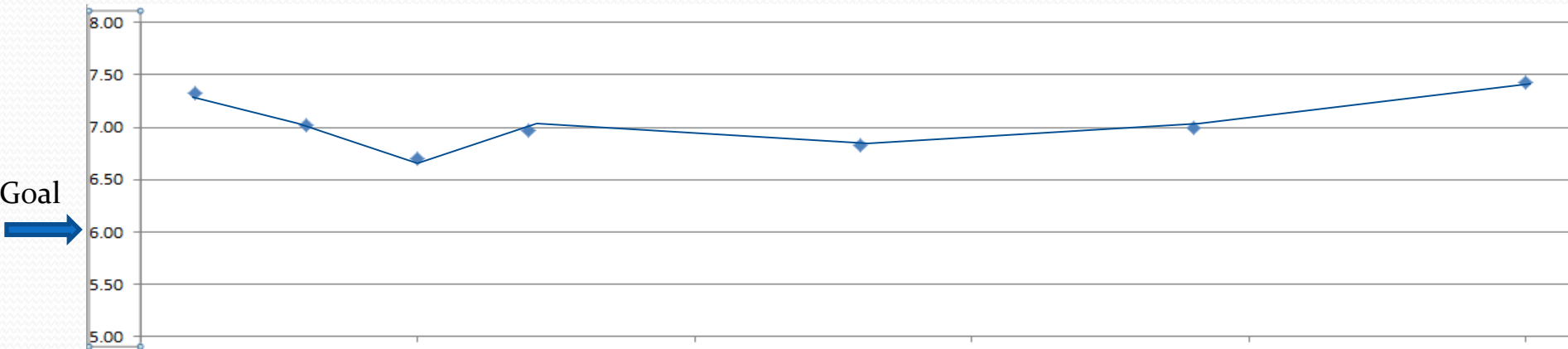
Chlorophyll-a

Site	2012	2013	2014	2015	2016					2017					2018				
	Ave	Ave	Ave	Ave	1-Jun	5-Jul	1-Aug	6-Sep	Ave	1-Jun	27-Jun	8-Aug	19-Sep	Ave	5-Jun	9-Jul	7-Aug	Sep	Ave
Chlorophyll-a (PPB) Goal = 8 or less																			
203 (Camp)	6.00	7.00	4.75	5.50	1.78	2.22	4	14	5.55	3.6	1.0	12.5	4.9	5.49	2.2	6.7	7.6		5.49
210 (Island)	7.50	6.25	6.25	6.00	1	4.9	6.7	16	7.15	1.0	3.6	9.3	4.9	4.70	1.0	5.3	7.5		4.59
205 (Fosters)	7.75	5.50	6.25	5.75	1.34	5.34	7.1	14	7.00	3.6	3.6	9.8	5.3	5.55	1.0	8.0	10.2		6.40
103 (Landing)	6.25	6.50	6.25	5.50	2.22	2.67	4.9	13	5.67	3.6	3.6	7.1	6.5	5.19	1.3	6.2	6.2		4.58
201 (Isthmus)	6.50	6.25	6.75	4.50	1.78	4.9	4	13	6.02	1.0	4.0	9.3	6.7	5.26	1.8	5.3	4.0		3.70
Average	6.80	6.30	6.05	5.45	1.62	4.01	5.3	14	6.28	2.5	3.1	9.6	5.7	5.24	1.5	6.3	7.1	0.0	4.95



Secchi Disk

Site	2012	2013	2014	2015	2016					2017					2018				
	Ave	Ave	Ave	Ave	1-Jun	5-Jul	1-Aug	6-Sep	Ave	1-Jun	27-Jun	8-Aug	19-Sep	Ave	5-Jun	9-Jul	7-Aug	Sep	Ave
Secchi (Feet) Goal is 6 or more																			
203 (Camp)	7.71	7.25	6.88	7.75	8	7	7	5.5	6.88	7.5	8.5	6.0	7.0	7.25	9.5	8.0	6.5		8.00
210(Island)	8.40	7.50	6.63	6.13	8.5	6.5	7	6.5	7.13	8.0	8.5	6.0	7.0	7.38	7.5	7.5	6.0		7.00
205 (Fosters)	8.04	7.13	7.13	8.00	7.5	7.5	7.5	5.5	7.00	8.0	9.0	6.0	7.5	7.63	10.5	8.0	7.5		8.67
103 (Landing)	6.02	6.63	6.50	6.25	7.5	7	6	5.5	6.50	6.0	6.5	5.5	6.5	6.13	6.5	6.5	6.0		6.33
201 (Isthmus)	6.46	6.63	6.38	6.75	7	7.5	6	6	6.63	7.0	7.0	5.5	7.0	6.63	7.5	7.5	6.5		7.17
Average	7.32	7.03	6.70	6.98	7.7	7.1	6.7	5.8	6.83	7.3	7.9	5.8	7.0	7.00	8.3	7.5	6.5	0.0	7.43



Calcium Sample

- Summer of 2018 7.4 mg/L
- Summer of 2017 7.6 mg/L
- Summer of 2016 8.2 mg/L

Aquatic Invasive Species (AIS)

Boat Inspections on Caribou

New sign installed

24 hours on weekends
by County AIS

Volunteer coverage
during the week



Aquatic Invasive Species (AIS)

- County AIS set traps for Rusty Crayfish and found none
- Testing for Spiney Waterflea and none found

Water Levels

		Caribou Lake Levels 2008 - 2018					<i>Report to CLPOA 9/1/18</i>		
		1-May	1-Jun	1-Jul	1-Aug	1-Sep	1-Oct	1-Nov	
2018		3.56	3.7	3.46	3.06				
2017		4.1	3.84	4.3	3.54	3.58	3.68	3.58	
2016		4.1	3.9	3.86	3.46	3.3			
2015		3.55	3.76	3.74	3.4	3.26	3	3.34	
2014		4.3	4.2	4.1	3.88	3.7	3.56	3.56	
2013		4.1	4.02	3.82	3.74	3.46	3.5	3.46	
2012		3.42	3.56	3.6	3.48	3.24	2.74	3.3	
2011		4.06	3.86	3.68	3.36	3	3.1	3.1	
2010		3.6	3.46	3.57	3.34	3.32	3.34	3.88	
2009		4.12	3.9	3.69	3.5	3.3	3.32	3.68	
2008				4.18	3.98	3.75	3.85	4.05	

Boat Landing Upgraded With New Cement Slabs



Before Picture – Landing Driveway and Parking Runoff Problem



After Picture – Runoff Sloped to Grassy Area



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