

The Lesser Slave Watershed Council & Watershed Management



Presented By:
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LSWC Executive
Director

What is a WPAC?

Water for Life Goals:

1. Safe, secure drinking water;
2. Healthy aquatic ecosystems;
3. Reliable, quality water supplies for a sustainable economy.

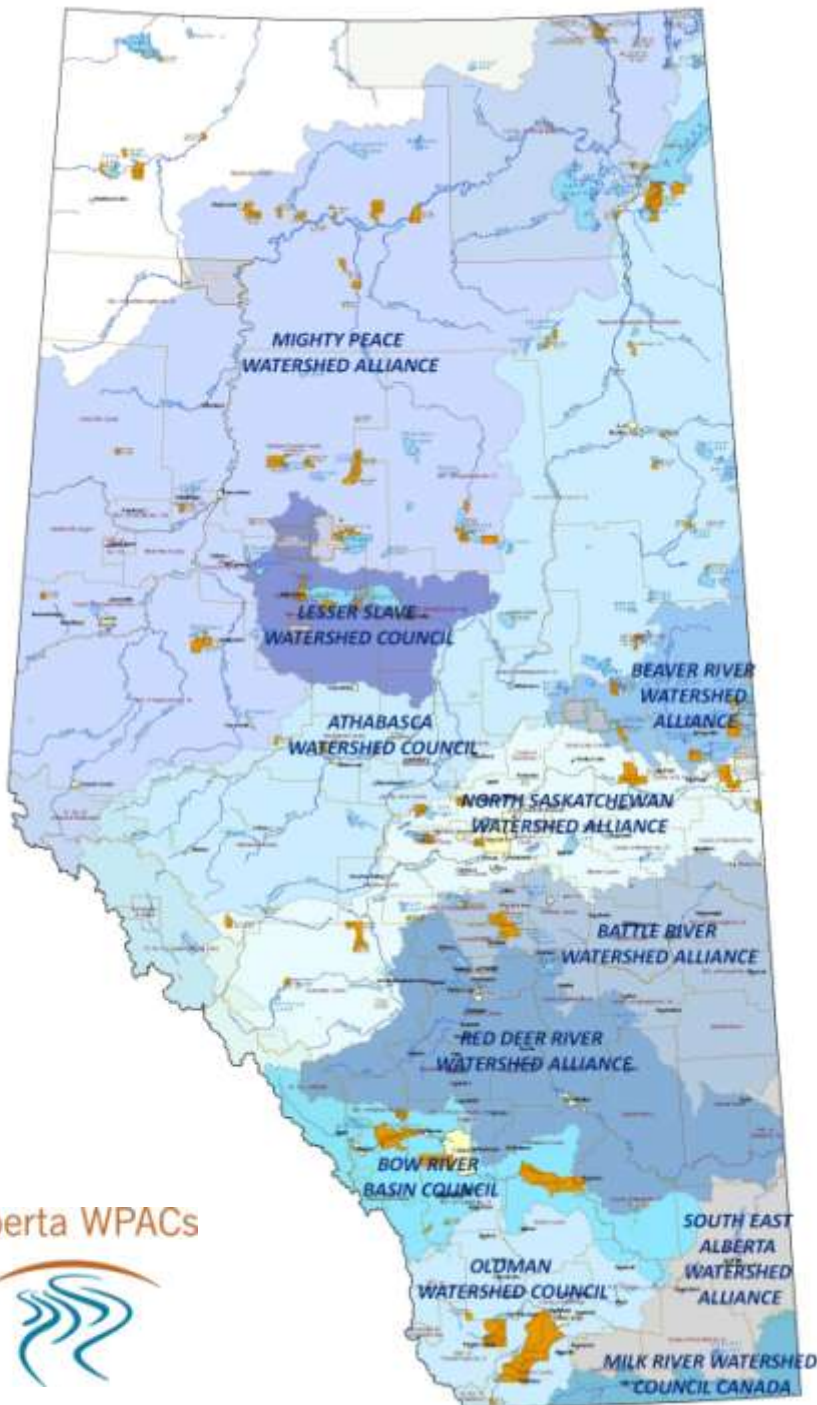
- Alberta's 11 Watershed Planning and Advisory Councils are *Water for Life* Partners.

- We receive support from ESRD to help achieve the 3 WFL goals.

- WPAC's deliver programs and projects related to:

- State of the Watershed reporting
- Watershed planning and recommendations
- Education and outreach

Visit www.albertawpacs.ca for more



Alberta WPACs





History of the LSWC

- The LSWC started as an interest group concerned about the health and sustainability of Lesser Slave Lake in the late 1990's.
- In 2006 the group developed by laws and became a registered Non profit Society in Alberta.
- In 2007 the LSWC was designated as the officially recognized WPAC for the Lesser Slave Watershed.
- In 2008 the group received operational support to hire an Executive Director.
- In 2012 the LSWC was able to secure funding to hire a Watershed Coordinator.

LSWC Board Seats

MD of Big Lakes
MD of Lesser Slave River
Town of High Prairie
Town of Slave Lake
ESRD
Federal Government
First Nation Member at large
Métis Member at large
Agriculture
Forestry
Oil and Gas
Commercial Fishing
ENGO's
Tourism and Recreation
Cabin and cottage owners
Trappers



LSWC's Strategic Goals

1. Establish an ongoing collaborative planning and management framework for the Lesser Slave Watershed.
2. Facilitate watershed research that addresses issues and enables management actions within the watershed.
3. Promote watershed education, awareness and stewardship in the watershed
4. Establish a strong operational model in which the LSWC is sustainable, has clear governance, capacity and funding.



Partnerships and collaboration

- The LSWC works with a numbers of organizations locally and provincially to help us in meeting our goals.
- Partnerships bring resources such as: expertise, funding, human resources, and programs.
- LSWC current and past partnerships include:
 - Government of Alberta
 - Lesser Slave Forest Education Society
 - Alberta Lake Management Society
 - Alberta Conservation Association
 - Peace Country Beef and Forage Association
 - Smokey Applied Research and Demonstration Association
 - Nature Alberta
 - Ag. Service Board (formerly AESA)
 - Alberta WPAC Collective



Funding and Support

- The LSWC receives operational support annually from the *Government of Alberta* through a grant process each year.
- The *Government of Alberta* provides project support for activities related to State of the Watershed Reporting and Integrated Watershed Management Planning.
- ESRD staff provide valuable technical guidance, data and support to the LSWC projects through our Technical team.
- In 2010 the LSWC became a Charitable organization under the Canada Revenue Act.
- This has allowed the LSWC to apply for a broader range of funding from foundations and private organizations.
- The LSWC has been able to increase our project budget with these additional funding opportunities, many of which are geared towards environmental education .

Lesser Slave Watershed Council



TD Friends of the
Environment
Foundation



RBC
Blue Water
Project™

PennWest
Exploration



Agriculture in the Classroom
Little Green Thumbs is trademarked
and managed by AITC-SK

Founding
Partner
Agrium



alberta
ecotrust
because it's our home.



Watershed Assessment & State of the Watershed Reporting

2006 - Aerial Riparian Assessment of LSL

2007 - Buffalo Bay Bathymetry Survey (sedimentation)

2008 - Development of hydraulic and hydrologic watershed model (MIKE SHE)

2010 – Aerial Riparian Assessment of South Hear River & Part of West Prairie

2008-10 - Tributary monitoring of 16 streams

Surveying and Habitat 2D Modeling on Lesser Slave River (IFN work)

2008 - Segment 2

2010 - Segment 1

2011 - Segment 3

2010 – First State of the Watershed Report

2012-13 Water quality monitoring (nutrients) on 6 tributaries.

2015 – Technical update (WQ, Paleo, Fisheries, nutrient budget)



Education and Stewardship

2008 - development of WPAC Info materials.

2010 - present - partnership with the Lesser Slave Forest Education Society.

2011 - Fishing Line Recycling Program

2009 & 2014 - Living by Water home site visits

2012 – Purchase of solar watering system.

2012 – Provincial WPAC Summit hosted in Slave Lake

2013 - Little Green Thumbs classroom gardens

2013 - Garden and Invasive Weed night

2013 – Design and printing of Lake Stewardship Handbooks.

2013 – Ducks Unlimited fundraiser event

2014 – Rain Barrels and home water efficiency.

2014-15 – Green Acreages Workshops

Social Media – Facebook (2012), Twitter (2013), Instagram (2014)



Lesser Slave River Water Management Plan

- **From 2008-10** – The LSWC provided input into the development of a Water Management Plan for the Lesser Slave River.
- **This plan was initiated by ESRD staff** as a result of several issues with water levels, sedimentation, and in stream flow needs.
- **Main issues**
 1. Low water levels
 2. Siltation of river channel





Lesser Slave River Water Management Plan recommendations

Maintain a minimum flow in the Lesser Slave River. (ESRD)

- 6cms is the interim value the IFN work might lead us to a different number.
- Weir modification project has been approved and permitted (2012) but no action.

Low Flow operational response procedures (ESRD)

- Initiated when water level is 576.2 m or below on Sept. 1
- Additional monitoring, channel assessment, flow projections

Installation of a long term water quality monitoring station. (ESRD)

- Currently no long term river station in our watershed and we have been requesting installation and operation for over 6 years.

Completion of IFN program (ESRD and partners)

- So that a science based IFN value for the LSR can be determined.
- Provide input in developing a water conservation objective for the LSR



Integrated Watershed Management Planning

- WPAC's in Alberta have been designated as the organizations who shall lead the development of an IWMP for their respective watershed.
- An IWMP is a non regulatory plan developed in collaboration with stakeholders, governments and the public.
- The plan will outline outcomes and strategies required to meet the shared vision for our lake and watershed.
- Plan will consider and balance environmental, social and economic values. Trade offs will need to be made.
- The IWMP Steering Committee will take the lead in the development of the plan with input from stakeholders, aboriginal groups and the public.



What does a watershed plan include?

Outcomes (or goals) – what do people want to see as a desired end state for the watershed?

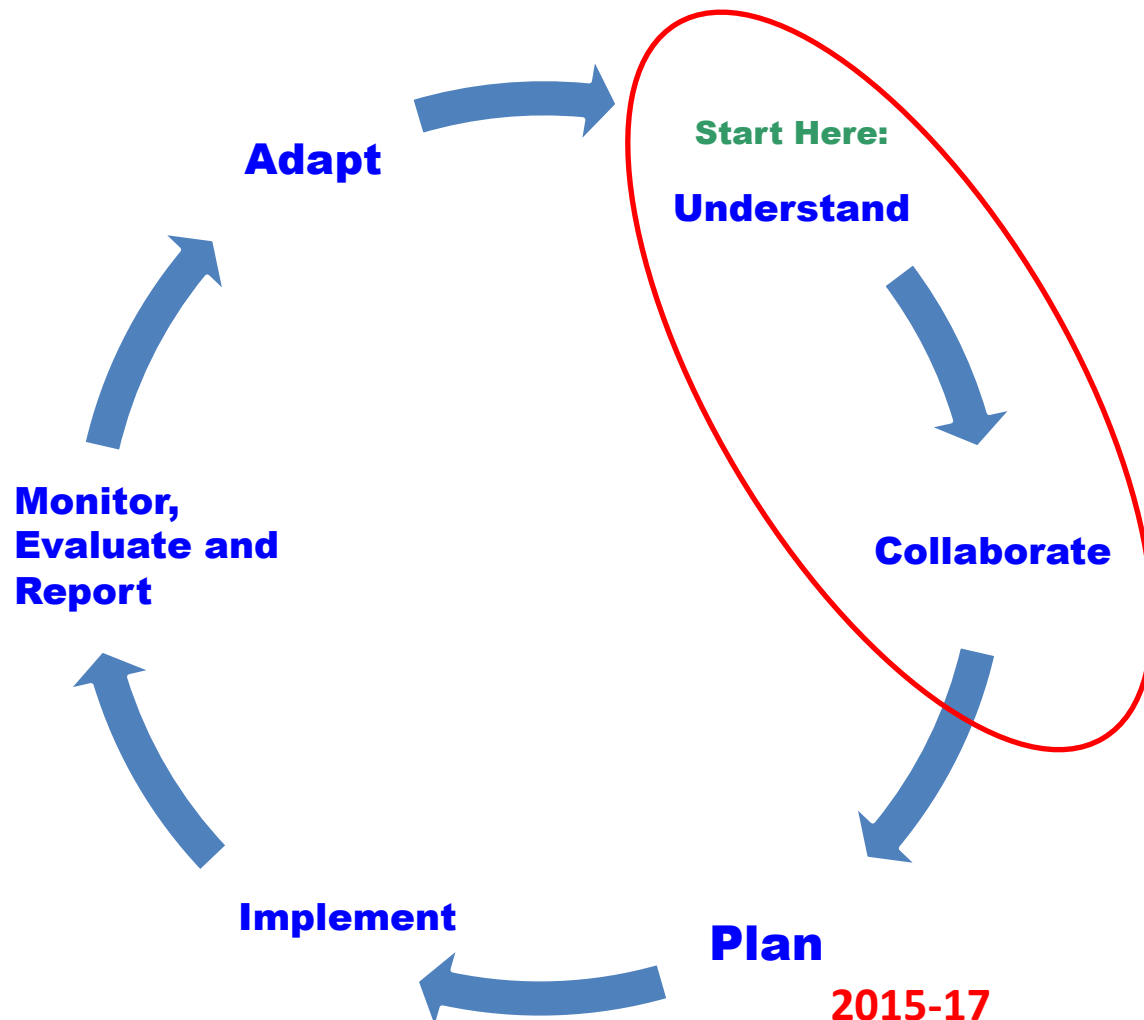
Objectives (or strategies) – the management approaches that will achieve our outcomes.

Indicators – physical, chemical, biological, or sociological attributes of the watershed chosen to provide information as to whether the objectives and outcomes are being met.

Targets – an indicator value that is desired. (healthy walleye populations)



- Limits – an indicator value at which the risk of negative impacts to watershed health is unacceptable. Limits are based on scientific data and risk assessment.
- Triggers - an indicator value that serves as an early warning signal that a management action needs to be taken because of a decline towards the Limit.
- Actions - activities undertaken by a responsible entity to support the accomplishment of the objectives. Many partners are responsible for implementing actions.

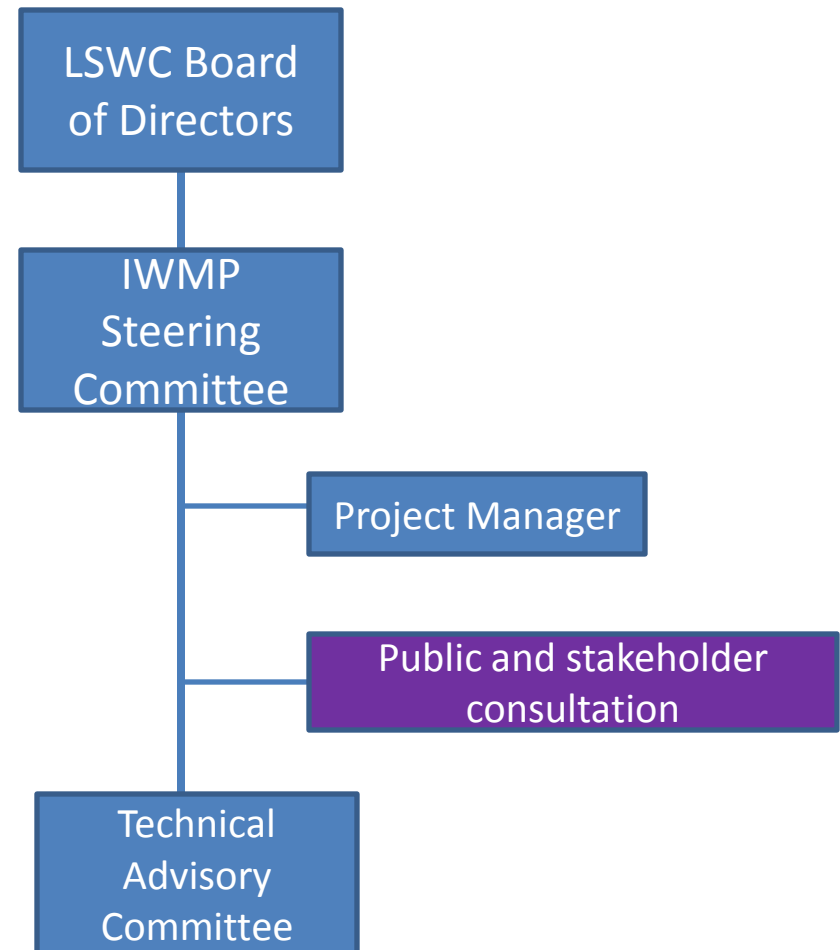


Planning is a cycle, it does not end once the plan has been written.



Where in the planning process are we now?

- From work in 2012-13 the LSWC understands the issues and concerns of people in the watershed and what they value about Lesser Slave Lake.
 - See Watershed Visioning Project report (*Abells Henry*) and Summary of Stakeholder workshop (*Aquality*)
- The LSWC has established a project Steering Committee, who, governed by a Terms of Reference will oversee the IWMP project work.





Where in the planning process are we now?

- Draft Terms of Reference for the IWMP project was written by Aquality in 2014.
- A communication and engagement plan is presently under development. It will outline how and when we will engage with public, stakeholders and Aboriginal groups at which stages of the project and incorporate their feedback into the process.
- The SC will be completing a risk assessment and prioritization of watershed issues and concerns. Based on this exercise we will finalize the IWMP Terms of Reference.
- IWMP info materials for public and stakeholder engagement are under development.
- Terms of Reference submission to ESRD and stakeholders for endorsement will take place in March 2015.
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What are the main issues and challenges??

We heard.....

- Increased algal blooms on the Lake
 - Sewage lagoon inputs
 - Agricultural run off of manure and fertilizers
- Declining water quality

This google earth image shows the extent of a large algal bloom in the shallower west basin. Most of the tributaries enter the lake in this basin, bringing nutrient rich sediment.





- Unstable lake levels
- Low flow conditions in streams
- Use of fresh water in oil and gas production



With no glacial inputs and low precipitation over the summer the Lake's tributaries see very low flow in the fall. Pictured above is the West Prairie River in August.



- Cumulative impact of increasing development.
- Loss of fish habitat (fragmentation, loss of wetlands and riparian areas)
- Sedimentation



Increased pressure for access to the lake has raised concerns about the impact of shoreline development on lake health. This picture shows one of many south shore communities



- Deforestation
- Fragmentation of habitat
- Linear disturbances

Pictured here is a portion of the Upper Swan River sub watershed.

This area is one of the busiest oil and gas and timber areas in the watershed.



In Conclusion...

There are many challenges ahead in developing an IWMP that balances social, environmental and economic values for the long terms sustainability of the Lake and watershed.

The LSWC will strive to communicate with and educate people in the watershed about the issues and management solutions.



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Thank You

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www.lswc.ca

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