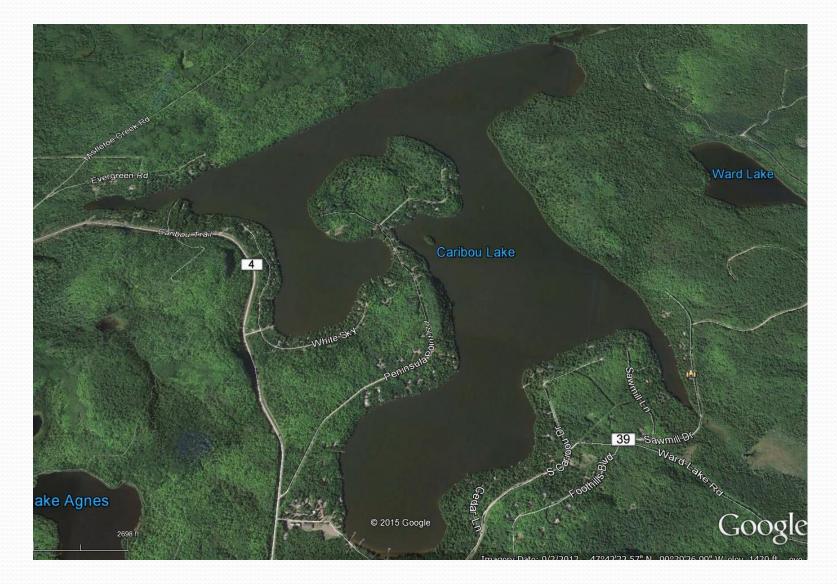
Caribou Lake Property Owners' Association



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

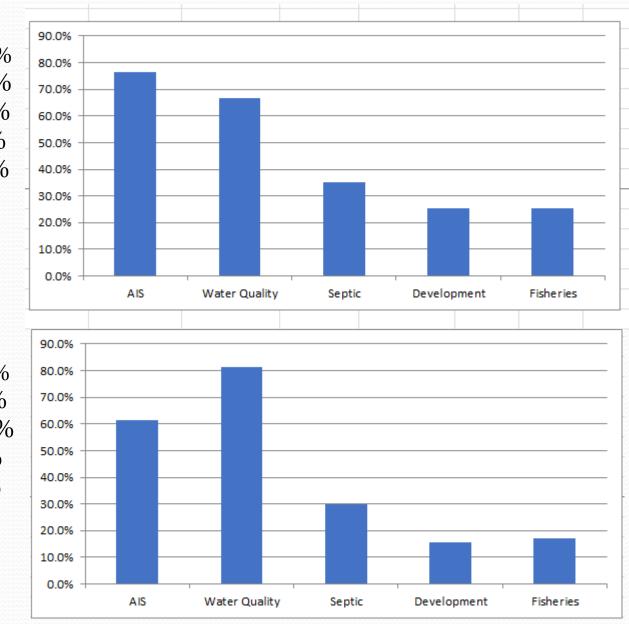


Top Concerns for Lake Conservation (asked to pick 3)

Caribou LakePresence & Prevention of AIS 76.5%Overall Water Quality66.7%Septic System Runoff35.3%Shoreline Development25.5%Declining Fisheries25.5%

10 Other County Lakes

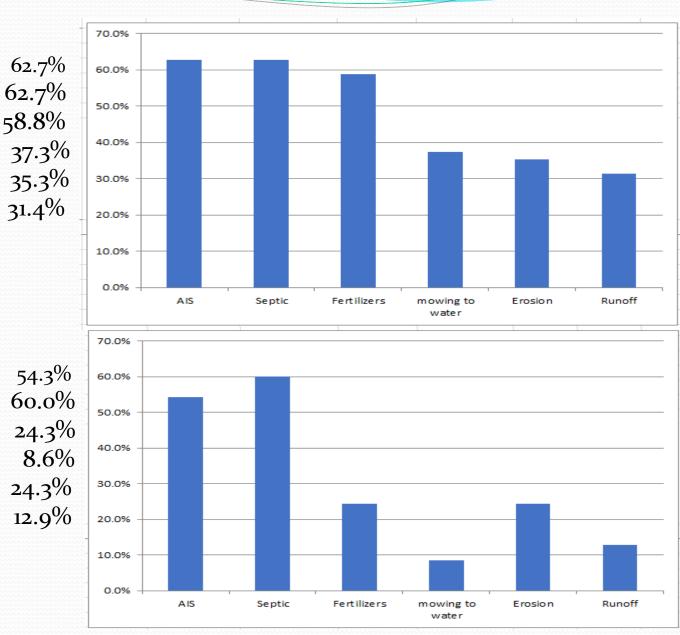
Presence & Prevention of AIS61.4%Overall Water Quality81.4%Septic System Runoff30.0%Shoreline Development15.7%Declining Fisheries17.1%



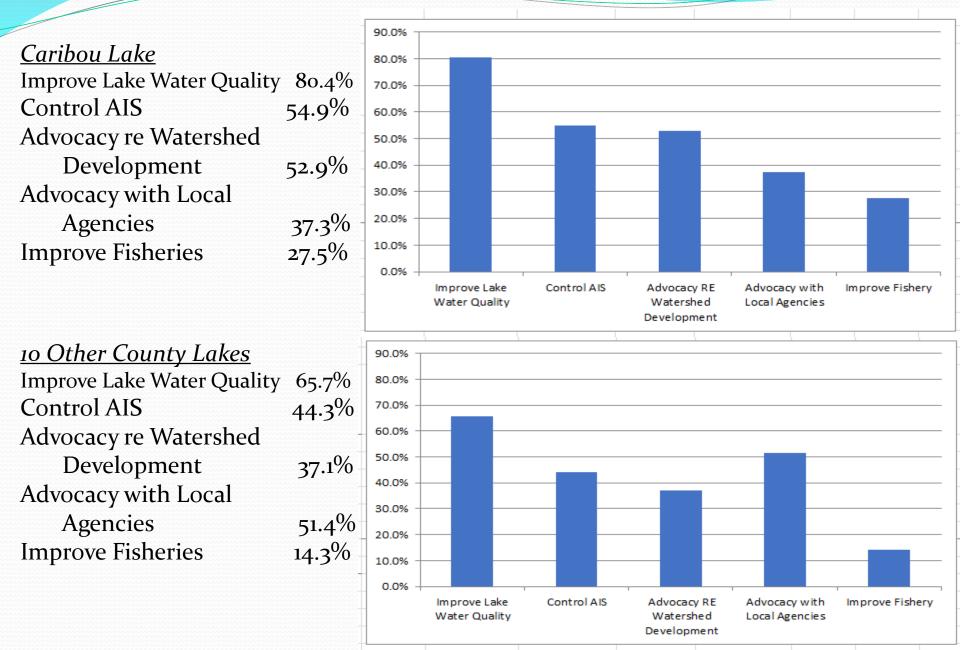
Greatest Contributors to Surface Water Problems

<u>Caribou Lake</u> AIS Septic Systems Fertilizers/Pesticides Mowing to the Water Erosion Storm water Runoff

<u>10 Other County Lakes</u> AIS Septic Systems Fertilizers/Pesticides Mowing to the Water Erosion Storm water Runoff



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

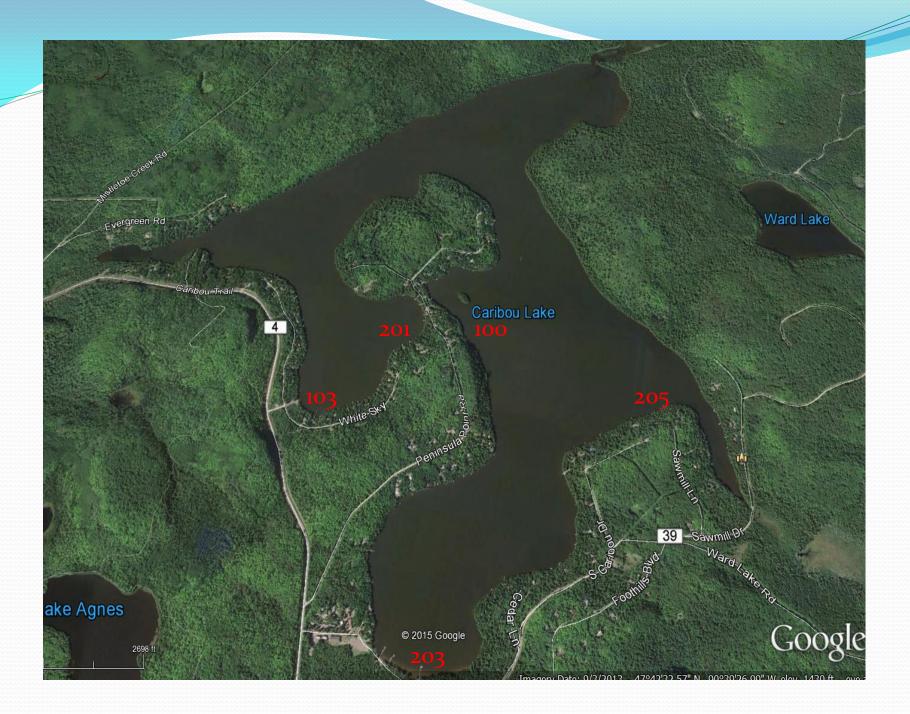


Next Year's CCCoLA Plans

- 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

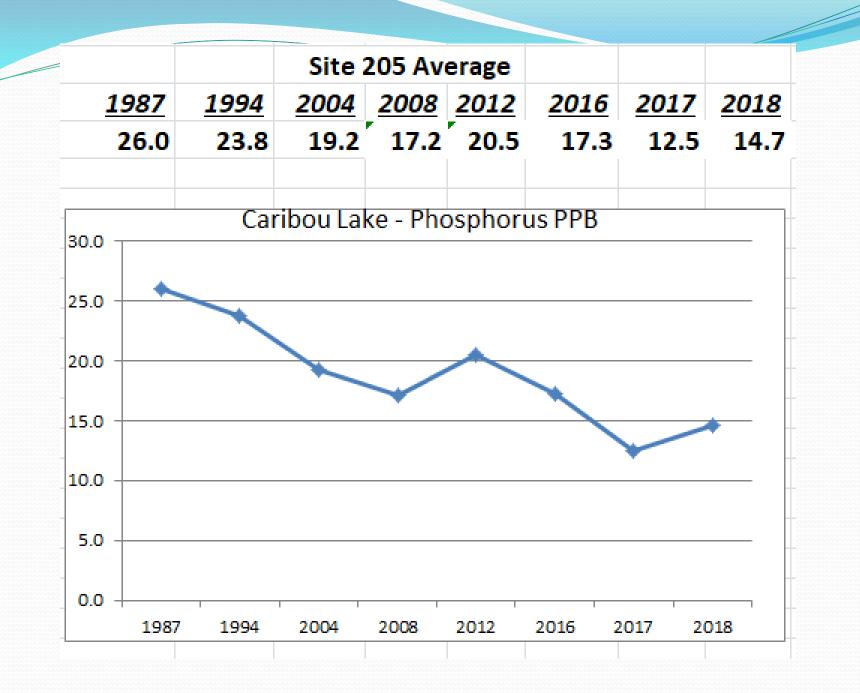
Water Quality Report Phosphorus Chlorophyll-a

alorophyll–a Secchi Disk Oxygen Calcium AIS



Phosphorus

	2012	2013	2014	2015			2016				2	017				20	18		
Site	Ave	Ave	Ave	Ave	<u>1-Jun</u>	<u>5-Jul</u>	1-Aug	<u>6-Sep</u>	Ave	<u>1-Jun</u>	<u>27-Jun</u>	8-Aug	<u>19-Sep</u>	Ave	5-Jun	<u>9-Jul</u>	7-Aug S	Sep	Ave
Phosphorus (PPI	B) Goal =	15 or les	<u>s</u>																
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
Goal 25.00 20.00 15.00 10.00 5.00	*	-			*					*				•					*

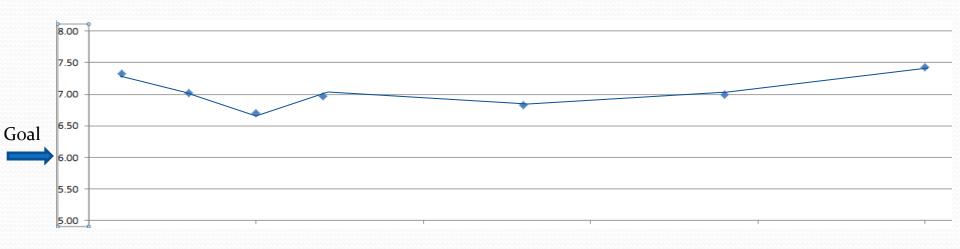


Chlorophyll-a

	2012	2013	2014	2015			2016				2	017				20	18		
ite	Ave	Ave	Ave	Ave	<u>1-Jun</u>	<u>5-Jul</u>	1-Aug	6-Sep	Ave	<u>1-Jun</u>	<u>27-Jun</u>	8-Aug	<u>19-Sep</u>	Ave	<u>5-Jun</u>	<u>9-Jul</u>	7-Aug	<u>Sep</u>	Ave
Chlorophyll-a (P	PB) Goal	= 8 or les	ss																
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
10 (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
05 (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
.03 (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
01 (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
verage	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
10.00 8.00 Goal 6.00	*									•									
4.00					*									*					+

Secchi Disk

2012	2013	2014	2015			2016				2	017				20	18		
Ave	Ave	Ave	Ave	<u>1-Jun</u>	<u>5-Jul</u>	1-Aug	6-Sep	Ave	<u>1-Jun</u>	<u>27-Jun</u>	8-Aug	<u>19-Sep</u>	Ave	<u>5-Jun</u>	<u>9-Jul</u>	7-Aug Sep	Ave	22
al is 6 or	more																	100
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	
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	
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	
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	
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	
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	
	Ave al is 6 or 7.71 8.40 8.04 6.02 6.46	Ave Ave al is 6 or more 7.71 7.25 8.40 7.50 8.04 7.13 6.02 6.63 6.46 6.63	Ave Ave al is 6 or more	Ave Ave Ave Ave al is 6 or more 7.71 7.25 6.88 7.75 8.40 7.50 6.63 6.13 8.04 7.13 7.13 8.00 6.02 6.63 6.50 6.25 6.46 6.63 6.38 6.75	AveAveAveAve1-Junal is 6 or more7.717.256.887.7588.407.506.636.138.58.047.137.138.007.56.026.636.506.257.56.466.636.386.757	AveAveAveAve1-Jun5-Julal is 6 or more7.717.256.887.75878.407.506.636.138.56.58.047.137.138.007.57.56.026.636.506.257.576.466.636.386.7577.5	Ave Ave Ave Ave 1-Jun 5-Jul 1-Aug al is 6 or more 7.71 7.25 6.88 7.75 8 7 7 8.40 7.50 6.63 6.13 8.5 6.5 7 8.04 7.13 7.13 8.00 7.5 7.5 6.63 6.25 7.5 7.5 6.02 6.63 6.38 6.75 7 7 6 6.46 6.63 6.38 6.75 7 7 6	AveAveAve1-Jun5-Jul1-Aug6-Sepal is 6 or more7.717.256.887.758775.58.407.506.636.138.56.576.58.047.137.138.007.57.55.56.026.636.506.257.5765.56.466.636.386.75766	Ave Ave Ave 1-Jun 5-Jul 1-Aug 6-Sep Ave al is 6 or more	Ave Ave Ave 1-Jun 5-Jul 1-Aug 6-Sep Ave 1-Jun al is 6 or more 7.71 7.25 6.88 7.75 8 7 7 5.5 6.88 7.5 8.40 7.50 6.63 6.13 8.5 6.5 7 6.5 7.13 8.0 8.04 7.13 7.13 8.00 7.5 7.5 5.5 7.00 8.0 6.02 6.63 6.50 6.25 7.5 7.5 6.50 6.03 6.03 7.0 8.0 6.46 6.63 6.38 6.75 7.5 6.55 7.00 8.0	AveAveAve1-Jun5-Jul1-Aug6-SepAve1-Jun27-Junal is 6 or more7.717.256.887.758775.56.887.58.58.407.506.636.138.56.576.57.138.08.58.047.137.138.007.57.55.57.008.09.06.026.636.506.257.5765.56.506.06.56.466.636.386.7577.5666.637.07.0	Ave Ave Ave 1-Jun 5-Jul 1-Aug 6-Sep Ave 1-Jun 27-Jun 8-Aug al is 6 or more 7.71 7.25 6.88 7.75 8 7 7 5.5 6.88 7.5 8.5 6.0 8.40 7.50 6.63 6.13 8.5 6.5 7 6.5 7.13 8.0 8.5 6.0 8.04 7.13 7.13 8.00 7.5 7.5 5.5 7.00 8.0 9.0 6.0 6.02 6.63 6.50 6.25 7.5 7.5 6.50 6.00 6.55 5.5 6.46 6.63 6.38 6.75 7 6 5.5 6.50 6.0 5.5	Ave Ave Ave 1-Jun 5-Jul 1-Aug 6-Sep Ave 1-Jun 27-Jun 8-Aug 19-Sep al is 6 or more 7.71 7.25 6.88 7.75 8 7 7 5.5 6.88 7.5 8.5 6.0 7.0 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 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 8.04 7.13 7.13 8.00 7.5 7.5 5.5 7.00 8.0 9.0 6.0 7.5 6.02 6.63 6.50 6.25 7.5 7.5 6.50 6.00 6.5 5.5 6.50 6.46 6.63 6.38 6.75 7 5.5 6.63 7.0 7.0 5.5 7.0	Ave Ave Ave 1-Jun 5-Jul 1-Aug 6-Sep Ave 1-Jun 27-Jun 8-Aug 19-Sep Ave al is 6 or more 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 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 8.04 7.13 7.13 8.00 7.5 7.5 5.5 7.00 8.0 9.0 6.0 7.5 7.63 6.02 6.63 6.50 6.25 7.5 7.5 6.50 6.0 6.55 5.5 6.50 6.0 6.55 5.5 6.53 6.53 6.53 6.51 6.53 6.55 6.55 6.55 6.55 6.55 6.55 6.55 6.55 6.55 6.55 5.5 7.0 6.63 6.63 7.0 5.5	Ave Ave Ave 1-Jun 5-Jul 1-Aug 6-Sep Ave 1-Jun 27-Jun 8-Aug 19-Sep Ave 5-Jun al is 6 or more 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 8.40 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 8.04 7.13 7.13 8.00 7.5 7.5 7.5 7.00 8.0 9.0 6.0 7.0 7.63 10.5 6.02 6.63 6.50 6.25 7.5 7.5 5.5 6.50 6.0 6.55 5.5 6.53 6.13 6.5 6.02 6.63 6.63 6.75 7 6 5.5 6.50 6.0 6.55 5.5 6.53 6.63 6.63 7.0 5.5 7.0	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 al is 6 or more 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 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 8.0 8.04 7.13 7.13 8.00 7.5 7.5 7.5 7.00 8.0 8.5 6.0 7.0 7.38 7.5 7.5 8.04 7.13 7.13 8.00 7.5 7.5 7.5 7.00 8.0 9.0 6.0 7.5 7.63 10.5 8.0 6.02 6.63 6.63 6.50 6.55 6.50 6.0 6.55 5.5 6.5 6.13	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 al is 6 or more 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 8.40 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 8.04 7.13 7.13 8.00 7.5 7.5 5.5 7.00 8.0 8.5 6.0 7.0 7.63 10.5 8.0 7.5 6.02 6.63 6.50 6.5 7.5 5.5 7.00 8.0 9.0 6.0 7.5 6.5 6.13 8.5 6.5 6.13 6.5 6.5 6.0 6.02 6.63 6.53	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 al is 6 or more



Oxygen Levels

					2	018												
11:15																		
	3 f	eet			6 feet	t			9 fee	t		1	2 feet				24	feet
	Water Temp	. (<mark>Oxyge</mark> n	Wate	er Temp.	Oxyg	gen	Water T	emper	<u>at</u> Oxyg	er <mark>_Wa</mark>	ater Ter	<u>np.</u> (Oxygen	V	Vater	Temp. (Oxygen
Bottom	<u>Celsius Fahrer</u>	heit I	mg/L	<u>Celsi</u>	Fahrenhe	e mg/L	=	<u>Celsiı Fa</u>	hrenhe	it mg/l	Cel	sius Fał	nrenhei i	mg/L	<u>C</u>	el <u>: Fah</u>	irenhe i	mg/L
l5 ft	21.5	71	8.23					21	7	0 8.3								
28 ft	21.1	70	8.34									21	70	8.03	2	0	68	4.04
öft	21.4	71	8.26															
5 ft	21.3	70	8.3															
3 ft	21.2	70	8.32	21	70) 8	.21											
3	ottom 5 ft 8 ft ft	S ft5 ft21.58 ft21.4ft21.3	Steet 3 feet	3 feet Water Temp. Oxygen ottom Celsius Fahrenheit mg/L 5 ft 21.5 71 8.23 8 ft 21.1 70 8.34 ft 21.4 71 8.26 ft 21.3 70 8.3	3 feet Water Temp. Oxygen Wate ottom Celsius Fahrenheit mg/L Celsi <	11:15 Image: Second	Steel6 feetWater Temp.OxygenOttomCelsius Fahrenheit mg/L5 ft21.521.1708 ft21.421.3708.34ft21.3708.34	11:15 Image: Second	11:15 Image: Sector of the	11:15 Image: Sector of the	11:15 Image: Section of the sectin of the section of the section of the section	11:15 Image: state s	11:15 Image: state s	11:15 Image: state with the state w	11:15 Image: state with the state withe state with the state with the state with	11:15 Image: state s	11:15 Image: state with the state withe state with the state with the state with	11:15 Image: state s

2017

Date: 6/27/2017								-											
Time	11:30																		
			3 feet	:		6 f	feet			9 fe	eet			12 fee	et			24 fe	et
		Water	<u>r Temp.</u>	Oxygen	Wa	er Ten	<u>np.</u> (Oxygen	Wate	r Tempe	erat Ox	kygen	Water	Temp.	С	Dxygen	Water Te	emp.	Oxygen
Site	Bottom	<u>Celsius</u>	<u>Fahrenhei</u>	it <u>mg/L</u>	Cels	<u>us</u> Fał	<u>hren r</u>	mg/L	<u>Celsiu</u>	Fahrenh	<u>neit m</u>	g/L	Celsius	<u>Fahren</u> ł	<u>neit m</u>	ng/L	<u>Celsius</u> <u>F</u>	ahrenh	<u>ei mg/L</u>
203 (COP)	15 ft	18.5	6	<mark>5 8.7</mark>					19.2		67	8.45							
205 (Fosters)	28 ft	18.3	6	<mark>5 8.46</mark>									18.2		65	8.33	18.1	6	5 5
100 (Island)	6ft	18.5	6	<mark>5 8.45</mark>															
207 (Bigsby)	12ft																		
103 (Landing)	6 ft	18	64	<mark>4 8.26</mark>															
201 (Isthmus)	8 ft	18.5	6	<mark>5 8.93</mark>	1	3.4	65	8.32											

Date: 8/1/2016							.016									
Time	11:30															
le la			3 feet			6 feet			9 feet		1	2 feet			24 feet	t
		Water	Temperatu	<mark>Oxygen</mark>	Water	Temper	Oxygen	Water T	emperat 0	Dxygen	Water Te	<u>mperatu</u> C	Dxygen	Water 7	[emperatu	Oxyge
Site	Bottom	<u>Celsius</u>	<u>Fahrenheit</u>	mg/L	Celsius	<u>Fahren</u>	mg/L	Celsiu Fa	<u>hrenheit r</u>	ng/L	Celsius Fa	<u>hrenheit n</u>	ng/L	<u>Celsius</u>	Fahrenhei	mg/L
203 (COP)	15 ft	23.6	74	8.54				23.5	74	8.48						
205 (Fosters)	28 ft	23.9	75	8.28							23.2	74	7.76	21.7	71	3.4
100 (Island)	6ft	24.7	76	8.44	24.1	75	8.41									
207 (Bigsby)	12ft	24.6	76	8.37	23.8	75	7.52									
103 (Landing)	6 ft	24.1	75	8.33												
201 (Isthmus)	8 ft	24	75	8.43	23.6	74	8.36									
							2015									
Date 8/13/2015						mmm	2015									

Date 8/13/2015		2084					-										
Time		2PM				_											
			3 feet			6 feet			9 fee	t		12	2 feet			24 fee	et
		Water	<u>Temperatu</u>	<mark>Oxygen</mark>	Water Te	emper	Oxygen	Wat	er Tempera	Oxygen		<u>ater Ten</u>	<u>nperatu</u>	Oxygen	Water 7	<u>Femperatu</u>	<u>ii</u> Oxyger
Site	Bottom	Celsius I	<u>ahrenheit</u>	mg/L	Celsius F	ahren	mg/L	<u>Celsi</u>	<u>u Fahrenhei</u>	t mg/L	Ce	<u>sius</u> Fah	<u>renheit</u>	mg/L	<u>Celsius</u>	<u>Fahrenhe</u>	<u>i mg/L</u>
	15 ft	24	75	<mark>8.85</mark>				22.4	72	8.51							
205 (Fosters)	28 ft	22.8	73	8.88								22	72	7.97	20.5	69	4.88
100 (Island)	8 ft	22.9	73	8.79	22.7	73	8.79										
207 (Bigsby)	8 ft	22.8	73	8.65	22.7	73	8.58										
103 (Landing)	6 ft	23.3	74	8.48													
201 (Isthmus)	8 ft	24	75	8.45	22.4	72	8.38										

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	e Levels 20	08 - 2018		Report to CLP	OA 9/1/18
	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



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