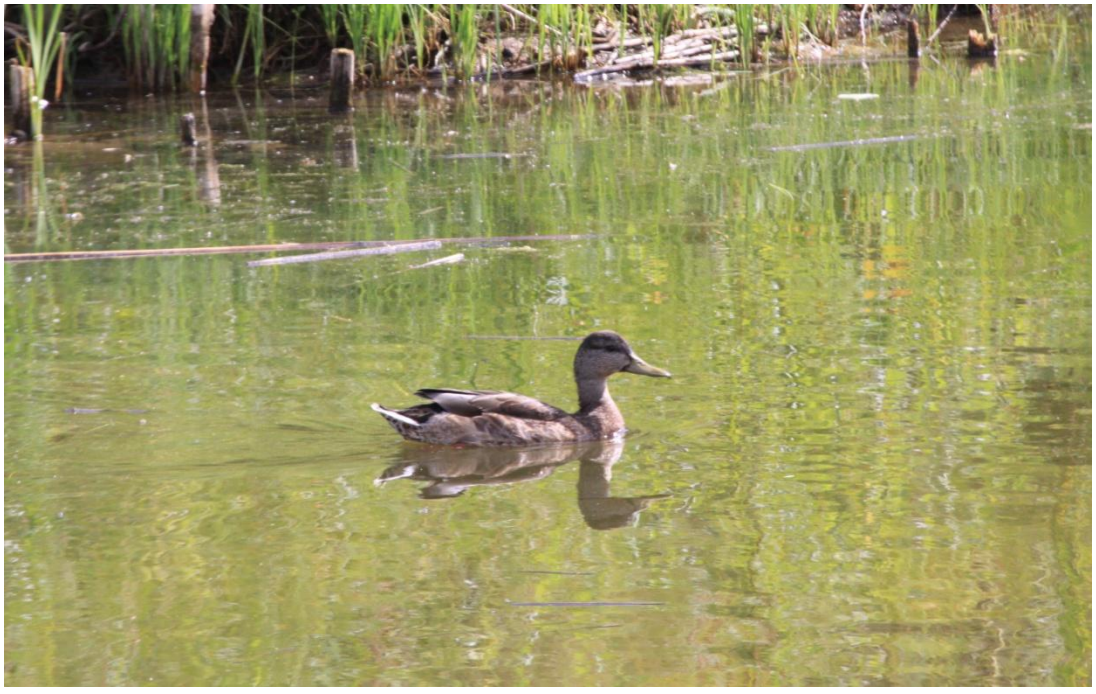
Lesser Slave Watershed Council

2011-12 Annual Report

Written for the LSWC
By: Meghan Payne, BSc.
LSWC Executive Director

Lesser Slave Watershed Council

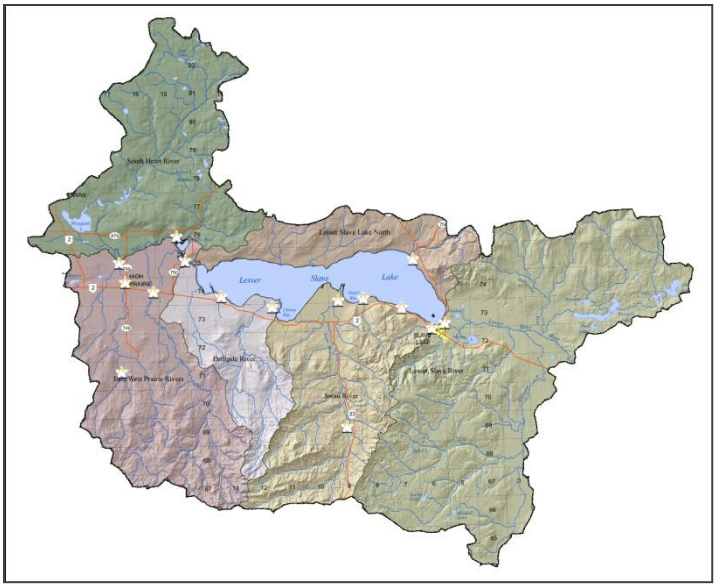
Table of Contents



Who is the LSWC?

The Lesser Slave Watershed Council is a charitable, non-profit group of volunteers who work with the provincial government to maintain the health of the Lesser Slave Watershed.

Members of the council are representatives from towns, municipalities, aboriginal communities, industries, cottage owners, non-profit organizations as well as recreation and tourism groups who have an interest in how the waters of Lesser Slave Lake and its tributaries are managed.



A map of the Lesser Slave Watershed showing major sub basins and tributaries.

In January of 2007 the LSWC was recognized by the Government of Alberta as the Watershed Planning and Advisory Council for the Lesser Slave Watershed under the *Water for Life Strategy.* WPAC's in Alberta The LSWC was granted charitable status under the Canada Income Tax Act on April 1, 2010.

Mission Statement

The Lesser Slave Watershed Council will be a proactive organization working towards the sustainability of the Lesser Slave Lake Watershed with regard to the economic, social and environmental health of the region and its citizens.

Vision

"The Lesser Slave Watershed, including its lake and rivers, is a bond that brings communities together, is a part of each citizen's life, is a prime asset and renewable resource, and is a generator of economic development."

Guiding Principles

- Be accountable to all stakeholders and citizens within the watershed
- Work collaboratively with stakeholders and citizens to improve the health of the lake and its watershed.
- Share responsibility for the health of the lake and its watershed by involving communities and stakeholders in watershed management
- Promote a better understanding of natural watershed processes and the interaction between land, water, ecosystem and human activities.

LSWC Board of Directors

Executive Board Members

Chair - Murray De Alexandra
Vice Chair – Guy L'Heureux
Treasurer – Lynn Sandquist
Secretary – Gordon Sanders

Murray De Alexandra hard at work pulling nets on Utikima Lake.

2011/12 LSWC Board of Directors

Name:	*Sector/Organization Represented:*
Wilfred Willier	Town of High Prairie
Rob Irwin (Karina Pillay-Kinnee)	Town of Slave Lake
Brian Rosche (Jeff Cummins)	MD of Lesser Slave River
Guy L'Heureux (Ray Dupres)	MD of Big Lakes
Vacant	First Nations
Louis Pawlowich	Métis Settlements
Gordon Sanders (Lyndon Remple)	Forest Industry
Vacant	Fishing Tournaments & Recreation
Rod Burr	Alberta Environment
John Tchir (Michelle Keohane)	Alberta Sustainable Resource Development
Wanda Watts (Robyn Kutz)	Federal Government (DFO)
Bonnie Raho	Environmental Non-Government Organizations
Sherrie Hay (Kelly Harlton)	Tourism Operators/Groups
Murray De Alexandra	Commercial Fisherman's Association
Brian Elliott	Cottage Owners/Country Residential
Lynn Sandquist (Lorne Pratt)	Agriculture
Carl Chykerda	Oil and Gas Industry
Gary Couch	Member at Large

The LSWC currently has 30 general members and two employees, our Executive Director Meghan Payne and Watershed Coordinator Zoe Iwasiuk.

LSWC Summary of Operations

From March 31, 2011 to April 31, 2012 the LSWC worked to deliver Water for Life goals in addition to our own goals and messages across the Lesser Slave Watershed.
The summer of 2011 brought forest fires and then floods to our watershed. As a result of this the LSWC postponed out AGM from June until September so that our board members affected by the devastation could focus on recovery and rebuilding homes, businesses and their community. The LSWC collected donations of household items and clothing at our office in High Prairie for the residents of Slave Lake and area. We were able to fill a 5 ton truck with donations and Grimshaw trucking generously shipped them to the Red Cross center in Edmonton for sorting and distribution.

Despite some setbacks in scheduling we were able to complete all of our projects on schedule and 2011-12 was a successful year for our WPAC. Chairman Murray De Alexandra signed the Alberta WPAC's 5 year renewable memorandum of understanding on behalf of the LSWC. The LSWC supports the WPAC collaborative and looks forward to joint projects and initiatives in Alberta.

Lesser Slave Lake *Photo by Ron Davis*

2011 LSWC Projects

Tributary Water Quality Report

In the Summer of 2010 the LSWC, in partnership with Alberta Environment completed the field work component of a tributary water quality project. This project was initiated in 2007 because of concerns about the surface water quality in the Lesser Slave Watershed. The public expressed a number of concerns with regard to the water quality of the LSL.
These concerns include:

- *An increased occurrence, intensity and duration of algal blooms.*
  Water quality data collected by AENV show that the lake has very high levels of algae relative to other lakes in Alberta and can be categorized as hyper-eutrophic based on the chlorophyll a levels.

- *Potential adverse effects of various activities on the health of the aquatic ecosystem in the lake.*
  The intensity and extent of various agricultural and industrial activities and the shoreline development raise concerns about the preservation of a healthy fishery and sustainability of future development in the watershed.
- *Potential adverse effects of various activities on the drinking water supply.*
  The approval of a feedlot operation near Mission Creek and its potential effects on the lake as a drinking water source has brought public concerns. Potential deterioration of source of drinking water quality and potential health issue related to contaminated drinking water are a major concern to the Town of Slave Lake.

With funding from Alberta Environment and support from the monitoring branch the LSWC was able to collect samples at 16 tributary sites across the watershed as well as at effluent discharge sites in 2007.
Tributary samples were taken at three different times of the year with different flow regimes and runoff profiles. Spring runoff sampling was completed in 2008, and in the autumn of 2008 fall base flows were sampled. The LSWC had to wait until 2010 to sample a summer storm runoff event because of the dry summers in 2008 and 2009. The purpose of waiting for a significant summer storm event was to capture runoff from the landscape after agricultural chemicals and pesticides had been applied to the fields.

With funding from 2011 the AESA grant the LSWC hired Aquality Environmental to complete a basic assessment of the data and report on the results.

For more detail about the analytical results please visit: http://www.lswc.ca/lswcprojects.html

Fishing Line Recycling Program

In the summer of 2010, a local watershed steward named Marnie Squires approached the LSWC board with a request for support for a fishing line recycling program in our watershed. She and her family have spent many summers at Lesser Slave Lake and noticed that there is a lot of fishing line washed up on shore or discarded at marinas. As you know, this poses a hazard for birds, in particular, as well as fish and other animals that live and feed along the shores.

The project involved construction of recycling receptacles and design of an interpretive sign which together are mounted on a sign post and installed at all lake and river access points. The recycling vessels are made of pvc plumbing pipe and are simple to construct and the interpretive sign is to the point and easy to read. The monofilament (fishing line) is collected from recycling bins and cleaned of hooks, leaders, weights, and trash by volunteers. It is then shipped to the Berkley Pure Fishing Company in Iowa. Berkley melts the line down into raw plastic pellets that can be made into other plastic products including tackle boxes, spools for line, fish habitats, and toys. It is not made into more monofilament line.

This recycling station is located at the Joussard Marina.

The LSWC board agreed that this would be a great stewardship project for our area and agreed to help Marnie find funding to deliver this program in our watershed. Meghan, the LSWC Executive Director, applied to Alberta Ecotrust for financial support to get this project off the ground. Our application was approved and we are preparing to build and distribute the fishing line recycling stations throughout the spring and summer of 2011.

Thank You
alberta ecotrust

Our staff and volunteers will collect the fishing line and return it to the LSWC office where it will be shipped back to Berkley. It is our hope that this project gets more people involved in lake and watershed stewardship. This may seem like a simple concept but it gets people thinking about fish and wildlife and what they can do to keep their habitat safe and clean.

For more information about this project or to request a recycling station and sign for your boat launch or beach get in touch with the LSWC.

Lesser Slave River 2D Modeling & In-stream Flow Needs Program

The intention of our hydraulic survey and 2D modeling work is to continue development of year-round predictive relationships between flow in the Lesser Slave River and riverine habitat. An in-stream flow needs scoping study for the Lesser Slave River recommended a two-dimensional modeling approach using River2D because of its capability to address: complex back-waters; islands; and, surface ice. Results from the hydraulic models will be used by the LSWC to assess change in quantity and quality of fish habitat or mesohabitat under varying flow conditions in the river. Alberta Environment is also in support of the in-stream flow needs projects on the Lesser Slave River because any water management decisions made at the weir will impact the rest of the river. Adequate IFN information is required to make these decisions as there are many water users with interests along the river.

In ***the Lesser Slave River Water Management Plan Phase1*** for the Lesser Slave River developed by the LSWC and AENV one of the key recommendations is to provide a minimum flow of 6 cubic meters per second of flow in the Lesser Slave River at all times. This is an interim value because the actual IFN value for the river cannot be determined until all of the related in- stream flow needs research components and work have been completed. To date, River2D hydraulic modeling has been completed on Segment 2, 3, and 1 of the river. Alberta Environment has completed a water quality model for the Lesser Slave River based on flow and sample analysis. This water quality model is another piece of the work required for the IFN study. A benthic invertebrate study and fish survey are also valuable in determining the river IFN value.

The Lesser Slave River regulation weir was installed in 1984 by Alberta Environment.

The Lesser Slave River flows east from Lesser Slave Lake for approximately 75 km before entering the Athabasca River. To alleviate flooding around Lesser Slave Lake, the Lesser Slave River was altered through construction of a fixed-crest weir with fish ladders and eight meander cut-offs. This Lesser Slave Lake Regulation Project was completed in 1984.

The weir and cut-offs are located in segment four of the river and affect water levels in the lake by:

a) reducing the range in water level fluctuations from 3.5 to 2.7 meters;
b) reduce mean lake level;
c) reduce frequency and duration of high and low water levels in the lake.

The Lesser Slave River has complex fish movement patterns with fish moving to and from the lake; inflowing tributaries; and Athabasca River. There are known Walleye, Northern Pike, Arctic Grayling, Mountain Whitefish, Burbot, Goldeye, shiners and suckers in the river. Oxbow habitats likely have important links to pike spawning. The lake also provides unique fish spawning and over-wintering capabilities. The Lesser Slave River contributes significant amounts of oxygen in winter to the Athabasca River, dilutes effluents, is a source of drinking water and is used for industrial and irrigation purposes.

Segment 1 Hydraulic Survey and 2D Modeling

The Lesser Slave River has been broken into five river segments for in-stream flow needs based on: the weir's presence; increased flow from the Saulteaux and Driftwood rivers; changes in channel gradient and fish habitat; and the presence of artificial cut-off meander bends for the purpose of river straightening and flood alleviation.

In previous years AMEC and Golder Associates have completed hydraulic survey work and 2D modeling on representative sections of segments 2 & 3 of the Lesser Slave River. The 2011-12 project focused on Segment 1 of the river. With funding from Alberta Environment Golder Associates Ltd. was hired on again as the contractor to complete this study for segment 1.

Open water field work and surveying was completed in late October. Fall is the preferred time of year because there is less interference with the GPS equipment from leaf cover. Once data was collected Golder Modeling experts input survey data and flow into the HAC RES model to give results for 20 different flow scenarios including a high water event. Ice covered field work took place in February and was a success. Often unsafe ice conditions are an issue but the ice cover was thick enough for the field crew to complete the necessary work.

The Hydraulic survey and Modeling work is summarized in a technical report by Golder. If you wish to learn more about this project please visit our website and download a copy of the report.

Pictured on the left are staff from Fish and Wildlife electro- fishing on the Lesser Slave River. This process does not harm fish, but stuns them so they can be caught and measured. Fish health and population information are important when determining the in stream flow needs of a river.

Photo by: Ron Davis

Lesser Slave River Water Management Plan

The LSWC made progress on the recommendations laid out in the Lesser Slave River Water Management Plan Phase One which was approved by Alberta Environment on July 29, 2010. We have been focused on modifications to the existing regulation weir so that the needs of the aquatic environment, the Town of Slave Lake, MD of Lesser Slave River and the group of downstream industrial users are met.

As discussed in last year's annual report the existing weir will be modified. The existing fish ladder will be removed and a wedge shaped channel will replace it. This will allow for the interim value of 6 cms of flow in the Lesser Slave River at all times and the new fish passage way will be lined with rip rap, boulders and rocks of various sizes. This will slow down the water as it flows downstream and allow for fish of all sizes to swim back and forth between the lake and the river. The design was modeled using the smallest fish and their capabilities to swim up stream from rock to rock to ensure all fish will be able to use the new channel. Based on the research the new weir configuration will be more effective than the existing fish ladder structure. Fish and Wildlife will be monitoring fish movement once the modification has been complete.

Aerial view of the Lesser Slave River, the Municipal boat launch and the weir.

In addition to creating the notched fish passage way that will allow for minimum flows the project also involves diversion of flow to install 29cm of metal along the top of the weir. This will compensate for letting water through the weir below the surface. The impacts of this modification have been modeled with 40 years of historic lake and river flow data. These changes are not going to affect lake level in the long term, but rather balance flows in the Lesser Slave River and improve fish passage.

Alberta Environment and Sustainable Resource Development have acquired all of the necessary permits for the weir modification. The project was scheduled to go ahead in Spring of 2011 but due to an unexpected appeal to the approval that was granted the construction was put on hold. This issue has been resolved and the appeal has been withdrawn. When lake levels are low enough for the project to commence AESRD will hire a contractor and begin the modifications. The best time of year is in early spring before the ice is off, or late fall when lake levels are generally lower.

You can find a full version of the Lesser Slave River Water Management Plan including recommendations at www.lswc.ca

Education & Outreach Activities

Partners in Education - LEFES

The LSWC has an ongoing educational partnership with the LSFES. The Lesser Slave Forest Education Society is a group committed to forest focused environmental education and is led by a dedicated group of volunteer representatives from industry, schools and government who share a common goal of environmental stewardship. Educational programming is developed and delivered by professional Forest Educators. All of the programming offered by the LSFES is based on the Alberta curriculum. Rather than the teachers delivering this unit in the classroom, the LSFES classroom presentation followed by the field trip covers the entire unit in a fun hands on way.

Grade 5 students catching "Marsh Monsters" at Winagami Lake

2011 was a very tragic year for many people in our watershed. The forest fires that burned parts of Slave Lake and surrounding area had a heavy impact on our programming with the LSFES. School was cancelled in Slave Lake for 2 weeks in May and most of June and Northern Lakes College, where the LSFES office is located has 21 staff members who lost their homes.

While the LSFES was not able to deliver full programming in 2011, Meghan delivered watershed programming for the Nampa School on their SRADA field trip to Harmon Valley Provincial Park. Grades 1 and 2 captured and identified different Marsh Monsters and learned about their life cycles and the group learned some facts about water quality.

The LSWC has secured a $3000 TD Friends of the Environment grant to support education and awareness in our watershed and this will be donated to the LEFES. For more information about the LSFES visit their website at www.lsfes.org

Canada Water Week 2012

2012 marks the second year of Canada Water week across our nation. To celebrate the LSWC created a fun coloring for our watershed and put it in the local Spotlight newspaper. Kids across the area completed coloring contests that represented "Our Water Foot print". Snacks and refreshments were enjoyed at the LSWC office during our open houses and LSWC staff were handing out re usable water bottles and coffee mugs supplied by ATCO to our visitors.

Stories about Canada Water Week were featured in our local newspaper 2 weeks in a row and included tips on how to reduce your water footprint. The LSWC looks forward to celebrating again next year. Thank you to Tru Hardware in High Prairie for sponsoring our coloring contest.

Congratulations to our coloring contest winners. First Place in each age category won a helicopter ride sponsored by Remote Helicopters. Thank you Brian Roche for your generous donation.

Second and third place in each category also won a watershed prize pack that included some cool items and LSWC t-shirts. Thank you to Shaw's Point Resort for the donation of prizes as well.

Sunset near Blue Lake in the West Prairie River sub basin. *Photographer unknown*

Building Partnerships

Pennwest Solar Watering System

In 2011 Carl Chykerda with Pennwest in Slave Lake presented the LSWC with a $7500 check. This allowed the LSWC to purchase a solar/wind powered portable livestock watering system for use in our watershed.

Our stewardship partners, the Peace Country Beef and Forage Association, has added this great piece of equipment to their programming and in the summer of 2011 put it to use along the West Prairie River to demonstrate how the system works and how easy it is to keep cattle out of the river just by giving them the option of drinking at the trough.

Shown above is an off stream solar watering system with solar and wind power.

PCBFA, the LSWC, and the HPRAT have partnered to help land owners in our watershed make informed land and pasture management decisions. Projects may include riparian area fencing, exclusion fencing, a grazing plan for a riparian pasture, or advice on solar watering systems.

WPAC's of Alberta Collaborate

The 11 WPAC's across AB have put together a five year renewable Memorandum of Understanding. This stemmed from work done at the 2010 WPAC Summit in Cypress Hills, AB where we discussed how we could all work collaboratively on things common to watersheds across the province. The purpose of this agreement is to strengthen the working partnership between WPAC's to effectively address province wide watershed management issues and also to address issues of collective importance and as a collaborative work to address these issues.

To accomplish this the WPAC's will develop a communication strategy to raise public awareness and education on regional and provincial watershed management concerns. We will share knowledge and information in areas of common interest between WPAC's. We will explore opportunities and develop collaborative initiatives on regional, provincial, and inter provincial projects of mutual interest. We will also be working with the Alberta Water Council and bringing forward issues of importance as a collective for them to consider for future projects.

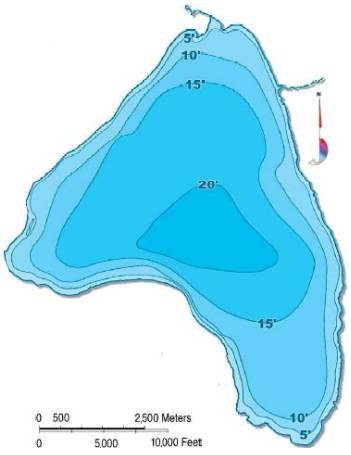
The WPAC's of Alberta also have a website where you can learn more about what we do and about the other WPAC's in the province: http://www.albertawpacs.ca/

Lakewatch with ALMS

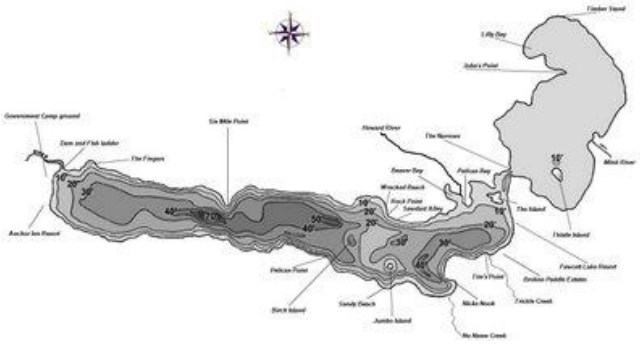
During the Summer of 2010 ALMS Lakewatch technicians visited our watershed several times to test water quality in Snipe Lake and Fawcett Lakes. ALMS provided the expertise and equipment for sampling and testing. The LSWC arranged for a local volunteer to take them out on their boats to collect the samples. We would like to thank the Lakewatch technicians Emily and Brad and our volunteers with the boats including LSWC member Marty Payne for his trips out to Snipe Lake.

During 2011 the water quality reports for Snipe and Fawcett Lakes were completed by ALMS staff and made publicly available. You can download a copy of the Snipe and Fawcett Lake Reports at: http://www.alms.ca/content.php?content=1

Snipe Lake Summary:
Trophic Status**: Hyper Eutrophic**
Snipe Lake is very productive and there are lots of nutrients present. In hot summer weather hyper eutrophic lakes can have large algal blooms and decreased oxygen levels. Shallow and small lakes are often found to be hyper eutrophic.



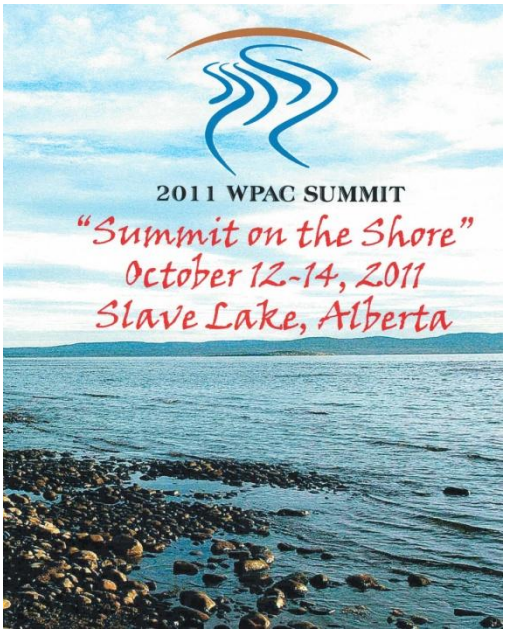
Fawcett Lake Summary:
Trophic Status: **Eutrophic**
Most Lakes in Alberta are Eutrophic due to the soil type and excess of nutrients. This means the lake is very productive and phosphorous is the limiting nutrient in this lake system.



ALMS website: www.alms.ca

WPAC Summit 2011

From October 12-14 the LSWC hosted the 2011 WPAC "Summit on the Shore" at the Sawridge Inn and Conference Center in Slave Lake, AB. Each year a different WPAC hosts the annual Summit and WPAC board members, Staff, and our partners from various other organizations attend. We take this time to hear from keynote speakers, the other WPAC's, leaders in science and research, and various others who share our watershed passion.



The opening night of the Summit in Slave Lake Featured keynote speaker Brad Stelfox, PhD who talked to the group about the ALCES modeling work he has been doing and how it pertains to watershed management planning in Alberta. This was a perfect topic to get us into the spirit for the 2 days ahead of us.

On October 13th our past chairman Brian Elliott welcomed the group and set the stage for some great WPAC presentations. We heard from Bob Cameron, Chairman of the Mighty Peace Watershed Alliance. The MPWA is the newest WPAC is the province and he shared some of the challenges and learning's with us. We then heard from Hugh Sanders, chairman of the Battle River Watershed Alliance. He shared some of the Battle River projects and programs with us and we found that they are very innovative when it comes to education and public awareness. Les Gammie is the WPAC representative on the Alberta Water Council, and the chairman of the North Saskatchewan Watershed Alliance. He has worked in the water business his entire career and had much to share with us as well. We also gave the WPAC executive directors some time in the spotlight after an hour of trade show style mingling around the room. Each of the WPACs had a great display and lots of great print materials and the group had a chance to ask more specific questions of the WPAC staff about specific projects. formative and helpful to hear from

Since WPAC's across the province are in various stages of their work and watershed management planning processes we found it very helpful to hear from NSWA's Dave Trew and BRBC's Mark Bennett. The NSWA and BRBC have been working hard over a number of years on IWMP's for their respective river basins. There are always challenges and struggles along the way and the key message seemed to cry out "Don't give up!". An IWMP is a giant undertaking and thank you for sharing your words of wisdom with us.

Of course we included our stewardship partners in the annual Summit. Pat Letitzia, executive director for Alberta Ecotrust shared some information about their watershed protectors program and how she sees AB Ecotrust and the WPAC's working together in the future. There

are definitely some great opportunities out there and we will be working with Pat in the future. Brian Ilnicki of the Land Stewardship Center also addressed the group and talked about their programming. We all want to enable people and organizations to become better watershed stewards and with the help of awesome folks like Brian and the Alberta Land Stewardship team we are on our way.

All WPAC's in the province struggle with building relationships with the First Nations in our watershed. To help shed some light on some of the issues and history we heard from Monique Passelac-Ross with the Canadian Institute of Resources Law, U of C. She talked about Aboriginal and treaty rights to water and put it into context for WPAC's in Alberta. Engaging and working together with First Nations is important and as a part of the WPAC collaborative work we will be looking at the best way to go about this.

The highlight of the Summit was definitely the Walleye dinner. Murray De Alexandra, the LSWC Chairman and Zone 8 Commercial Fisherman donated fresh lake Walleye for our banquet. We were joined by honorable Pearl Calahasen, MLA for the Lesser Slave area and she expressed her appreciation for the work that WPAC's in Alberta are doing and let us know that MLA's would like to be more involved in the work WPAC's are doing so we need to keep them informed about our concerns and needs.

Overall the 2011 Summit was a success and the LSWC had a lot of positive feed back from participants. We look forward to travelling south in 2012 where the Milk River Watershed Council will be hosting.

Thanks to our Summit Sponsors:

SUNCOR ENERGY

CCS CORPORATION

Golder Associates

Municipal District of Big Lakes

West Fraser Timber Co. Ltd

ATB Financial

Charrois MOTOR PRODUCTS

Funding and Supporters

The LSWC Would like to acknowledge and thank everyone who donated and supported us in 2011.

For supporting water quality work in our watershed

For a grant to bring the Fishing Line Recycling Program to our watershed.

For operational support in 2010-11

For operational support during 2010-11

For the funds to purchase an offsite solar watering system.

The LSWC also thanks for a $3,000 grant to support education and outreach in the watershed.

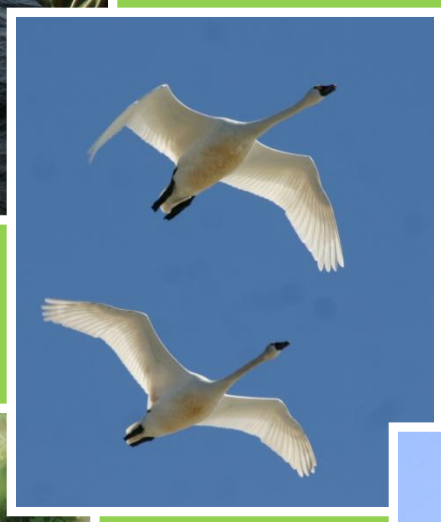
The LSWC gratefully acknowledges Alberta Environment and Sustainable Resource Development for their continued operational and project funding and we look forward to moving water for life into the future with our partners.

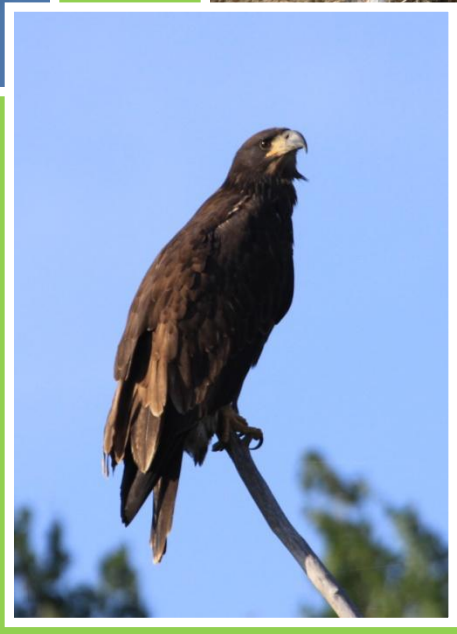
2011-12 Financial Statements

Revenue	**2012($)**	**2011($)**
Grant Income	188,016	64,081
Donations	13,200	38,477
Interest Income	102	129
Other Revenue	14,997	130
Revenue Deferred from previous period	208,582	326,943
Revenue deferred to subsequent period	(162,722)	(208,582)
	$262,175	**$221,178**

Expenses	**2012($)**	**2011($)**
Administration	1,200	1,371
Advertising and Promotion	5,055	4,150
Amortization	892	712
Bank Charges an Interest	323	104
Insurance	4,312	4,300
Office related	6,050	12,538
Professional Fees	1,850	1,550
Project Expenses	126,332	76,325
Office Rental	10,908	5,024
Telephone and Utilities	3,552	2,849
Travel - staff and board	11,351	13,449
Wages and Benefits	97,140	80,543
	$268,935	**$202,915**

Discover our watershed....





Lesser Slave Watershed Council

Address:
#204, 4723 - 53rd Ave.
PO Box 2607
High Prairie, AB T0G 1E0

Phone: 780 523 9800
Fax: 780 523 9801
Email: info@lswc.ca
Web: www.lswc.ca