CARIBOU LAKE PROPERTY OWNERS ASSOCIATION (CLPOA)
Saturday August 31, 2013
10:00 a.m. – 12 Noon
Lutsen Town Hall
ANNUAL MEETING

CLPOA Board Members Present: Bill Dunn, Diana Kamp, Larry Mullen and Louise Suomi. Board members excused: Fred Morris, Bob Reid and Bob Hewitt

1. Call to Order – the meeting was called to order by President Larry Mullen at 10 a.m.

2. 2012 Annual Meeting Notes – It was MOVED and SECONDED that the minutes of the 2012 Annual Meeting be approved. Motion CARRIED.

3. Treasurer's Report – Louise Suomi reviewed the treasurer's report (appendix A). The organization started the year with $3,514.16 in the bank and currently has $3,811.49. Water monitoring takes the biggest portion of our budget, but we are reimbursed by the county at the end of the year. Thirty three members have paid dues before the start of the meeting, lower than the previous year.

4. Guest Cook County Commissioner Bruce Martinson

- **4.1** Commissioner Martinson provided an update on the status of septic ordinance in the County (see bullet point ordinance summary appendix B). A public hearing will be held Wednesday, September 25, 6 PM, at the Courthouse, commissioner's room, to solicit public comment. A follow-up meeting will probably be held in October. An ordinance needs to be in place by Feb 4, 2014. The ordinance specifies that septic systems need an approved management plan or be pumped or inspected at least every three years.

- **4.2 Questions from the floor –**
    - *Does the ordinance contain a requirement that an inspection be performed at the "point of sale" of a property.?* Answer: No - manpower and costs are the main issue with such an addition. Much discussion ensued in favor of having such a requirement. A motion was made, seconded and carried, that the board develop a position statement to be presented at the September 25 public hearing, that supports having "point of sale" inspections added to the ordinance.

- *How is enforcement going to happen in the county?* Answer: Has not been addressed as to the process that will be in place. Violators will be guilty of a misdemeanor.

- *How do we get information about a septic management plan?* Answer: Cook County will develop the procedures as they move forward with this ordinance.

- *What happens when we are pumped?* Answer: If a pumper finds a system that has a health issue, they report it to the county. Pumpers need to let the county know when a system has been pumped.

- 4.3 Highway 61 rumble strips in the passing zones, not in this area but in Grand Marais, are causing an issue with noise for many.

5.0 Committee Reports

5.1 Water quality report – Board Member Bill Dunn presented the Water Quality Report prepared by Board Member Bob Reid (see appendix C for total report and graphs).

Total phosphorus---- the trend shows this increasing over the five years exceeding our goal of 15ppb from an average of 15 to 18.8 for the four sites. However, counting the occurrence of samples above and below our goal, we find that 46% are better than goal and 54 % are above goal, varying throughout the summer.

Chlorophyll-a ---we're doing better than our goal of 8 ppb and the five-year trend line is improving at every site from a maximum of 8.5 to a current best of 6.3ppb with an overall lake average trend of 7.9ppb down to 7.2 over the five years from 2008 to the present.

Clarity--clarity is improving (increasing visibility in the water column) at all sites. The goal is 6 ft. Two sites start at 5.8ft in 2008; all four are now better than goal from 6.4 to 8.2ft. The lake average trend goes from 6.2 to 7.3 ft over the five year period.

We also have been doing "lake bottom" sampling. Our analytical lab suggests that there seems to be good water column mixing and no material difference between surface and bottom water total phosphorus concentrations and that sampling lake bottom beyond this summer seems unwarranted.

6.0 Governance Report

The Governance report prepared by Bob Hewitt and Fred Morris was presented by Larry Mullen. See appendix D for the full report

7.0 Cook County Coalition of Lake Associations (CCCOLA)

Our CCCOLA representative Diana Kamp reported:

The MN Coalition of Lakes, which the CCCOLA has joined. Is making a big push for invasive species prevention and for MN Shoreland Manage Standards to be passed.

School Trust Land – Revenue goes to the state public schools. Mining and logging are being used to generate more monies. US House of Representatives addressing the trading of lands in the BWCA with US Fed lands. Lands between GM and Grand Portage have been identified for trading. Concern -Is there a balanced between conservation and management?

Member Linda Slocum commented that legislators felt that the DNR had not managed the monies from the school trust funds to their full potential and a new state director and board are now responsible for these funds.

Bruce Martinson will contact the School Trust Admin. to see if we can get an update on the status on School Trust parcel Section 36.

There was a MOTION from the floor, and SECONDED, that the CLPOA oppose any sale or trade of State or Federal lands in the Caribou Lake watershed. The motion CARRIED.

Lance Johnson requested that a map be shared with members showing the areas that are possible School Trust sales areas.

Diana Kamp is retiring as our CCCOLA rep. and as a CLPOA board member. She was thanked for her many years of service on both boards.

8.0 Board Election for 2013 – 2015

It was MOVED and SECONDED that Julie Bittinger be elected to the board and Bill Dunn, Fred Morris, Louise Soumi, and Larry Mullen, be elected to additional terms on the board. Motion CARRIED

9.0 Adjournment – 12 Noon

Submitted by acting secretary Irene Mullen

Appendix A – Treasury Report

	CHECK #	DESCRIPTION	PAID	RECEIVED
1/1/2013		**CHECKING ACCOUNT BALANCE**		**3514.16**
2/1/2013		Cook County water testing reimbursement		840.00
3/19/2013	1319	Larry Mullen bd mtg confernce call	39.28	
4/13/2013	1320	Lutsen Township meeting room rent	25.00	
5/25/2013	1321	Bob Reid newsletter	67.95	
5/25/2013	1322	Larry Mullen spring meeting expenses	81.17	
5/28/2013		deposit 2013 membership dues		340.00
6/5/2013		deposit 2013 membership dues		20.00
6/10/2013	1323	SPEE DEE water delivery	25.94	
6/17/2013	1324	CCCola dues	50.00	
6/18/2013	1325	RMB Labs water testing	16.00	
6/19/2013	1326	MN Waters membership & web hosting	250.00	
6/25/2013		bank charge for checks	18.55	
7/3/2013	1327	Postmaster PO Box fee	44.00	
7/3/2013		deposit 2013 membership dues		60.00
7/7/2013	1328	SPEE DEE water delivery	21.94	
7/16/2013	1329	RMB Labs water testing	16.00	
8/1/2013	1330	Lutsen Township meeting room rent	25.00	
8/8/2013	1331	SPEE DEE water delivery	21.84	
8/8/2013	1332	RMB Labs water testing	420.00	
8/27/2013		deposit 2013 membership dues		260.00
		Expenditures 2013	1,122.67	
		Receipts 2013		1,520.00
		Total reciepts		5,034.16
		CHECKING ACCOUNT BALANCE		3,811.49

Appendix B – Septic Ordinance

Cook County Septic Ordinance

- Sets minimum standards for & regulation of
- Final Draft issued August 27, 2013
- Drafted by Planning & Zoning Dept with input from commissioners, septic contractors, and community members
- Public hearing Wednesday, Sept 25, 6PM, Courthouse commissioners room
- Draft can be viewed on county website

- Sets minimum standards for & regulation of
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- Holding tanks pumped according to a schedule agreed upon by the office
- Holding tanks – valid contract with a licensed pumper . Pumper certifies each date of pump
- Violators – guilty of a misdemeanor

Appendix C –

Caribou Lake Water Quality

How's our lake doing in terms of water quality? A question that comes up mostly when we walk down to our dock and see a bright clear lake or we see stuff floating or it doesn't look as good as we think it should. Sometimes the floating stuff is just tree pollen or some other transitory natural "stuff". Other times it may worry us. But to answer that question, you and your lake association have been supporting water quality sampling to tell us how the lake chemistry is doing as the most informative answer. The following pages offer some information for the four sampling sites for the summers of 2008 through the first two samples of this summer (2013). The information includes three parameters: total phosphorus in parts per billion, chlorophyll-a in parts per billion and clarity as measured with a Secchi disk in feet of visibility. Phosphorus is the chemical critical to the other two measures. Chlorophyll blooms are a response to the phosphorus that feeds the blooms in the water and are the scourge of the appearance of our lake. Clarity gives us a measurable gauge of the depth and intensity of such blooms or the depth of that crystal clear water.

Water quality data are provided as graphs and trend lines for each of the parameters for two of the four sampling sites and, for total phosphorus only, for the other two sites. These sampling sites are pictured on the lake in the following text and are: 205—Fosters' shoreline; 201—public landing bay; 100—Cathedral of the Pines bay; and 103—public landing shoreline. You can see how variable the data are indicating the combined influences of lake structure and geometry, natural factors e.g. wet or dry years, and human behavior.

Analyzing these data and trend lines we can say the following about our lake water quality relative to the goals we set five years ago in our Lake Management Plan:

Total phosphorus---- the trend line shows this increasing over the five years exceeding our goal of 15ppb from an average of 15 to 18.8 for the four sites. However, counting the occurrence of samples above and below our goal, we find that 46% are better than goal and 54 % are above goal, varying throughout the summer.

Chlorophyll-a ---good news, we're doing better than our goal of 8 ppb and the five-year trend line is improving at every site from a maximum of 8.5 to a current best of 6.3ppb with an overall lake average trend of 7.9ppb down to 7.2 over the five years from 2008 to the present.

Clarity---more good news, clarity is improving (increasing visibility in the water column) at all sites. The goal is 6 ft. Two sites start at 5.8ft in 2008; all four are now better than goal from 6.4 to 8.2ft. The lake average trend goes from 6.2 to 7.3 ft over the five year period.

A table of these results is included after the pages of trend graphs.

We have also been sampling water at the lake bottom in the deepest part of the lake in front of Fosters' (site 205) both last year and this year. Lake ecologists suggested we do this sampling to determine if the contribution of phosphorus and other chemicals by the solids in the bottom of our lake are significant and influencing surface water quality. This would occur most likely in the deepest part of the lake. A table is included to present data on this bottom water sampling for total phosphorus and comparing it with the regular surface water sampling that we do. You will note that for the four dates reported at Fosters' site, three bottom samples are equal to or less than the surface samples and that the differences between the samples are 3 ppb for two dates, 1 ppb for one and equal on the fourth date. A public landing sample taken last year showed a difference of 1 ppb and a sample taken at the Bigsby entry was 15ppb with no comparative surface sample but a low concentration in the same range as the other samples. Our analytical lab suggests, and we agree, that there seems to be good water column mixing and no material difference between surface and bottom water total phosphorus concentrations and that sampling beyond this summer seems unwarranted.

When we look at these results, we come up with the following interpretation. The variability in the total phosphorus results generally follows a pattern of low concentration in the spring with increasing levels during the summer followed by a drop in concentration at the end of summer. The changes vary in degree but follow a similar pattern. Occasional exceptionally high values reported for samples can be viewed as anomalous sampling events and will be ignored as any part of a trend.

What are factors influencing total phosphorus in Caribou Lake? We think the following will help understanding of the levels and variability of total phosphorus.

Factors and their source, condition and/or influence in determining the concentration of phosphorus:

Lake level----inflow: spring melt, rain, runoff, Bigsby and other streams;

outflow: Caribou Creek, evaporation.

Lake water volume---- depends on lake level directly.

Human activity----quiet in winter, increasing to peak in summer, decreasing to

Winter.

Total phosphorus concentration in runoff---- low in spring, increasing with human activity during spring, summer and fall.

Lake total phosphorus----baseline phosphorus content + inflow phos – Creek flow content- lake chemistry(flora and fauna effects).

Phosphorus concentration---- phosphorus content/ lake volume.

Looking again at these graphs, we see the distribution of samples with total phosphorus concentrations above and below (this is better) our goal at 46% below and 54% above goal. The divergence from goal in our samples is greater in excess of our goal than it is in below (better) goal. This results in the trend increasing to higher concentrations over time.

The almost equal distribution of samples above and below goal may be interpreted in this way: Caribou Lake may have a baseline concentration near our goal of 15 ppb, with opportunity none the less to reduce the addition of phosphorus by lakeshore owners' behaviors. The other consideration in this argument is the compliance we have achieved in reaching and bettering chlorophyll-a and clarity conditions compared to our goals. These are direct measures of results within the lake of phosphorus content and it seems to indicate acceptable levels considering the related outcomes---chlorophyll-a blooms and clarity---better than our goals. But we don't suggest resting on our laurels if it sounds that way.

What can we do? If the above is close to the truth, we must consider what are the givens for Caribou Lake and what can we control and how do we behave. Obviously, the physical character of the lake is a given---shallow and low volume. Weather is clearly variable---wet, dry, early, late, etc.---and way beyond our control. This leaves human behavior. We have been advocates of obvious actions, e.g. septic inspections and repairs, shoreland protection, reducing impervious surfaces, treating our lake as a fragile friend with careful, informed and responsible actions, etc.

We suggest we're being successful---congratulations--- and it's important to continue all that's been involved in achieving this success.

Water Quality Trend from 2008-2013

Site	Total Phosphorus (TP)	Samples Above/At or Below	Chlorophyll-a, ppb	Clarity(Secchi disk), ft
	Goal 15 ppb	**TP goal**	**8 ppb**	**6 ft**
Public Landing	14.6-17.4	14/13	6.6-6.3	5.8-6.4
Landing Bay	15.5-20	13/11	8.0-7.0	5.8-6-5
Foster's Shore	15.8-18	15/12	8.4-8.0	7.2-8.0
Cathedral of the Pines Bay	14-19.6	15/12	8.5-7.3	6.2-8.2
Lake Average	**15-18.8 ppb**	**57/48**	**7.9-7.2 ppb**	**6.2-7.3 ft**
		54%/46%		
Relative to Goal	Lake quality declining by this measure		Lake quality improving--	Lake quality improving-- exceeding goal

Lake Bottom Sampling Results

Total Phosphorus, PPB ---Fosters

Date	Surface Sample	Bottom Sample
7/2012	22	21
8/2012	26	29
5/2013	19	16
6/2013	10	10
	Other sites	
7/2012	17	18 ---Public landing
7/2012	---	15 ---Bigsby bay