



2018 Spring Meeting

AGENDA

- 9:00 Welcome
Determination of Quorum
Approval of Agenda of 2018 Spring Meeting
Approval of Minutes of Fall 2017 Annual General Meeting
Introduction of Board Members
- 9:10 Mayor Murray Fearrey
- 9:25 Councillor Susan Norcross
- 9:35 Kennisis Marina – Doug Mahood
- 9:45 Haliburton Forest and Wild Life Reserve – Malcolm Cockwell
- 9:55 2018 Update – KLCOA President
Deb Wratschko
- 10:00 Art on the Dock Prize Draw
- 10:05 Financial Review – 2017 Actuals and 2018 Budget – Grant DeMarsh
- 10:15 Stewardship Initiatives – Jim Prince
- 10:25 Water Quality Testing – Sarah Ariano
- 10:35 Mandatory Septic Inspections – John Smith
- 10:45 Shoreline Restoration – Julia Sutton,
Sutton Environmental
- 11:05 KLCOA Lands and Traditional Rights of Way Update – Gino Ariano
- 11:15 Soap Pond and Boating Safety – Terry O'Connor
- 11:25 Questions and Discussions from the Floor
- 11:40 Adjourn

KLCOA Board of Directors



2018 Spring Meeting

Gino Ariano – Marker Buoy Program,
Traditional Rights of Way

Graham Beach – Snowmobile Activities,
Regatta – Horseshoe Tournament

Arlene Burch – Membership, Swimming

Grant DeMarsh - * Treasurer

Scott Durie – Public Land Use, HHLT, NIMC

Brian Evans – Fish Stocks

Tina Fagg – Kennisis Breeze Newsletter,
Advertising and Fundraising

Duncan Kent – Enhancing Communications
Connectivity

Sheelagh Lawrance - * Secretary, Ladies of the Lake
Luncheon

Joan Middleton – Membership, Regatta

John Middleton – Roads, Safety and Security

Janis Parker - * Vice President, Art on the Dock,
Coalition for Equitable Waterflow, NIMC

Jim Prince - * Vice President, Stewardship,
Sailing Regatta

John Smith – Septic Improvement Project,
Website

Terry O'Connor - Lands and Properties (Soap
Pond), Marker Buoy Program, Legal
Affairs, Septic Improvement Project

Deb Wratschko - * President

* Executive



2018 Spring Meeting

Mayor Murray Fearrey



2018 Spring Meeting

Councillor Susan Norcross



2018 Spring Meeting

Kennesis Marina

Doug Mahood



2018 Spring Meeting

Haliburton Forest and Wild Life Reserve

Malcolm Cockwell



2018 Spring Meeting

2018 Update

KLCOA President

Deb Wratschko



2018 Spring Meeting

- The KLCOA is 59 years old this year!
- Over 600 paid members in 2017 and on track to repeat in 2018
- A strong Board that works to support members with both social and stewardship initiatives
- An incredible group of volunteers at both the committee and event levels

Over the Winter!

- New Website development
- Bell cell pole tower was approved by all parties for installation this Spring
 - Improved cell coverage for some members
 - Minimal impact on environment
 - Thanks to everyone involved over the last 2 years
- Dysart approved mandatory septic inspection program
 - Kennisis and Little Kennisis will be first group to have inspections completed by end of 2019



2018 Spring Meeting

Watch eblasts and klcoa.org for more information



2018 Spring Meeting

- **Spring Tree Planting Program**

- Thanks to Graeme Woods for leading the initiative and to Abbey Gardens for partnering with us to bring you the best offerings at the best price as part of our Shoreline Restoration initiative.

- **Kennisis Road Clean-Up**

- Thanks to Brenda & John Smith for organizing & 24+ volunteers for participating in the cleanup on May 5.

- **Snowmobile Club**

- Thanks to Graham Beach & team for work on snowmobile trails, staking the lakes, signs & warming huts over the winter.

Social & Cultural



2018 Spring Meeting

- **Kennisis Breeze newsletter** – Tina Fagg
- **Ladies of the Lake Luncheon** – Sat June 30
 - Sheelagh Lawrance & Liz Austin
 - Host: Susan Ball
 - Sign up for summer groups – Book Club, Kayak Club, Bridge & Euchre Clubs, Family Networks and more
 - Looking for volunteers – See Sheelagh Lawrance after meeting

Watch eblasts and klcoa.org for more information




ART
 ON THE
DOCK
 2018 Saturday, July 7th • 10am – 4pm
 Sunday, July 8th • 10am – 3pm

Excitement is building for our 4th annual **Art on the Dock**, a studio-type tour featuring 38 artists and artisans at 18 locations around Kennisis Lake. Exhibitors will be showing and selling their fine arts and crafts on their docks, decks and in their cottages, lofts and garages. Visitors are welcome to tour the lake by boat or by road - Art on the Dock signs will designate the locations.



Please plan to attend the Spring Meeting Saturday May 19th as those in attendance will be eligible to win a draw for a limited edition print of *Leonardo Creates His Mooser Lisa*, a painting specially created by Wilf McOstrich for Art on the Dock.

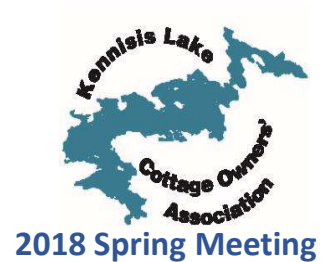
At the meeting, there will also be a display of many of the donated art pieces to be won at future draws or at a silent auction to be held at the Ladies of the Lake Luncheon.

Again this year to increase our donation to Artists in the Schools, we will be selling limited edition prints and t-shirts depicting the *Leonardo Creates His Mooser Lisa* graphic.

Please check the website for a T-Shirt Order Form.

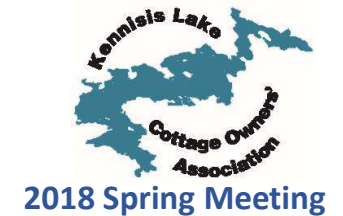


Family Activities



- **Swimming Lessons – July 9th - Aug 17th**
 - Instructor: Avondale Nixon
- **BOOM Sailing Lessons – Returning Summer 2019 – Jim Prince**
- **Fireworks – Sat June 30th**
- **Fishing Derby – Sat July 7th – Mike Neely**
- **Regatta – Sat. Aug 4th**
 - Susan Nixon and Joan Middleton
 - Car/Motorcycle Show – Gerry Sumara
- **Sailing Regatta – Sun Aug 5th – Jim Prince**

Watch eblasts and klcoa.org for more information



KLCOA Lands

- **Norah's Island Management Committee NIMC –**

Jeff Pinkney, Janis Parker, Scott Durie

- Thanks to founding members Shirlee Weeks and Andi Rogers for their dedication to making the Norah's Island project possible 11 years ago. They are both retiring to move on to other challenges.
- Thanks to all who participated in last summer's 10th Anniversary Celebration
- Need new 'EyesOnTheIsland' volunteers
- Need 2 volunteers for NIMC and 1 volunteer for HHLT – talk to Jeff
- Full report on klcoa.org

- **KLCOA Traditional Rights of Way – Gino Ariano**

Ongoing Initiatives



2018 Spring Meeting

- EC3 Committee is working on increased data communications on Lake
 - Duncan Kent and group
- Ongoing liaison with Dysart on roads, plowing, Paddy's Bay bridge – John Middleton & Roads Committee
- KLCOA Neighbour Networks and Kennisis Watch – John Middleton
- Boating safety and etiquette – Terry O'Connor
- Continued membership with FOCA, CHA and CEWF

Watch eblasts and klcoa.org for more information

Volunteering



2018 Spring Meeting

- We are always looking for volunteers.
- If you have a few hours or more to give then there is something for you to do.
- Volunteer for an event or a committee
 - Ladies of the Lake, EyesOnTheIsland, NIMC, HHLT and more
- Talk to any Board member to express your interest. Our contact information is on the contact page of the website klcoa.org



2018 Spring Meeting

Art on the Dock Prize Draw

“Leonardo Creates His Mooser Lisa”

Limited Edition Print

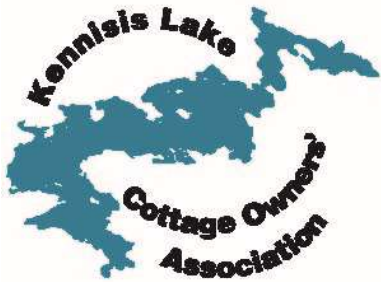
Thank you to Wilf McOstrich

Treasurer's Report

Grant DeMarsh



- We are in good shape financially
- Thank you to David Austin for 4 years of great work



FINANCIAL UPDATE

- 2018 Budget
- 2017 Actual and budget

KLCOA - SPRING MEETING 2018 FINANCIAL UPDATE 2018 Budget and Prior Actuals			
	BUDGET 2018	ACTUAL 2017	BUDGET 2017
REVENUE			
Memberships	21,000	21,030	19,850
Advertising Revenue	5,000	7550	6,000
Interest	75	75	38
Total Revenue	26,075	28,655	25,888
USE OF FUNDS			
Programs and Events	8,950	6,977	9,750
Membership	17,775	13,222	15,005
Transfer to Reserve	-	8,000	500
Total	26,725	28,199	25,255
Surplus (Deficit)	(650)	456	633
OTHER CONTRIBUTIONS and OUTFLOWS			
AOTD Contributions	5500	5693	5,000
AOTD Donations and costs	5500	5803	5,500
Total	0	(110)	(500)
Surplus (Deficit)	- (650)	346	133



Expense Details:

- **Programs and Events**

KLCOA - SPRING MEETING 2018			
FINANCIAL UPDATE			
PROGRAMS AND EVENTS			
	BUDGET 2018	ACTUAL 2017	BUDGET 2017
Fireworks	2,500	2434	4,000
Regatta	1,500	1272	2,000
KLCOA Signs	0		-
Swimming Program	500	402	400
Sailing Regatta	200	267	250
Rock bass tournament	200	176	200
Spring Membership Drive			
Shoreline Restoration	1,800		
Family Networks	150	136	200
BOOM Program	0	1109	-
Scavenger hunt - Kids	200	170	200
Horseshoe tournament	100		100
Water testing program	1,200	813	1,200
Canada birthday events		198	500
Security initiative			500
Rights of Way	500		
Roadside Clean-up	100		200
Total Program and Events	8,950	6,977	9,750



Expense Details:

- **Membership Expenses**

KLCOA - SPRING MEETING 2018			
FINANCIAL UPDATE			
MEMBERSHIP EXPENSES			
	BUDGET	ACTUAL	BUDGET
	2018	2017	2017
General Membership	3,000	5,344	5,825
Website Upgrade Project	6,000		
Memberships FOCA	2,000	1,900	1,900
Memberships CEWF	200	200	200
Memberships CHA	50	50	50
Insurance D&O	2,500	2,413	2,400
General Expenses	250	130	800
Porta Potty fees	1,000	980	1,000
PayPal fees	750	703	500
Island C & Blueberry Property Taxes	450	435	1,200
Donations	750	750	750
Marker Program - Mtce.	750	238	300
Bank Fees	75	79	80
Total Membership	17,775	13,222	15,005



Reserve Funds December 31, 2017

- **Specific funds in reserve:**
 - Shoreline Assessment Project - **\$695**
 - Septic Improvement Project - **\$875**
 - Blueberry Island reserve for Property Tax - **\$1,200**
- **General Operations Reserve Fund:**
 - **\$23,000**



2018 Spring Meeting

Stewardship Initiatives

Jim Prince

KLCOA – Stewardship

Protecting our Lakes



Why are we here.....The Water!

KLCOA Stewardship Committee

KLCOA Spring 2018 GM

KLCOA –Stewardship Focus Protecting our Lakes



Three Focus Areas

Septic Health



Shoreline Health



Water Quality Monitoring



2018 Spring Meeting

Water Quality Testing

Sarah Ariano

KLCOA Water Quality Monitoring

Presented by Sarah Ariano



2018 Spring Meeting



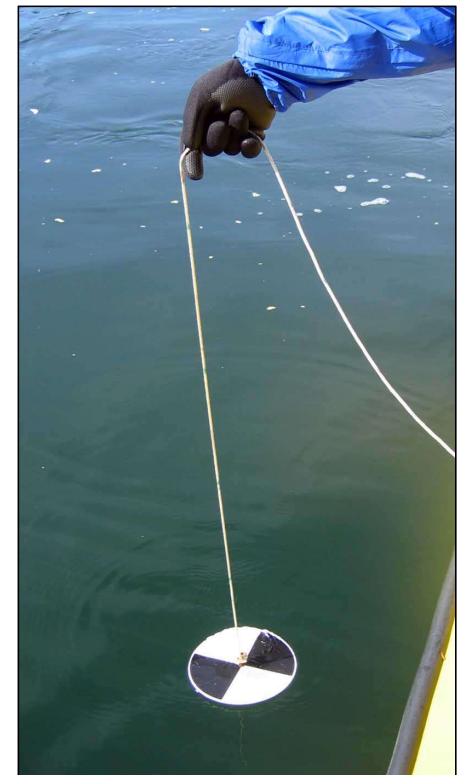
Lake Partners Program



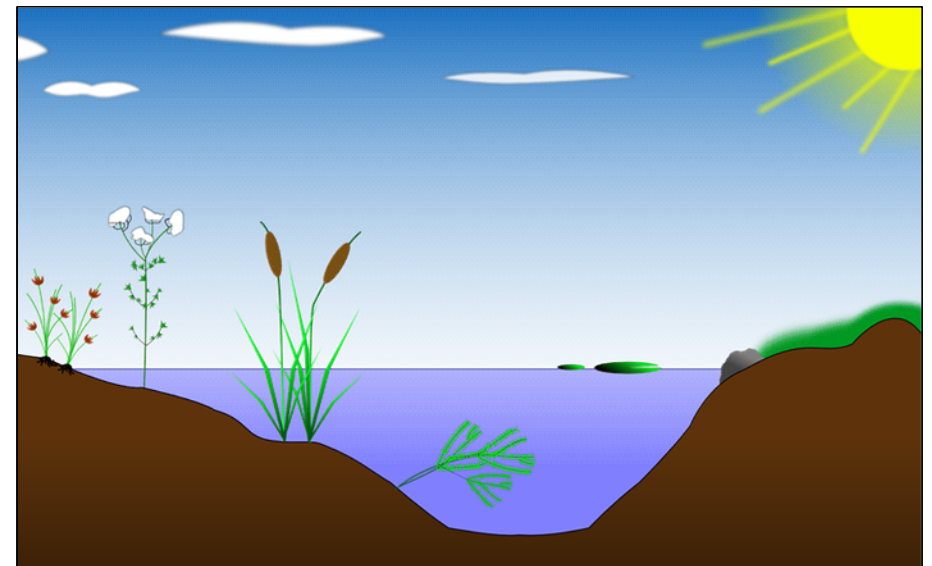
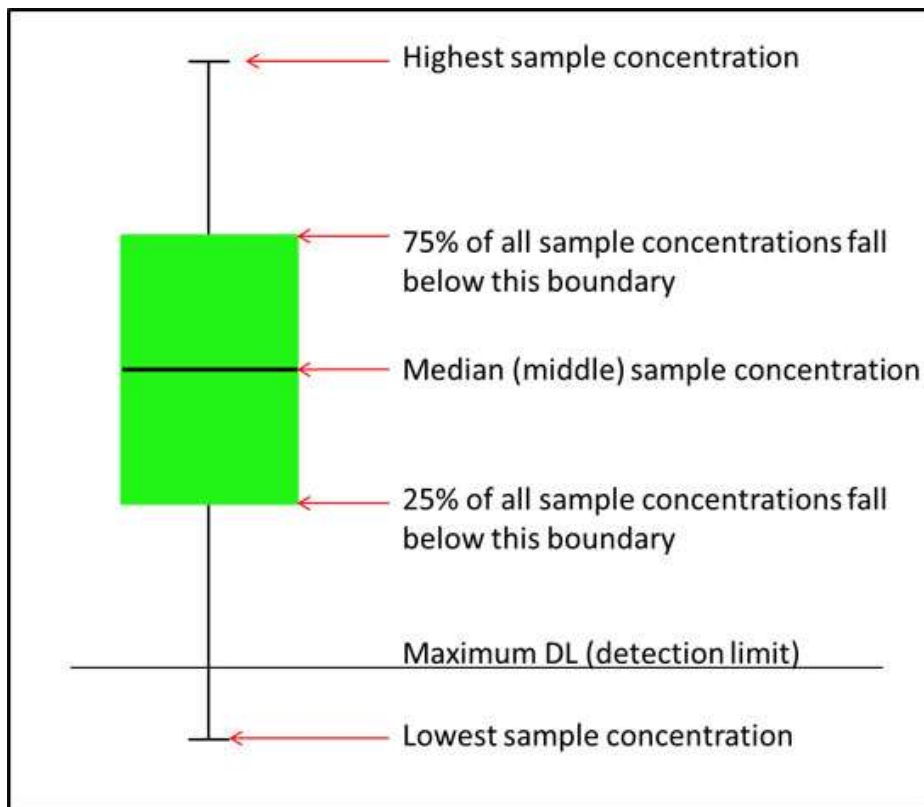
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As part of the MOECC “Lake Partner Program”, we sample:

- At 3 locations:
 - 2 in Kennisis
 - 1 on Little Kennisis
- 2 times per year:
 - Spring
 - Fall
- 3 parameters:
 - Water Clarity
 - Total Phosphorus
 - Calcium



Understanding the Results:



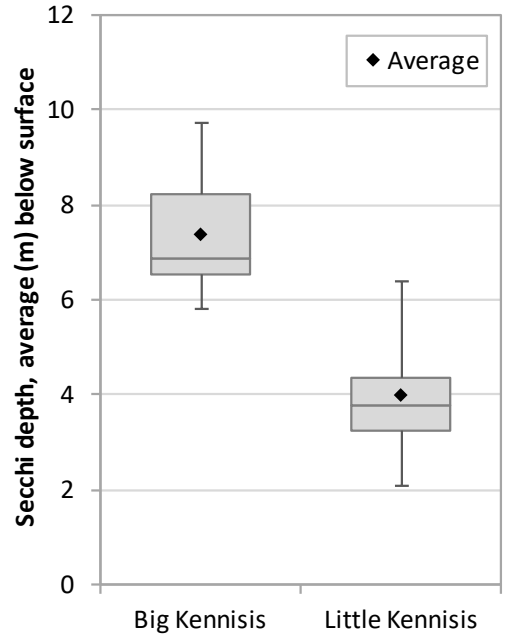
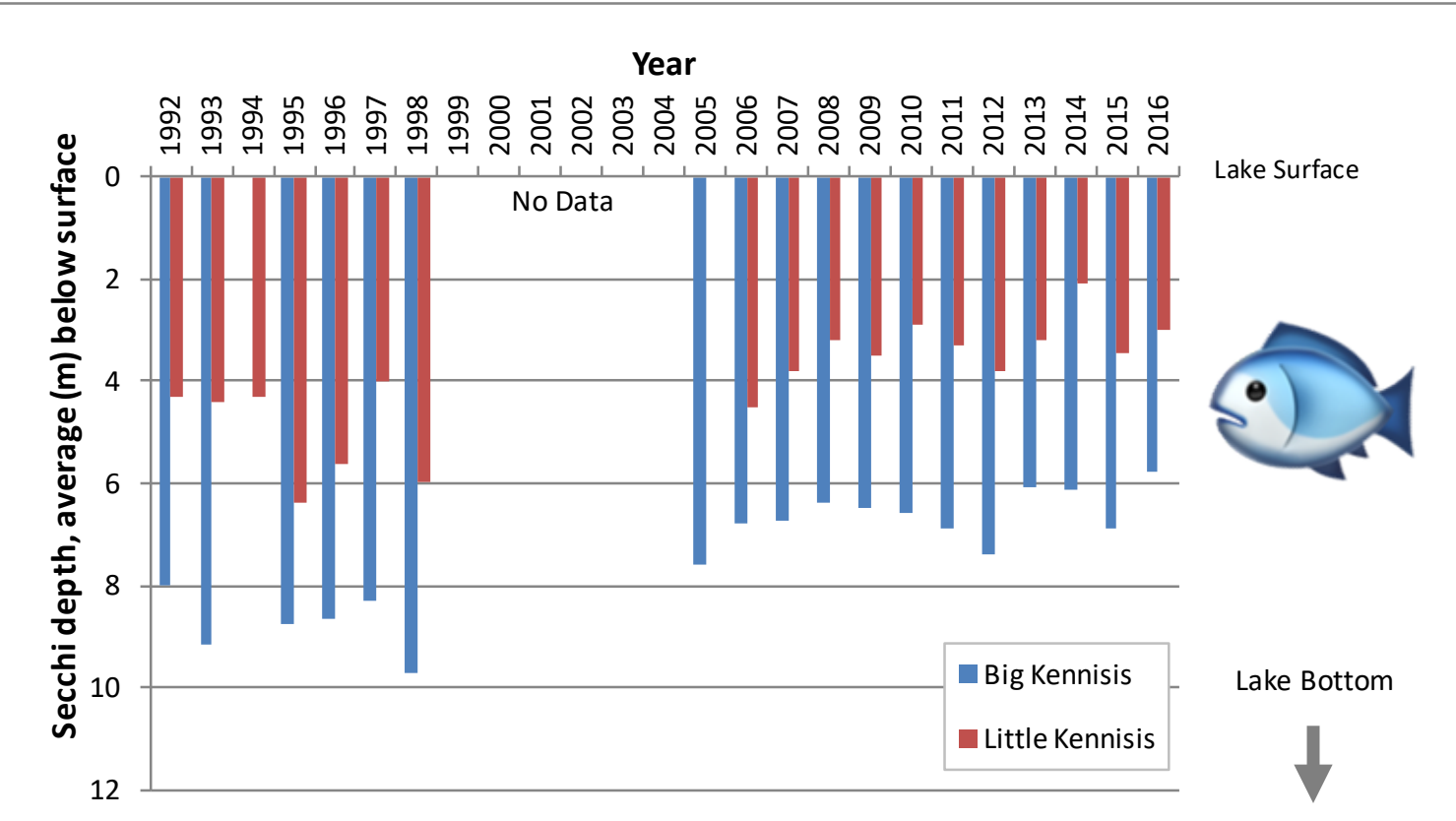
Lake Profile



WATER CLARITY RESULTS: Annual average water clarity for Kennisis and Little Kennisis Lake is decreasing. Big Kennisis has better water clarity compared to Little Kennisis.

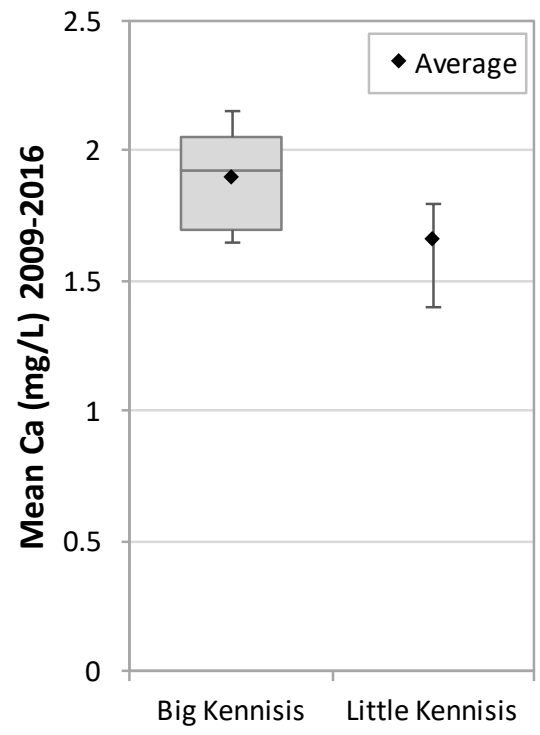
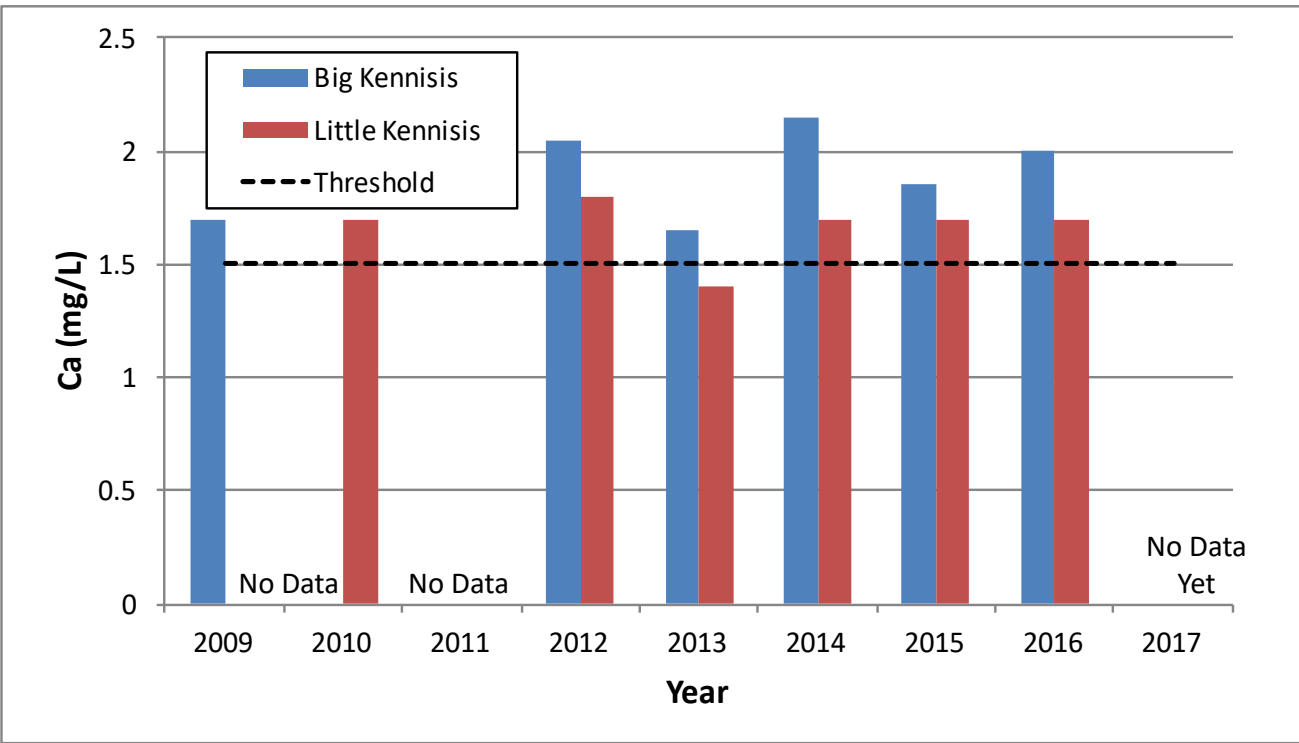
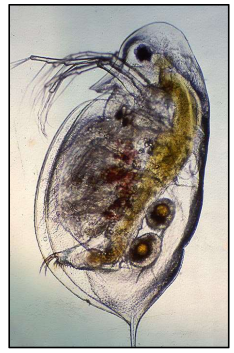


2018 Spring Meeting





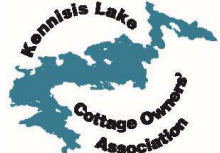
CALCIUM RESULTS: Average May and June calcium concentrations for Kennisis and Little Kennisis Lake are currently above the threshold for zooplankton which is important for maintaining a healthy ecosystem.



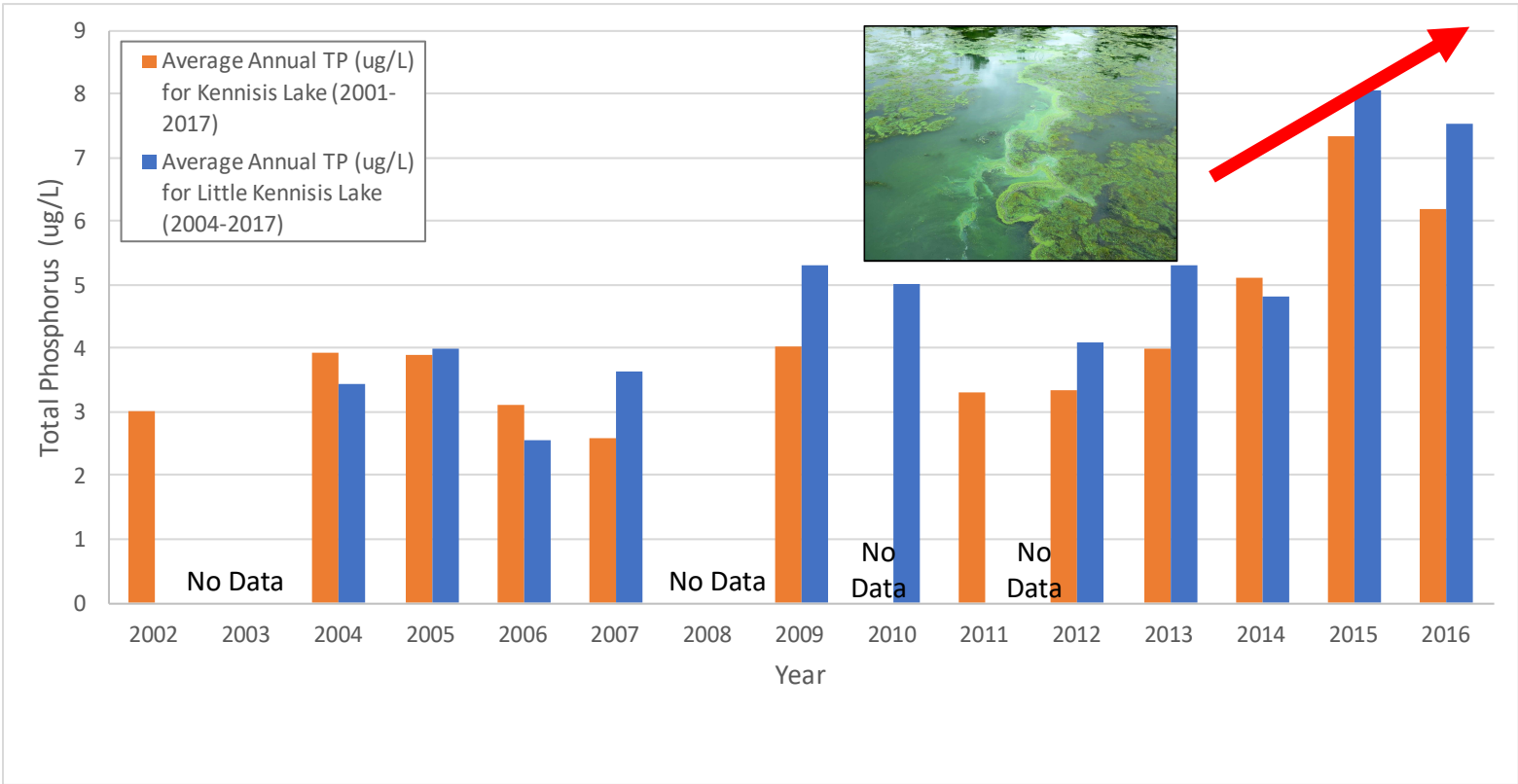


TOTAL PHOSPHORUS RESULTS

This could be a potential concern in the future. In addition, warmer summer temperatures associated with climate change may increase algae growth in both lakes.



2018 Spring Meeting



- Observed increase in Total Phosphorus concentrations for 2015 and 2016 compared to baseline data.
- We will need more data to verify if an increasing TP trend is present.

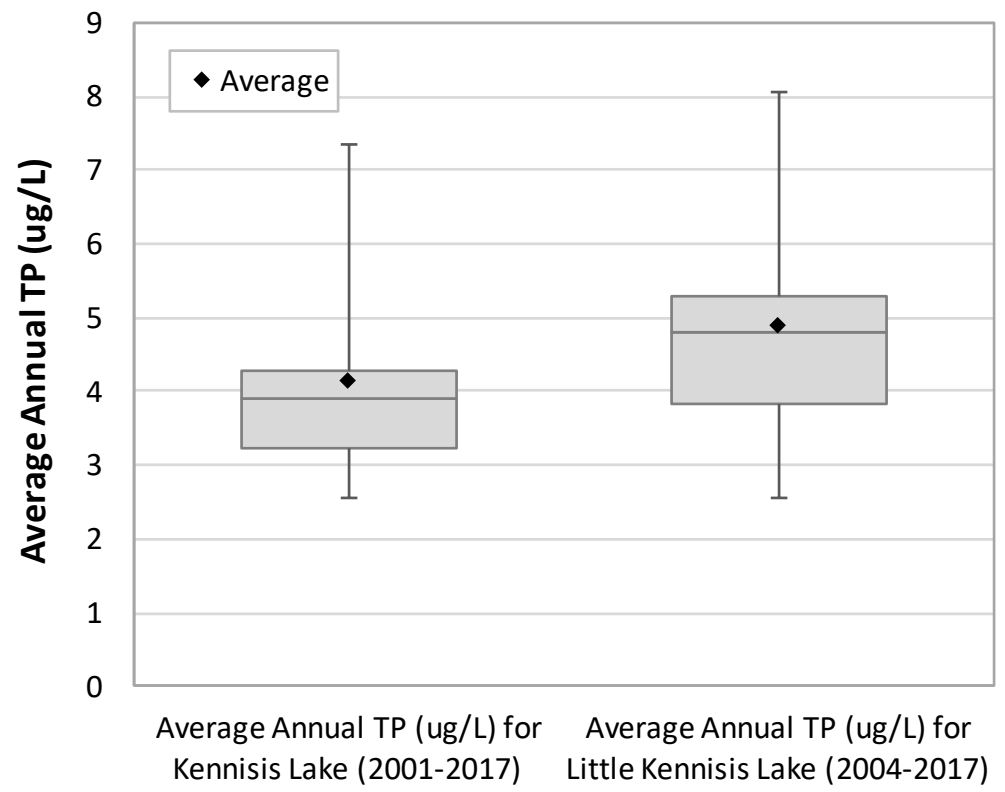


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TOTAL PHOSPHORUS RESULTS

Phosphorus is often a limiting nutrient in lakes. This means phosphorus additions will result in increased growth of algae. TP concentrations below 10ug/L will control algae growth in lakes.



Main findings:

- Trigger Ranges for Total Phosphorus range between 4-10 $\mu\text{g/L}$ meaning both lakes are oligotrophic.
- Oligotrophic lakes often lack plants and nutrients which keep productivity low, lake contains oxygen at all depths, clear water and can support trout.
- TP concentrations are often greater in Little Kennisis Lake.

Additional Water Quality Results:



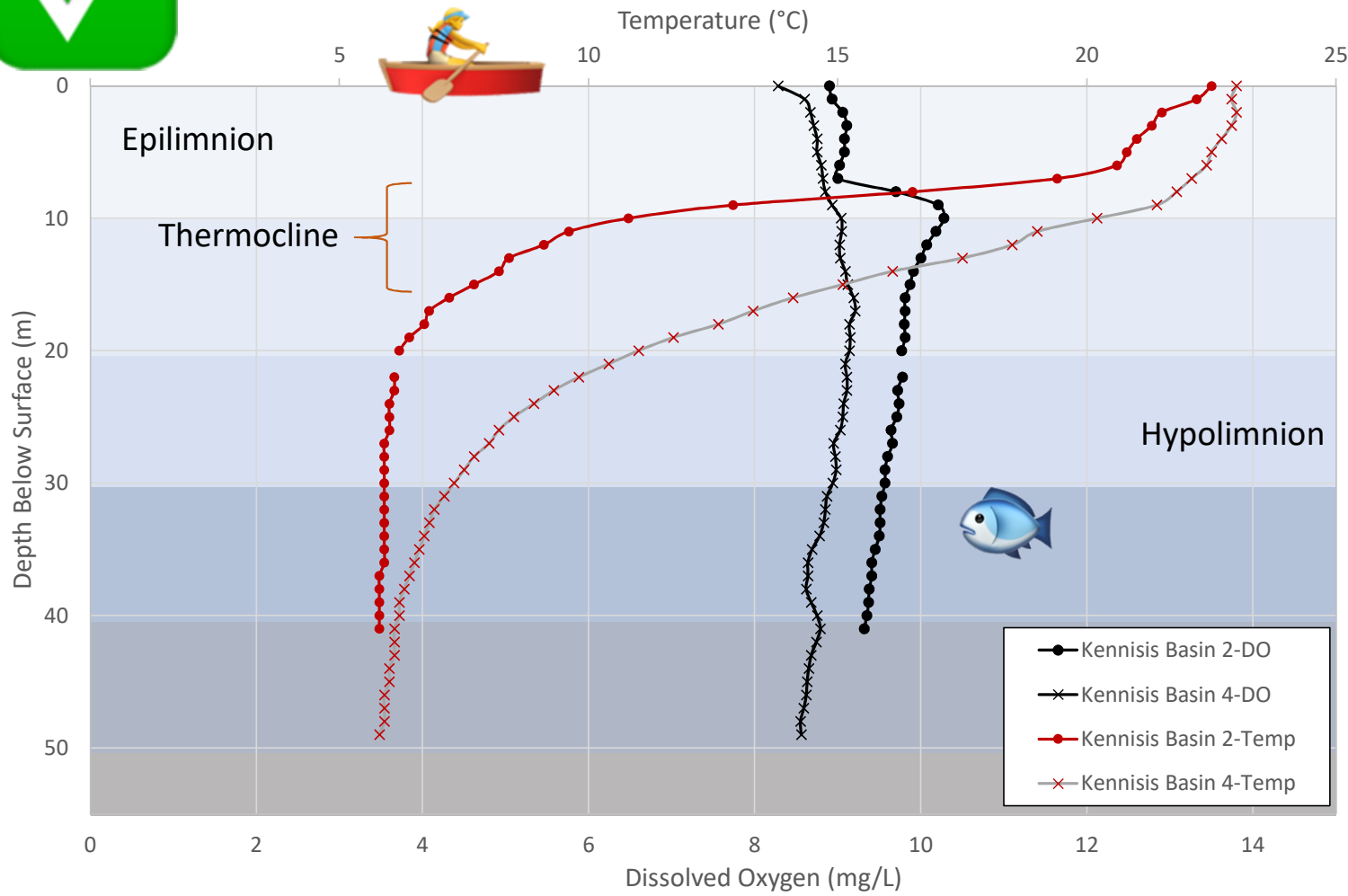
2018 Spring Meeting

- In 2016 Dana at the MOECC identified a potential problem with (septic-related) nitrate in Little Kennisis and advised a sampling program.
- With \$1500 per year we collect additional Water Quality Data including:
 - Nitrate
 - Nitrite
 - Ammonia
 - Phosphorus
- Dorset MOECC lends us the very expensive probe to measure Dissolved Oxygen (DO) and temperature.
- We sample twice per year – mid July and September
- We do this sampling at two locations in big lake and two in the small lake
- We conducted “one-off” sampling in September of 4 inflows – Lipsy, Paddy’s Bay, Kelly Lake, and Wolf Lake.

DISSOLVED OXYGEN RESULTS



2018 Spring Meeting



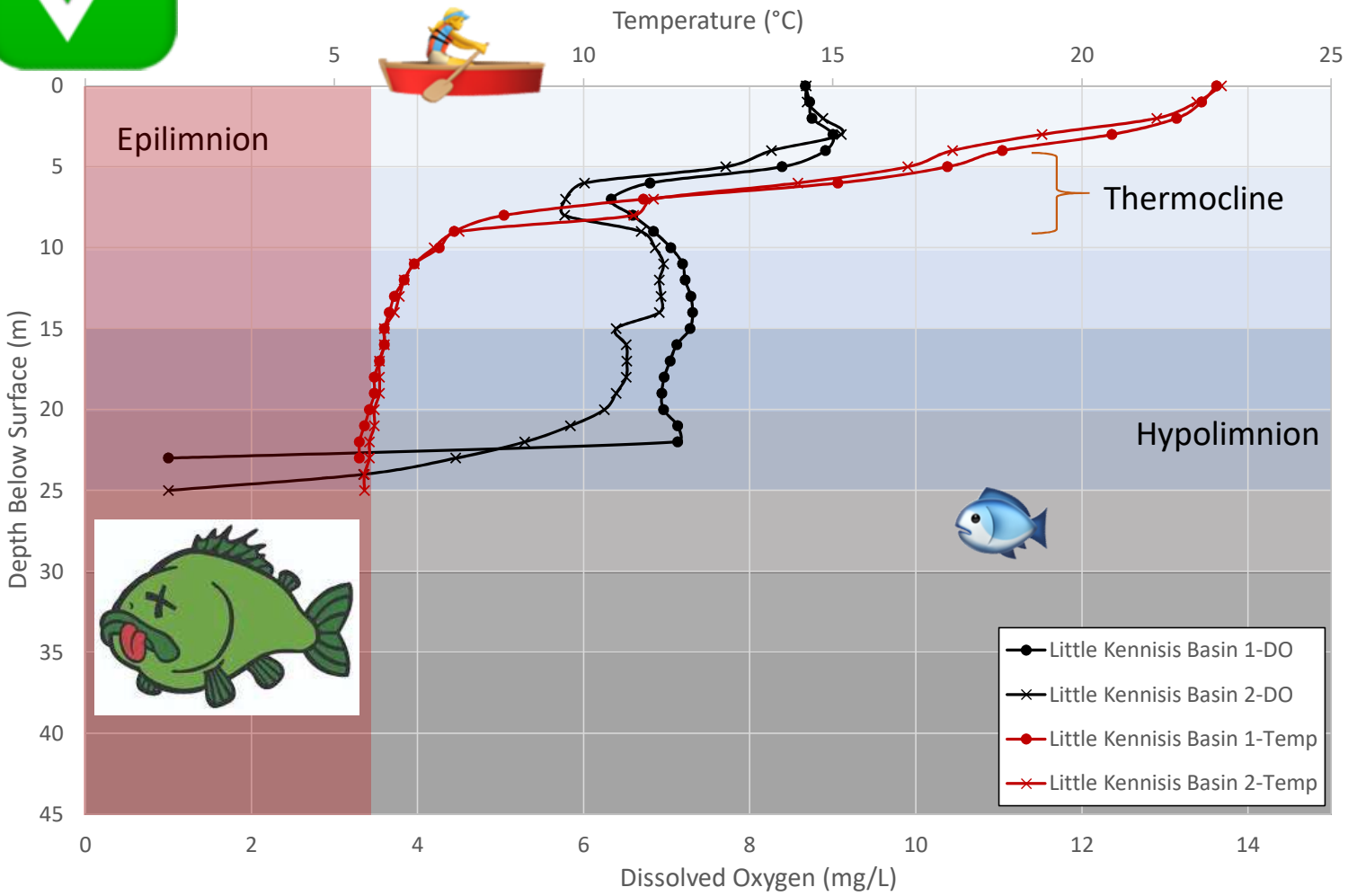
Kennisis Lake Dissolved Oxygen Profile August:

- DO < 3.5 mg/L is deadly.
- Most fish are happy with DO greater than 5 mg/L
- Trout are special and like DO greater than 7mg/L.

DISSOLVED OXYGEN RESULTS



2018 Spring Meeting



Little Kennis Lake Dissolved Oxygen Profile September:

- DO is hovering around 7 mg/L
- Lake bottom is anoxic (no Oxygen) which is normal for end of summer.
- Trout have to work harder to find cold water and high DO.

Lessons Learned:



2018 Spring Meeting

- Have a boat with a depth finder.
- Use GPS points to replicate the sampling protocol.
- Sample consistently in the coming years.
 - Mid-July and September
- Use a lab with lower detection limits that specialize in low trace concentrations.

What can I do to keep my Lake Happy?



2018 Spring Meeting

1. Get your septic inspected.
2. Follow proper septic maintenance practices.
3. Keep a naturalized shoreline (30m vegetative buffer zone).
4. Plant native plants to protect your shoreline from erosion and stormwater runoff.
5. Use erosion and sediment controls during construction.



Thank you to our Water Quality testing team!



2018 Spring Meeting

Water Quality Sampling Team:

- Julie Bramm (Test Coordinator)
- Cathie and Brent Heppell
- Graham Beach
- Margaret Cox
- Natalie Wood
- Randy and Arlene Burch
- Richard & Jane Baumann
- Rob Allan and Tracy Stewart
- Rob Shaver
- Tim Tibbs

WQ Data Team:

Cam Douglas, Sarah Ariano, Jim Prince

Natural Shoreline Project Goals

1. Improve awareness about **Natural Shorelines**
2. Make the Connection
 - **Water Quality & Natural Shorelines**
3. KLCOA – Leading the way



2018 Spring Meeting

- Love Your Lake Assessments,
- Native Plant Purchase Program
- Natural Shoreline Education
- Shoreline Restoration Pilot Projects & Workshops

Less of this



More of this





Love Your Lake at Kennisis (2016)



2018 Spring Meeting

What Did We Learn!

- 1055 Properties on the lakes
- ~950 properties with cottages/homes
 - ~60 empty lots, 40 other properties – Islands, Municipal Properties, HF properties, KLCOA Properties
- Shoreline has been substantially modified but the lakes shorelines are generally in good condition
- Opportunities for shoreline restorations and naturalization



Every property owner has a LYL report available!

Love Your Lake - Kennisis



2018 Spring Meeting

- Shoreline Assessment and Education Program focusing on Improving Shoreline Health (2016)
- Our Kennisis Lakes were the largest lakes with 1055 Properties surveyed, 950 Occupied
- Shoreline has been substantially modified but the lakes shorelines are generally in good condition
- Opportunities for shoreline restorations and naturalization
- LYL Project was only the first step
- Continued Education and Shoreline Restoration are the next steps

Every property owner has a LYL report available!



Shoreline Health



2018 Spring Meeting

- **75% of our shoreline should be in a natural state for a minimum of 30 m (100 feet) back from high water, otherwise water quality will degrade over time.**
- **Water quality is what determines our property values and our enjoyment on the lake.**



LYL- What Did We Learn?



2018 Spring Meeting

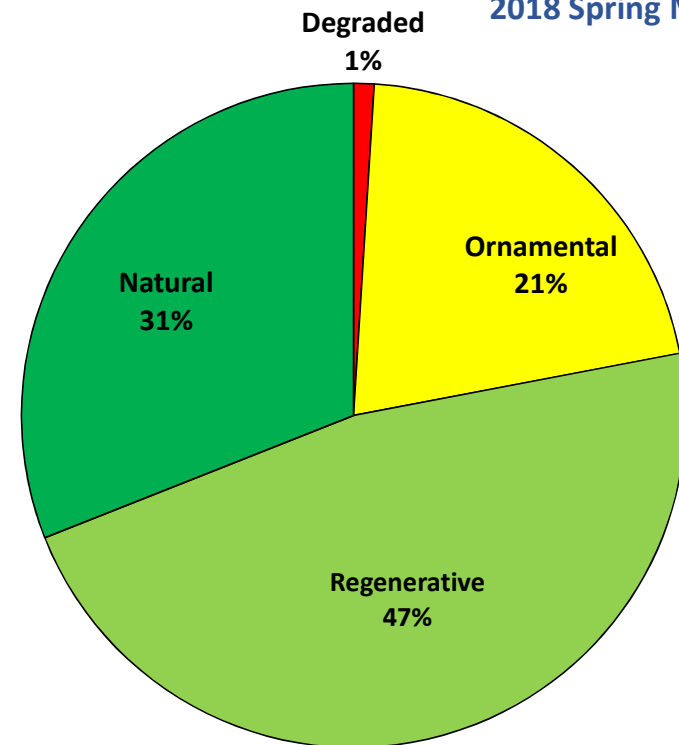
By The Numbers:

- 1% Degraded
- 21% Ornamental
- **78% Natural + Regenerative**

The sum of the Natural + Regenerative can be compared to the “75% Natural” Benchmark

Take away:

- In the top 8% of the Haliburton Lakes
- However, we barely made the grade



LYL Kennisis Lake Wide Results

Next Steps - Shoreline Renaturalization Tools!



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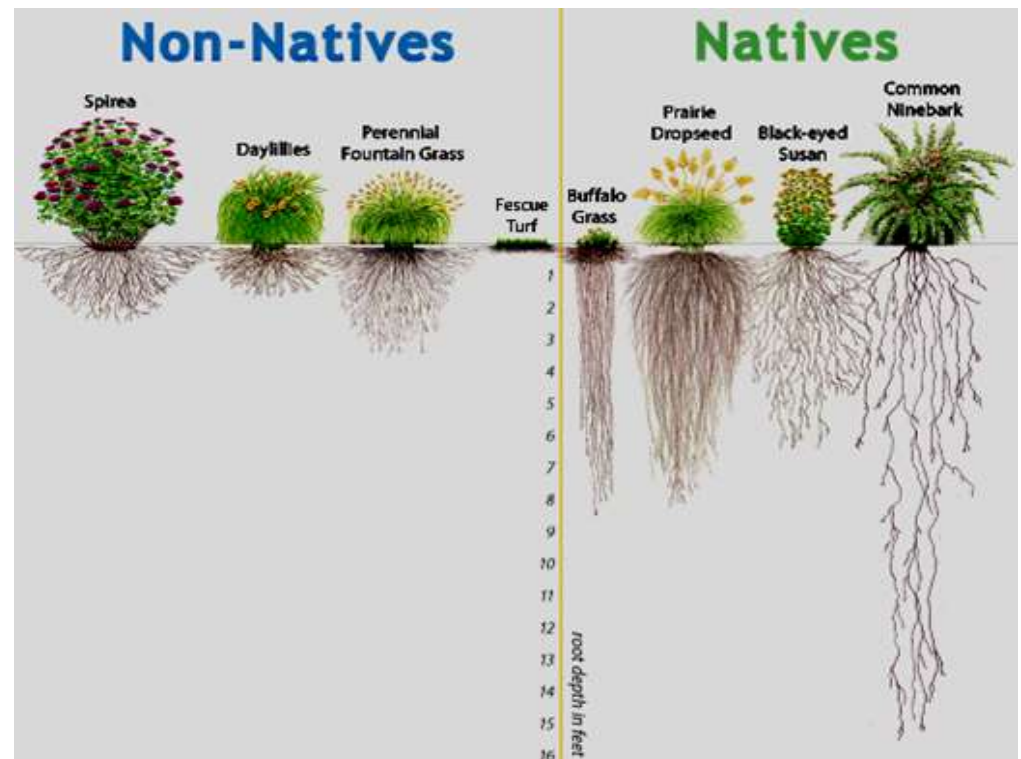


Natural Shorelines



2018 Spring Meeting

- Direct relationship to lake health & water quality
- 80-90% of all lake life
- Minimum = 75% lake back 30 metres
- Habitat
 - Benthics, Fish, Frogs, butterflies
- Filtering **Phosphorous** & other **Pollutants (Septage!)**



Shoreline Health at Kennisis-What's Next



2018 Spring Meeting

Shoreline Restoration Education and Support

- Julia Sutton, Guest Speaker- Spring 2018 GM**
- Native plant supply program (Partner -Abbey Gardens)**
- Identify restoration opportunities in 2018 and seek grants for funding**

Shoreline Health at Kennisis-What's Next



2018 Spring Meeting

Shoreline Restoration Workshops 2018

- One restoration pilot project completed in Fall 2016
- Planning for 2 additional Shoreline Restoration pilots in 2018
- At least one Shoreline Restoration Workshop in 2018
- KLCOA grant application with Watersheds Canada (plus KLCOA financial support) for:
 - Shoreline renaturalization projects
 - Damaged shoreline restoration
 - Goose reduction and renaturalization

Shoreline Health at Kennisis-What's Next



2018 Spring Meeting

Shoreline Restoration – HOW TO PARTICIPATE

Submit request and agree to a few criteria:

1) Your Shoreline is needy!

- Could benefit from renaturalization –damaged, natural vegetation removed, too much grass, Goose reduction by renaturalization

2) Commitment to Naturalization

- Shoreline naturalization will be maintained by owner

3) Promote as KLCOA as demo site

- Owners would engage and welcome follow-up

4) Shared Effort and Cost

- Restoration Project Cost ~\$2000

- Owner contribution ~\$500 and/or sweat equity – planting, site preparation

Shoreline Restoration Pilot #1



2018 Spring Meeting

Pilot 1 Objective - Goose reduction and naturalization (Fall 2016)

Existing condition

- Predominantly grass cover
- Shoreline buffer added and left to regenerate – erosion, goose reduction
- Plan developed, agreed to by owners
- Added native plants and shrubs



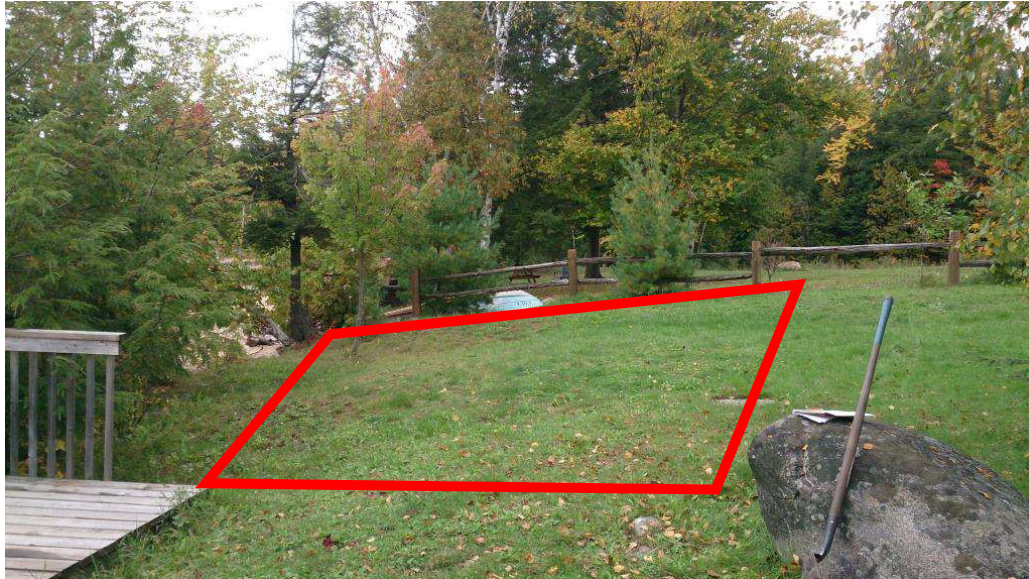
Julia Sutton
Sutton Environmental Services
833 Stisted Rd., RR#1
Burk's Falls, ON PoA 1Co

Shoreline Restoration Pilot #1



2018 Spring Meeting

Pilot 1 Objective - Goose reduction and naturalization (Fall 2016)



Julia Sutton
Sutton Environmental Services
833 Stisted Rd., RR#1
Burk's Falls, ON PoA 1Co

Shoreline Restoration Pilot #1



2018 Spring Meeting

Pilot 1 Objective - Goose reduction and naturalization (Fall 2016)

Compartment C				
Common Name	Latin Name	Bloom Colour	Height	Design Quantity
Black Chokeberry	<i>Aronia melanocarpa</i>	white	1m	11
Bush Honeysuckle	<i>Diervilla lonicera</i>	pale yellow	1m	7
Common Elderberry	<i>Sambucus nigra</i>	white	2m	5
Purple Flowering Raspberry	<i>Rubus odorata</i>	pink/purple	1m	7
Red Maple	<i>Acer rubrum</i>	n/a		2
Red Oak	<i>Quercus macrocarpus</i>	n/a		1
Red Osier Dogwood	<i>Cornus sericea</i>	white	1 - 4m	7
Winterberry	<i>Ilex verticillata</i>	white	3 - 4m	7
TOTAL				47



- Approximately 130 native plants, trees and shrubs added
- Owner provided sweat equity – planting volunteers
- Report from Sutton Environmental for KLCOA



Julia Sutton
Sutton Environmental Services
833 Stisted Rd., RR#1
Burk's Falls, ON PoA 1Co

Obstacles to Shoreline Naturalization Solved!



2018 Spring Meeting



- Committed to protecting and enhancing the health of our lakes -

Knowledge – What do I plant and where?

New CHA on-line shoreline plant selector!

Check out the link on our website:

www.klcoa.org

A screenshot of the CHA website's "Shoreline Plant Search" page. The page has a dark navigation bar at the top with links for Home, Shoreline Health, Septic Health, Lake Health, Protect Your Lake, Resources, News, Lake Protectors, and About Us. Below the navigation bar is a breadcrumb trail: "you are here: home > shoreline health > shoreline plant search". The main heading is "Shoreline Plant Search" followed by "Shoreline Vegetation - Expert Recommendations". There is a dropdown menu for "Plant Type" and several filter buttons: "Soil Types", "Sunlight", "Moisture", "Location", and "Other Options". At the bottom of the filters are "SEARCH" and "CLEAR FORM" buttons. On the left side of the page, there is a sidebar with a "SHORELINE HEALTH" banner and a list of links: "Shoreline Plant Search", "Renaturalization Resources", "Suppliers", "Naturalization Worksheets", "Healthy Shoreline Resources", and "Ribbon of Life". At the bottom of the sidebar is a "TAKE ACTION" section with four buttons: "Protect Your Lake", "Septic Health", "Shoreline Health", and "Lake Health", each with a right-pointing arrow.

Shoreline Restoration – Next Steps



2018 Spring Meeting

Confirm funding for:

- Shoreline Restoration Workshop
- Two Additional Site Restorations

Interested in participating:

- SIGN-UP SHEETS AT THE REGISTRATION DESK
- WATCH THE E-BLASTS AND www.klcoa.org
- Progress update at the Fall 2018 KLCOA AGM

**Shoreline Restoration Project Team: Natalie Wood, Ryan McCutcheon,
Terry O'Connor, Jim Prince**



2018 Spring Meeting

Mandatory Septic Inspections

John Smith

KLCOA Strongly Supports a Mandatory Septic Re-Inspection Program



2018 Spring Meeting

- Every independent study reports failing (including overloaded) septic systems as one of the top two causes of declining lake water quality
- Studies also show that systems over 35 years of age are especially likely to be failing
- Many 35+ year systems on Kennisis have not been replaced
- Pumpers report there are “a lot of failing systems on our lakes”
- In 2017 our voluntary inspection program identified 10 failures with the first 27 systems inspected
- No steel tanks were part of the voluntary program
- Only a mandatory program ensures that failing systems will actually be repaired

KLCOA wants to help owners complete the process as easily and effectively as possible



2018 Spring Meeting

- In late April the KLCOA issued a questionnaire to all 11 inspectors on the approved Dysart list (+1 in early May)
- Responses were received from 10 inspectors
- We do not plan to endorse any inspector however we are making the responses available to all members of the KLCOA in order to assist with the selection decision
- We strongly recommend owners consider more than price in making their selection decision
- Look for an inspector committed to educating you on the unique characteristics of your septic system so as to optimize its performance and extend the life of your system to the greatest degree possible
- Responses to our questionnaire are available on klcoa.org

KLCOA Will Host One Final Septic Inspection Open House on June 16th



2018 Spring Meeting

- 1062 Soap Pond Road at 9 am on Saturday June 16th
- Inspection to be performed by Karl Korpela Chief Building Official for Dysart et al
- This is an opportunity to see exactly what is involved in the completion of the inspection process and ask questions of an expert
- Many of the inspectors on the Dysart approved list will also be present (all have been invited)
- A terrific opportunity to ask questions and hear the value proposition each has to offer

KLCOA Has a Brand New Website



2018 Spring Meeting

- Replaces technology implemented in 2012
- New platform is much more robust and should better support the dramatic growth in the use of the site
- Fresh, clean look – magazine style is more mobile friendly
- Variety of new features including a single click to daily water level measurements and on-line shopping with more to come
- Consider supporting our advertisers since they support our work
- Friend request us on Facebook - Kennisis KLCOA



2018 Spring Meeting

Shoreline Restoration

Julia Sutton,

Sutton Environmental

Natural Shorelines



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Natural Shorelines

- Why natural shorelines?
- How big of a buffer?
- Planting considerations
- How to create habitat
- Purchasing Plants
- Plant kits – now available
- Question and answer



Biodiversity

- “RIBBON OF LIFE” – feeding, nesting, shelter, travel corridor
- 70% of land-based animals and 90% of aquatic animals and plants depend on the shoreline
- Fish and wildlife depend on this habitat - logs, branches, leaves, debris, undercuts, vegetation, nooks and crannies



Water Temperature

- Helps keep water temperatures cooler in the summer
- Temperature changes can result in a change of species



Cost-effective Erosion Control

- Natural materials bend
- Much easier to maintain, versus manmade structures that break and are much more costly
- Protects shoreline from waves, ice and upland development



Resilience

- Upcoming forest pests and diseases
- Impacts from climate change
- Impacts from invasive species



Protects Your Investment

- Good water quality, swimming, fishing and boating contribute to property values
- People want to live and vacation along lakes and rivers with healthy water and recreational opportunities



Runoff & Water Quality

- Slow runoff from roads, driveways and buildings and helps mitigate flooding
- Filters contaminants (bacteria, chemicals) and sediment before entering the lake
- Scientific studies have proven that in order to maintain water quality, 75% of the shoreline must be kept in a natural state for a minimum of 100 feet.

If there is significantly less than 75%, water quality will seriously degrade over time.



Buffer Size

- Ideally – 30 metres minimum
- Varies depending on slope, substrate, land use, hydrology and groundwater
- Septic tanks and leaching beds remove disease-causing bacteria & break waste into basic components – nitrogen, carbon, Phosphorus
- Septic systems rely on natural filtration of those basic components by soil microorganisms and plants to prevent those nutrients from entering the lake or river



Buffer Size Varies Depending on Function

Function	Recommended Buffer Size
Bank stability	20 – 30 m, depending on wave action, slope & substrate type
Maintenance of aquatic insects	30 metres
Fecal coliforms & E. coli	Minimum 30 metres (MOECC)
Overall nutrient reduction	>30 metres
Sediment removal	Sand – 3m; Silt – 15 m; clay – 122 m *75% removal with a buffer width of 30 to 38 m (varies with slope, soil and water flow)
Wildlife habitat	Fish, aquatic insects, reptiles, amphibians – 30 m; beavers – 30 to 100 m; birds, large & small mammals – 75 to 200 m *depends on land use, frequency of property use & species of animal



Conventional Landscaping Has Had An Impact

- Loss of habitat and function
- Lack of expertise and knowledge
- Use of neonicotinoid pesticides, pesticides, and chemical fertilizers
- Invasive species, such as Periwinkle/Myrtle, Goutweed, False Spirea - recommended shade plants and groundcover



Planting? Things To Consider

- Existing or future openings (view points) and structures (docks, gazebos, etc.)
- Septic system location
- Existing issues – erosion, geese, etc.
- Drainage areas/wet areas
- Areas to hide
- Level of desired maintenance
- Water source/ability to water
- Opportunities to restore areas and minimize disturbance?
- How much to plant and degree of effort



Site Considerations

- Soil (or lack of) type
- Soil moisture
- Light requirements
- Slope
- Existing plants



Approach

- Stage areas if necessary
- Site maintenance
- Expectations
- Watering and ability to maintain plants until established



What Kind of Garden?

- Bedrock/shallow soil
- Shade
- Riparian
- Wild edibles
- Shrubs for shoreline erosion
- Meadow
- Pollinators and wildlife
- Septic
- Showy garden – areas or species of interest
- Erosion protection
- Habitat creation – underwater, shoreline & upland



Messy Is Better

- Want to help pollinators? Leave things messy!
- Leaves and debris provides food, shelter from the cold and protection from predators
- Seedheads left on dried flowering plants are a bird's paradise! Many song birds eat seeds (finches, sparrows, chickadees, buntings, jays, nuthatches, blackbirds, grosbeaks). Seeds from native species such as Goldenrod, Asters, Coneflowers, Sunflowers, and Black-eyed Susan are especially good for birds in the fall/winter
- The conditions of winter habitat for migrating birds *are* a crucial part of their survival and reproductive success in the spring.
- The majority of butterflies and moths overwinter in the landscape and need natural cover!
 - Luna moths and swallowtail butterflies disguise their cocoons and chrysalis as dried leaves, blending in with the real leaves
 - Solitary bees overwinter in piles of bark or dried leaves, or nest in cavities in hollowed out stems and decomposing logs
- What does this mean?
 - Leave the leaves where they fall
 - Clean up the garden in spring, after several 10C days (pollinators will have emerged and moved on)
 - Leave standing snags
 - Build brush piles instead of taking them away

Shifting what we find is aesthetically beautiful



Fish & Wildlife Habitat

DO

- Overhanging vegetation
- Multiple layers and species of vegetation
- Consider corridors
- Use appropriate lighting
- Add/leave in-water structure – logs, branches, rocks, plants
- Allow sucker growth
- Trim windows
- Plant to sustain pollinators

DON'T

- Clean up the property
- Clear trees to create views
- Hardscape the shoreline
- Recommend or use pesticides or fertilizers, including mosquito sprays
- Use lights that zap insects



Native Shade Groundcovers

- Native groundcovers are effective AND beautiful
- LOTS of choice for native, shade plantings!



Plant Sourcing

- Native plant nurseries are the best to deal with – supply, variety, and ethics
- Grow Wild! – Omemee
- Ontario Native Plants
- Native Plants in Claremont
- St. Williams Nursery
- Exciting new developments with Abbey Gardens
 - Plant kits available – forest/shade, open/sunny water's edge, pollinator



Questions?



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KLCOA Lands and Traditonal Rights of Way Update Gino Ariano

KLCOA Lands and Traditional Rights of Way



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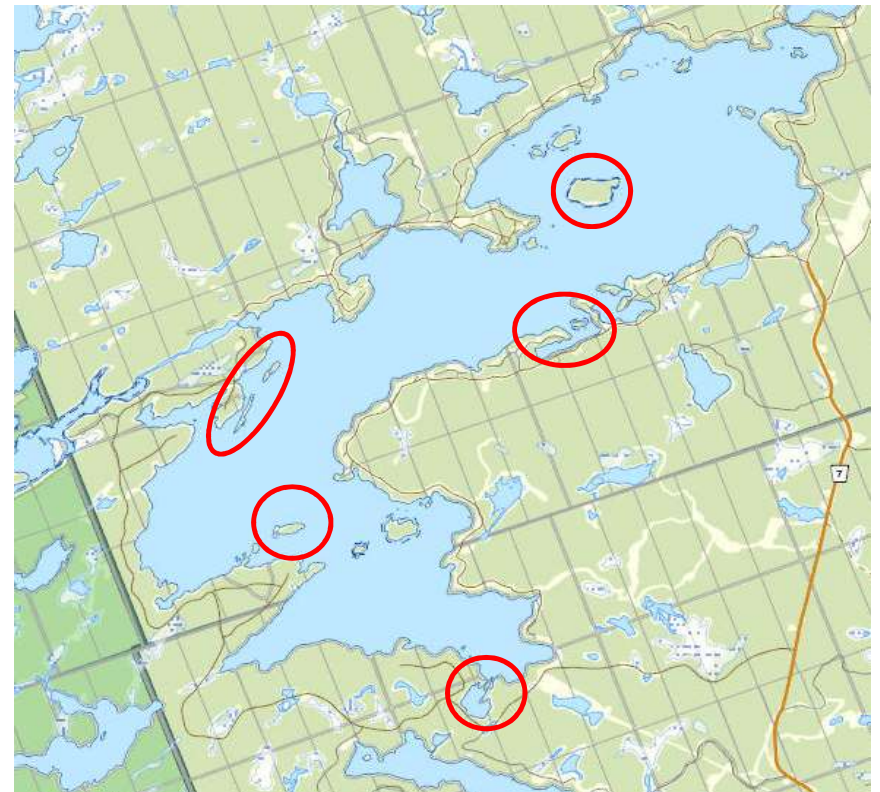
- Lands Strategy
- Inventory and document KLCOA landholdings and initiatives
- Look for additional land protection/acquisition opportunities
- Investigate opportunities to minimize current and future tax burden
- Inventory other public land areas around lake (boat launches, bridges, islands, dam area)
- Develop a KLCOA TROW strategy and execute against this strategy

KLCOA Lands Inventory

- Bull Frog Bay Lands
- Two Loon Island
- Blueberry Islands
- Norah's Island
 - Partnership with Haliburton Highlands Land Trust
- Soap Pond Lands/Lipsy Bay
 - Managing in partnership with Dysart



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KLCOA Lands and Traditional Rights of Way



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- TROW Objective:
- Identify existing traditional rights of way connecting Kennisis Lake to other lakes/rivers in area
- Understand current status of these rights of way including any that are compromised in any way
- Develop plan to protect and preserve high-priority traditional rights of way

KLCOA Lands and Traditional Rights of Way



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- Discovery Phase
- Reach out to individuals and or organizations that have an interest in or understanding of TROW on Kennisis Lake
- Understand legal status of TROW on the lake
- Understand if more education is needed for landowners with TROW crossing their properties, users of TROW and or real estate agents/real estate lawyers involved with land deals in the area
- Once discovery process is complete develop a strategy to help insure high-priority TROW are maintained where possible

KLCOA Lands and Traditional Rights of Way



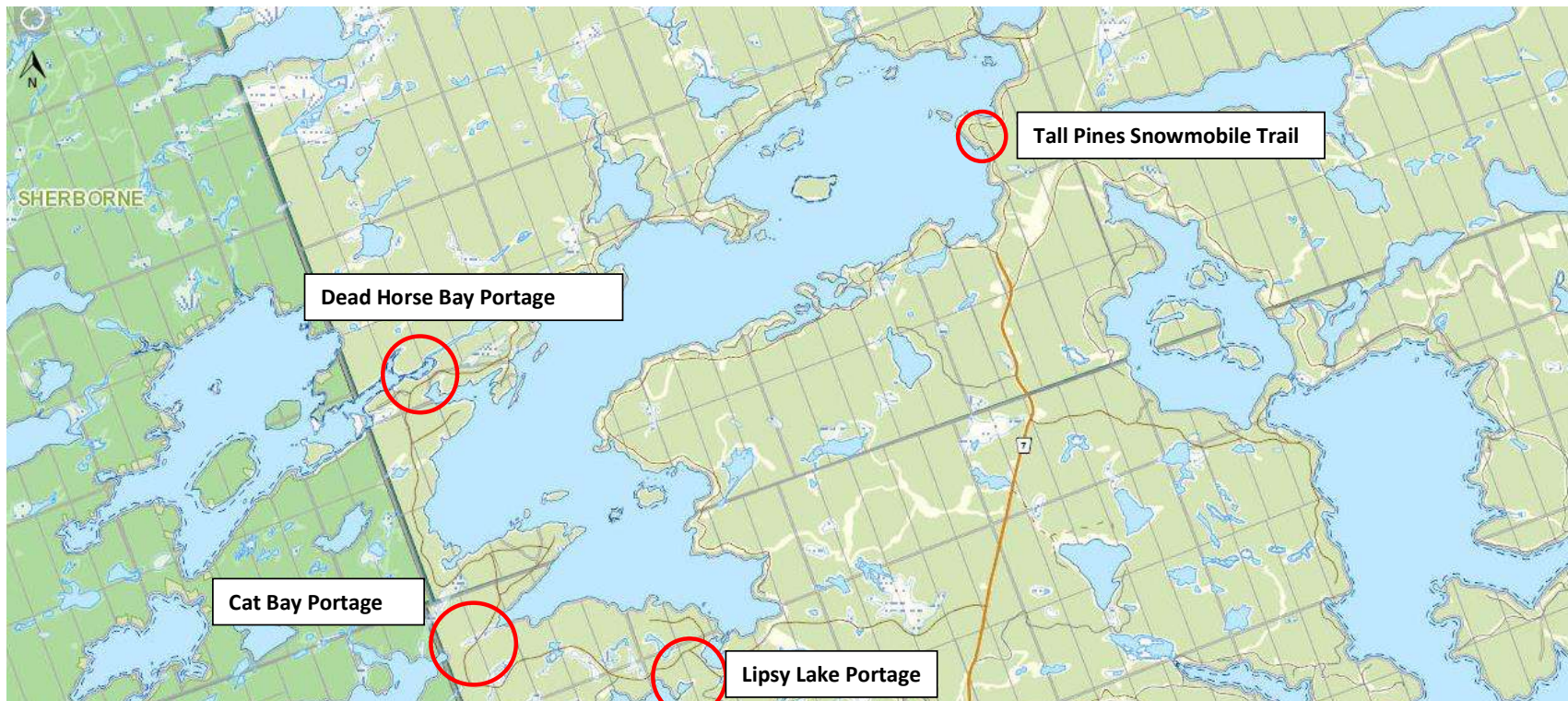
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- Background
- A number of portage routes connect Kennisis to other lakes or rivers in the area
- Key portage routes are Lipsey Lake portage linking Lipsey Lake to Soap Pond on Kennisis
- Cat Bay Portage connecting Cat Lake with Cat Bay on Kennisis
- Dead Horse Bay Portage linking Red Pine Lake to Dead Horse Bay on Kennisis (the Cat and Dead horse portages connect Kennisis with the Leslie Frost Recreation and HHWT)
- Tall Pines snowmobile trail
- Johnson to Kelley in Haliburton Forest

KLCOA Lands and Traditional Rights of Way



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KLCOA Lands and Traditional Rights of Way Discovery Phase Update



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- Lot of land adjacent and abutting Cat Lake currently for sale
- Current portage route crosses this lot
- Sale of land may compromise access between Kennisis Lake and Cat Lake which leads to HHWT network (Frost Area)
- Jeff Iles at Dysart reports shore allowance for this lot purchased from Dysart however Dysart did not sell portage route section
- Survey for this lot is 19R-9101 and mentions centre line of portage
- Survey also mentions see deposits 24-2224 and deposit C-185 which should be at Minden Land office
- Chris Card Director of HHWT Algonquin Highlands willing to enter into insurance agreement to provide future landowner protection from any claims related to use of portage

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Trail from Cat Bay, Kennisis to Cat Lake



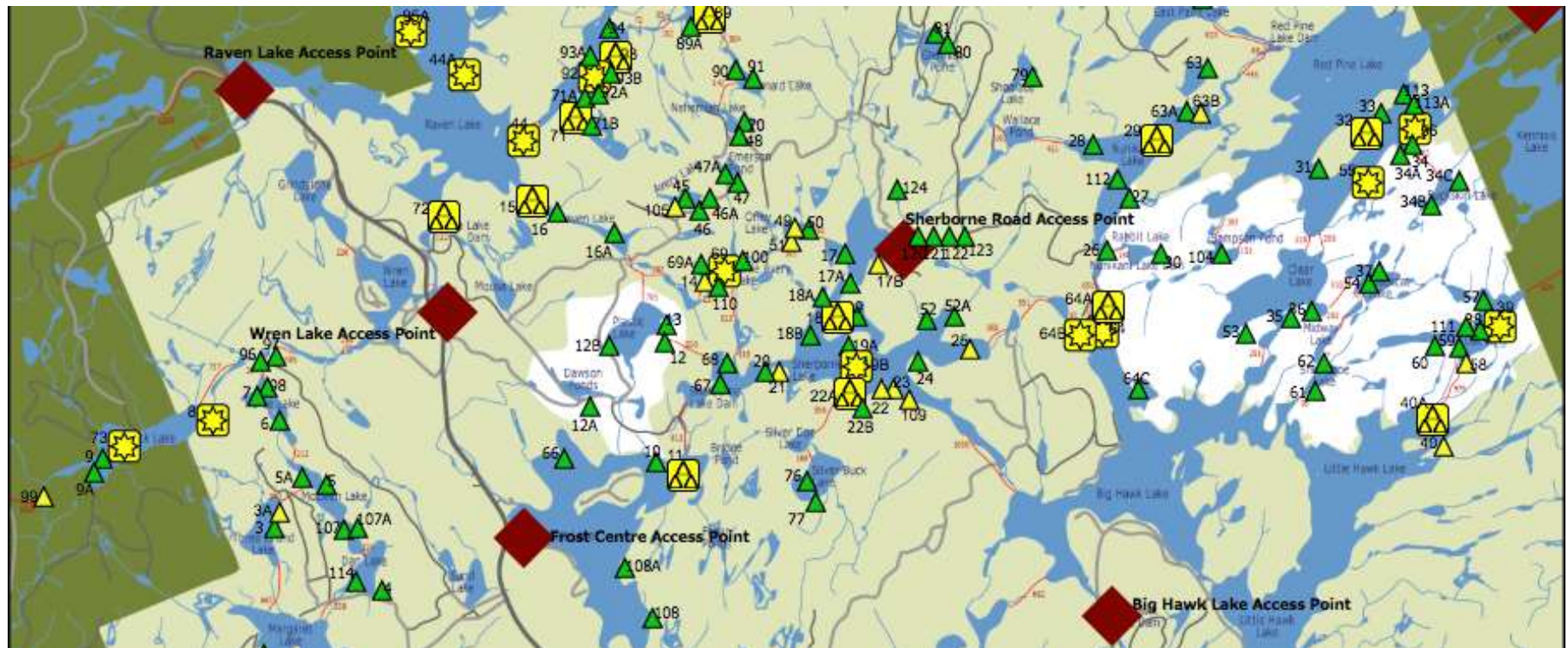
Cat Lake from Portage to Kennisis

KLCOA Lands and Traditional Rights of Way

Kennisis Lake borders the beautiful Leslie Frost Area



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Soap Pond and Boating Safety

Terry O'Connor

Safe Boating – Hazard Markers

KLCOA Hazard Marking Program - Ryan McCutcheon

- 22 Markers Deployed on the most dangerous hazards
- All tended by KLCOA Volunteers - Largest Program in Ontario
- KLCOA Marker Program
 - Liability Information Distributed – Posters, E-Blast, Newsletter, Website
 - Additional Locations for Markers Identified
 - Plan in progress to deploy “NO WAKE” and “MAX SPEED” markers in small channels



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**NOT ALL HAZARDS ARE MARKED!
INDIVIDUAL BOATER RESPONSIBILITY TO AVOID
NAVIGATION HAZARDS!**

PLEASE OBSERVE OUR KLCOA SAFE BOATING GUIDELINES



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Questions and Discussions



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Meeting adjourned

Have a great summer!