

*Annual 20
13 Report*

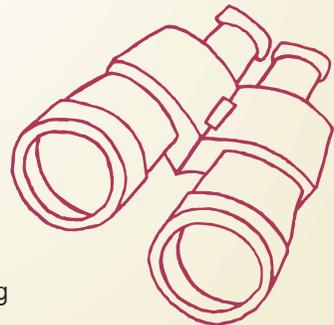


Design & Print:
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Cover Photo:
TOM FLETCHER
LICA 2010 Photo Contest

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Introduction To LICA

Lakeland Industry and Community Association (LICA) is a community based synergy group. We work together to promote a healthy and sustainable environment, as well as to support responsible resource development. We are a multi-stakeholder partnership between community, industry and government coming together to establish understanding and rapport, share information, and work toward mutually beneficial solutions to local concerns. Our work is undertaken through our offices in Bonnyville, Alberta, Canada.

Our Vision

Lakeland Industry and Community Association is a balanced partnership actively supporting a sustainable environment.

Our Mission

LICA supports the environment by gathering, sharing, and acting on information regarding development in our region.

Our Values

LICA demonstrates these values as individuals and an organization:

- Respect
- Integrity
- Cooperation
- Transparency
- Accountability
- Honesty
- Equality

who we are



Lakeland Industry and Community Association (LICA) is an incorporated not-for-profit society. We have a Board of twelve Directors, some elected and some appointed, to provide direction and leadership to our organization.

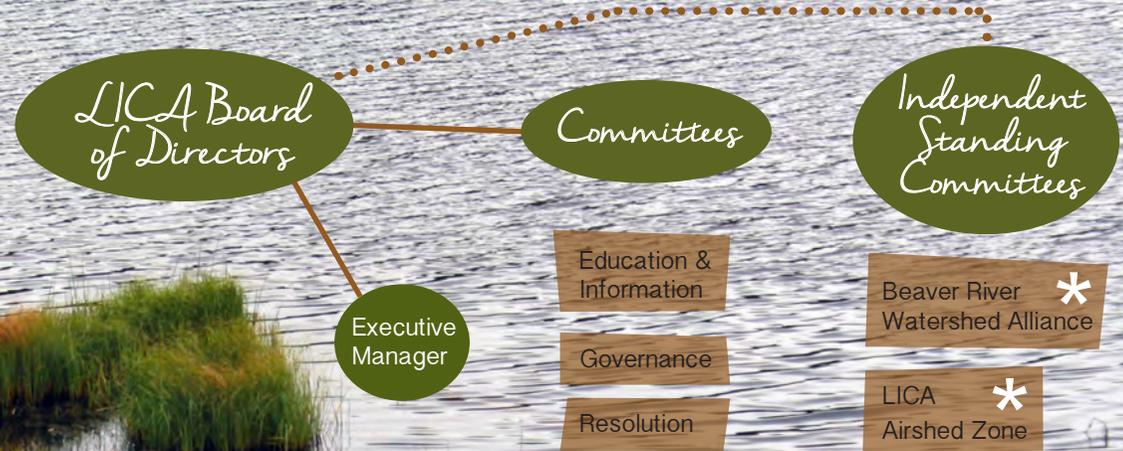
A number of Committees assist with the work of our association including:

- Education and Information Committee which plans and facilitates outreach activities and special events, and collects and shares information.
- Governance Committee which develops, monitors and ensures compliance with LICA's policies and bylaws.
- Resolution Committee which facilitates the resolution of concerns and issues related to development in the region.

In addition, LICA has two independent standing committees, both of which have a technical focus:

- LICA Airshed Zone facilitates regional air quality monitoring, and furthers and promotes an understanding of air quality.
- Beaver River Watershed Alliance works to advance and update knowledge of the watershed with a focus on monitoring studies and communication.

The Board employs an Executive Manager, who is responsible for the successful management of LICA according to its Vision, Mission, Values, bylaws, policies, and strategic plan. The Executive Manager is assisted in these duties by several staff.



* Multi-stakeholder, includes non-LICA members



the way we work

Our Organization

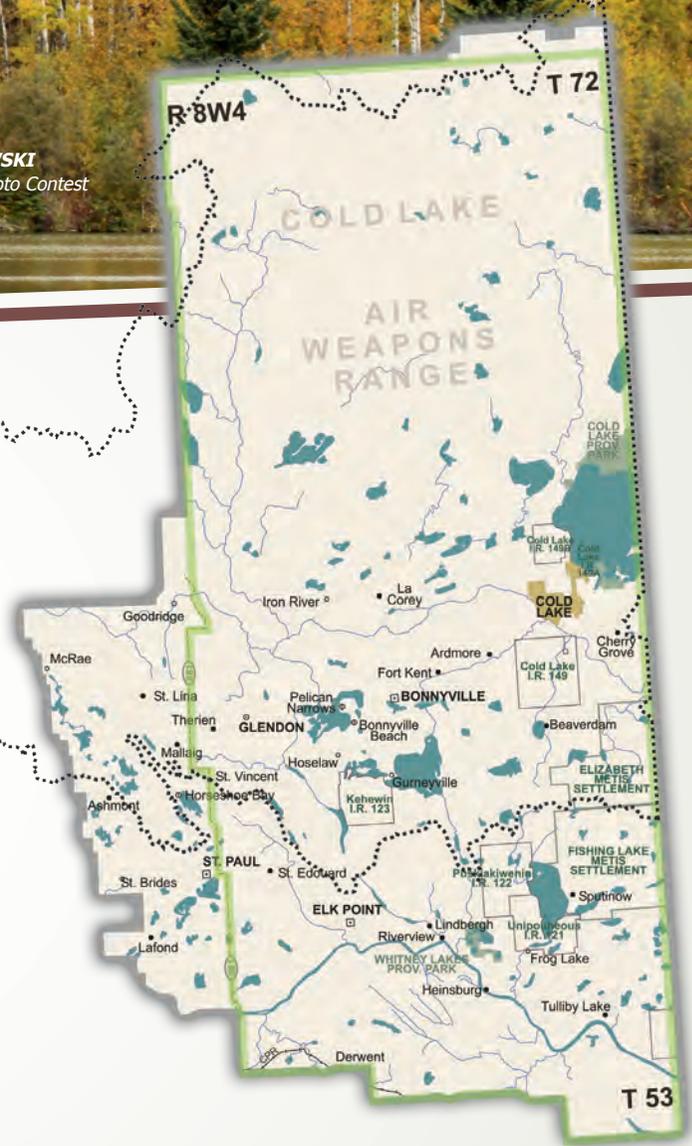


LORI JEZOWSKI
LICA 2010 Photo Contest

The Lakeland Industry and Community Association (LICA) is in Alberta: from the northern border of the Cold Lake Air Weapons Range to the western border of the Municipal District of Bonnyville and the County of St. Paul, and south to the North Saskatchewan River at Secondary Highway 881, south to Highway 45, then east to the Saskatchewan border. The area encompasses just under 18,000 square kilometres.

-  LICA Boundary
-  LICA Airshed Zone
-  Beaver River Watershed Alliance

Geographical Area



We had an exciting year at LICA. Our annual general meeting had the most people attending in our history, to listen and question the Honourable Diana McQueen, then Alberta Minister of Environment and Sustainable Resource Development, now Minister of Energy. Our Education and Information Committee was able to complete their series on Oil and Gas from Start to Finish with an excellent public presentation about pipelines. LICA won another Synergy Alberta award of excellence for the Landowner's Handbook on Resource Development, which we were able to print and distribute. We were invited to host a breakout session regarding the handbook at the annual Synergy Alberta conference, and I was privileged, with Annette Ozirny, to represent Synergy Alberta at an Energy Literacy conference in Kananaskis.

LICA continues to be a prime consultant to the Province as the new joint Federal and Provincial Oilsands Monitoring agency continues to evolve into an effective environmental overseer in the Northeastern part of the province. LICA was also invited as a stakeholder, to participate in continuing discussions on the Lower Athabasca land use framework southern sub plan development. We continue to enjoy great community, resource industry, and local government participation on our various committees.

Our volunteers work diligently to bring our various activities to successful fruition, and we greatly appreciate their accomplishments

The LICA Airshed Zone and the Beaver River Watershed Alliance continue to pursue commendable objectives which are summarized later in this report. The Watershed's new Education and Outreach Coordinator, Alicia Fontaine, has been extremely busy with local schools and other organizations, to promote stewardship of our finite water resources, and we welcome her to the LICA group.

Many thanks to our staff and volunteers for an excellent year.

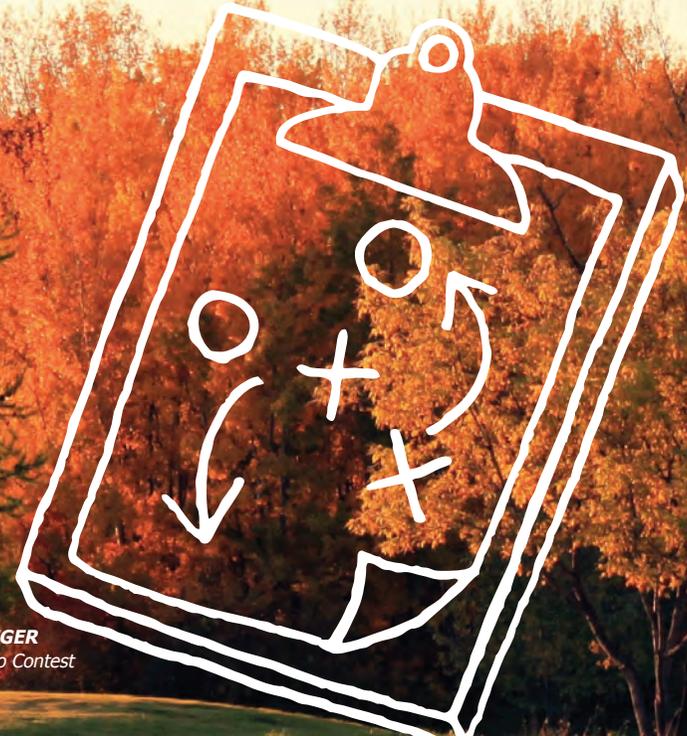
Delano Tolley, CD
Chairman of the Board



Chairman's Message

Delano D. Tolley

OLEN ZELLWEGER
LICA 2010 Photo Contest



Executive Manager's Message



This is the time of year when I find it beneficial to pause during the preparation of our Annual Report and look back at the past year and, as well, speculate on what the coming year will bring. Year 2013 was an eventful one, and marked the completion of 13 years of operation.

Lakeland Industry and Community Association (LICA) is unique in our region and far beyond. No other association has the depth of a synergy group, along with airshed and watershed components, as well as the breadth of partners and support that we are fortunate to have. We mobilize these resources as a team to continue our work of supporting the environment and promoting sustainable resource development.

The past year was full of activities, and some changes, and we invite you to browse through our Report to see what we've accomplished and what we plan for 2014. One of our significant changes is LICA's involvement as a monitoring delivery partner operating under the Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA) to implement the Joint Oil Sands Monitoring (JOSM) Plan. The initial phase incorporates LICA's complete Airshed Zone monitoring program into JOSM, with other aspects to be brought on stream in the near future.

At this time, I want to extend a thank you to our Board of Directors, Committees, staff, and contractors, for their ongoing commitment of time and resources which has allowed us to tackle challenges and opportunities for the betterment of our region. I particularly want to thank my staff for sharing their talents and energy with us; we are fortunate.

Looking ahead, I am confident that we will remain tenacious and achieve results throughout the year to keep our region and our environment strong and healthy. Please consider joining us for a great experience of learning, sharing, and involvement as we continue to enhance the Lakeland area of Alberta.

A handwritten signature in cursive script that reads "Charmaine Code".

Charmaine Code
Executive Manager



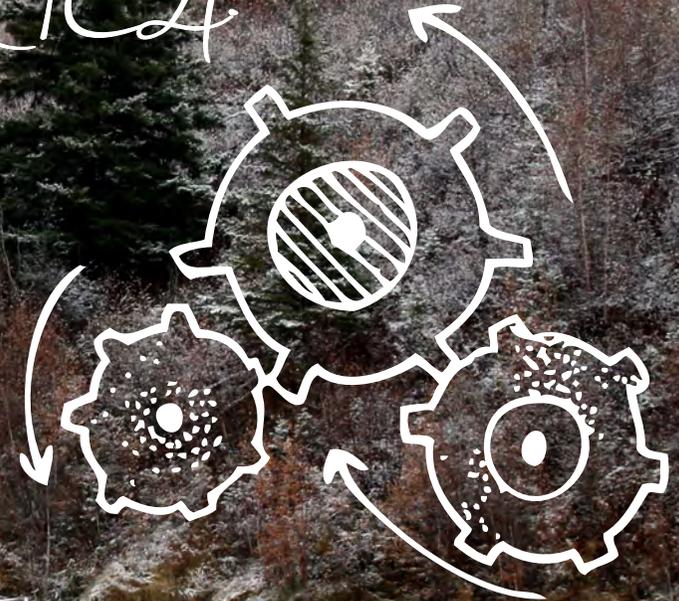
If you live, work, or operate in the Cold Lake / Bonnyville / St Paul area, you have been or will be affected by or involved in resource development such as oil and gas, forestry, or sand and gravel. Resource development is complex and LICA exists to ensure that all parties end up with the best possible outcome.

LICA is a not-for-profit association of community members, local and provincial government, and oil and gas and other industries. As a synergy group, LICA works to build understanding, respect, and relationships; share information; and arrive at mutually beneficial solutions to local concerns.

LICA can offer you:

- The opportunity to support and contribute to responsible resource development
- The chance to bring forward your concerns and questions
- A way to build understanding, respect, and trust
- The ability to sort out concerns before they become problems
- An established process for issue resolution
- Freedom to bring information to the table
- The power to influence the type of things that are monitored, or influence targeted monitoring of air, water, and soil, should there be concerns
- Access to the technical expertise that industry, and their employees, bring to address issues
- Better communication with the sectors that affect your life and business
- A broader perspective, and the chance to understand others' points of view
- A forum for dialogue and discussion
- Shared information, knowledge, and answers
- New contacts, relationships, and networks
- Accurate, science-based information
- Freedom to speak an opposing view
- Awareness of emerging issues
- Regular contact with individuals and organizations in your local area
- The chance to learn from others' experiences
- Opportunity to engage in educational, airshed, and watershed activities
- Involvement in activities and decisions with legislative and regulatory impact

Why Join
LICA?



Board of Directors



Back row (L-R): Robert Deresh (Member), Delano Tolley (Chair), Shawn Brockhoff (Alt. Member), Wilf Tomcchek (Alt. Member), Wayne Bamber (Member), Fred Bamber (Member). Front Row (L-R) Kathleen Zellweger (Secretary-Treasurer), Kathryn Wiebe (Vice-Chair), Mildred Dunham (Alt. Member), Monty Moore (Alt. Member), Harold Ross (Member). Missing: Members Shirley Benson, David Fox, Paul Leonard, Annette Ozirny, Colin Woods.

Resolution Committee

One of the reasons that LICA exists is to ensure that all parties affected by such things as resource development end up with the best possible outcome. If you have been involved with or affected by resource development, you know that it is an intricate process involving many sectors, and sometimes it's hard to find needed information. LICA's staff is the first contact for questions, and are almost always able to provide contact information and quick, effective answers.

Once in a while, though, a more complex issue arises. Perhaps the parties involved are having difficulty coming to agreement, or a landowner feels injured by the actions of an oil company, or a problem is not understood the same way on both sides. While the avenues of regulatory hearings or court action are always available, LICA's Resolution Committee offers an issue-resolution process that works on the principle that if people come together to work things out in a spirit of cooperation, then an agreeable solution can be found, with far less time, trouble, and expense.

A standing Resolution Committee is in place, ready to swing into action whenever required. This year Charmaine Code, Executive Manager, has dealt successfully with everything that came her way, and the Committee of Mildred Dunham, John Ilchuk, Colin Woods, an Industry Member, and Delano Tolley (ex officio), therefore had another quiet year.

Governance Committee

The Governance Committee's (GC) role is to ensure that the requirements of the Alberta Societies Act, under which LICA is incorporated, are met, and that the Bylaws and Policies are clear, easy to follow, and in accord with each other. As a standing committee of LICA, the GC works at the direction of the Board to review, revise, develop, and monitor Policies and Bylaws, and to develop and deliver training in the consensus model of decision making used by LICA. The GC works closely with the Executive Manager to make recommendations to the Board for needed changes and updates.

The GC had a quiet year followed by a flurry of activity at year-end, as various Policies were put under the microscope for updating. Thanks to this year's committee members: Shawn Brockhoff, Nancy Tolley, Colin Woods, Kathleen Zellweger, Delano Tolley (ex officio), and Michael Bisaga (Resource Person).

KELLIE NICHIPORIK
LICA 2010 Photo Contest

LICA's Issue Resolution Process



Committees

Committees

education + information

The Education and Information Committee (EIC) has a mandate to provide opportunities for public education, support a sustainable environment, and collect and share information on resource development and other relevant topics in our region.

In 2013, we wrapped up our “Oil and Gas - from Start to Finish” series with Phase V “Pipelines – Where do they go?” This award-winning series highlighted everything that you may need to know about the oil and gas industry.

The EIC held our 4th Annual Earth Day Writing Contest and were thrilled to receive over 120 very well written essays. This competition continues to produce very imaginative compositions from our middle school students. We also participated in Community Registration Days in Cold Lake, Bonnyville, St Paul, and Elk Point. The year drew to a close with our 5th Annual “Christmas at LICA” Open House attended by over 100 people.

2014 brings new and exciting highlights. Our ever popular Photo Contest is now in progress, and we are featuring Youth activities and events, such as our “Earth Day Birthday Party” for Grades 1 to 6.

We encourage and welcome community members of all ages to join us this year, and extend a sincere thank you to our many volunteers and participants throughout 2013.



Harold Ross & Warren Hobart
Committee Co-Chairs



(L-R): Donna Gingras (Alt. Member), Iris English (Member), Andrea Woods (Member), Delano Tolley (Member), Judy Cabay (Member), Harold Ross (Co-Chair). Missing: Members Warren Hobart (Co-Chair), Annette Ozirny.



GERALD TELLIER
LICA 2010 Photo Contest

LICA Photo Contest

Another year has passed at LICA and its time again for our biennial LICA Regional Photo Contest.

In 2010 we had 130 entries, while in 2012 we had 70 entries, and the caliber of photographic work continues to be outstanding. In 2014 we are hoping to again receive a large number of entries.

This popular contest is open to all amateur photographers that reside and work in the LICA region. There are Adult (ages 13 & up) and Youth (ages 12 & under) categories as well. We are looking for pictures of anything representing the Lakeland, be it animals, agriculture, industry, recreation, various events, or other topics. Contestants are allowed 3 entries per person and entry forms are available online at www.lica.ca or by contacting the LICA office as shown on the back cover of this publication.

So, all of you wonderful photographers should get out your cameras and let's make 2014 the best year ever for great pictures of our amazing LICA region. Cash prizes and gifts await the winning contestants. Deadline for entries is 4 p.m. on October 15, 2014.

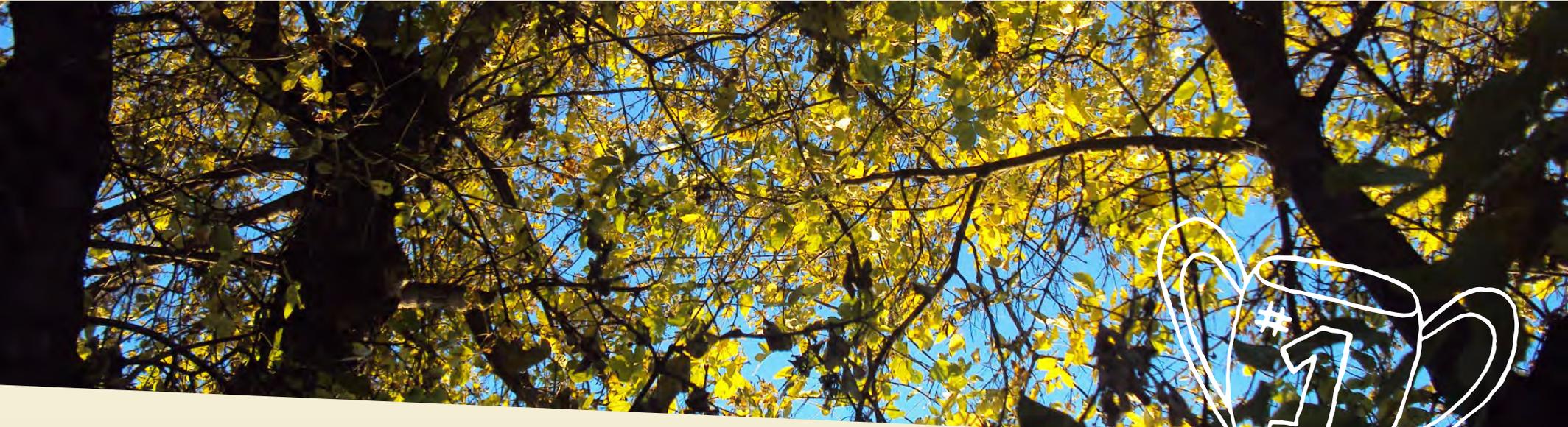


Above Right: Jan Newman accepts her prize from LICA Chairman Delano Tolley for her second place finish in the adult division of the 2012 photo contest. Above right: Lynn Beaupre's second place winning photograph from the 2010 contest. Far right: Kacy Marcotte's first place winning entry from the 2010 contest.



Thank you Volunteers

Volunteers are the lifeblood of good communities, and LICA's success is a direct result of the many talents provided by our members. You willingly share those talents and your time to improve the quality of life in Northeastern Alberta. Whether it be the Board of Directors, Airshed Zone, Watershed, Education and Information, Landowners' Resource Handbook, or the myriad other LICA activities, we appreciate all that you accomplish. Your concern for our environment and the world around us has assisted LICA in becoming one of the foremost synergy groups in Alberta, consulted by both government and industry. The numerous Awards of Excellence given to LICA over the years demonstrate the pride and capability of our diverse membership as you respond to the requests of the association.



We also wish to thank our many industry partners for their support and cooperation. Industry representatives frequently walk the extra mile to assist in the favourable outcomes we experience. And the same could be said of our government representatives, especially from Alberta Energy Regulator (AER), and Environment and Sustainable Resource Development (ESRD).

To all of you, we express our sincere gratitude. Thank you.

Delano Tolley
Board Chair

Charmaine Code
Executive Manager



KELSEY NORGATE
LICA 2010 Photo Contest

Member Profiles

Delano Tolley at present lives in the Cherry Grove area with his wife Nancy of 44 years. He has one daughter and five grandchildren. They raise cattle, do

some farming, and he is a licensed blaster. Delano served 38 years with the RCAF as an Aerospace Engineering Officer.

Delano has been involved with his community in many capacities for many years. He has served on a school advisory council, Northeast Alberta Community Health Council, and Recreation and Agricultural Society Board. Delano has been on

Delano Tolley

LICA's Water Monitoring Committee, served as governor of Lakeland Regional Health Authority, and chair of Beaver River Regional Waster Management Commission. He currently is Chair of the Municipal Taxation Assessment Review Board and member of the Municipal Subdivision & Development Appeal Board. Delano served one term as Councillor of the M.D. of Bonnyville and at present is the Chairman of Lakeland Industry & Community Association (LICA).

Delano believes that it is important to take care of the environment and does his part to inform people of the concerns and benefits to keeping our environment healthy. Delano is one of our members that really works at making a difference in the world.



Shawn Brockhoff has been a long time resident of Bonnyville for almost four decades. Shawn recalls his excitement about relocating to the Bonnyville area in 1976. Having moved around Saskatchewan and Alberta he had some insight into what the area had to offer.

Once Shawn completed high school, he packed up and moved to pursue his post-secondary studies. Shawn focused his attention around the petroleum industry and the environment. This offered lots

Shawn Brockhoff

of exciting career opportunities throughout the province of Alberta. Through the 1980's and '90's Shawn had the privilege of working in several different sectors, such as agriculture, forestry, and oil and gas.

In 1995, as Shawn eloquently states, he entered a new frontier by becoming a father, and he even managed to break a four generational cycle, by not having a family of just boys ... Shawn is the proud father of two sons and one daughter.

In 2000 Shawn came full circle

and returned to the Lakeland area, re-establishing his old roots, and once again calling Bonnyville home. Shawn actively displays his appreciation for his community and his employer by volunteering, and has been a huge supporter and volunteer with LICA during many of the years since its inception in 2000.



SHELBY SCHEPER
LICA 2010 Photo Contest

LICA in our Community



4th Annual Earth Day Writing Contest

In recognition of Earth Day, we encouraged 5th through 8th grade students of the LICA region to answer the question “what would you do to take care of planet Earth for the next 100 years?” After carefully reading each of the 120 submissions, the Education and Information Committee was astounded by the quality entries we had received. These entries, from eight different schools, were filled with creative alternatives, interesting approaches, and situation specific solutions. The depth of student awareness of the topic was impressive, as was their knowledge of science, the environment and citizenship.

Dustin Pinder, a grade 5 student from Elk Point Elementary, wrote our winning essay. His answer identified that “there are things he could do in his time to help care for the Earth.” He highlighted farm specific opportunities to reduce, reuse, recycle and repurpose. Dustin committed to acting “fast, before it’s too late.”

HE Bourgoin student, Emilee Neufeld, was awarded second place. Dr. Bernard Brosseau student, Benjamin Heartt, was awarded third place and Dr. Bernard Brosseau student Alex Warren received honourable mention.

We look forward to reading the 2014 submissions, and once again being inspired by the insight of our students.



Earth Day Writing Contest winner Dustin Pinder poses with LICA's Delano Tolley and Andrea Woods, Writing Contest Sub-Committee Chair.

Landowner's Handbook on Resource Development

When landowners and resource development meet, there is sometimes a lack of understanding on both sides. LICA developed and published a Landowner's Handbook on Resource Development early in 2013, covering 16 broad topics such as land agents, seismic, noise, and surveys, to assist in creating a positive interaction between landowners and resource developers. It includes a glossary of terms commonly encountered, fast facts, helpful hints, and references of additional sources, if more information is desired. This valuable resource can be accessed through LICA's website at www.lica.ca or by picking up a copy from the LICA office, as shown on the back of this publication. It is our hope that whatever your role is in resource development you will find this handbook useful.

JANE TELLIER
LICA 2010 Photo Contest



Oil and Gas - from Start to Finish

"Oil and Gas - from Start to Finish," has been a Synergy Alberta award-winning presentation series, developed by LICA's Education and Information Committee. Specific topics were chosen with the ultimate goal of providing the LICA region an opportunity to learn more about industry, the environment, regulations, and related topics. Specific topics that were highlighted throughout the series included:

- "Subsurface Rights," Brenda Ponde and Renee Matsuba, Alberta Energy.
- "The Land Agent Calls," Brad Misener, Olds College, and Ralph Parks, Industry.
- "Industry, the Environment and You," Lili Goncalves and Chelsea Klassen, Industry
- "Exploration on the Road to Production, How and Why?" Andrew Bibo, Alberta Environment and Sustainable Resource Development, and Colin Woods, Energy Resources Conservation Board.

Most recently we completed our fifth and final phase of the series with "Pipelines: Where do they go?" presented by Cathy Hay, Canadian Energy Pipeline Association.

This presentation, which focused on current and future production levels, energy transportation alternatives, pipeline marketing, and routes to market, was both engaging and informative.



JENELLE BREMAULT
LICA 2010 Photo Contest



Registration Days

LICA participated in Community Information and Registration Days at Elk Point - August 24, Cold Lake - September 3, Bonnyville - September 5, and St. Paul - September 12. As always, attendance was good, giving LICA the chance to connect with well over 2,000 community members, and hand out information, including copies of the new Landowner's Handbook for Resource Development.

Thanks to volunteers Mildred Dunham, Bev Smith, Donna Gingras, Delano Tolley, Annette Ozirny, Andrea Woods, Harold Ross, and Iris English, who took the time to attend the events on our behalf and share their knowledge of LICA with attendees. We also thank the many people who stopped to visit our booth and learn more about LICA.

LICA Is connected

LICA has many ways to stay in touch with you through social media. We can communicate with our broad audience through our website, Facebook, and Twitter. This provides an opportunity for everyone to keep up to date with LICA happenings, contact us with feedback and suggestions, follow us, and like us.

We are also pleased to offer our library for public use with more than one thousand catalogued items covering a variety of topics, in keeping with our Mission of gathering, sharing, and acting on information regarding development in our region. Various studies, annual reports, publications, books, newsletters, magazines, and CD's can be reviewed electronically or by hard-copy in our research area.

Yes, technology is great and affects how we do business. We invite you to learn more about us, our goals, and our activities, as well as staying in touch with you, through modern social media. See you there.

Christmas at LICA

LICA fills a large and busy role in providing a way for community, industry, and government to communicate and cooperate over matters of resource development. But sometimes it's nice just to get together in a festive spirit!

The 5th Annual "Christmas at LICA" saw approximately 100 rural, urban, industry, and government folks join together at LICA over delicious food in the spirit of the season. Five lucky guests went home with fabulous LICA door prizes. We look forward to hosting you at our 2014 event.

Watch for us & join us

Earth Day Birthday Party - Youth Grades 1 to 6, and Adults - April 12, 2014

Earth Day Writing Contest - Youth Grades 5 to 8 - April, 2014

LICA's Annual General Meeting - April 24, 2014

Lakeshore Clean-Up - September, 2014

Community Registration Days - Bonnyville, Cold Lake, Elk Point, St. Paul - Fall, 2014

Green Your Ride Vehicle Emissions Clinic - Fall, 2014

Photo Contest - Youth Division (Ages 12 and under), Adult Division (Ages 13 and up) - October 15, 2014

Christmas at LICA - December, 2014



LICA
in our
Community



LORI JEZOWSKI
LICA 2010 Photo Contest

There is always a lot going on with the LICA Airshed Zone. One of our many invaluable ongoing workings is to operate an air monitoring network for our region. We review the monitoring results and post them to the LICA website at www.lica.ca for the information of all. Via the LICA website Airshed, Airshed Dashboard Reports tab, you can access monthly reports containing data summaries for all parameters measured by the LICA Airshed Zone's passive and continuous monitoring networks.

Additionally, you can view real-time regional monitoring information via the Airshed, Current Data tab. At the LICA home page you will also be able to see present regional air monitoring results through use of the Alberta Quality Health Index (AQHI), which is a guide to the relative health risk presented by a mixture of common air pollutants known to harm human health.

We encourage you to drop in on an Airshed Zone monthly meeting. The meeting times and dates are posted on the LICA website, or you can contact the LICA office as noted on the back of this report. Air quality is important to us, and we encourage you to attend and participate in our meetings. We, having the privilege to be LICA Airshed Zone Co-Chairs, would like to thank all those who contribute to the many successes of the Airshed Zone program.

An effective Airshed Zone requires the volunteer help of community, industry, and government. Also guiding us is our LICA Airshed Zone Program Manager, Michael Bisaga. We are also grateful for the continuing assistance from LICA's staff and Executive Manager Charmaine Code. Thanks again to all for your supportiveness and cooperation.



Robert Deresh



Shawn Brockhoff

Co-Chairs, LICA Airshed Zone



Back row (L-R): Shawn Brockhoff (Co-Chair), Robert Deresh (Co-Chair), Geoff Pearse (Alt. Member), Delano Tolley (Member), Harold Ross (Alt. Member), Michael Bisaga (Program Manager). Front row (L-R): Dean Harper (Observer), Roger Boucher (Member), Kathleen Zellweger (Member), Kathryn Wiebe (Member). Missing: Members Shirley Benson, Dianne Brownless, Marie Ilchuk, Douglas Wong, Colin Woods; and Alt. Member Guy Fontaine.

LICA
Airshed Zone



CARMEN VINCENT
LICA 2012 Photo Contest

Regional Monitoring and Sampling Network

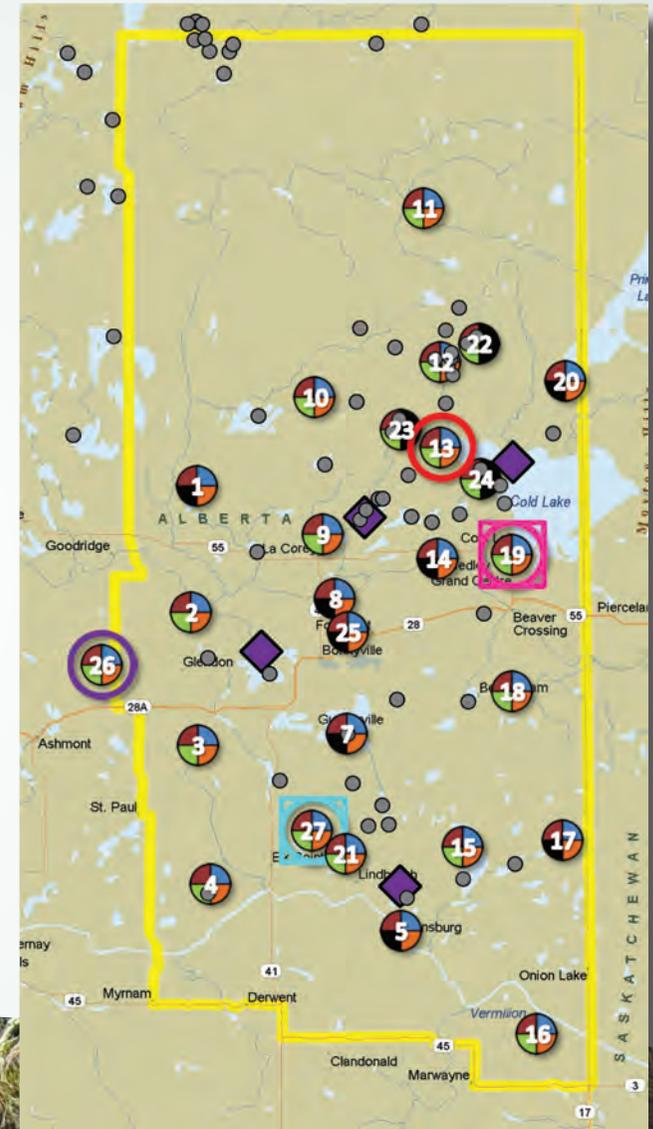
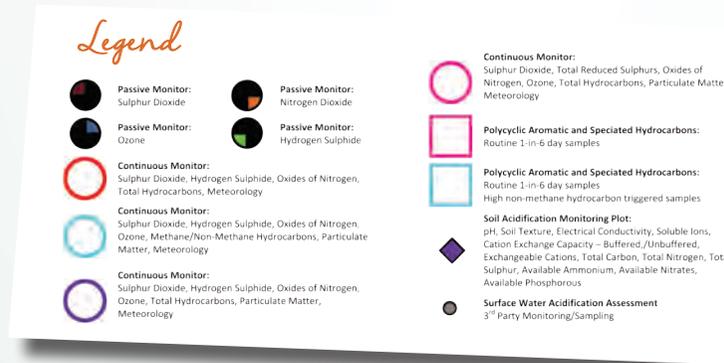
LICA's passive monitoring stations generally follow a 3 x 3 township grid pattern; samples are analyzed once per month. The data are used for understanding regional patterns in air quality, long-term trend analyses, and for estimating potential acid inputs. Ozone, nitrogen dioxide, sulphur dioxide, and hydrogen sulphide are sampled for in the passive monitoring network.

Continuous monitoring in the LICA network is carried out in Cold Lake South (Cold Lake station), southwest of St. Lina (St. Lina station), east of Elk Point (portable station), and in the immediate vicinity of thermal heavy oil operations approximately 10 kilometers southwest of Marie Lake (Maskwa station).

Sampling for volatile organic compounds and polycyclic aromatic hydrocarbons is carried out at the Cold Lake South and Portable stations. 24-hour integrated samples are collected every six days in accordance with the National Pollutant Surveillance (NAPS) program; hundreds of compounds can be detected using this method. Additional samples are also collected at the Portable station during high concentration hydrocarbon events.

Soil acidification sampling plots have established in Moose Lake Provincial Park, Whitney Lake Provincial Park, and southwest of Tucker Lake. LICA's soil monitoring enhances an already-existing Alberta Environment and Sustainable Resource Development soil acidification monitoring program near the Cold Lake Fish Hatchery.

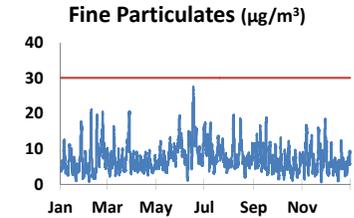
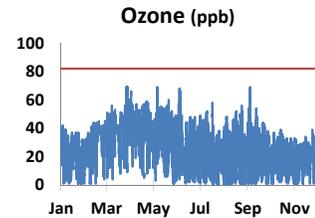
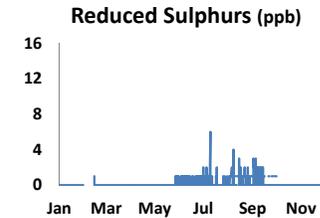
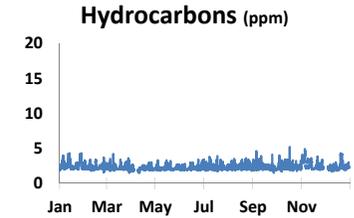
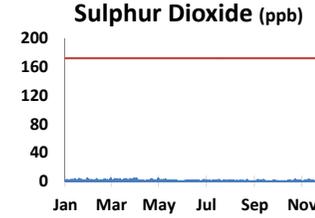
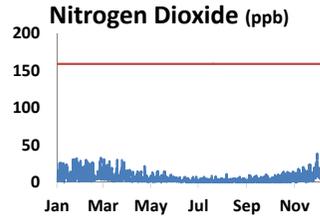
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|--------------------|------------------------|
| 1. Sand River | 15. Frog Lake |
| 2. Therien | 16. Clear Range |
| 3. Flat Lake | 17. Fishing Lake |
| 4. Lake Eliza | 18. Beaverdam |
| 5. Telegraph Creek | 19. Cold Lake South |
| 7. Muriel/Kehewin | 20. Medley/Martineau |
| 8. Dupre | 21. Fort George |
| 9. La Corey | 22. Burnt Lake |
| 10. Wolf Lake | 23. Mahihkan |
| 11. Foster Creek | 24. Hilda Lake |
| 12. Primrose | 25. Town of Bonnyville |
| 13. Maskwa | 26. St. Lina |
| 14. Ardmore | 27. Portable Station |



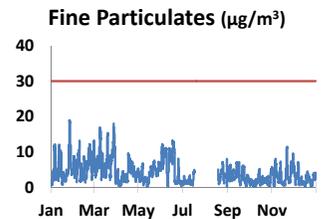
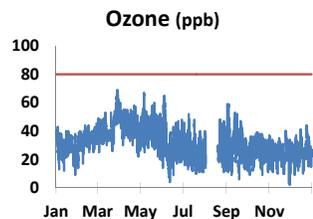
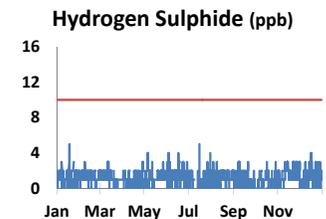
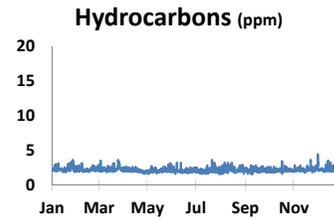
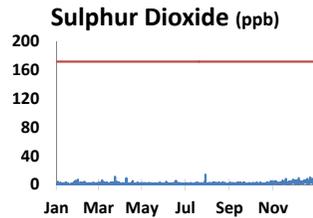
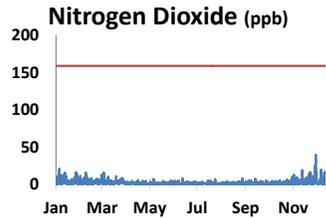
MEGAN HUFFMAN
LICA 2012 Photo Contest

Cold Lake South

The Cold Lake Station is located in Cold Lake South near the Lakeland Humane Society. The station provides information about air quality conditions in the region's most populated centre and is equipped to report on the Air Quality Health Index (available on the LICA website). The data indicate that air quality at this location is largely influenced by urban emissions including home heating and vehicle exhaust. In Cold Lake, there are seasonal patterns in nitrogen dioxide concentrations. Nearly all combustion produce nitrogen dioxide; during the winter months, higher concentrations of nitrogen dioxide in Cold Lake are present because of stagnant meteorological conditions coupled with vehicle idling, and an increased demand for home heating.



2013 Continuous Monitoring Results



St. Lina

The St. Lina station is located just outside the western boundary of the LICA Airshed Zone, on Highway 867 a few kilometers south of the Hamlet of St. Lina. The station provides information about background air quality and the characteristics of air masses as they move into the region (predominant west to east air flows).

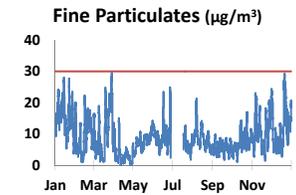
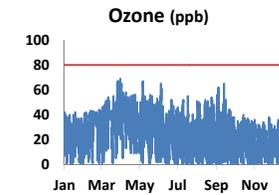
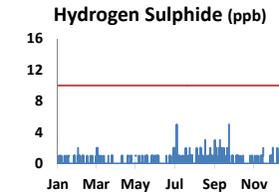
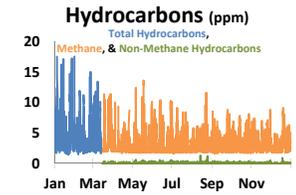
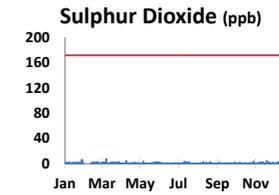
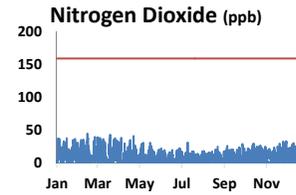
An interesting observation about ozone can be seen at St. Lina. Ozone formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. However, at nighttime, and in the vicinity of large emissions of NO (e.g. vehicles and home heating in Cold Lake), ozone concentrations are depressed or limited through the process of titration. For this reason, ozone often dips down close to concentrations of 0 ppb overnight in Cold Lake while remaining elevated at St. Lina due to the lack of NO sources in this relatively undeveloped part of the region.

Elk Point

2013 Continuous Monitoring Results: Elk Point. The Portable Air Monitoring System (PAMS) is located at the Elk Point Airport. The PAMS is a valuable tool in LICA's regional monitoring program. Unlike the other fixed monitoring locations, the PAMS is portable and can be moved around the region to collect data that may be used to address local air quality issues. Prior to being located at the Elk Point Airport, the PAMS monitored air quality north of Bonnyville near the Beaver River valley. The PAMS was moved to the Elk Point Airport in 2012 to gather data to address locally elevated nitrogen dioxide measurements detected by LICA's passive stations. While at this new monitoring location, a second observation was made about air quality measurements: hydrocarbon concentrations were also elevated at this location relative to other sites in the network. LICA has undertaken a data analysis and modelling project to help provide insight regarding the potential cause of both the elevated hydrocarbon and nitrogen dioxide measurements.

Maskwa

2013 Continuous Monitoring Results: Maskwa. The Maskwa station is located southeast of Marie Lake in the immediate vicinity of thermal heavy oil operations. In 2013, there was one exceedence of the 1-hour Alberta Ambient Air Quality Objective for hydrogen sulphide at the Maskwa station in January 2013. An investigation by operators in the area found that a gas compressor on a production pad upwind of the station was shut-down due to low seal water level. As intended, the pressure safety valve on the vent separator vessel lifted to safely relieve the pressure. Field operations staff quickly responded by closing the vent valves on the wellheads to isolate the sources of gas (ESRD Reference #266784).

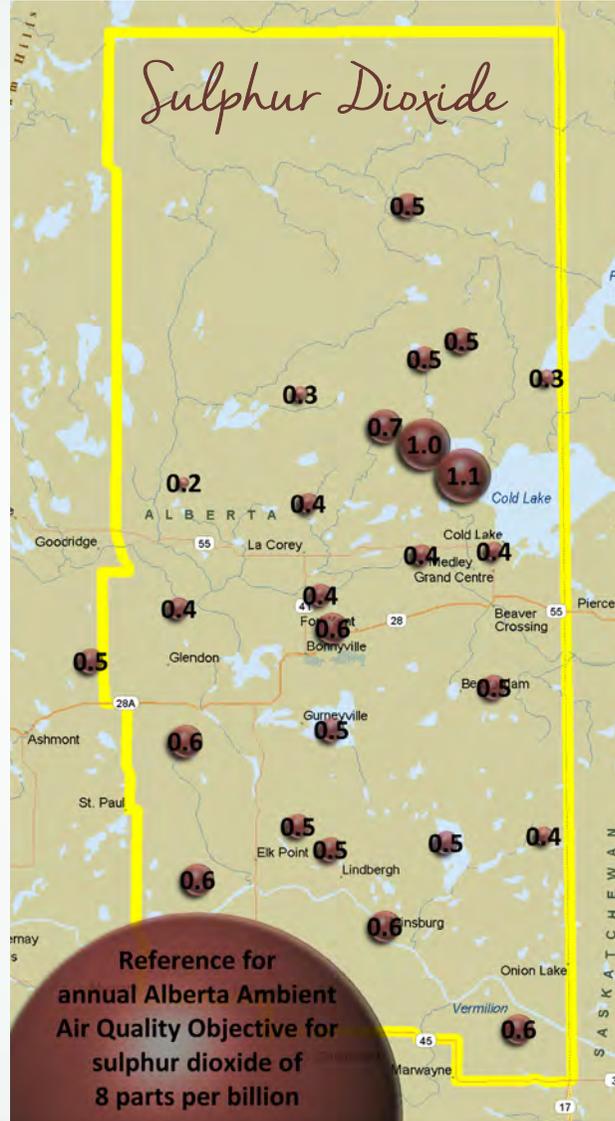
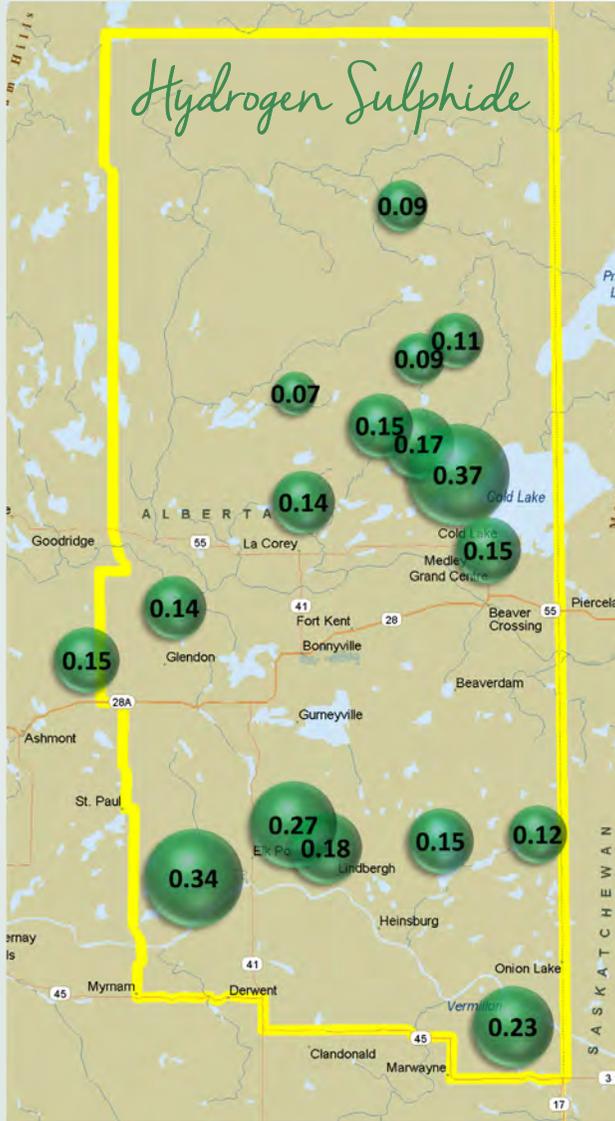


2013 Continuous Monitoring Results

Chart Notes

In this series of charts, the blue line indicates the pattern of 1-hour average measurements from Jan 1 – Dec 31 2013; the red line indicates the applicable 1-hour Ambient Air Quality Objective. In the case of particulate matter, the blue line indicates the pattern of 24-hour average measurements; the red line indicates the applicable 24-hour Ambient Air Quality Objective.

The LICA Airshed has been experiencing an increasing number of PM2.5 monitoring issues that have resulted in downtime events, data invalidation, and extended Air Quality Health Index non-reporting periods. LICA will be working with Alberta Environment & Sustainable Resources Development to resolve some of the technical issues around PM2.5 monitoring in 2014.



2013 Passive Monitoring Results

Hydrogen Sulphide

Elevated concentrations of hydrogen sulphide were measured at the stations close to thermal recovery heavy oil plants; these plants are a source of hydrogen sulphide in the LICA area. Elevated concentrations of hydrogen sulphide were also measured near Lake Eliza and Clear Range in the southern portions of the LICA Airshed Zone, likely caused by decaying organic matter in shallow ponds and sloughs as well as small feedlots. There is no current annual Alberta Ambient Air Quality Objective of for hydrogen sulphide.

Sulphur Dioxide

The highest concentrations of sulphur dioxide were measured near the thermal heavy oil plants northwest of Cold Lake. These plants are the major point source of sulphur dioxide in the region. These elevated annual average concentrations were well below the annual Alberta Ambient Air Quality Objective of 8 ppb.

The future of environmental monitoring in our region

The Joint Oil Sands Monitoring Plan

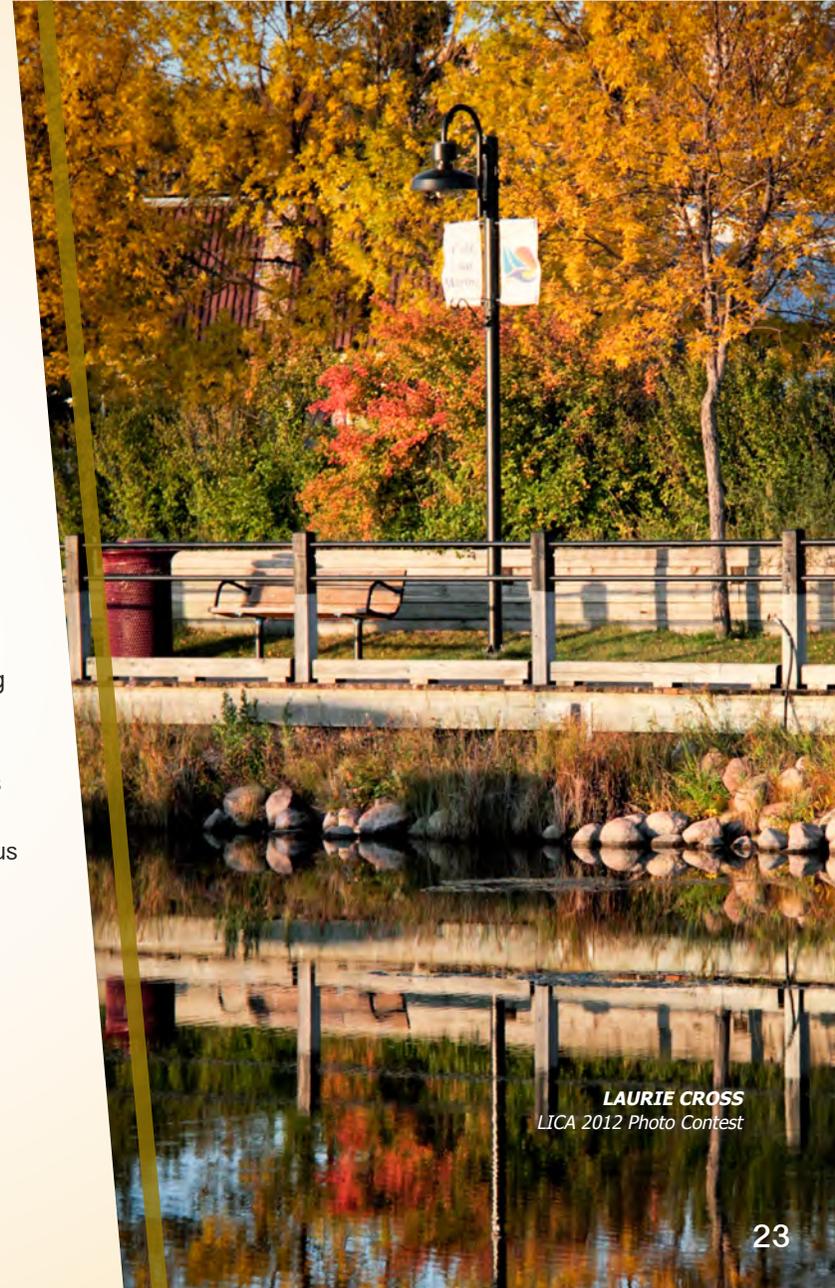
Following extensive discussions, the Governments of Canada and Alberta identified that there is a need to strengthen the scientific understanding of the potential cumulative environmental impacts of oil sands developments.

With a \$50 million budget to fund a new multimedia monitoring system, work began in June 2013 to develop monitoring plans for air, water, biodiversity, and wildlife toxicology through a multi-stakeholder approach. The new system would build on the foundation of monitoring already in place and enhance monitoring activities within the oil sands region. The LICA Airshed Zone played an active role in planning the future of environmental monitoring through the Air Component Advisory Committee (CAC) under the Joint Oil Sand Monitoring (JOSM) Plan.

Through a multi-meeting process that lasted several months, the Air CAC made recommendations on monitoring activities for the 2014-15 JOSM Air Monitoring Work Plan. Members of the Air CAC included government (Alberta Environment and Sustainable Resource Development, Environment Canada), air monitoring associations (Wood Buffalo Environmental Association - WBEA, Lakeland Industry and Community Association - LICA, Peace Airshed Zone Association - PAZA), industry (represented by the Canada's Oil Sands Innovation Alliance), Aboriginal Groups (Fort McKay First Nation and Fort McKay Metis withdrew from the planning process in early October 2013), and the Alberta Environmental Network.

The Air CAC developed a recommended 2014-15 Air Monitoring Work Plan through a comprehensive, rigorous process based on the objectives and activities outlined in JOSM. The Air CAC undertook an open, transparent process of evaluating and prioritizing monitoring activities based on whether they meet the objectives of JOSM and other criteria. Through this process, the Air CAC recommended prioritized monitoring activities for the Air Component with a combined budget of \$20 million. The recommended 2014-15 Air Monitoring Work Plan consists of activities categorized as Ambient Air Quality, Source Emissions Monitoring, Deposition, and Crosscutting and Other Activities, which include Data Management and Communications.

A regional network assessment activity was also recommended for 2014-15. The assessment will be for the entire oil sands region including the Athabasca, Cold Lake and Peace River oil sands deposits. Adoption of recommendations from the regional network assessment may result in refinement and modification of LICA's monitoring programs in the future.



Laurie Cross
LICA 2012 Photo Contest

Soil Acidification Monitoring

LICA's first soil acidification monitoring site was established in October 2010 in Moose Lake Provincial Park. A second site was established in Whitney Lakes Provincial Park in October 2011 while a third site was established southeast of Tucker Lake in 2012. These new sites were the next steps in the work started in 2007 aimed at increasing the collective understanding of potential acidification effects. In 2014, LICA will return to the Moose Lake Provincial Park plot to resample. The results of that sampling event will be compared to the soil analyses in 2010 and may provide insight on potential soil acidification impacts.

Surface Water Acidification Monitoring

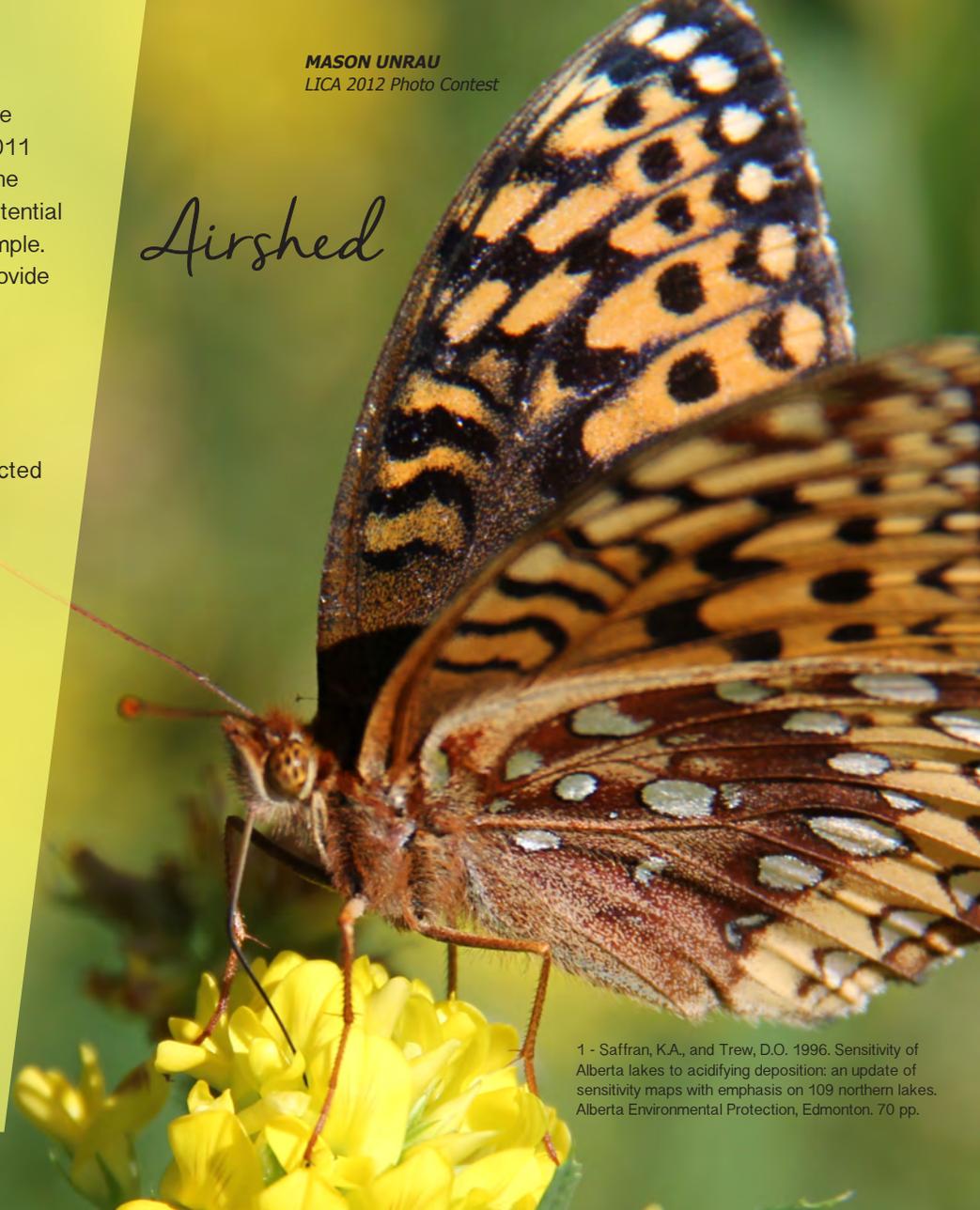
In 2007 and 2012, acid sensitivity of lakes in the LICA region was assessed using the classification system of Saffran & Trew¹. This system classifies sensitivity of lakes to acidification based on concentrations of alkalinity, pH & calcium. Trend analysis was conducted on regional water bodies to determine if there was an increasing or decreasing trend in acidification impacts. In order to do carry out the trend analysis and assessments in 2007 and 2012, LICA relied on water monitoring data from other organizations, government, and industry. In response to sampling gaps outlined in the 2012 study, LICA identified 12 acid sensitive lakes for future sampling (surface water bodies in high deposition areas, not sampled by other organizations) to support it efforts in assessing potential acidification effects on surface water. During the 2014 ice-free season, LICA will commission a sampling program for these lakes.

Data Management

LICA's data flow and reporting system has grown into a complex system. Raw and corrected data are transmitted or made available in several formats for multiple end-users. The primary public data outlet is the LICA website. LICA owns the rights to an advanced data management system that is designed to handle the storage, retrieval, correction, validation, transmission, and reporting functions required to support our environmental monitoring programs. This system currently resides on external computer servers, not within LICA's purview. In 2014, LICA will begin the process of 'repatriating' the data management system, and will take a more direct role in ownership of data management and long-term in-house security of electronic monitoring data.

MASON UNRAU
LICA 2012 Photo Contest

Airshed



1 - Saffran, K.A., and Trew, D.O. 1996. Sensitivity of Alberta lakes to acidifying deposition: an update of sensitivity maps with emphasis on 109 northern lakes. Alberta Environmental Protection, Edmonton. 70 pp.

A rolling stone gathers no moss, this cliché aptly describes our committee and staff. Harry Keess, our Program Manager, kept our steering committee focused and our programs rolling. Alicia Fontaine, our Education and Outreach Coordinator, was busy developing and rolling out our ambitious education and outreach program focused on youth in the area.

The BRWA was proud to host the Chilly Waters Watershed Planning and Advisory Council (WPAC) Summit in Cold Lake. This was a four day jam packed event that included technical presentations and a tour of our beautiful watershed. This event would not have been possible without our volunteers and event sponsors, thank you all so much for your support.

We are thrilled to announce the completion of the State of the Watershed Report. You can pick up your copy at our upcoming annual meeting when we will be celebrating this important achievement, copies are also available at our office and on our website. We are not losing any momentum and have begun to work on our Watershed Management Plan. The technical review has started and stakeholder consultation sessions are planned for 2014.

We are so proud to be part of such a dedicated group of people and we look forward to continuing to engage with the community and being stewards of our precious watershed.



Roxane Bretzlaff and Gordon Graves
BRWA Co-chairs



Back row (L-R): John Ilchuk (Alt. Member), Delano Tolley (Member), Bill Fox (Alt. Member), Harold Ross (Member), James Gamblin (Alt. Member), Harry Keess (Program Manager). Front row (L-R): Maria Priestley (Member), Robert Deresh (Member), Roxane Bretzlaff (Co-Chair), Nancy Tolley (Alt. Member), Heathers Harms (Alt. Member), Alicia Fontaine (Education & Outreach Coordinator). Missing: Members Shirley Benson, Gordon Graves (Co-Chair), Kay Lee Kinch, Nestor Kunec, Duane Lay, Geoff Montgomery, Kellie Nichiporik, Adolph Porcina, Joe Prusak, Don Sinclair, Kathryn Wiebe; and Alt. Members Georges Binette, Bob Buckle, Marsha Hayward, Monty Moore, Wilf Tomchek.

Beaver River Watershed Alliance

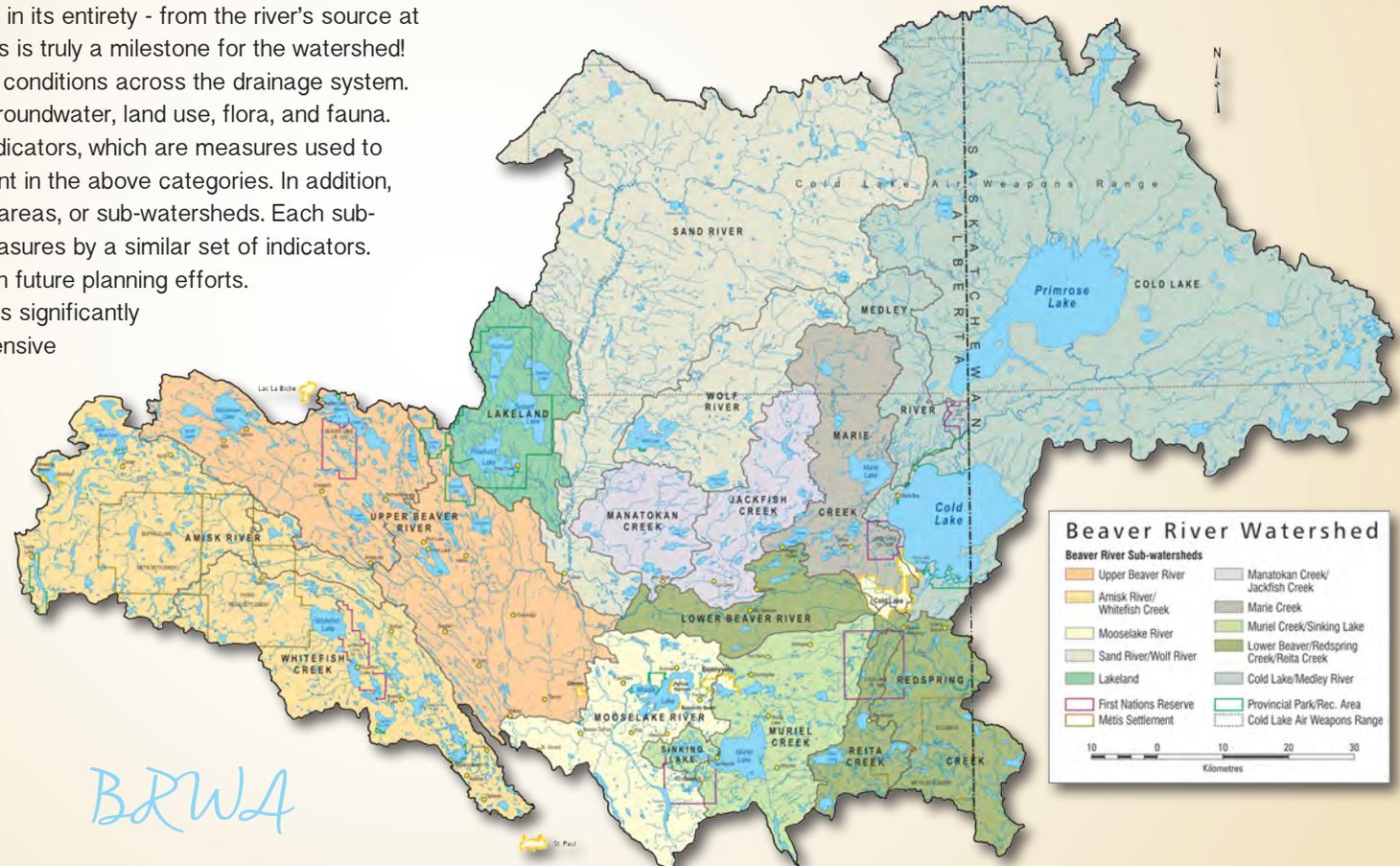
State of the Watershed

The BRWA was proud to announce the completion of the State of the Watershed Report in 2013. As a Watershed Planning and Advisory Council, one core task of the BRWA is to research, prepare, and share this project with stakeholders across the watershed. This is the first comprehensive State of the Watershed Report prepared for the Beaver River basin in Alberta. While past reports focused on the lower part of the basin, this report encompasses the watershed in its entirety - from the river's source at Beaver Lake to the Saskatchewan border. This is truly a milestone for the watershed!

The report is a "snapshot" of environmental conditions across the drainage system. It includes information on our surface water, groundwater, land use, flora, and fauna. This information is presented in the form of indicators, which are measures used to determine the relative health of the environment in the above categories. In addition, the watershed is divided into several planning areas, or sub-watersheds. Each sub-watershed is ranked for ecosystem health measures by a similar set of indicators. This allows areas of concern to be identified in future planning efforts.

In general, the health of the watershed varies significantly depending on the area. In areas with more intensive land use (usually municipal, industrial, or agricultural), stresses on the land and water are apparent. Fish population health, wetland integrity, and water quality are all lower in areas with higher human activity (mainly the southern and eastern portions of the watershed). In more remote areas such as the Sand River basin to the north, many of these indicators are much more positive. Being aware of the state of the environment allows us all to make informed choices down the road. Copies of the State of the Watershed are available at our office. There is absolutely no cost for the document, as it's intended to be shared with as wide an

audience as possible. For those who would like a more comprehensive report, we also have CDs available with a separate chapter for each of the sub-watersheds. Thank you to the State of the Watershed subcommittee for all of the work that has gone into this process, as well as Robert Halliday for preparing and writing the report. We would also like to thank those who provided feedback on drafts of the report at consultations over the past few years.



BRWA

Watershed Management Plan

The second core task of the BRWA is to develop a Watershed Management Plan (WMP). This is an advisory document which identifies goals for the health of the watershed as well as a road map on how to reach these goals. While not legally binding, this Watershed Management Plan will be an effective tool for decision-makers as well as the general public.

The current management plan for the Cold Lake - Beaver River basin dates back to 2006, before the BRWA came into existence. In 2012, the BRWA completed the Terms of Reference (ToR) for the Watershed Management Plan. The ToR document is a description of the timeline and process which we will follow to complete the WMP by 2015. The new plan will encompass the entire watershed (including the upper portion and its tributaries).

For a plan to be successful, it needs to have well-researched and realistic recommendations which stakeholders support. To obtain this support, the BRWA focused on informing the public on key issues in 2013 through our "What's in Your Watershed?" workshop series. Four presentations held in March and April provided those in attendance with information on land use, surface water, groundwater, and wildlife issues in the watershed. Many thanks go to Joe Prusak, Chantelle Leidl, Theo Charette, Joseph Riddell, and Jordan Walker for presenting and answering questions from the public. A report on stakeholder feedback from these sessions is available on our website or at our office.

An initial round of technical review took place in 2013. The purpose of this review was to issues and recommendations from previous management plans in order to outline a set of goals for the new plan. The BRWA will be holding a series of focus groups in 2014 to go over these new goals and obtain feedback on their viability.

Aquatic Ecosystem Health Assessment

One of our ongoing efforts is to increase our knowledge of the watershed's aquatic environments. In 2013, three reports were completed for the BRWA by CPP Environmental. The first report aimed to provide a better link between the previously released fish-based index of biological integrity and existing land use metrics in the watershed. This was done to better identify how land use and fish populations are connected.

The second report was based on dissolved oxygen sampling done on the Beaver River and its tributaries in February. Due to the lack of exposed surface water, oxygen is not replenished during the winter and aquatic species are left with a limited supply. The report found that oxygen levels were much higher in the Sand River and the lower Beaver River after it's joined by the Sand. The upper Beaver River and the Amisk River both had very low levels of oxygen, indicating that they aren't suitable for fish in the winter.

The third report, Drivers of Lake Water Quality, aimed to identify landscape indicators which have the greatest effect on lake water. The report found that a mix of natural and human factors influence lake water quality. Natural factors include lake depth and climate, while human factors include phosphorus loading and land disturbance.



Theo Charette gives a presentation on the state of surface water in the basin, part of BRWA's "What's in Your Watershed?" workshop series.

WPAC Summit

The BRWA was proud to be the host of this year's annual Watershed Planning and Advisory Council (WPAC) Summit, held in Cold Lake from September 23-26.

Each year, this event draws representatives from all of our 11 provincial WPACs together for a few days of presentations, tours, networking, and camaraderie. 2013 was the first year that the BRWA hosted the event, and we are happy to report that it was a success. We are very lucky to have some experienced committee members involved with the BRWA, as their expertise and volunteer time was a key factor in putting the summit together.

Day 1: Participants were greeted upon arrival with a casual wine and cheese evening. Carlene Schneider gave a presentation on establishing and strengthening partnerships, which are key relationships for WPACs.

Day 2: The morning's presentations focused on groundwater and land use considerations in watershed management.

The afternoon included presentations looking at the past, present, and future of the watershed as well as stewardship efforts. Some of the day's presentations included sustainable groundwater management from a watershed perspective (Dr. Masaki Hayashi), acidification effects monitoring (Michael Bisaga), and the Moose Lake management plan (Kay Lee Kinch).

Day 3: This entire day involved a tour of the watershed. Participants gathered on the bus and stopped at four sites: the 2012 Dupre Road wildfire site (boreal forest regeneration), Moose Lake Provincial Park (watershed protection efforts in the park), Husky Energy's Tucker Lake facility (in-situ oilsands development), and the Cold Lake Fish Hatchery.

Day 4: The Summit concluded with a day focused on WPACs themselves. Each WPAC was given an opportunity to update the group on their achievements over the past year, and presentations were given on topics including aquatic invasives, oil sands monitoring,

and sharing watershed knowledge. The final part of the day consisted of four group breakout sessions, where WPACs discussed a variety of issues.

This event would not have been possible without the volunteer contributions of our Steering Committee! Thanks in particular go to the following people: Kellie Nichiporik, Kay Lee Kinch, Gordon Graves, Bill Fox, Roxane Bretzlaff, Heather Harms, Kathryn Wiebe, Maria Priestley, Robert Deresh, John Ilchuk, Delano Tolley, Monty Moore, Marsha Hayward, Nancy Tolley, Don Sinclair, Bob Buckle, and Duane Lay.

We would also like to thank our event sponsors: the City of Cold Lake, the Municipal District of Bonnyville, Canadian Natural Resources Ltd., the Government of Alberta, Maxxam Analytics, Tervita, Lakeland Co-op, and B & R Eckel's. We also appreciate the in-kind support from LICA, the Lakeland Inn, local band Hi Way 55, and bussing provider, Luciak Transport.



BRWA

Summit participants listen to a presentation on boreal wildfires from Alberta Environment & Sustainable Resource Development at the Dupre Road wildfire site north of Bonnyville.

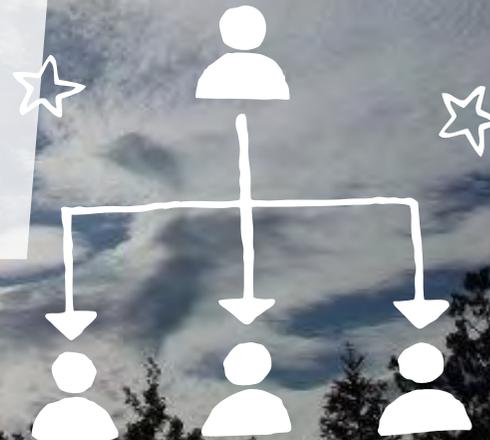
Youth Programs

This year, a large focus for the BRWA was placed on increasing our education and outreach initiatives within the community. Between the months of May and August, the BRWA gave over 20 presentations to local youth organizations. In May, several schools participated in watershed education programs that involved water sampling, pond dipping, and hikes. Organizations that participated in these events included the Boys' and Girls' Club, the C2 Centre Kids Camps, and the Bonnyville, Elk Point, and Cold Lake public libraries. The BRWA partnered with Alberta Parks, Alberta Lake Management Society, and the Alberta Conservation Association to conduct campground presentations throughout the Lakeland Region. Campers had the opportunity to partake in a series of roving booths that showcased different activities such as handling pelts and skulls, participating in an interactive watershed demonstration, and learning about the effects of invasive plants.

In the fall, the BRWA facilitated 21 presentations to students in Kindergarten to Grade 8, as well as to local youth organizations. Presentations were given to schools throughout the watershed, ranging from Kikino to Cold Lake. High school students had the opportunity to participate in the Caring for our Watersheds program. The goal of this program is to encourage students to take an active role in protecting our watersheds. Each education module is designed to provide hands on learning while promoting environmental awareness through linking specifically to the Alberta curriculum. These programs, which are available year round, are offered at no charge.



Participants in the Bonnyville Reading Summer Program learn about environmental stewardship.



BRWA

Volunteers participate
in the annual national
shoreline cleanup at
Jessie Lake.



Shoreline Cleanup

On Sunday, September 22, the BRWA and volunteers throughout the community participated in the annual national shoreline cleanup. A huge thank you to our amazing volunteers Myrna Fox, Kathryn Wiebe, Robert Deresh, Joyce Dodds, Bob Dodds, Joanne Way, Joan Murray, and Brandon MacLeod, who dedicated their Sunday afternoon to take part in the shoreline cleanup held at Jessie Lake. The most popular items found were cigarettes, food wrappers/containers, and plastic bags. The strangest items found included a lawn chair and a garbage can lid! Together we removed over 90 kg of garbage, and truly made a difference in the community.

Young Naturalists Club

The BRWA is excited to be partnering with the Lakeland Young Naturalists Club (YNC) and Nature Alberta. YNC is a nature-focused program that aims at teaching families about the environment. The Lakeland YNC held our first explorer days in October. Over 15 attendees had the opportunity to hike Jessie Lake while trying to identify different bird species. Highlights of the day included seeing a bald eagle, observing woolly bear caterpillars, and an up close look at a garter snake. Thanks to Airiane Rogers, Marianne Price, Marianne Master, and the staff at Nature Alberta for volunteering their time to ensure the success of this program. If you would like more information about the Lakeland YNC, or to register for an upcoming Explorer Days, please contact Alicia Fontaine at 780.812.2182 or af.brwa@lica.ca.

BRWA

Calendar Contest

The BRWA holds an annual calendar contest that is open to all students within grades K-12. This year's theme was, "What's your favourite area in the Beaver River watershed?" We received a large number of submissions from students in Lac la Biche to Cold Lake. Although the decision was very difficult, we selected 16 winners to be included in the calendar. Each student received a prize for their outstanding artwork. We look forward to receiving even more entries for our 2015 calendar contest.

Grade 4 student Jasmine Williams shows off her winning drawing, which was featured in the BRWA 2014 calendar.



BRWA

KELLIE NICHIPORIK
LICA 2010 Photo Contest

BRWA

Trade Shows

This year, the BRWA participated in several tradeshow events, beginning with the Home, Farm, and Leisure Show in March, where we had the opportunity to unveil our new display board. Posted on the display board was a series of graphic maps where visitors were able to learn more information about the watershed such as wetland classification and the trophic status of fish. In September, the BRWA attended the Elk Point and Bonnyville Community Registration Days. A well-deserved thanks goes out to our dedicated volunteers: Heather Harms, John Ilchuk, Bill Fox, Jim Gamblin, Gordon Graves, Pat Valentine, Del Tolley, Robert Deresh, and Kathryn Wiebe, who all volunteered their time to represent the watershed at these community events.



BRWA staff member Alicia Fontaine and Steering Committee member Heather Harms volunteering at Elk Point Registration Days.

Get in Touch with Us

In order to increase our communication with the public, the BRWA has increased our involvement with social media. The BRWA now has a Twitter account, @BeaverRiver. By following us on Twitter, or by liking our Facebook page, you can be updated on upcoming events, volunteer opportunities, and information about environmental issues. We also publish a quarterly newsletter that can be found on our website, or can be sent via email when you become a member.



JOE BODEUX
LICA 2010 Photo Contest

Did You Know



CARMEN VINCENT
LICA 2012 Photo Contest

- Glass produced from recycled glass instead of raw materials reduces related air pollution by 20%, and water pollution by 50%.
- By turning down your central heating thermostat one degree, fuel consumption is cut by as much as 10%.
- Insulating your attic reduces the amount of energy loss in most houses by up to 20%.
- Dr. Roger Butler, engineer at Imperial Oil from 1955 to 1982, invented steam assisted gravity drainage (SAGD) in the 1970s.
- Oil sands projects recycle 80-95% of water used. (Source: ESRD)
- On average, in situ operations require 0.4 barrels of fresh water for every barrel of bitumen produced. (Source: CAPP 2013)
- Mining requires, on average, 3.1 barrels of fresh water for every barrel of bitumen produced. (Source: CAPP 2013)
- The Alberta Energy Regulator prohibits the release of any water that does not meet water quality requirements.
- Since operations began in the 1960s, approximately 10% of the active mining footprint has been or is being reclaimed by industry. (Source: Oil Sands Portal 2013)
- Alberta law requires that all lands disturbed by oil sands operations be reclaimed.
- Did you know sound travels 3 times faster through water than in air.
- Between 1990 and 2011 greenhouse gas (GHG) emissions associated with every barrel of oil sands crude produced have been reduced by 26%. (Source: Environment Canada 2013)
- Canada, with 0.5% of the world's population, produces 2% of GHG emissions. Oil sands account for 7.8% of Canada's GHG emissions and just over 0.14% of global GHG emissions. (Source: Environment Canada 2012 and United Nations Statistical Division)
- The grasslands cover one-fifth of the land on earth.
- Natural grasslands are: the savannahs of Africa, the North American prairies, and the dry steppes of southern USSR.
- Did you know the average human brain contains around 78% water.
- Did you know the Atlantic Ocean is saltier than the Pacific.
- Did you know you begin to feel thirsty when your body losses 1% of water.
- Did you know rain contains vitamin B12.

Partner News

The Alberta Energy Regulator, or AER, provides for the safe, efficient, orderly, and environmentally responsible development of energy resources. This includes allocating and conserving water resources, managing public lands, and protecting the environment while securing economic benefits for all Albertans.

The AER succeeds the Energy Resources Conservation Board and will take on regulatory functions from the Ministry of Environment and Sustainable Resource Development (ESRD) that relate to public lands, water, and the environment. In this way, the AER will provide full life-cycle regulatory oversight of energy resource development in Alberta.

The AER is authorized to make decisions on applications for energy development, oversee the decommissioning of developments and all other aspects of energy resource activities, and monitor for compliance. LICA is an effective and efficient way for the Regulator to discuss topics of importance. The AER values this relationship and engaging with our stakeholders is a top priority for the Alberta Energy Regulator.

The AER emerged from the Government of Alberta-led Regulatory Enhancement Project, and from this process, the government passed the Responsible Energy Development Act. Under this act, the new regulator operates at arm's length from the Government of Alberta.



Alberta Energy Regulator

The AER's governance structure is designed to have both strong corporate oversight and independent adjudication. The corporate, operational, and governance responsibilities have been separated from adjudicative functions (i.e., hearings on energy applications); this is a significant change from the ERCB model where these functions were combined.

The AER is being implemented through a three-phased approach.

Phase 1, which occurred in June 2013, involves the government proclaiming certain sections of the Responsible Energy Development Act, resulting in the launch of the AER and its new governance model.

Phase 2, completed in November 2013, saw the AER assume additional responsibilities from ESRD, beginning with public land and geophysical jurisdiction. Also, the AER will create a landowner registry for private surface agreements. New rules and processes for public engagement and participation will also come into effect during this phase.

Phase 3 will occur when all environmental and water jurisdictions under the Responsible Energy Development Act come into force and are transferred to the AER.

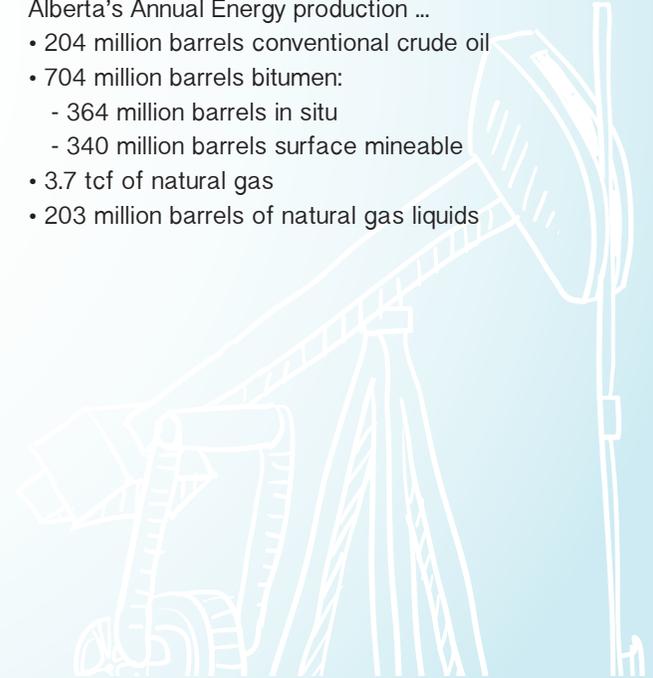
This phase represents the final step in creating a single regulator for upstream oil, oil sands, natural gas, and coal development in Alberta. All the phases will be completed by spring 2014.

The AER regulates ...

- 185,000 operating wells
- 405,000 km of pipelines
- 775 gas processing plants
- 9 oil sands mines, more than 50 thermal in situ & 200 primary / enhanced schemes
- 5 bitumen upgraders
- 10 coal mines and 4 processing plants

Alberta's Annual Energy production ...

- 204 million barrels conventional crude oil
- 704 million barrels bitumen:
 - 364 million barrels in situ
 - 340 million barrels surface mineable
- 3.7 tcf of natural gas
- 203 million barrels of natural gas liquids



Synergy Alberta

People - and companies - need easy access to credible information in order to make informed decisions about resource development, because it affects their land, their lives, their operations, and their communities. Synergy groups like LICA have been doing an excellent job of sharing knowledge in a timely and respectful way.

LICA was recognized in 2013 by Synergy Alberta with an Award of Excellence for the Landowner's Handbook on Resource Development. This publication is just one way synergy groups are providing solid, useful community tools. Synergy Alberta continues to help groups build the ability to be effective, providing communication and support, network meetings, and a superb annual conference. Check us out at synergyalberta.ca.



LICA representatives Harold Ross (Director), Delano Tolley (Chair), Wilf Tomchek (Alt. Director), Robert Deresh (Director) and Charmaine Code (Executive Manager) receive Award of Excellence from Synergy Alberta representatives Darcy Allen (Director) and Iris English (Chair).

Partner News

BAILEY MAY HOBBS
LICA 2012 Photo Contest

Financials

REVIEW ENGAGEMENT REPORT

To the Board of Directors of Lakeland Industry & Community Association
We have reviewed the statement of financial position of Lakeland Industry & Community Association as at December 31, 2013 and the statement of operations, changes in net assets and cash flows for the year then ended. Our review was made in accordance with Canadian generally accepted standards for review engagements and accordingly consisted primarily of enquiry, analytical procedures and discussion related to information supplied to us by the Association.

A review does not constitute an audit and consequently we do not express an audit opinion on these financial statements.

Based on our review, nothing has come to our attention that causes us to believe that these financial statements are not, in all material respects, in accordance with Canadian accounting standards for not-for-profit organizations.

The previous year's financial statements were reported on by another accountant.

Ross & Sylvestre Chartered Accountants

Bonnyville, Alberta

February 25, 2014

LYNN BEAUPRE
LICA 2012 Photo Contest

REVENUE	2013	2012
Operating		
Memberships	54,500	51,250
Other receipts from members	833,343	566,537
Grants	196,051	139,842
Alberta Environment contract income	55,000	55,000
Interest	2,849	4,658
Total Operating	1,141,743	817,287
Projects		
Airshed	50,472	249,280
Watershed	198,377	137,895
Total Projects	248,849	387,175
Total Revenue	1,390,592	1,204,462

Statement of Operations

For the year ended December 31, 2013 (Unaudited)



EXPENDITURES	2013	2012
Operating		
Airshed	498,622	416,863
Amortization	74,801	79,358
Annual Report costs	30,572	30,934
Board & committee	50,550	59,100
Contract services	214,647	178,942
Insurance	7,924	7,797
Meetings	15,701	16,322
Occupancy costs	54,132	47,695
Office	18,359	17,635
Professional fees	5,810	4,630
Property taxes	3,487	3,230
Public relations	44,711	44,888
Training & development	8,363	3,652
Travel	23,457	26,569
Wages & benefits	179,141	158,864
Total Operating	1,230,277	1,096,479
Projects		
Airshed costs	49,455	202,263
Watershed costs	126,543	197,789
Total Projects	175,998	400,052
Total Expenditures	1,406,275	1,496,531
Deficiency of revenues over expenses (before Other Item)	(15,683)	(292,069)
Other Item: Loss on disposal of assets	-	(299)
Deficiency of revenues over expenses	(15,683)	(292,368)
Total Net Assets (beginning of year)	912,430	1,204,798
Total Net Assets (end of year)	896,747	912,430

Industry Members / Funding Partners



Baytex Energy Ltd.
Centennial Place, East Tower
2800, 520 - 3rd Ave. SW
Calgary, AB T2P 0R3
Bill Krepps: 587.952.3202



Cenovus Energy
Bag 1015, Foster Creek
Bonnyville, AB T9N 2J7
Wayne Bamber: 780.573.7350



Husky Energy
Box 6098
Bonnyville, AB T9N 2G7
Monty Moore: 780.639.5024



Shell Canada Energy
Box 8098
Cold Lake, AB T9M 1N1
Grant Zellweger: 780.639.1501
Kathleen Zellweger: 780.639.1510



Canadian Natural Resources Ltd.
Bag 1003
Bonnyville, AB T9N 2J7
Shawn Brockhoff: 780.826.8124



Devon Canada Corporation
Box 7905, 6210 - 50 Avenue
Bonnyville, AB T9N 2J2
Kevin Ryan: 780.573.2476



Imperial Oil Resources Ltd.
Box 1020
Bonnyville, AB T9N 2J7
Paul Leonard: 780.639.5117
Donna Gingras: 780.639.5195

Government Members



Municipal District of Bonnyville
4905 - 50 Avenue, Bag 1010
Bonnyville, AB T9N 2J7
Ryan Poole: 780.826.3171



Town of Bonnyville
4917 - 49 Avenue, Bag 1006
Bonnyville, AB T9N 2J7
Mark Power: 780.826.3496



Village of Glendon
Box 177
Glendon, AB T9N 2J7
780.635.3807

Associate Members



Birchwood Resources Inc.
120, 630 - 6 Avenue SW
Calgary, AB T2P 0S8
Alex Lemmens: 403.265.1244



Koch Exploration
Suite 1500, 111 - 5 Avenue
Calgary, AB T2P 3Y6
Darren Schulz: 403.716.7612



Windtalker Energy Corp.
1050, 340 - 12 Avenue SW
Calgary, AB T2R 1L5
Gil Hegel: 403.265.2263



Frog Lake Energy Resource Corp.
Suite 880, 550 11 Ave. SW
Calgary, AB T2R 1M7
Joe Dion: 403.290.1390

Industry Members



Inter Pipeline Ltd.
Box 7189
Bonnyville, AB T9N 2H5
Audra Papp: 403.717.5785
Dan Morrison: 403.932.8560



OSUM Oil Sands Corp.
Suite 300, 1204 Kensington Rd. NW
Calgary, AB T2N 3P5
Brad Braun: 403.270.4761
Heather Harms: 780.812.8011



Pengrowth Energy Corporation
2100, 222 Third Avenue SW
Calgary, AB T2P 0B4
Linda Coulombe: 587.792.0831
Neil Young: 780.792.1776

Our Members

Key Contacts

Utility Emergencies

ATCO Electric (General Inquiries)	1.800.668.2248
ATCO Electric (24 Hour)	1.800.668.5506
Alta Gas, Bonnyville (General)	1.866.222.2067
Alta Gas, Bonnyville (24 Hour)	1.866.222.2068
EPCOR	1.800.667.2345
Northeast Gas Co-op, Bonnyville	780.826.4002
Buried Utilities Locations	1.800.242.3447

Alberta Energy Regulator (AER)

Bonnyville Field Centre (24 Hour)	780.826.5352
General Inquiries	403.297.8311

Government of Alberta

Service Alberta (Toll-Free)	310.0000
Registrar of Land Agents	780.415.4600
Surface Rights Board	780.427.2444
Land Compensation Board	780.427.2444
Genia Leskiw, MLA	780.826.5658
Shayne Saskiw, MLA	780.645.6999

Alberta Environment & Sustainable Resource Development

Emergency, Spills & Complaints	1.800.222.6514
General Inquiries (Edmonton)	780.944.0313
Fish and Wildlife Division	
Bonnyville	780.826.3142
Cold Lake	780.594.7876
St. Paul	780.645.6313

Public Lands Division

Bonnyville	780.826.4297
St. Paul	780.645.6336
Report-A-Poacher	1.800.642.3800
Report a Forest Fire	310.FIRE (3473)

Alberta Agriculture, Food & Rural Development The Farmer's Advocate

310.FARM (3276)

Alberta Environmental Monitoring, Evaluation & Reporting Agency (AEMERA)

General Inquiries	780.427.6236
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Alberta Human Resources & Employment

Workplace Health & Safety	1.866.415.8690
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Alberta Infrastructure & Transportation

Transportation of Dangerous Goods Emergencies	1.800.272.9600
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Alberta Health Services

Westlock Office	780.349.8705
Camrose Office	780.608.8800

Government of Canada

Environment Canada (Prairie & Northern Office)	
General Inquiries	780.951.8600
Severe Weather Reporting	1.800.239.0484

Brian Storseth, MP	1.800.667.8450
National Energy Board	1.800.899.1265

TOM FLETCHER
LICA 2012 Photo Contest

Industry Terms

Abandoned Well - A well that is permanently shut-in where the casing has been cut sub-surface and capped. **Abandonment** - A procedure that leaves a drilled well in a condition that can be left indefinitely without further attention and will not damage freshwater supplies, potential petroleum reservoirs, or the environment.

Acid Deposition - A broad term for the different ways acidifying compounds precipitate from the atmosphere and deposit onto surfaces. It can include wet deposition by means of acid rain, fog and snow and dry disposition of acidic particles (also known as aerosols).

Alberta Ambient Air Quality Objectives (AAAQO) - Are established by Alberta Environment to define desired environmental quality that will protect public health and ecosystems. Some of the factors considered when establishing air quality objectives are: sensitivity of receptors, substance behavior in the atmosphere, natural levels and fluctuations, pollution control, and monitoring technology. AAAQOs are used to assess compliance and evaluate the performance of industrial facilities; which must be designed to meet AAAQOs.

Aquifer - An underground formation of permeable rock or loose material which can produce useful quantities of water. It is not an underground river but water generally moves slowly through the ground, travelling from metres per day to centimetres per century. Aquifers also vary in size from being able to supply a single household to supplying the water needs of a town, city or region.

Artesian Well - A well that penetrates a confined aquifer. The water level in these wells rises above the upper surface of the aquifer due to the pressure in the confined aquifer. If the water pressure is great enough, the well will overflow.

Background Level or Concentration - The level or concentration (chemical, substance light, noise) in an area considered to be relatively unaffected by industry or other human activity. Background often refers to naturally occurring or uncontaminated levels. Background levels or concentrations may vary by region.

Barrel - The common unit of measuring petroleum. One barrel contains approximately 159 litres.

Battery - Equipment to process or store crude oil from one or more wells.

BTEX (Benzene, Toluene, Ethylbenzene and Xylene) - Light aromatic hydrocarbons are some of the volatile organic compounds (VOCs) found in petroleum derivatives such as gasoline. It is a component of car exhaust and can be emitted from oil and gas facilities.

Biodiversity - The variety and abundance of species (i.e. plants and animals) and the natural communities, ecosystems and landscapes in which they occur.

Bitumen - A naturally occurring viscous mixture, mainly of hydrocarbons heavier than pentane that may contain sulphur compounds and that in its naturally occurring viscous state will not flow to a well without being heated or diluted.

Blow-Out - An uncontrolled flow of gas, oil or other fluids from a well.

Brackish Water - Saline, non-potable water that is poorly suited for domestic or agricultural purposes and is

typically located below the bedrock. Saline groundwater means water that has total dissolved solids [TDS] exceeding 4000 milligrams per litre.

Casing - A steel pipe which serves as the lining of a well, preventing it from caving in and protecting ground water and surface water from contamination.

Cogeneration - A highly efficient energy system that produces two forms of energy simultaneously (i.e. heat or electricity) from one source in such a way that both are usable, instead of one being treated as waste energy.

Cold Flow, Primary Recovery, Cold Heavy Oil Production (CHOP) - The production of oil reservoirs using relatively simple pumping techniques.

Consensus Decision Making - A process for group decision-making. An entire group of people can come to an agreement where the input and ideas of all participants are gathered to arrive at a final decision that is acceptable to all.

Cyclic Steam Stimulation (CSS) - A method used to extract heavy-oil, also known as the Huff and Puff method, consists of 3 stages: injection, soaking, and production. Steam is first injected into a well to heat the oil in the surrounding reservoir to a temperature at which it flows. After it is decided enough steam has been injected, the steam is usually left to “soak” for some time (typically not more than a few days). Then oil is produced out of the same well, at first by natural flow (since the steam injection will have increased the reservoir pressure) and then by artificial lift. Production will decrease as the oil cools down, and once production reaches an economically determined level the steps are repeated again.

Diluent / Condensate - Light petroleum liquids used to dilute bitumen and heavy oil so they can flow through a pipeline.

Directional (slant) Well - A well drilled at an angle from the vertical by using a slanted drilling rig; directional wells are used to drill multiple wells from a common drilling pad or to reach a subsurface location beneath land where drilling cannot be done.

Ecosystem - A natural unit consisting of all plants, animals and micro organisms in an area functioning together with all the non-living physical factors of the environment.

Enhanced Oil Recovery (EOR) - Any method that increases oil production by using techniques or materials that are not part of normal pressure maintenance. (Eg: steam can be injected into a reservoir to “enhance” or increase oil production.

Environmental Impact Assessment (EIA) - An assessment of the possible positive or negative impacts that a proposed project may have on the environment, together consisting of environmental, social, and economic aspects.

Fracturing / Fracking - The practice of pumping special fluids down the well under high pressure; fracturing causes the formation to crack open, creating passages for the reservoir fluids to flow more easily into the wellbore.

Horizontal Well - Drilling a well that deviates from vertical and travels horizontally, generally through a producing formation.

Hydrocarbons - An organic compound containing only carbon and hydrogen. The majority of hydrocarbons found naturally occur in crude oil, where decomposed organic

matter provides an abundance of carbon and hydrogen.

Hydrogen Sulphide / Reduced Sulphur Compounds (RSC)

- Hydrogen Sulphide (H₂S) is a highly toxic, naturally occurring, reduced sulphur compound. It has the odour of rotten eggs. Other highly odorous reduced sulphur compounds include: mercaptans, dimethyl sulphide and dimethyl disulphide. Industrial sources include natural gas plants, petrochemical plants, sewage treatment facilities, pulp and paper plants and confined feeding operations. Natural sources of H₂S include sulphur hot springs, sloughs, swamps and lakes.

In-Situ - In situ refers to recovery techniques which apply heat or solvents to heavy crude oil or bitumen reservoirs beneath the earth’s crust. There are several varieties of in situ techniques, but the ones which work best in the oil sands use heat (steam). The hot bitumen migrates towards producing wells, bringing it to the surface, while the sand is left in place (“in situ” is Latin for “in place”). The most common type of In Situ petroleum production is referred to as SAGD (Steam Assisted Gravity Drainage).

Landspraying - Either spraying drilling waste onto cultivated land and cultivating to mix the waste with the soil or spraying onto vegetated land and not incorporating it. The ERCB regulates this activity.

Multi-well Pad - Consolidating wells to groups on a single pad and then drilling in a variety of directions to reach reservoirs - some previously inaccessible.

Nitrogen Dioxide - A toxic, pungent reddish-brown gas. Formed by the reaction of atmospheric ozone with the nitric oxide produced from combustion.

Ozone - A strong oxidizer with a sweet smell. Can be transported from the upper atmosphere or produced by the reaction of oxides of nitrogen with volatile organic

compounds.

Respirable Particulate Matter (PM 2.5) - Airborne particles in solid or liquid form with median diameter less than 2.5 micrometers. Sources include construction, agriculture, combustion, forest fires, or the reactions of other pollutants.

Steam-assisted Gravity Drainage (SAGD) - An advanced form of steam stimulation in which a pair of horizontal wells are drilled into the oil reservoir, one a few metres above the other. High pressure steam is continuously injected into the upper wellbore to heat the oil and reduce its viscosity, causing the heated oil to drain into the lower wellbore, where it is pumped out.

Shut-In Well - A well that is closed off to stop production (or prevent flow).

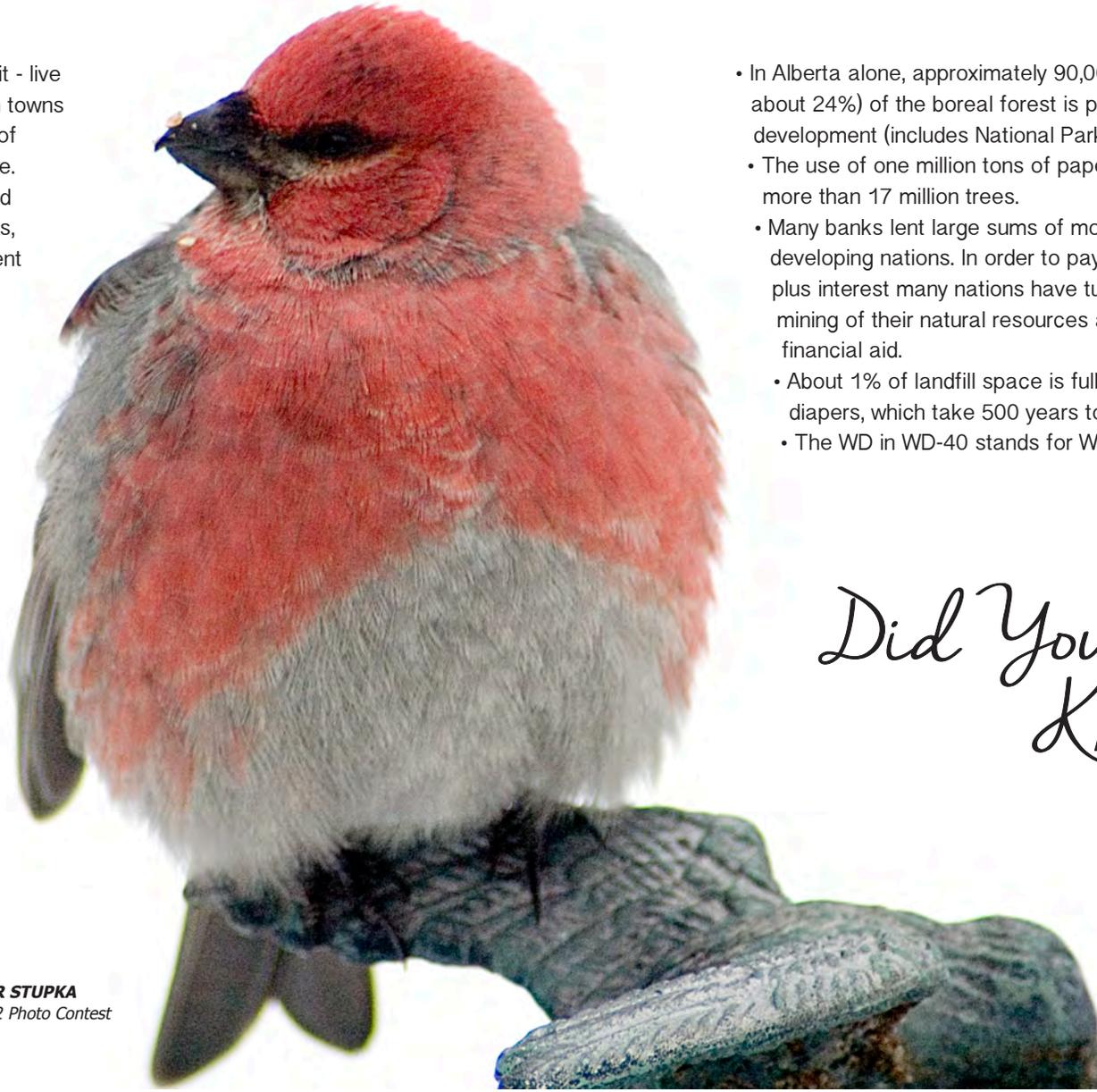
Sulphur Dioxide - A toxic, colorless gas with a pungent odor. Primarily formed by combustion processes of flaring of gas containing Sulphur compounds.

Suspended Well - A well site that for economic, environmental or other reasons is not viable and is not operating but may operate in the future. The well will still have wellhead equipment present and may or may not have produced in the past.

Total Hydrocarbons - A family of chemicals containing carbon and hydrogen. Sources include vegetation, petroleum and chemical industries, dry cleaning, fireplaces, natural gas combustion, and aircraft traffic. Vehicles are the major source of hydrocarbons at urban locations.

Total Reduced Sulphur - Includes hydrogen sulphide, mercaptans, dimethyl sulphide, dimethyl disulphide and other sulphur compounds, but does not include dioxide. Potential sources are as listed for H₂S.

- Aboriginal peoples - First Nations, Metis, and Inuit - live in every region of the country, on reserves and in towns and cities, and comprise about four per cent of Canada's population, or roughly 1.2 million people.
- More than 1,550 consultation meetings were held between First Nations and industry on oil deposits, pipelines, forestry and other resource development projects in 2011 and 2012.
- Over the past 14 years, Aboriginal companies have earned over \$8 billion in revenue through working relationships with the oil sands industry. (Source: OSDG 2013)
- LICA is unique as we have not only a synergy group but also a CASA approved Airshed Zone and a WPAC (Watershed Planning Advisory Council) within our structure.
- The world relies on an energy mix that includes oil, coal, natural gas, hydro, nuclear and renewables.
- Canada has 173 billion barrels of oil that can be recovered economically with today's technology. Of that number, 168 billion barrels are located in the oil sands.
- New technology and innovation are critical to developing the oil sands and improving environmental performance.
- Only 0.02% of Canada's boreal forest has been disturbed by oil sands mining operations over the past 40 years. (Source: AER 2013)



- In Alberta alone, approximately 90,000 km (or about 24%) of the boreal forest is protected from development (includes National Parks, etc.)
- The use of one million tons of paper consumes more than 17 million trees.
- Many banks lent large sums of money to developing nations. In order to pay those debts plus interest many nations have turned to the mining of their natural resources as a source of financial aid.
- About 1% of landfill space is full of disposable diapers, which take 500 years to decompose.
- The WD in WD-40 stands for Water Displacer.

Did You Know

SPENCER STUPKA
LICA 2012 Photo Contest

Membership and Volunteer Form

INDIVIDUAL, PROVINCIAL & FEDERAL GOVERNMENT, FIRST NATION, MÉTIS, NGO's: (NO COST)

MUNICIPAL GOVERNMENT: Population up to 5,000: \$250
 Population of 5,001 – 10,000: \$500
 Population over 10,000: \$750

*Municipal Government fees based on most recent available Statistics Canada population figures.

CORPORATE: Corporate I (more than 50 employees): \$5,000.00
 Corporate II (fewer than 50 employees): \$2,000.00
 Corporate III (fewer than 20 employees): \$1,000.00

Name: _____ **Organization:** _____
 (if applicable)

OPPORTUNITIES FOR PARTICIPATION:

Please check the committee(s) that you would like to become a member of & complete the right side of this form.
 For more details contact the LICA office.

- | | |
|---|--|
| <input type="checkbox"/> Education & Information Committee | <input type="checkbox"/> Governance Committee |
| <input type="checkbox"/> Resolution Committee (<i>Ad Hoc</i>) | <input type="checkbox"/> Airshed Zone |
| <input type="checkbox"/> Beaver River Watershed Alliance | <input type="checkbox"/> I support this organization but I am not interested in being on a Committee at this time. |

VOLUNTEER OPPORTUNITIES:

Please check the volunteer opportunities that you may be interested in participating in:

- Air Quality Monitoring Education Programs Lakewatch Program Event Hosting
 TD Great Canadian Shoreline Clean Up Attend a Meeting

I AM INTERESTED IN RECEIVING INFORMATION FROM LICA REGARDING THE FOLLOWING:

- Meetings Open Houses Email Updates
 Newsletters Annual Report Other _____

Vision: Lakeland Industry & Community Association is a balanced partnership actively supporting a sustainable environment.

Mission: LICA supports the environment by gathering, sharing and acting on information regarding development in our region.

Values: • Respect • Honesty • Integrity • Equality • Cooperation • Transparency • Accountability

I AM INTERESTED IN THE COMMITTEE(S) AS SHOWN ON THE FRONT OF THIS FORM.

1. My interest in the selected committee(s) is:

2. I bring the following to the committee table (e.g.: state your related experience, general interest, etc.)

3. I believe that LICA should focus on the following for the next 2 to 5 years:

4. I am available to attend meetings during the : Daytime Evening

 Name (Please Print)

 Address

 Phone number

 Email

 Signature

 Date

Please submit completed forms to LICA at:

Lakeland Industry & Community Association, Box 8237, Bonnyville, AB T9N 2J5

Or via fax / email: Fax: 780.812.2186 • E: lica2@lica.ca



Lakeland Industry & Community Association
5107 W - 50 Street, Box 8237
Bonnyville, Alberta, Canada T9N 2J5

Phone: 780.812.2182 | Toll Free: 1.877.737.2182
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LICAonline

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