

2019

Spring Newsletter



LICA
ENVIRONMENTAL STEWARDS



School Programs



Stream of Dreams

LICA was pleased to complete the Stream of Dreams program with Notre Dame Elementary School this spring. Stream of Dreams is an eco-education program that helps students discover their local watershed, learn about human impacts to water bodies, and become stewards for all aquatic creatures.

Each class at Notre Dame Elementary School took part in a presentation to learn about their local watershed, the importance of clean water, and how we are all connected to fish habitats. Students then painted Dream Fish that were mounted on the school fence to create a flowing mural of 450 fish. This mural is a lasting community art legacy that reminds everyone to do their part to help protect our watershed.

LICA is looking forward to delivering the Stream of Dreams program to École Saint Dominic Elementary School in the fall of 2019 and Ardmore School in the spring of 2020. Each spring and fall, LICA hopes to deliver this program to a new school in the area.



Classroom Presentations

This spring, we visited over 60 classrooms throughout the LICA region to teach students about the local watershed and airshed. We were pleased to provide various classroom presentations at the following schools:

- École Saint Dominic Elementary School
- Vera M. Welsh Elementary School
- École Dr Bernard Brosseau School
- Ardmore School
- École Notre Dame Elementary School
- Elizabeth School
- Art Smith Aviation Academy
- Glendon School
- Cold Lake Middle School
- Kehewin Community Education Centre
- J.F. Dion School
- Cold Lake Elementary School
- École Holy Cross Elementary School
- Cold Lake High School
- Bonnyville Centralized High School

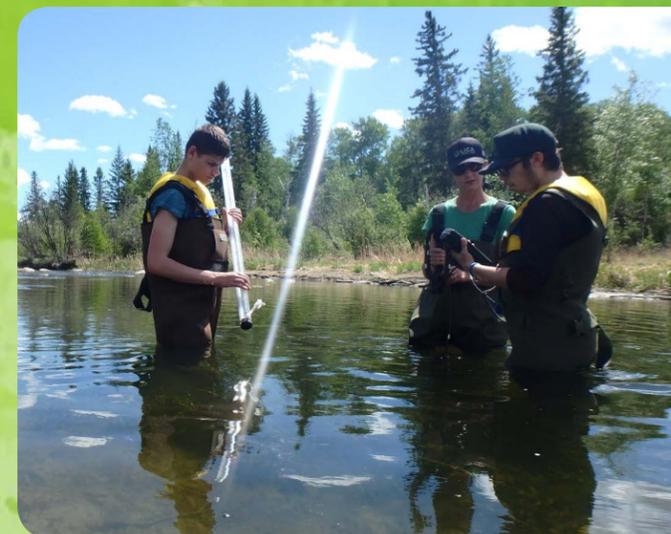
These FREE programs are available year-round! Contact outreach@lica.ca to book your presentation.



- All Grades: Vermicomposting
- Kindergarten & Grade 1: Wildlife Discovery
- Grade 2 & 3: Creepy Crawlies
- Grade 4: Waste Water / Boreal Forests / Airshed
- Grade 5: Wetland Ecosystems / Airshed
- Grade 6: Trees & Forests
- Grade 7 & 8: Ecosystems
- Grade 9: Biodiversity
- Grade 9,10, 11 & 12: X-Stream Science

X-Stream Science

This spring students from Cold Lake High School and Bonnyville Centralized High School completed field work and sampled water in creeks to determine local water quality.



Community Events

2019 Bonnyville Oil & Gas Show

On June 19th and 20th LICA hosted a booth at the Oil & Gas Show, held at the Bonnyville and District Centennial Centre. We enjoyed the opportunity to share information with the community about the watershed, airshed, and our programs. We also took the opportunity to introduce community members to LICA's AQHI Lantern, which is now on display in the Centennial Centre. Leona Heisler was the lucky winner of our sustainability-themed gift basket.



Environment Week and Agriculture Appreciation Days in Lac La Biche

LICA enjoyed two days at McArthur Park in Lac La Biche. During Environment Week we hosted a booth, displaying pelts and skulls of local animals and encouraging children to use airbeam technology to collect air quality data around Mac Arthur Park. At Agriculture Appreciation Days we displayed a watershed model and taught kids about run off and erosion.

LICA Events

Earth Day Writing Contest

This spring's Earth Day Writing Contest asked students to write an essay on "What small change could everyone make to positively impact the environment". We received 66 entries and awarded four prizes.

- First Prize: Anja Symon
- Second Prize: Kaitlyn Treanor
- Third Prize: Evan Taylor
- Fourth Prize: Aspen Sales

The essays written by these four students can be found on our website at lica.ca/education



Vermicomposting 101

This spring, LICA hosted two successful Vermicomposting 101 Workshops in Bonnyville and Cold Lake. Both workshops were at capacity with waiting lists! With growing local interest in vermicomposting, LICA will continue to host these workshops to encourage sustainable lifestyles.

Vermicomposting – composting with worms – removes fruits and vegetables from our food waste and turns it into natural fertilizer. Participants of this workshop explore the benefits of vermicomposting and learn how to properly care for red wiggler worms. Everyone gets to take home their own red wiggler worms in vermicompost bins built in the workshop.



Educating the Public on Air Quality

LICA is the region's Airshed Zone and monitors the air quality in our area. To help educate the public on air quality, LICA installed air quality displays in the Cold Lake Energy Centre and the Bonnyville and District Centennial Centre. The displays include wooden lanterns and posters with information to promote clean air for the Lakeland region. LICA partnered with the City of Edmonton to develop these lanterns, similar to the one in the Edmonton Tower.

The Air Quality Health Index (AQHI) is a scale designed to help residents understand what the outdoor air quality means to their health. LICA collects air quality data at local monitoring stations that are used to determine the AQHI value. The value is then streamed to the lanterns which change colour according to the AQHI scale. When air is clean and "low risk," the light bulbs glow blue. In hot, dry months like August, there is increased potential for forest fires. During this time the air can become smoky, containing fine particulate matter, and the bulbs may glow red indicating "high risk," advising people to stay inside.

LICA is pleased to have partnered with the Cold Lake Energy Centre and Bonnyville and District Centennial Centre to share these air quality information displays with the community.

AQHI Lanterns



Air Quality Health Index

The Air Quality Health Index (AQHI) is a scale designed to help residents understand what the outdoor air quality means to their health. The station listed below collects data that is used to determine the AQHI value. This value is then streamed to our lantern, which changes colour according to the AQHI scale.

This lantern is receiving data from our:

Visit our website www.lica.ca to learn more about air quality and our air monitoring.

VERY HIGH RISK

- Avoid strenuous outdoor activities
- AQHI Scale: 11

HIGH RISK

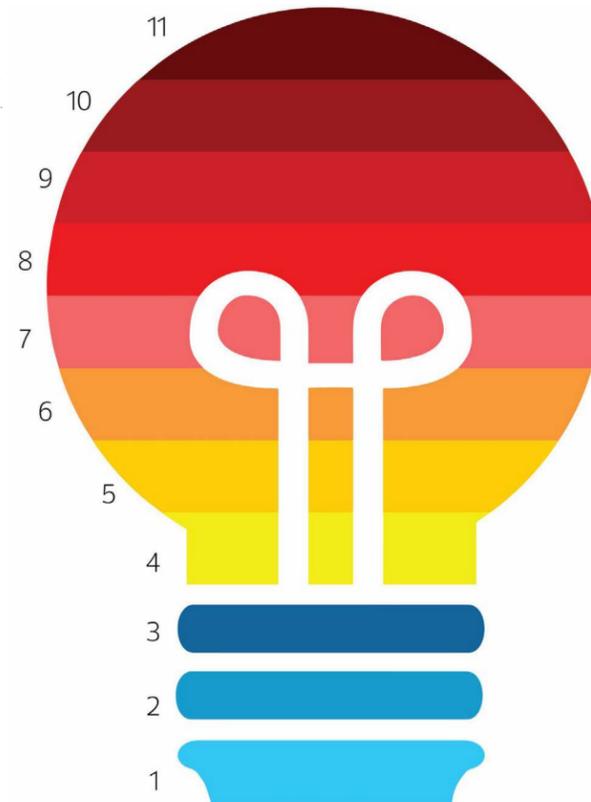
- Reduce or reschedule strenuous outdoor activities
- AQHI Scale: 7-10

MODERATE RISK

- Consider reducing or rescheduling strenuous outdoor activities
- AQHI Scale: 4-6

LOW RISK

- Enjoy usual outdoor activities
- AQHI Scale: 1-3



Wildfire Smoke and Health Video

LICA is also proud to have collaborated with the Alberta Airsheds Council and other airshed organizations to create a video that shares valuable information on the health risks of wildfire smoke. Check out the video at: <http://bit.ly/WildfireSmokeandHealth>



Keep Our Lake Blue

Taking Action to Improve Moose Lake's Water Quality

LICA has partnered with the Moose Lake Watershed Society to launch a campaign encouraging people to take action to reduce runoff and pollutants, such as phosphorus, from entering Moose Lake.

This summer, we invite residents around Moose Lake to take at least one new action to reduce runoff and pollutants on their properties. Working together, our cumulative actions can improve the water quality of Moose Lake! Residents who [sign up to Keep Our Lake Blue](#) will receive a lawn sign to display their commitment to clean water.

Effects of Runoff

Impermeable surfaces don't allow water to soak into the ground. Instead, this water runs off of the surface, carrying sediments, salts, chemicals, and excess nutrients like phosphorus into the lake.

- Sediments cloud water, which can harm aquatic animals by impeding vision, covering eggs, and affecting breathing
- Pesticides, paints, and motor oil can poison aquatic life
- Excess nutrients, like phosphorus, can increase the growth of algae and cyanobacteria in the lake

Phosphorus, Algae, & Cyanobacteria

Items like detergents, fertilizer, manure, human waste, and decaying plants are all sources of phosphorus. When excess nutrients, such as phosphorus, enter the lake, it results in increased growth of algae that is often quite odorous. When mats of algae die, they sink to the bottom of the lake and decay, creating low-oxygen conditions that are detrimental to fish and other aquatic organisms.

Excess nutrients, like phosphorus, can also result in the formation of cyanobacteria, also known as blue-green algae, which are a unique group of bacteria that photosynthesize. When cyanobacteria decompose, they produce nerve and liver toxins that can pose a serious health risk to humans and animals.

You can help prevent algae blooms by reducing runoff, phosphorus, and other pollutants on your property.



Actions to Improve Water Quality



Actions to Reduce Runoff

Make Impermeable Surfaces On Your Property Smaller

- Convert your driveway or parking area to a permeable surface
- Make your pathways out of stone or pavers (instead of poured concrete or asphalt)

Reduce The Size Of Your Lawn

- Plant more trees and shrubs around property edges and work your way in
- Plant shrubs and groundcovers instead of grass

Use Water Wisely

- Water your lawn or garden in the morning or evening to minimize evaporation
- Adjust sprinklers to only water the lawn (not the side of the house or sidewalk)
- Install a rain sensor so your sprinklers don't turn on when it's raining
- Spread organic mulch around plants to retain moisture
- Install drip irrigation for shrubs and trees
- Convert some lawn space to a patio (with permeable paving stones) to reduce the area needing to be watered
- Landscape with native plants that won't need irrigation once established
- Install a rain barrel to collect runoff from your roof to use for watering your garden
- Direct downspouts onto plants, lawn, or a rain barrel and away from impermeable surfaces
- Fix any leaking faucets/pipes
- Use a broom instead of a hose to clean driveways and sidewalks

Plant A Vegetative Shoreline Buffer

- Cover 50–75% of your property line with native species
- Plant appropriate shrubs, trees, flowers, and groundcover on your property beside the lake

Plant A Rain Garden

- Pick a location that you can direct a downspout and build a rain garden

Plant Native Plants

- Plant native plants in your garden or on your lakefront property line - they reduce stormwater runoff and are low maintenance



Actions to Eliminate Pollutants

Eco-Friendly Lawn Care

- Apply fertilizer at the recommended rate – spring is the best time and never before a storm or on frozen ground
- Skip chemical fertilizers all together or use compost
- Keep yard waste out of the street, ditches, storm drains
- Leave grass clippings on the lawn
- Mow higher – 2 to 3” is healthier for your lawn
- Pick up pet waste
- Use pesticides sparingly, and only when needed. Do not apply chemical pesticides as part of a “routine maintenance plan”

Maintain Your Septic System

- Have your septic system inspected every 2 years
- Pump your septic system every 1-2 years
- Don't dispose of hazardous wastes in sinks or toilets
- Plant only grass or groundcover with shallow roots over your drainfield
- Reduce water use to reduce stress on the septic system
- Instead of doing laundry all in one day, spread it out over the week
- Make sure water softeners or filters aren't flushing into the septic system
- Reduce the use of antibacterial products and harsh cleaners

Don't Flush Drugs

- Take expired and unused medications to a collection site, such as a pharmacy, instead of flushing them

Use Phosphorus-Free Fertilizer

- If you buy fertilizer, buy phosphorous-free

Minimize Erosion During Any Construction

Projects On Your Property

- Preserve existing vegetation where possible
- Install a silt fence or straw bales to trap sediment on the downslope of your lot
- Replant the disturbed area as soon as possible
- Fence the construction area to limit activity to the necessary area
- Divert runoff around disturbed areas

Maintain Your Vehicle

- Make sure your car is not leaking oil or other fluids onto your driveway
- Use kitty litter to clean up oil spills instead of washing it down the storm drain
- Wash your car on your lawn or at a commercial car wash instead of on the street or your driveway

Conserve Water In Your Home

- Install high efficiency showerheads
- Turn off faucets while shaving or brushing teeth
- Only run the dishwasher when full
- Install aerators in the kitchen and bathroom faucets
- Replace dishwashers, toilets, and washing machines with high efficiency models

Reduce Household Hazardous Waste

- Use hazardous substances such as gasoline, oil, paints, solvents, paint thinners, fertilizers, pesticides, and cleaners in the smallest amount possible
- Use biodegradable products when possible
- Use phosphate-free soap

ALMS Lakes

Once again, LICA is partnering with the Alberta Lake Management Society (ALMS) to execute the Lakewatch program. Ten lakes within the LICA region will be sampled five times throughout the summer to collect water samples. These samples are analyzed for turbidity, phosphorous, chlorophyll, microcystin, temperature, pH, dissolved oxygen, and presence of invasive mussels. At the end of the sampling year, ALMS puts together a comprehensive report of their findings. LICA's most recent reports, such as our summer 2018 report, can be found on the LICA website lica.ca/resources

With 12 years of data collection through the ALMS Lakewatch program, it is easy to see changes within our local lakes. All of the reports can be found on the ALMS website alms.ca where you can also find great information and resources about lake health.

LICA is grateful for the help of volunteers who assist the ALMS technicians to collect the water samples for their local lakes. If you are interested in volunteering to have your lake sampled please contact us at watershed@lica.ca

The following lakes will be sampled during the summer of 2019:

- Skeleton North
- Skeleton South
- Laurier
- Vincent
- Minnie
- Crane
- Moose
- Muriel
- Kehewin
- Marie



Reduce
Runoff &
Pollutants

Take
Action



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Upcoming Events:

July 30-31: Aquality is offering the Alberta Wetlands: From Classification to Policy course. Visit wetlandpolicy.ca for details

August 4: Aqua Days – LICA will be hosting a booth from 11am until 4pm at Kinsoo Beach

October 3: Last day to submit entries for LICA's 2020 Youth Calendar Contest

October 9: Annual General Meeting – LICA's AGM will be held at 6pm at the Bonnyville and District Centennial Centre

November 17-24: Trout Unlimited Canada is offering Stream Rehabilitation Training Workshops. Visit tucanada.org for details

For more information on any of our upcoming events, visit our website lica.ca/education

Welcome to our New Staff!

Lisa Ratte Education & Outreach Coordinator

Lisa is a classroom teacher with a master's degree in Resource and Environmental Management. In her new role, she strives to engage the community in activities that promote the sustainability and ecological health of the Lakeland environment.



Mason Unrau Education & Outreach Assistant

Through nature photography, along with his newfound hobbies of gardening and beekeeping, Mason hopes to continue sharing the necessity of environmental stewardship with his home region.



LICA's 2020 Youth Calendar Contest

Would you like to have your drawing featured in a calendar? If you're a student in grades K-12 in the LICA region we invite you to send us your artwork! Our favourite drawings will be featured in our 2020 calendar!

This Year's Theme is: What I Love About Nature!

Competition closes Thursday October 3rd, 2019

Please complete the entry form available at lica.ca/education

Submit entries by e-mail to outreach@lica.ca or mail to:

LICA, Box 8237,
Bonnyville, Alberta,
T9N 2J5

Winners will have their artwork featured in our calendar and receive a \$50 VISA gift card!

Thank you for your support!



LICA
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Alberta Environment
and Parks



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