

May 2021

LEPA Newsletter

Lac la Nonne
Enhancement
And
Protection
Association

LEPA
Charities #107583650
Site 1, Box 14, RR1
Gunn, AB
TOE 1A0
lepa.contact@gmail.com

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President's Message

Well folks, if there is anything we have learned this past year it's to enjoy the simple pleasures in life, especially at the lake. As we head into spring, we welcome you all back to the lake after another long, but may we say "mild" winter!

Although we had the additional challenge of COVID this past year, LEPA was still very busy throughout 2020 and early into 2021 completing a water sampling program, making improvements to our facilities and holding family activities. We completed the Alberta Lake Management Society (ALMS) LakeKeeper water sampling program. Volunteers took ALMS staff out on the water 3 times throughout the year to sample water quality. We will be getting the ALMS report soon and hope to discuss at this year's Annual General Meeting. We will be holding our annual general meeting virtually this year on May 8th, 2021. More information will come out on this soon.

LEPA had another successful year at continuing to improve the Education and Adventure Center. More work was done to the grounds, a fire pit seating area was put in and we are currently in the works to construct a public dock that will be available for all to use this summer. We hope this will be used by lake users and will be great lake access to the Center for upcoming LEPA events! Come by the Center and have a walk around to learn more about the lake.

We held our annual boat regatta in July with a favourite sports team theme. The weather was beautiful, and we had over 30 watercrafts out participating. People really stepped up the decorations this year and as always it was a lot of fun! Thank you to everyone who came out to enjoy a safe social distancing time on the lake for the annual regatta.

In August we held our first annual boat rally! Another great day on the water as boaters cruised around the lake stopping at various checkpoints.

We held our second annual fishing derby in February 2021! We raised over \$4,500 and had over 200 registered anglers. Even though we had to push back the derby by a weekend due to cold weather, we still could not have anticipated the amount of support and participation from this event. It was another huge success and we thank all the volunteers, donators and participants. Unfortunately, due to COVID-19 and the lack of snow this year, we had to delay our sled rally, but we will be looking at holding this in early 2022!

I think it's safe to say, we are all looking forward to another great summer on the lake with all the COVID restrictions we have had this year. The lake still remains a great place to escape to and have some fun! We have some great events planned this summer, so please continue to check out our website for updates!

Stay safe and have a great summer!

Rod Kause, President

2021 LAKE WATER SAMPLING PROJECT

HOW IS LEPA HELPING YOU??

THIS SUMMER WE ARE PLANNING TO COMPLETE WATER SAMPLING ALONG OUR DEVELOPED SHORELINES TO DETERMINE IF THE LAKE IS BEING IMPACTED DUE TO POORLY MANAGED SEWER SYSTEMS AND/OR EXCESS NUTRIENT LOADING.

OUR SEWER SYSTEMS SHOULD ALL CONSIST OF A HOLDING TANK THAT COLLECTS BOTH BLACK WATER (FECAL COLIFORM SOURCE) AND GREY WATER (NUTRIENT SOURCE). THESE HOLDING TANKS ARE TO BE PUMPED OUT AND THE CONTENTS PROPERLY DISPOSED OF BY A QUALIFIED CONTACTOR ON A REGULAR BASIS.

- IF YOU HAVE AN OUTHOUSE ON YOUR PROPERTY PLEASE ENSURE IT HAS A PROPERLY FUNCTIONING HOLDING TANK THAT IS BEING PUMPED OUT.
- IF YOU HAVE AN OLDER STYLE OUTHOUSE (HOLE DUG INTO THE GROUND) PLEASE IMMEDIATELY DISCONTINUE USE AND PROPERLY RECLAIM THE OUTHOUSE.

THE PRESENCE OF FECAL CONTAMINATION IS AN INDICATOR THAT A POTENTIAL HEALTH RISK EXISTS FOR INDIVIDUALS EXPOSED TO THIS WATER. WE ALL NEED TO DO OUR PART TO MAKE SURE OUR SEWER SYSTEMS ARE PROPERLY WORKING TO KEEP OUR LAKE CLEAN AND HEALTHY. LEPA WILL BE WORKING WITH THE COUNTIES TO ENSURE OUR BYLAWS ARE EFFECTIVE TO REDUCE ANY HUMAN SEWER IMPACTS TO THE LAKE.

IT DOES NOT TAKE REGULATION TO DO THE RIGHT THING, TAKE ACTION IMMEDIATELY IF YOUR SYSTEM IS NOT PROTECTING OUR VALUABLE LAKE.



ANNUAL BOAT REGATTA



JNAUGURAL BOAT RALLY

LEPA hosted its very first boat rally to promote lake access and enjoyment on Lac La Nonne. 37 watercraft joined in the fun with 146 playing cards purchased for this great event.

Goal was to work your way around the lake and get a drawn number from 5 stations. There was an adult and kid draw with three winners from each determined by highest card number, lowest card number and closest to the random number drawn.

Overall we were able to raise \$1,200 to support LEPA's ongoing initiatives. Thanks once again to all those that donated items to support the event. We look forward to next year!

SECOND ANNUAL FISHING DERBY



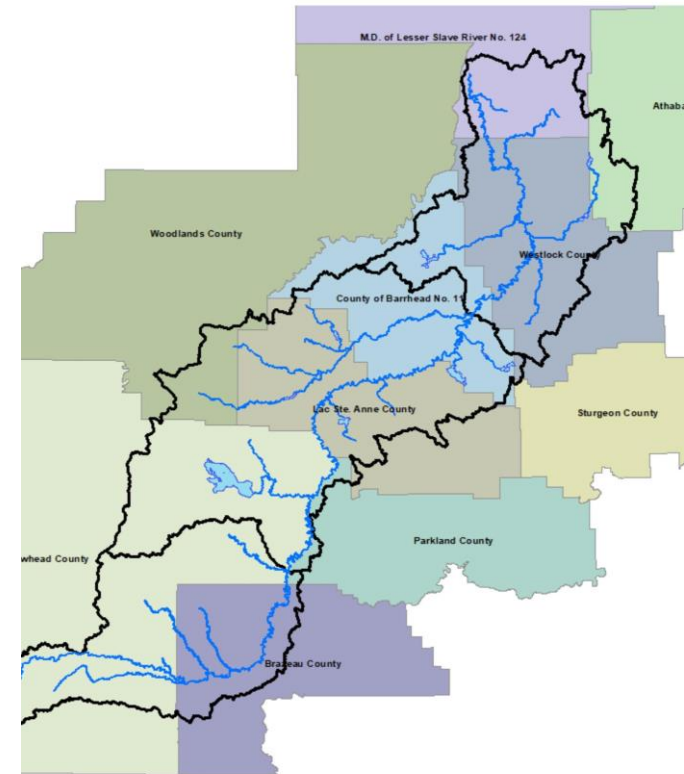
LEPA hosted its second annual fishing derby on a beautiful February 20th, 2021 and it was a huge success! We had over 200 anglers out on the lake catching and safely releasing both pike and perch in a friendly family fishing event. Many fish were caught and a few folks were skunked but there was a lot of fun had by all. We fished for 4 hours and participants put their names in draw boxes for a chance to win some great prizes. We also had a ticket raffle for a number of other donated items. Overall we were able to raise over \$4,500 to support LEPA's ongoing initiatives. Thanks once again to all those that donated items to support the event. We look forward to next year!

PEMBINA PROJECT

RIPARIAN RESTORATION IN THE PEMBINA RIVER WATERSHED

OVERVIEW

THE ATHABASCA WATERSHED COUNCIL ([AWC](#)) HAS BEEN BUILDING ON DATA GAPS IDENTIFIED IN THE ATHABASCA STATE OF THE WATERSHED REPORTS ([2011-2014](#)). THE PEMBINA PROJECT AIMS TO FILL SOME OF THESE GAPS THROUGH RIPARIAN ASSESSMENT, EDUCATION, RESTORATION AND CONSERVATION IN THE PEMBINA RIVER WATERSHED.



riparian shorelines that will be included in the riparian assessment of the Pembina River watershed.



WHAT ARE RIPARIAN AREAS?

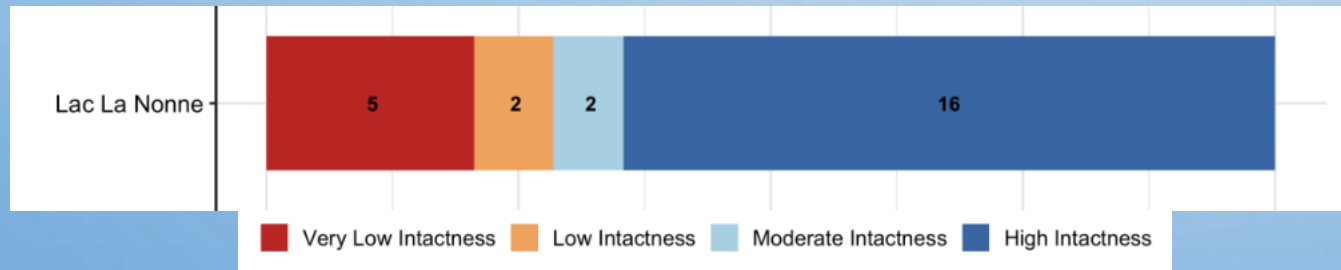
RIPARIAN LANDS HAVE CONSIDERABLE ECOLOGICAL, ECONOMIC, AND SOCIAL VALUE. THE ALBERTA WATER COUNCIL HAS DEVELOPED AN ECOLOGICAL DEFINITION OF RIPARIAN LANDS THAT IS SCIENCE-BASED AND SUPPORTED BY THE SECTORS THAT WERE INVOLVED IN THE PROJECT.

“RIPARIAN LANDS – AN ECOLOGICAL DEFINITION: RIPARIAN LANDS ARE TRANSITIONAL AREAS BETWEEN UPLAND AND AQUATIC ECOSYSTEMS. THEY HAVE VARIABLE WIDTH AND EXTENT ABOVE AND BELOW GROUND AND PERFORM VARIOUS FUNCTIONS. THESE LANDS ARE INFLUENCED BY AND EXERT AN INFLUENCE ON ASSOCIATE WATER BODIES, INCLUDING ALLUVIAL AQUIFERS AND FLOODPLAINS. RIPARIAN LANDS USUALLY HAVE SOIL, BIOLOGICAL, AND OTHER PHYSICAL CHARACTERISTICS THAT REFLECT THE INFLUENCE OF WATER AND HYDROLOGICAL PROCESSES.”

WHAT STAGE ARE WE AT NOW?

THE AWC HAS BEEN WORKING WITH FIERA BIOLOGICAL CONSULTING ([FIERA](#)), THAT HAS DEVELOPED A METHODOLOGY TO RAPIDLY MAP AND ASSESS RIPARIAN AREAS AND THE PRESSURE ON THE RIPARIAN AREAS. THE MID-PEMBINA WATERSHED HAS BEEN COMPLETED BY FIERA AND 23.4 KM OF LAC LA NONNE WAS ASSESSED BY INTACTNESS. INTACTNESS IS THE EXTENT TO WHICH A HABITAT HAS BEEN ALTERED OR IMPAIRED BY HUMAN ACTIVITIES (AREAS WHERE THERE IS NO HUMAN DEVELOPMENT WOULD BE CLASSIFIED AS HIGH INTACTNESS). FROM THE 23.4 KM THAT WAS ASSESSED, 16 KM WAS CONSIDERED HIGH RIPARIAN INTACTNESS, 2 KM WAS CONSIDERED MODERATE RIPARIAN INTACTNESS, 2 KM LOW RIPARIAN INTACTNESS, AND 5 KM VERY LOW INTACTNESS.

THE NEXT STAGE OF THIS PROJECT IS TO INITIATE AND ASSIST WITH MULTIPLE RESTORATION PROGRAMS, WORKING WITH ON-THE-GROUND PARTNERS, FOCUSING ON AREAS OF HIGH PRIORITY WHERE RESTORATION AND CONSERVATION WOULD BE OF MOST BENEFIT TO MITIGATING FLOODS AND DROUGHT. THE AWC HAS FUNDING TO WORK WITH LOCAL LANDOWNERS TO IMPLEMENT ON-THE-GROUND PROJECTS THAT PROTECT AND IMPROVE THE HEALTH OF SHORELINES AND STREAMBANKS. IF YOU ARE INTERESTED, PLEASE CONTACT SARAH MACDONALD, SCIENCE@AWC-WPAC.CA, (780) 213 – 4550.



Zebra Mussels in Alberta!! What?

- Invasive Zebra mussels have been discovered in 'moss' balls sold at various retailers, including pet and plant stores, throughout North America, including here in Alberta.
- 'Moss' (marimo) balls are a unique spherical growth form of a green algal species named *Aegagropila linnei*, but may be sold under its former name, *Cladophora aegagropila*. They are primarily sold for decorative purposes in aquariums and in water displays and can be found in Northern Europe, Iceland and Japan.
- Zebra mussels are up to 3cm in size, and have a flattened ventral surface given them a characteristic D-shape, and are found attached to surfaces, such as moss balls. Female mussels can produce up to 1 millions microscopic eggs, which when fertilized, turn into microscopic larvae called veligers that circulate in the water.
- Zebra mussels are listed as an aquatic invasive species under the Fisheries (Alberta) Act. If introduced, they would have severe impacts to Alberta's economy and environment.
- If a mussel infestation occurred in Alberta, the province is estimating a total cost of \$75,000,000 annually to protect and replace water operated infrastructure (such as drinking water systems, power generation and irrigation structures and pipe), and in lost revenue from recreational fishing. This estimate includes decreasing property values and increased boat maintenance costs for the individual Albertan.



Zebra Mussels in Alberta!! You can help....

- Under the Fisheries (Alberta) Act, it is illegal to import, sell or possess a prohibited aquatic invasive species.
- Overland transfer of watercraft have been a prioritized pathway of introduction for invasive mussels. Moss balls are a new pathway of introduction.
- Albertans who have purchased a moss ball after January 1, 2021 needs to dispose of it following our guidelines to protect Alberta's aquatic ecosystems.
- DO NOT flush moss balls and/or any aquarium/water garden contents (water, plants, rocks, etc) down the toilet, put down the drain or dispose of them in the compost.
 - Step 1: Treat the moss balls freezing for 24 hours or boiling for 5 minutes
 - Step 2: Dispose of the moss ball by putting it in a sealed bag and disposing of it in the trash
 - Step 3: Treat aquarium or container contents and water.
- To stay up to date on this quickly evolving situation, follow us on Facebook at:
<https://www.facebook.com/MyWildAlberta>
- To learn more about aquatic invasive species, visit: <https://www.alberta.ca/Aquatic-invasive-species.aspx>

Klondike Park Sponsors working with LEPA





Klondike Park Fire Pit - Time to Socialize

Fire Pit 101

Call it a fire, call it a campfire, call it what you will but I assure you at the end of the visit with your friends and family when the last flame has died and the embers glow, you will remember that time you sat there and felt that heat.

You will remember a lot about that time at the lake when all your cares went away.

Enjoy the new addition to the lake!!

KLONDIKE PARK PUBLIC DOCK – 2021 PROJECT



- WITH ALBERTA CASINO FUNDS RAISED BY LEPA OVER THE PAST FEW YEARS WE ARE WORKING IN CONJUNCTION WITH THE COUNTY OF BARRHEAD TO INSTALL AND MAINTAIN THE FIRST PUBLIC DOCK ON LAC LA NONNE. PLACED NEAR THE KLONDIKE PARK EDUCATION CENTRE AND BOAT LAUNCH, THIS PROJECT WILL ENHANCE ACCESS TO THE LAKE FOR ALL.
- TENTATIVE COMPLETION DATE IS JUNE 2021.
- FURTHER UPDATES WILL BE POSTED ON OUR WEBSITE, FACEBOOK AND INSTAGRAM PAGES.
- PLEASE CONTINUE TO WATCH FOR UPDATES AS WE WILL BE HAVING A “DOCK WARMING BARBEQUE” TO CELEBRATE THIS GREAT ADDITION TO THE LAKE.

A QUICK LESSON ON LAKES

- LAKE SCIENCE IS QUITE FASCINATING BECAUSE OF THE NUMBER OF VARIABLES THAT CAN INFLUENCE CONDITIONS. "LIMNOLOGY," AS IT IS CALLED, IS ALSO A VERY NEW SCIENCE SO NEW DISCOVERIES AND THEORIES ARE COMMON. THIS SCIENCE IS EVEN INTERESTING TO THE NON-SCIENTIST.
- WINTER IS A SLOW TIME FOR LAKES BECAUSE THE ICE COVER CUTS OFF THE SUNLIGHT AND WIND AND MOST OF THE INHABITANTS ARE ENJOYING A SLUGGISH LIFESTYLE IN A STAGNANT ENVIRONMENT. IF IT WERE NOT FOR THE FACT THAT ICE IS LIGHTER THAN WATER, LAKES WOULD FREEZE FROM THE BOTTOM UP AND MOST OF THE LAKE CREATURES WOULD BE IN SERIOUS TROUBLE.
- SPRING BRINGS ICE MELT, WARMING OF THE SURFACE WATERS, WINDS, AND A COMPLETE MIXING – A KIND OF REBIRTH. AS SUMMER ARRIVES, LAKES DEEPER THAN 30 FEET OR SO WILL GRADUALLY SEPARATE OR STRATIFY INTO A WARM TOP LAYER AND A COLD BOTTOM LAYER. MUCH OF THE IMPORTANT DATA IS DEVELOPED DURING THE LATE SUMMER WHEN WE SEE HOW LAKES ACT UNDER THEIR WORST CONDITIONS.
- LAKES THAT ARE LAYERED SHOW THEIR PROBLEMS PROMINENTLY IN THE ISOLATED BOTTOM WATERS BELOW THE THERMAL BARRIER (THERMOCLINE) THAT PREVENTS THEM FROM MIXING WITH THE WARMER SURFACE WATERS. THE UPPER, WARM WATERS ARE CONSTANTLY WIND MIXED WHICH "FOLDS IN" OXYGEN.

A QUICK LESSON ON LAKES CONTINUED

- IF THE THERMAL BARRIER DID NOT EXIST, WE WOULD HAVE NO COLD WATERS TO SUPPORT PERCH AND PIKE GROWTH, BUT THE ISOLATION OF THESE COLD WATERS KEEPS THEM FROM REPLENISHING THEIR OXYGEN BY WIND MIXING. OXYGEN AND TEMPERATURE ARE MEASURED IN THE FIELD USING AN ELECTRONIC METER WITH ATTACHED SENSING PROBES.
- THE CRITICAL ELEMENT FOR UNDERSTANDING LAKE HEALTH IS PHOSPHORUS – LAKE ALGAE POPULATIONS ARE TYPICALLY LIMITED BY PHOSPHORUS CONCENTRATIONS IN THE WATER. ADD PHOSPHORUS AND MORE ALGAE GROW. SINCE ALGAE ARE PLANTS, THEY CAN ONLY GROW IN THE UPPER, SUNLIT WATERS. AS THEIR POPULATIONS INCREASE, WATER CLARITY DIMINISHES. SOME LOOK LIKE MINIATURE FUZZY BASKETBALLS AND SOME LIKE TAPIOCA PARTICLES – THERE ARE DOZENS OF SPECIES NATIVE TO OUR WATERS, EACH WITH ITS OWN UNUSUAL SHAPE, COLOR AND ARRANGEMENT. THEY ARE SHORT-LIVED AND DIE AFTER A FEW WEEKS, LEFT TO DRIFT BY GRAVITY TO THE BOTTOM WATERS WHERE THEY DECOMPOSE. “COUNTING” A LAKE’S ALGAE POPULATION IS ACCOMPLISHED BY MEASURING THE GREEN PLANT PIGMENT, CHLOROPHYLL. A HOSE IS LOWERED INTO THE LAKE AND IS CAPPED TO CAPTURE A COLUMN OF WATER. THIS SAMPLE IS DRAWN THROUGH A FILTER THAT THE LAB ANALYZES FOR CHLOROPHYLL CONTENT.
- DEAD ALGAE ARE DECOMPOSED BY BACTERIA IN THE BOTTOM WATERS OF THE LAKE. THIS PROCESS CONSUMES OXYGEN. MORE PHOSPHORUS MEANS MORE ALGAE. MORE ALGAE MEAN MORE DECOMPOSITION. MORE DECOMPOSITION MEANS LESS OXYGEN. THIS IS THE LINK BETWEEN WHAT GOES ON IN THE WATERSHED AND WHAT HAPPENS IN THE LAKE.

A QUICK LESSON ON LAKES CONTINUED

- PHOSPHORUS COMES FROM THE LAND AND DETERMINES THE WATER QUALITY. USES OF LAND THAT CAUSE EROSION AND SEDIMENTATION ARE THE WORST CULPRITS SINCE PHOSPHORUS IS A NATURAL ELEMENT IN SOILS. CLAY PARTICLES ARE RICHEST IN PHOSPHORUS BECAUSE OF A CHEMICAL ATTRACTION AND BECAUSE THEY HAVE A LOT OF SURFACE AREA AS COMPARED TO THEIR SIZE AND WEIGHT. THROUGH A MICROSCOPE THEY LOOK LIKE PAPER PLATES, WHILE SAND AND GRAVEL ARE MORE LIKE SMALL GLOBES. ANOTHER PROBLEM FOR LAKES IS THAT THESE CLAY PARTICLES ARE CARRIED TOO EASILY BY STORMWATER RUNOFF. THE HEAVIER AND LESS PHOSPHORUS RICH SOIL PARTICLES LIKE SAND AND GRAVEL TEND TO SETTLE OUT MORE QUICKLY.
- EXCESSIVE DECOMPOSITION OF ORGANIC MATTER CAN USE UP ALL OF THE AVAILABLE OXYGEN IN THE BOTTOM WATERS OF A LAKE. THIS CAN CAUSE A COMPLEX CHEMICAL REACTION, WHICH RELEASES SEDIMENT BOUND PHOSPHORUS INTO THE WATER COLUMN. THIS PROCESS IS CALLED INTERNAL PHOSPHORUS RECYCLING AND IT CAN ADD LARGE AMOUNTS OF PHOSPHORUS TO THE LAKE. THIS STIMULATES MORE ALGAL GROWTH, LEADS TO LESS DISSOLVED OXYGEN IN THE BOTTOM WATERS AND FURTHER OFFSETS THE LAKE'S NATURAL EQUILIBRIUM.
- FOLLOWING SUMMER STRATIFICATION, COOL FALL WINDS CHILL THE WARM UPPER WATERS UNTIL THE TEMPERATURE DIFFERENTIAL IS WEAK. THEN THE STRATIFICATION BREAKS DOWN AND THE "FALL TURNOVER" OCCURS. THIS IS A FULL MIXING OF THE LAKE WATERS, PREPARING THE WAY FOR WINTER.

A QUICK LESSON ON LAKES CONTINUED

- WEATHER IS A MAJOR FACTOR IN WATER QUALITY. LACK OF RAIN IS GOOD FOR A LAKE SINCE RUNOFF IS NEEDED TO CARRY THE LOOSE SOIL PARTICLES WITH THEIR ATTACHED PHOSPHORUS TO THE LAKE. THE SIZE, DURATION AND SPACING OF RAINS AND THE TYPE OF SNOW COVER AND SNOW MELT ALSO GREATLY INFLUENCE THE PHOSPHORUS DELIVERIES. IT'S DIFFICULT TO COMPUTE THESE VARIABLES, BUT WE DO OUR BEST TO FACTOR THEM IN.
- ALTHOUGH LAC LA NONNE SHOWS SIGNS OF SENSITIVITY LIKE OXYGEN DEPLETION, MODERATE CHLOROPHYLL CONCENTRATIONS AND REDUCED CLARITY, THE OVERALL SITUATION IS GOOD AS COMPARED TO OTHER ALBERTA LAKES. THE CHALLENGE IS TO MAINTAIN OUR WATER QUALITY.
- EVERY SUMMER IS UNIQUE IN ITS CONDITIONS, BUT THE SAME ENEMY THREATENS EVERY LAKE.
- THE MORE WE ALL KNOW, THE BETTER EQUIPPED WE ARE TO PROTECT OUR LAKES.

Did You Know?

Many people participate in United Way campaigns at their companies every year and contribute to many deserving charities across Alberta. United Way allows donators to direct their contribution to any charity of their choice. LEPA is a recognized Canadian charity and your donation qualifies for a charitable donation tax credit.

In 2021, LEPA has received \$3584 from United Way donations and will put these funds towards projects and activities aimed at improving the lake and watershed, as well as educating our members and the public on the importance of responsible management of our beautiful lake.

We thank all the donators that allow us to continue to steward our lake enhancement efforts.

Special Thanks

We would like to send out a huge thank you to all the donations we received in memory of [Mr. Daniel Cournoyer](#).

Make a Difference!

DONATE

EVENTS

May 8th - Virtual AGM

- ❖ Zoom details on the website

July 17th – Boat Regatta

- ❖ Meet @ Willowbend Resort marina at 11 am for the “Socially Distance Safe Regatta”

August 21st – Wet and Wild Boat Rally

- ❖ Meet @ LEPA Education Centre at Klondike Park for registration and lake map of stops

www.lepa-ab.com

www.facebook.com/Lac-La-Nonne



Why should I become a LEPA member?

- ❖ It only costs \$20 per family – purchase on the LEPA website
- ❖ To protect and preserve this lake
- ❖ Become and advocate for clean water
- ❖ Be pro-active
- ❖ To protect your lake lot investment
- ❖ Help restore the fish stocks in the lake
- ❖ THIS IS YOUR LAKE! Leave it to your children and grandchildren in better shape than you received it
- ❖ Conservation and preservation is contagious! Catch it today
- ❖ An excellent opportunity to meet new friends around the lake all with the same goals....