BEAVER RIVER

INTEGRATED WATERSHED MANAGEMENT PLAN

DRAFT Terms of Reference

(Note to Reader: This is a draft document that will be updated following engagement)

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii

1.0 INTRODUCTION 1
1.1 About This Document 1

2.0 BACKGROUND 2
2.1 Previous Planning Initiatives 2
2.2 Need for a New Plan 4

3.0 PURPOSE, INTENT, PLANNING CONTEXT AND SCOPE 4
3.1 Purpose, Intent and Authority 4
3.2 Legislative Policy and Planning Context 5
3.3 Scope 5

4.0 PLANNING AREA 6

5.0 ISSUES, GOAL AND OBJECTIVES 8
5.1 Issues 8
5.2 Goal 10
5.3 Objectives 10
5.4 Indicators, Targets and Thresholds 12
5.5 Recommendations 12
5.6 Implementation Strategy 12
5.7 Measuring Success 13

6.0 STAKEHOLDER, FIRST NATIONS AND MÉTIS ENGAGEMENT 13
6.1 Goal 13
6.2 Objectives 13
6.3 Guiding Principles 13
6.4 Format, Schedule and Tools 13

7.0 ROLES AND RESPONSIBILITIES 16
7.1 Lakeland Industry and Community Association 16
7.2 General: Stakeholders, First Nations, and the Métis 17
7.3 Federal Government 17
7.4 First Nations 17
7.5 Provincial Government 18
7.6 Alberta Energy Regulator 18
7.7 Municipal Governments 18

7.8 The Métis 19
7.9 Industry 19
7.10 Watershed Stewardship Groups, Non-Profit Organizations, Academia 20
7.11 Residents 20
8.0 REVIEW AND AMENDMENT 21
9.0 SCHEDULE 22
10.0 BIBLIOGRAPHY 24
APPENDIX A. KEY STAKEHOLDERS, FIRST NATIONS, AND MÉTIS 28
APPENDIX B. SUB-WATERSHED DESCRIPTIONS 29
APPENDIX C. HISTORY OF BEAVER RIVER IWMP STAKEHOLDER ENGAGEMENT AND EXPERT ADVICE 30

1.0 INTRODUCTION

LICA is a community-based not-for-profit association that is a Synergy Group, the Watershed Planning and Advisory Council (WPAC) for the Beaver River watershed, and an Airshed Zone. LICA focuses on environmental monitoring, environmental management, and community education and outreach. As the designated provincial WPAC for the Beaver River watershed in Alberta, LICA reports on watershed health, leads collaborative planning, and facilitates education and stewardship activities. This work supports the goals of Alberta's *Water for Life Strategy*, namely:

- Healthy aquatic ecosystems
- Safe, secure drinking water supplies
- Reliable, quality water supplies for a sustainable economy

LICA recently initiated the Beaver River Integrated Watershed Management Plan (IWMP) process to help direct future watershed management activities and achieve the vision of "*A healthy Beaver River watershed for the future*". The Beaver River IWMP will be a guidance document and planning tool for resource managers, including governments, planners, Indigenous communities, other stakeholders and landowners in the watershed. The plan will identify goals for improving and/or maintaining watershed health, and will make recommendations on how to reach those goals. An implementation strategy will accompany the IWMP that will indicate implementation roles and responsibilities, priorities and timelines.

LICA established an IWMP Committee to provide technical knowledge and support the development of the plan in collaboration with stakeholders, First Nations and the Métis. The IWMP Committee will strive to establish a consensus on land and water resource management strategies to achieve shared environmental, social, and economic outcomes supportive of a healthy watershed.

LICA and the IWMP Committee are committed to engaging with communities and stakeholders in the watershed throughout the planning process. This will ensure that the final plan is relevant and reflects local and regional concerns. Appendix A provides a list of key stakeholders, First Nations and Métis in the watershed.

1.1 About This Document

This document is the Terms of Reference (TOR) that will direct the development of the Beaver River IWMP. It will be used to create a common understanding among LICA, the IWMP Committee, stakeholders, First Nations, and the Métis regarding the purpose, intent and scope of work that will be undertaken as part of the planning process. The TOR includes:

- Background information pertaining to previous planning initiatives
- Description of the planning area and issues
- IWMP goals, objectives and outcomes
- Roles and responsibilities of those involved in the management and stewardship of the watershed
- Work schedule to track project milestones.

The Terms of Reference should be supported by the IWMP Committee, the LICA Board of Directors, stakeholders, First Nations, and the Métis early in the planning process.

2.0 BACKGROUND

2.1 Previous Planning Initiatives

Coordinated planning efforts for the management of natural resources in the Beaver River watershed have occurred for more than 30 years. The following provides a brief overview of planning initiatives since 1985.

Cold Lake-Beaver River Water Management Plan (1985)

The Cold Lake-Beaver River Water Management Plan (CLBR WMP) was prepared in partnership with Alberta Environment, LICA, and the Cold Lake-Beaver River Basin Advisory Committee. The CLBR WMP was authorized by Alberta Environment under the *Water Act* in 1985 to manage water resources in the Cold Lake and Lower Beaver River Basin (Alberta Environment 1985). The intent of the plan was to provide adequate water quantity and quality to meet the long-term user requirements of the basin. The CLBR WMP made specific recommendations concerning:

- Major oil sands water supply
- Municipal, agricultural, industrial, and minor oil sands water supply
- Surface and groundwater quantity
- Surface and groundwater quality
- Identified lakes to be managed for the purposes of conservation, fisheries, wildlife or recreation.

The CLBR WMP (1985) projected a long-term increase in use of freshwater for industrial activity based on anticipated industrial and population growth in the region. However, this projected demand was not realized. After the plan was complete, significant improvements were made by industry to the efficiency of water use through water recycling and technology that enabled the use of brackish groundwater in operations. Although freshwater use diminished there was a greater need to assess and develop a better understanding of groundwater quality, availability and use.

Cold Lake Sub-Regional Integrated Resource Plan (1996)

The Cold Lake Sub-Regional Integrated Resource Plan (IRP) was initiated in 1986 by an interdepartmental planning Team coordinated by the Strategic and Regional Support Division of Alberta Environment and Protection. The plan was prepared in response to the development of heavy oil and oil sands resources in the area and was approved by Cabinet in 1996 (AEP 1996). The planning area covered the eastern part of the Beaver River watershed, excluding the Sand River, First Nation lands, Métis Settlements, and any other federal or private lands. The purpose of the IRP was to promote the coordinated management of public land and resources within the Cold Lake planning area to achieve maximum economic, environmental and social benefits for Albertans. The resource management strategy was based on a 20-year time period. The plan focused on energy, agriculture, forestry and recreation.

Cold Lake-Beaver River Water Management Plan (2006)

In 2006, the Cold Lake-Beaver River Water Management Plan (CLBR WMP) (1985) was updated by Alberta Environment, LICA and the Basin Advisory Committee. The 2006 Authorized Water Management Plan intended to provide direction in managing water resources in the combined Cold Lake-Lower Beaver River basin — specifically, to provide adequate water quantity and quality to meet long-term user requirements (Alberta Environment 2006a). The revised plan was prompted by increased industrial

and population growth and extended periods of below-normal precipitation that occurred after the original plan was completed. The combined growth and dry weather had resulted in record low water levels in the area's lakes, and low flows in rivers and streams.

To support the update of the plan, four State of the Basin reports were developed for the Cold Lake-Beaver River area:

- Surface water quality (Alberta Environment 2006b)
- Surface water quantity and aquatic resources (Alberta Environment 2006c)
- Groundwater quantity and brackish water (Alberta Environment 2006d)
- Groundwater quality (Alberta Environment 2006e).

Key issues and objectives for the WMP were based on the findings presented in the State of the Basin reports. Recommendations addressed:

1) Water Supply and Demand
2) Surface and Groundwater Quality
3) Strategies for Protection of Aquatic Resources

These recommendations reflected additional stewardship needs in the basin, beyond infrastructure and engineered solutions (e.g., dams and diversions). Although regulatory (under the direct mandate of Alberta Environment) and non-regulatory (Best Management Practices) tools were provided to implement the recommendations, no implementation plan was developed to direct activity.

The updated 2006 WMP retains the same planning area as the original 1985 Plan (Figure 1) and continues to focus on lakes, downstream rivers, and aquifers that are most likely to be affected by existing water withdrawals and future withdrawal applications (AEP 2016). The extent to which the recommendations in the CLBR WMP (2006) were implemented is unclear.

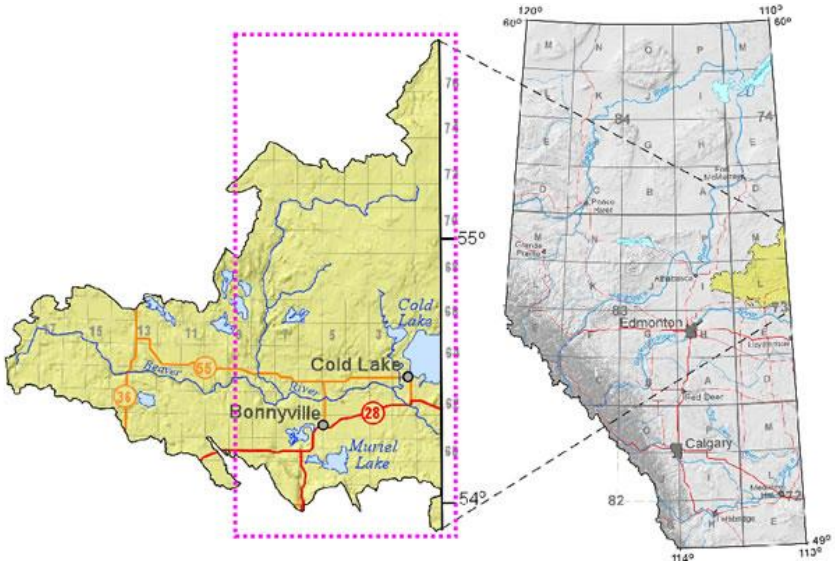

Figure 1. Cold Lake-Beaver River Water Management Plan planning area (2006) (AEP 2016).

Lower Athabasca Regional Plan (2012)

In August 2012, the Government of Alberta (GOA) approved the Lower Athabasca Regional Plan (LARP) which encompasses the Lower Beaver River watershed in its planning area. To support the LARP, the GOA is developing a series of Management Frameworks to identify management targets for air quality,

surface water quality, groundwater, biodiversity and landscape management. To date, the Groundwater Management Framework, Surface Water Quality Management Framework, and Surface Water Quantity Management Framework (2015) have been completed. The Biodiversity Management Framework is in draft form (2014), and the Landscape Management Plan is underway.

2.2 Need for a New Plan

Healthy watersheds are essential since they support interdependent human, animal, and ecosystem health. Integrated Watershed Management Plans (IWMP) are important for guiding land and water resource management in consideration of environmental, sociocultural and economic aspects. Implementation strategies that accompany IWMPs are essential for initiating action. Although the 2006 Cold Lake-Beaver River Water Management Plan (CLBR WMP) provides a strong foundation for management of the eastern Lower Beaver River, it pre-dates important legislative changes that affect watershed management, and excludes parts of the greater Beaver River watershed. A new plan should also better reflect all stakeholder concerns, including First Nations and Métis Rights and Indigenous knowledge.

3.0 PURPOSE, INTENT, PLANNING CONTEXT AND SCOPE

3.1 Purpose, Intent and Authority

The Beaver River IWMP provides broad guidance for watershed management, and sets out clear direction that will result in consistent, specific actions for integrated management of land and water resources to support long-term watershed health.

The IWMP will not replace the existing authorized 2006 CLBR WMP [1] but rather augment it with aspects not previously considered.

While the watershed plan is not legally binding, developing the plan collaboratively means it is more likely to be supported and implemented by decision-makers in the Beaver River watershed.

To maximize opportunities for successful implementation, the IWMP should be supported by all stakeholders, First Nations and the Métis. Recommendations should be incorporated in future planning documents and updates of existing plans that have legal/regulatory authority (e.g., the CLBR WMP (2006), the Lower Athabasca Regional Plan and sub-regional management frameworks, and municipal statutory plans and policies).

[1] Water Management Plans provide a framework for Alberta Environment and Parks to make water management decisions under Alberta's *Water Act* and *Environmental Protection and Enhancement Act* (EPEA).

3.2 Legislative Policy and Planning Context

The development of the Beaver River IWMP will be guided in part by the Framework for Water Management Planning (1999), the Guide to Watershed Planning in Alberta (Alberta Government 2015) and *Water for Life Strategy* (2003; renewed in 2008).

The IWMP will be developed within the context of existing federal, provincial and municipal legislation, policies and regional plans. The IWMP will acknowledge and adhere to the commitments outlined in the inter-provincial Master Agreement on Apportionment (1969) as administered by the Prairie Provinces Water Board[2]. The IWMP will reflect current policies and practices in place since completion of the CLBR WMP in 2006 and will encourage advancement of policies and practices for continued effort to steward the Beaver River watershed.

A compilation of legislation, policy, plans and procedures relevant to the Beaver River watershed was prepared as a reference that will be available as part of the Beaver River IWMP. At the provincial level, the most notable changes to legislation, policies and plans since 2006 are the *Alberta Land Stewardship Act*, the *Alberta Wetland Policy*, and the Lower Athabasca Regional Plan (2012).

3.3 Scope

The Beaver River IWMP will include:

- A summary of issues
- Goals and objectives
- Indicators, targets and thresholds
- Roles and responsibilities
- Recommendations
- An implementation strategy

In response to recommendations identified in the 2006 CLBR WMP, the IWMP will:

- Include the entire Beaver River watershed in its planning area
- Better reflect all stakeholder concerns, including First Nations and the Métis
- Improve municipal influence by providing recommendations related to municipal development planning, including area structure plans for lakeshore (subdivision) development
- Create a more comprehensive plan by broadening the focus from a specific sector (i.e., oil/gas) to address additional resource management objectives that consider and reflect watershed-scale processes and needs
- Integrate and address wildlife and fisheries management issues
- Provide specific recommendations with more implementation detail, as opposed to general recommendations that are not easily implemented

The scope of issues addressed in the plan will include those identified in Section 5.0 and are subject to change according to further engagement with stakeholders, First Nations and the Métis.

[2] 68% of the natural flow of the Beaver River and Cold Lake basins must be allowed to flow to the adjacent province (Saskatchewan).

Limitations

The IWMP will not:

- Gather new information to fill data gaps
- Formulate legislation, policy, or regulations
- Address air quality[3] unless it relates to other watershed issues
- Consider the Saskatchewan portion of the watershed

4.0 PLANNING AREA

The Beaver River watershed is located in the boreal plain of east-central Alberta and west-central Saskatchewan, in Treaty 6, 8 and 10 territories and in the Métis homeland northeast of Edmonton (Figure 1). The Beaver River originates near the Town of Lac La Biche as the outflow from Beaver Lake. It flows in an easterly direction for about 250 km, flowing south of Cold Lake before entering Saskatchewan. The Cold River originates at the east end of Cold Lake in Saskatchewan becoming the Waterhen River, and continues flowing east to join the Beaver River. The river flows north and joins the Churchill River at Île à-la-Crosse to flow into Hudson Bay. The length of the river from its source to its mouth is about 661 km. The total drainage area of the Beaver River at its confluence with the Churchill River is 50,003 km^2. About 22,000 km^2 of the watershed is in Alberta (Beaver River Watershed Alliance (BRWA) 2013).

Additional detail about the Beaver River watershed and its sub-watersheds can be found in Appendix B, and in the Beaver River State of the Watershed Report (BRWA 2013).

[3] Air quality initiatives are well underway in Alberta with:

- Clean Air Strategic Alliance (CASA) and the establishment of Airshed Zones, which includes the Bonnyville/Cold Lake area
- Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA)
- Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring (JOSM) (2012-2014; three-year program); JOSM addressed Air Quality, Water, Wildlife Contaminants and Toxicology, and Biodiversity and Habitat
- Lower Athabasca Regional Plan Air Quality Management Framework (Alberta Government 2012)

Figure 1. Map of the Beaver River watershed planning area (BRWA 2013). *Note to Reader: This map is currently being updated, and will include FN traditional lands, among other changes.*

5.0 ISSUES, GOAL AND OBJECTIVES

5.1 Issues

The following section summarizes watershed issues which relate to surface water and groundwater quantity and quality, wetlands and riparian areas, biodiversity, and land management. The subsequent list of issues was compiled in consideration of the following documents and additional expert advice:

- Alberta Lake Management Society, LakeWatch Lake Water Monitoring Reports
- Aquatic Ecosystem Health Assessment Program (Fish-based Index of Biotic Integrity, 2009-2011)
- Beaver River State of the Watershed Report (2013)
- Bibliography of scientific research related to watershed issues (Section 10 Bibliography)
- Cold Lake-Beaver River Water Management Plan (2006)
- Community Groundwater Monitoring - Domestic Well Survey (2009, 2011)
- Enhanced Wetland Classification for Beaver River Watershed (Ducks Unlimited Canada 2010)
- Lakeland Uranium Study (2009-11)
- LICA long-term Soil Acidification Monitoring Project reports
- Stakeholder workshops held in 2013-2014 to identify and prioritize issues (BRWA 2013, BRWA 2014, CPP Environmental 2014)
- The Technical Advisory Team that reviewed and prioritized issues identified through prior stakeholder engagement (Appendix C)
- Wetland Inventory (2009-10)
- Winter Lake Level Study (2008-11)

Surface Water

Quantity

- Fluctuating water levels (lakes and wetlands) and streamflows caused by climate change and variability (e.g., temperature, evaporation, and precipitation) that can:
    - Impact water availability for municipal water supplies, agricultural uses, and First Nations and Métis
    - Increase risk of flooding, and impacts associated with drought
    - Impact recreation activity
    - Alter aquatic, riparian and upland habitat
    - Alter land use (e.g., cultivation, development) around wetlands and ephemeral streams (watercourses that flow briefly in direct response to rainfall or snowmelt (USEPA 2015)).
- Surface water withdrawals.
- Altered drainage patterns and/or discharges of treated effluent, and stormwater.

Quality

- Water quality in lakes and streams does not meet desired end uses (e.g., drinking water, contact recreation, agriculture, Indigenous traditional practices, and/or wildlife and aquatic species needs) in some areas due to soil type and geology, climate change and variability, and/or influx of point and non-point source pollution from adjacent lands (e.g., nutrients, sediment, bacteria).
- The influx of nutrients originating from external sources and the internal natural cycling of nutrients contributes to eutrophication[4] in many lakes in the watershed.

[4] Eutrophication: Enrichment of aquatic ecosystems by plant nutrients (e.g., phosphorus and nitrogen); characterized by increased growth of plants and algae. The process of eutrophication can be accelerated by human activity (e.g., effluent disposal, land drainage), and can have negative impacts on aquatic health.

Groundwater

Quantity

- Uncertainty regarding groundwater quantity resulting from climate change and variability, and withdrawals for human and industrial use.
- Limited understanding of the impact that groundwater withdrawals have on aquifer dynamics (e.g., shallow/deep aquifer interactions) and on lake water levels and streamflows (i.e., groundwater-surface water interactions).

Quality

- Human health concerns related to naturally occurring and/or human-caused mobilization (e.g., thermal mobilization[5]) of trace metals (i.e., arsenic and uranium) in concentrations above drinking water guidelines.
- Concerns related to land use, including potential contamination from improperly abandoned water wells, landfills, agricultural activity, septic fields and, oil and gas activity (casing failures).

Wetlands and Riparian Areas

- Loss of wetland and riparian areas and their respective functions:
    - Water storage (absorptive capacity, flood control) and water balance in lakes/streams
    - Groundwater recharge
    - Water quality (retention of nutrients, suspended sediment, soil and associated contaminants)
    - Biodiversity
    - Ecological services[6] (recreation, carbon sequestration, stormwater treatment)

Biodiversity

- Fragmented and poor-quality habitat, due to increased road density, access, recreational activity, industrial activity (e.g., pipelines, well-sites, mining [sand and gravel]), and other developments.
- Changing abundance and/or size of certain fish and wildlife species in the watershed.
- Potential threat of terrestrial and aquatic invasive species (e.g., quagga mussel, Himalayan Balsam) in and adjacent to waterbodies in the watershed.
- Berries, plants and animals are safe to eat.

Land Management

- Cumulative impact of development[7] and industry[8] on water resources, ecosystem and landscape function (including riparian areas and wetlands), biodiversity, and First Nations and Métis traditional land use[9].

[5] Thermal mobilization: Refers to the mobilization of trace metals when heat or steam is used to assist in the recovery of heavy oil

[6] Ecological services: The direct and indirect benefits ecosystems provide for humans.

[7] Development: Includes urban and recreation developments.

[8] Industry: Generally refers to oil and gas, forestry, agriculture, and sand and gravel extraction, among others

[9] Tradition Land Use: Traditional land use (TLU) refers to any land use by an Indigenous person that is rooted in their cultural identity and ancestral connection to certain areas. This includes the Treaty right to hunt, fish, and trap for food, but may also include plant harvesting and/or spiritual ceremonies. Analogous terms or phrases may include any combination of 'Indigenous', 'aboriginal', or 'ancestral' and 'users', 'land uses' or 'harvesting'. TLU is often shown as map data or geographic information in both qualitative and quantitative forms.

Climate Change

- Impacts of climate change as it relates to:
  - Water availability and quality
  - Increased risk of drought, fire and floods,
  - Pest management (e.g., forest insects and diseases)
  - Altered landscapes and habitat conditions
  - Risks to fish, wildlife, and vegetation

Knowledge and Understanding

- Gaps in knowledge and understanding of natural conditions and anthropogenic (human-caused) impacts on watershed function.
- Limited public understanding or use of First Nations and Métis Rights, Indigenous Knowledge[10] and Practices in the development and implementation of plans and policies.

5.2 Goal

Collaborative management of land and water resources that results in a healthy Beaver River watershed.

The LICA IWMP Committee (2020) established that a healthy watershed supports interdependent human, animal, and ecosystem (aquatic and terrestrial) health where:

- Human health involves individual and community physical, mental and social well-being, including the ability to express one's culture.
- Domestic and production animal health involves physical and psychological well-being that supports productivity, reproduction, and expressions of innate characteristics.
- Wildlife health involves resiliency under changing environmental conditions and the ability to sustain their ecological, social, and cultural roles.
- Ecosystem health involves the ability to maintain and improve organizational structure and function, resilience under stress, and to continuously provide quality ecosystem services.

5.3 Objectives

The Beaver River IWMP objectives in Table 1 are based on issues documented in previous stakeholder engagement sessions and review by a Technical Advisory Team composed of subject matter experts (PESL 2016). The objectives will be further refined to reflect stakeholder, First Nation and Métis input.

[10] Indigenous Knowledge: Traditional Knowledge held by First Nations, Inuit and Métis peoples that is transmitted from generation to generation. Indigenous Knowledge emerges from complete knowledge systems and is expressed in many formats (e.g., oral, ceremony, artistic creations, and artifacts). Indigenous Knowledge is not all in the past; there is continued growth, innovation and change in practices. Indigenous Knowledge includes history, law, spirituality, agriculture, environment, science, medicine, animal behaviour and migration patterns, art, music, dance, craft, construction, among others. Indigenous (Traditional) Knowledge is held collectively by all members of a community, although some members may have particular responsibility for its transmission. The terms "traditional knowledge" and "Indigenous knowledge" are sometimes used interchangeably (University of Alberta 2020; Government of Canada 2020b).

Table 1. *Draft* objectives and outcomes for the Beaver River IWMP.

Component	Objectives	Outcome
Water Quantity	1. Review and determine status of existing Water Conservation Objectives in the original Cold Lake Beaver River Water Management Plan (CLBR WMP 2006). 2. Review the need to establish water Conservation Objectives for streams and lakes outside of the original CLBR WMP planning area. 3. Recommend strategies that encourage water conservation. 4. Understand the status of current surface water and groundwater initiatives and recommend strategies to better manage the resource.	Secure, reliable water supplies are available for desired uses (i.e., environmental, First Nations and Métis, municipal, agricultural, industrial and recreational).
Water Quality	1. Establish Water Quality Objectives for the Beaver River and select tributaries that are compatible with the Surface Water Quality Management Framework. 2. Establish Water Quality Objectives for major recreational lakes. 3. Identify stormwater management targets and Low Impact Development strategies to minimize development impacts to water quality (and quantity). 4. Identify appropriate land use, management and stewardship strategies to maintain and/or improve water quality.	Surface water and groundwater quality that is protected from contamination, maintained within the range of natural variability, and meets end-use criteria.
Biodiversity	1. Identify appropriate land use targets and thresholds (e.g., stream crossings and linear features) to better understand and track cumulative impacts on aquatic and terrestrial habitat. 2. Recommend best management practices and actions that improve wildlife habitat, health, and biodiversity. 3. Recommend appropriate actions to address the risks associated with invasive species.	Fish, wildlife, and plants are healthy and resilient to changing environmental conditions. Their ecological, social, and cultural roles in the watershed are sustained.
Riparian Areas and Wetlands	1. Establish riparian[11] setbacks[12] and management objectives/targets that are applied consistently throughout the watershed. 2. Recommend actions that contribute to healthy riparian areas and wetlands.	Healthy riparian areas and wetlands contribute to watershed resiliency with respect to flood and drought, quality water, and critical habitat.

[11] Riparian: Riparian lands are transitional areas between upland and aquatic ecosystems that have soil and vegetation characteristics that reflect the influence of water. They have variable width and extent both above and below ground.

[12] Setback: A minimum distance that must be maintained between a land use or development activity and a waterbody/watercourse.

Component	Objectives	Outcome
Land Management	1. Recommend appropriate water and land management practices that mitigate impacts of industry and development (i.e., urban, recreation, agriculture, oil and gas, forestry, and sand and gravel extraction), and maintain and/or improve ecosystem health.	Cumulative effects of diverse land uses are reduced or mitigated to maintain and/or improve ecosystem health.
Climate Change	1. Recommend climate actions and climate change mitigation and adaptation strategies related to watershed management for consideration by decision-makers, resource managers and residents.	Climate change considerations are central to all watershed-related planning and decision-making processes.
Knowledge and Understanding	1. Assess and prioritize knowledge gaps in the Beaver River watershed. 2. Recommend outreach materials and other tools to disseminate Indigenous Knowledge, and scientific research related to watershed health.	Indigenous Knowledge and scientific research guide decision-making.

5.4 Indicators, Targets and Thresholds

Indicators, targets and thresholds will be used to measure success in achieving watershed goals, objectives, and desired outcomes. Indicators refer to an easily measurable attribute that reflect one aspect of the underlying condition or state of watershed health (AEP 2008). Criteria used to establish indicators will include: relevance to the watershed, importance to residents and stakeholders, and measurability.

Targets and thresholds are numerical (quantitative) or written (quantitative statements) that reflect desired or achievable conditions of attributes used to measure watershed health. Targets are used to determine how valued components in the watershed rate or compare to acceptable or desired ratings and/or conditions. Interim targets, thresholds and objectives may be established when comprehensive or local data is unavailable. Examples of indicators include nutrient concentrations and riparian health scores.

5.5 Recommendations

Recommendations will be put forward to address issues, and to achieve the objectives and outcomes listed in Table 1 (once finalized through engagement). Relevant recommendations from previous planning initiatives may be carried forward into the Beaver River IWMP. New recommendations will be developed collaboratively to align with current initiatives and directions.

5.6 Implementation Strategy

An Implementation Strategy will accompany the Beaver River IWMP to support the implementation of recommendations presented in the plan. The strategy will summarize implementation actions, identify roles and responsibilities, and suggest a preliminary timeline in a series of tables related to the main aspects of watershed management in the IWMP.

5.7 Measuring Success

The IWMP will be successful when:

- It is fully implemented through the collaboration of all stakeholders.
- Targets and thresholds are achieved and/or measurable improvements are observed for established indicators.

6.0 STAKEHOLDER, FIRST NATIONS AND MÉTIS ENGAGEMENT

6.1 Goal

Watershed stakeholders, First Nations and the Métis participate in the development of the Beaver River IWMP to ensure relevancy, long-term viability, and collaborative implementation of the plan.

6.2 Objectives

The objectives of engagement are to:

1. Involve stakeholders, First Nations and the Métis in the IWMP development process
2. Share information with stakeholders, First Nations and the Métis about the IWMP, Beaver River watershed, and progress related to IWMP development
3. Identify and gather existing technical and scientific material to support the development of the IWMP, and address stakeholder, First Nations and Métis questions and concerns
4. Facilitate and establish a common public understanding of the hydrological, ecological, socio-cultural and economic state of the Beaver River watershed and associated issues
5. Obtain stakeholder, First Nations and Métis input at key stages in the development of the IWMP; consider this information alongside best scientific information and Indigenous Knowledge to develop credible recommendations for resource management
6. Promote communication between agencies responsible for watershed management, stakeholders, First Nations and the Métis to maximize collaboration and effective stewardship of the Beaver River watershed.

6.3 Guiding Principles

- LICA is committed to open communication that fosters trust, credibility and integrity.
- LICA will engage in a timely manner, and will provide sufficient time for participant feedback, which LICA expects will be submitted in a timely manner.
- LICA respects and values a diversity of knowledge, interests and values. LICA will consider input provided by stakeholders, First Nations and the Métis along with technical information available for sub-watersheds in the Beaver River watershed.

6.4 Format, Schedule and Tools

LICA will schedule engagement sessions to gather input into the Beaver River IWMP at four key stages:

1. Draft Beaver River IWMP Terms of Reference (Intent, Scope, Current Watershed Condition and Description of Issues, Goals and Objectives, Roles and Responsibilities, Work Plan and Schedule)
2. Draft I Beaver River IWMP – Indicators, Targets and Thresholds, Preliminary Recommendations

3. Draft II Beaver River IWMP Recommendations and Implementation Strategy
4. Presentation of the final IWMP and next steps

While four formal engagement sessions are listed above, it is likely that additional meetings will be scheduled as discussions advance, according to individual needs of stakeholder groups, First Nations and the Métis.

*Engagement Session Participation

Engagement sessions related to each of the four key stages in the planning process will be organized for the following individual stakeholder groups, First Nations and the Métis:

- First Nations
  - Beaver Lake Cree Nation
  - Cold Lake First Nations
  - Kehewin Cree Nation
  - Whitefish First Nations
- General public, including youth
- Industry – Oil and gas, agriculture, forestry, sand and gravel
- Local municipal governments - staff, appointed Council members
- Provincial and Federal government agencies
- Provincial/Regional Associations, Non-Government Organizations and Academia
- The Métis
  - Buffalo Lake Métis Settlement
  - Elizabeth Métis Settlement
  - Fishing Lake Métis Settlement
  - Kikino Métis Settlement
  - Métis Nation of Alberta - Regions 1 and 2

*Note: The number of engagement sessions may be reduced by combining sectors, organizations, and/or groups based on feedback and participation. Benefits to combined workshops include:

- Cross-dialogue between target groups facilitates comprehension of varying view-points and may lead to better community buy-in and implementation success
- Achieving a “critical mass” of participants for a more effective meeting.

Individuals who are unable to attend their sectors engagement session are encouraged to complete the online survey, and participate in a different engagement session.

Engagement Format

While in-person engagement with stakeholders, First Nations and the Métis is preferred, current COVID-19 related restrictions and health recommendations direct that engagement sessions be held virtually to safeguard public health. In-person engagement will be considered if restrictions and public health recommendations allow.

Stakeholder Input

Input to the IWMP may be provided at scheduled engagement sessions through question, answer and discussion period, through online response forms (surveys), or through written letters or email submitted to LICA or the IWMP Committee during the designated time period. Throughout the engagement process, stakeholders, First Nations and the Métis may provide insight, ideas, technical

information, and general input to LICA or the IWMP Committee who will consider it during the development of the IWMP.

All summaries and reports related to stakeholder engagement will be shared on the LICA website.

Table 1. Schedule of stakeholder, First Nations and Métis engagement at key stages in the development of the Beaver River IWMP.

Schedule	Engagement Session	Purpose
February-April 2021	1. Draft Beaver River IWMP Terms of Reference	• Review intent and scope of the Beaver River IWMP • Review and confirm watershed condition, key issues and opportunities for watershed management • Review roles and responsibilities • Review work plan and schedule • Seek input into availability of data, technical reports, research in the watershed relevant to the main IWMP objectives
Sep-October 2021	2: Draft I Beaver River IWMP – Indicators, Targets and Thresholds, Early Recommendations	• Review "What we Heard: Session I • Review and confirm draft indicators, targets and thresholds • Review and discuss preliminary recommendations
February-March 2022	3. Draft II Beaver River IWMP Recommendations and Implementation Strategy	• Review "What we Heard: Session II • Review, discuss and refine recommendations and implementation strategy
September 2022	4. Final Beaver River IWMP Presentation	• Presentation of the Final Beaver River IWMP and summary of next steps

Communication Tools

Multiple communication tools will be used to engage and communicate with stakeholder, First Nations and the Métis. Specific methods may be preferred for individuals and/or groups. Tools include:

- Posts on the LICA website and social media accounts (i.e., Facebook, Twitter, Instagram)
- Emails and/or phone calls to point of contacts for individual stakeholder, First Nation and Métis groups and other community members of interest
- Invitations to engagement sessions advertised on local radio stations

Surveys

Surveys will be developed as an alternative method to provide input into the IWMP to accommodate individuals who are unable to participate in the engagement session, and to receive additional feedback from participants following the presentation of material. Survey content will reflect information pertaining to the appropriate key planning stage. Surveys will be circulated to all point of contacts on the stakeholder, First Nation and Métis list (Appendix A), and will be posted to the LICA website and Facebook page. Summarized results of the surveys will be presented on the LICA website.

Communication and Engagement Evaluation

LICA will take several steps to evaluate the effectiveness of the communication and engagement strategy and determined areas for improvement. Steps include: post-engagement surveys regarding

sessions, review of session attendance, and interest in social media posts and the IWMP page of the LICA website.

7.0 ROLES AND RESPONSIBILITIES

Watershed management planning and implementation of recommendations is a shared responsibility, and requires the collaboration of multiple levels of government, various industries (e.g., agriculture, oil and gas), non-government organizations, landowners, leaseholders, and residents in the watershed. The planning process is considered successful when stakeholders recognize and support their individual or shared responsibility for achieving the collective goals and objectives of the IWMP. General roles and responsibilities for Beaver River watershed management are further described below.

7.1 Lakeland Industry and Community Association

LICA will manage the development of the Beaver River IWMP including:

- Forming, managing and overseeing the IWMP Committee and their meetings
- Overseeing contractors and their work pertaining to IWMP development
- Managing product quality for reports, communication material, and any supporting documents
- Identifying and addressing data gaps
- Collaborating and engaging with stakeholders, First Nations, and the Métis throughout the process
- Ensuring the best combination of scientific information, Indigenous Knowledge and stakeholder, First Nations and Métis feedback is used to develop the IWMP
- Lead communication, education and engagement
- Helping to implement the IWMP by acting on action items in the IWMP implementation plan specific to LICA and providing support to others implementing the plan

IWMP Committee

The role of LICA's IWMP Committee is to provide technical knowledge and support to develop the IWMP, help to plan for future phases, and to ensure that the work is being conducted in a transparent manner (LICA IWMP Committee TOR 2020). The IWMP Committee has representation from:

- Agriculture
- Alberta Environment and Parks
- Alberta Energy Regulator
- CFB Cold Lake
- First Nations
- Local community
- Métis Nation of Alberta - Region 2
- Métis Settlements
- Municipal Governments
- Oil and Gas
- Watershed Stewardship Groups
- Youth

7.2 General: Stakeholders, First Nations, and the Métis

- Participate in engagement sessions to provide feedback at key stages in the development of the IWMP
- Respect, support and collaborate with other participants
- Support implementation of the IWMP to achieve common goals and objectives for the Beaver River watershed, where possible

7.3 Federal Government

The federal government performs a key role in shared management of watershed resources. The *Canada Water Act* enables co-operative agreements between the federal, provincial, and territorial governments to regulate, apportion, and monitor water resources, and to implement joint programs. The federal government has authority for water quality and publishes water quality guidelines pertaining to the environment, drinking water and recreation. The Department of Fisheries and Oceans oversees fisheries resources and fish habitat under the *Fisheries Act*. Other federal roles include pollution control, and the management of interprovincial waters (e.g., Cold Lake), navigation and water on federal lands.

Department of National Defence (CFB Cold Lake)

The National Department of Defence has created a Defence Environmental Strategy that identifies the military's approach to integrating environmental management into activities that support its mandate, including the use of best practices and sustainable development.

7.4 First Nations

The Beaver River watershed is located on Treaty 6, 8, and 10 territories. Beaver Lake Cree Nation, Cold Lake First Nations, Kehewin Cree Nation, and Whitefish Lake First Nations (Goodfish) have reserve lands and associated traditional territories located in this region.

First Nations have traditional values and rights, constitutional rights and key principles embodied in their treaties, which guide their way of life and jurisdiction in the watershed. Treaty rights are recognized and affirmed in the *Constitution Act* (S. 35), 1982. Treaty rights include protection of traditional ways of life, the right to occupy and use lands and resources (e.g., the right to hunt, fish and trap on unoccupied Crown land), cultural and social rights, rights to consultation, and rights to participate in land and resources management decisions (Government of Canada 2020).

In 2007, the United Nations Declaration on the Rights of Indigenous Peoples was signed. The Declaration affirms and sets out minimum standard rights of Indigenous peoples related to self-determination and self-government, culture and identity, lands, territories and resources, and environment to name a few.

First Nations are reliant on healthy watersheds for sustenance, and to support their way of life. They retain Indigenous Knowledge and information regarding Indigenous Practices that can increase common understanding of watershed resources, and inform recommendations that support protection and/or restoration of water and land resources.

LICA wants to clearly communicate to First Nations that by participating in the Beaver River watershed planning process, First Nations will not abrogate any rights they have, and the obligation of governments to duly consult with First Nations will not be diminished. Neither the LICA Board of Directors, nor LICA staff considers any discussion entered into with First Nations to fall within any mandated duty to consult.

7.5 Provincial Government

The provincial government includes multiple ministries that are responsible for the management of public lands and natural resources on behalf of Albertans.

Alberta Environment and Parks (AEP)

AEP has a legislated mandate to manage air quality, water resources, waste management, cumulative effects, provincial Crown (public) lands, the bed and shore of naturally occurring water bodies, and biodiversity (including fish and wildlife resources). AEP is responsible for key legislation and policies influencing watershed management, including Alberta's *Water Act* and Wetland Policy.

Alberta Agriculture and Forestry (AEF)

AEF is a *Water for Life* partner and shares responsibility for achieving its goals. AEF is responsible for the *Agricultural Operations Practices Act* (*AOPA*), legislation that sets manure management standards in Alberta. AEP delivers programs to assist producers to develop and implement plans to minimize impacts on the environment (e.g., Environmental Farm Plan program). AEF strives to develop the agriculture and food industry, sustain the industry's natural resource base and encourage the development of rural communities.

7.6 Alberta Energy Regulator

The Alberta Energy Regulator (AER) was founded in 2013 as the single regulator of energy development (e.g., oil, oil sands, natural gas, and coal projects) in Alberta. AER regulates application and exploration, construction and development, and abandonment, reclamation and remediation activities. AER is authorized to make decisions on applications for energy development, monitoring for compliance assurance, decommissioning of developments, and all other aspects of energy resource activities. This authority extends to authorizations pursuant to the *Public Lands Act*, the *Environmental Protection and Enhancement Act* and the *Water Act* that relate to energy resource activities.

7.7 Municipal Governments

The Beaver River watershed is represented by the rural municipalities of Athabasca County, County of St. Paul, Lac La Biche County, Municipal District of Bonnyville, Smoky Lake County, and Thorhild County. Urban centres include the City of Cold Lake, and the Town of Bonnyville.

Under Part 17 of the *Municipal Government Act* (MGA), municipalities have responsibilities in planning, regulating, subdividing, and developing land in Alberta. Municipalities have the authority to create statutory plans (i.e., intermunicipal development plans, municipal development plans, area structure plans, and area redevelopment plans) to identify future plans for development within municipal boundaries and the immediate surrounding area. Municipalities are required, by the MGA, to adopt a Land Use Bylaw that divides the municipality into districts, prescribes the types of land uses permitted, establishes development standards, and provides a system for issuing permits. Municipalities promote

economic development in the region. Many municipalities also support programs, services and education initiatives that promote stewardship of watershed resources.

Agricultural Services Boards (ASBs) form part of the rural municipal government and are responsible for administering and developing programs to compliment Provincial legislation, including the *Agricultural Service Board Act*, the *Weed Control Act*, the *Agricultural Pests Act*, and the *Soil Conservation Act*. It is generally the role of the Agricultural Fieldman to implement the work plan established by the ASB.

Summer Villages

Summer Villages are designated municipalities established by the Government of Alberta. The Summer Villages of Bondiss, Bonnyville Beach, Mewatha Beach and Pelican Narrows are in the Beaver River watershed. All four Summer Villages have Land Use Bylaws in place, some with specific reference to shoreline management. The Association of Summer Villages in Alberta (ASVA) provides a forum for all Summer Villages in the province. The ASVA undertakes special initiatives that seek to address challenges facing Alberta's lake communities (e.g., Lake Stewardship Guide). Summer villages strive to minimize or mitigate human impact on the environment by promoting lake stewardship, including lake planning and implementation of actions that help protect water quality.

7.8 The Métis

Métis Nation of Alberta

The Métis Nation of Alberta (MNA) is the representative voice of the Métis people in Alberta. The MNA governance is divided into six regions across the province, including Region 1 and Region 2 that span areas of the Beaver River watershed. The MNA represents all Métis at the provincial and federal level. The MNA is striving to establish a modern day treaty with the Federal Government that recognizes land and resource rights including secure harvesting rights, and rights to self-government.

In 2019, the MNA signed the first self-government agreement between the Government of Canada and a Métis government.

Métis Settlements

In 1938, the MNA lobbied for the *Métis Population Better Act* that provided Métis with a secure land base and services on Métis settlements. In the Beaver River watershed, the Métis Settlements of Elizabeth, Fishing Lake, Buffalo Lake and Kikino coordinate the development of natural resources with the GOA. The Métis Settlements General Council (MSGC), established by the *Métis Settlements Act,* addresses matters that affect the collective interests of the Métis Settlements.

The Métis Harvesting in Alberta Policy (2018) ensures that Métis people who are entitled to harvesting rights as guaranteed by the *Constitution Act (s. 35), 1982*, have the ability to hunt, fish and trap for subsistence (food). Both the Métis Nation of Alberta and Métis Settlement members have harvesting rights in designated harvesting areas if they have a demonstrated historical connection to a Métis Harvesting Area in Alberta, and a contemporary connection to the same community. Harvesting Areas B and D are represented in the Beaver River watershed.

7.9 Industry

Agriculture

Agricultural lands cover about one-third of the watershed. About half of the agricultural land in the watershed is pasture land and 36% of the area is cropland. As a main industry in the Beaver River watershed, farmers and ranchers have a large role in watershed management, including the maintenance of water quantity and quality, and healthy riparian areas and grassland. Agricultural activity must comply with provincial legislation (*AOPA)*. The Grazing Lease Stewardship Code of Practice was signed by the Alberta Beef Producers, the Alberta Grazing Leaseholders Association, the Western Stock Growers Association, and the provincial government. The Code of Practice identifies the roles and responsibilities that public land grazing leaseholders have in land management.

Forestry

Two Community Timber Permit Programs are currently active in the Lac La Biche Forest Area's Forest Management Unit LO1. The programs' annual volume harvests are 30,000 m^3 of deciduous and 14,000 m^3 of conifer trees. All forestry operations in the watershed are conducted according to the Northeast Alberta Timber Harvest Planning and Operating Ground Rules (GOA 2018). Approximately 8 timber permits are issued annually to program members and competitive sale winners.

Oil and Gas

The Cold Lake oil sands deposit is one of the largest in Alberta. Since Imperial Oil began production of bitumen in 1975, oil and gas exploration and development has increased in the Beaver River watershed. Several companies now conduct *in situ* recovery operations from the Cold Lake oil sands, including areas within the Cold Lake Air Weapons Range (BRWA 2013). Oil and gas activity is regulated by the Alberta Energy Regulator. Oil and gas companies have a responsibility to develop resources in a way that minimizes impacts on watershed resources. The Canadian Association of Petroleum Producers (CAPP) encourages responsible development in the upstream oil and gas industry. CAPP aims to enable environmentally and socially responsible performance, and encourages the use of best management practices to reduce impacts on air, land, water, and people.

7.10 Watershed Stewardship Groups, Non-Profit Organizations, Academia

As partners in the *Water for Life Strategy*, Watershed Stewardship Groups (WSGs) are key partners in watershed management planning, beneficial management practice implementation, and education and outreach programs in the Beaver River watershed. WSGs encourage watershed stewardship at a local level. Similarly, many non-profit organizations support watershed management and stewardship efforts through planning, environmental condition monitoring and evaluation, and education initiatives. Universities and research institutes provide essential data and perspective on emerging watershed issues and environmental conditions by undertaking primary research. Academia may identify research needs, as well as suggest how data and knowledge gaps can be addressed.

7.11 Residents

Residents have valuable knowledge and insight about current watershed condition and can provide direction on how to achieve community goals. Residents also have a role in stewardship.

8.0 REVIEW AND AMENDMENT

It is expected that the Beaver River IWMP will be complete in 2022. Progress on its implementation should be tracked and reviewed annually. The plan should be reviewed in 2025, and every five years after – to ensure it remains relevant and addresses priority issues.

9.0 SCHEDULE

Note: The schedule presented below is subject to change due to unforeseen circumstances, due to events such as additional meetings, or delays due to issues surrounding the ongoing COVID-19 pandemic.

Years 2020 and 2021

Phase	Task	2020	2021											
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Terms of Reference (TOR)	IWMPC Meeting #1													
	Review draft Beaver River IWMP Terms of Reference													
	IWMPC Meeting #2 Review engagement strategy and survey to stakeholders													
	Circulate engagement notice, draft TOR – summary document, and survey to stakeholders													
	Engagement Session 1													
	Consider engagement input; Revise TOR based on feedback													
	IWMPC Meeting #3 Finalize TOR, Review approach to Draft I IWMP: indicators and preliminary recommendations													
DRAFT I IWMP	Collect, review and organize relevant data. Identify data gaps to support recommendations. Establish indicators. (Ongoing)													
	Interpret, analyze and synthesize findings. Establish Indicators, Targets and Thresholds; Leading recommendations													
	Circulate Draft I IWMP to IWMPC													
	IWMPC Meeting #4 Review Draft I IWMP													
	Consider IWMPC input; Revise Draft I IWMP													

Phase	Task	2020	2021										
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Circulate materials for engagement, including Draft I IWMP and survey													
	Engagement Session 2: Review Draft I IWMP													
	Consider engagement input; Revise Draft I IWMP													
DRAFT II IWMP	Circulate Draft II IWMP to IWMPC													
	IWMPC Meeting #5 Debrief engagement, Review Draft II IWMP													

Year 2022

Phase	Task	2022											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Draft II IWMP	Circulate Draft II IWMP for engagement												
	Engagement Session 3: Review Draft II IWMP												
	Consider engagement input; Revise Draft II IWMP												
Final IWMP	Circulate final draft IWMP to IWMPC												
	IWMPC Meeting #6 Review Final draft IWMP; discuss next steps												
	Finalize IWMP and seek support; Develop summary documents and communications												
	Final Beaver River IWMP is available to partners, stakeholders and public on website.												

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APPENDIX A. KEY STAKEHOLDERS, FIRST NATIONS, AND MÉTIS

Academic
Lakeland College
Portage College

Business and Industry
ATCO
Green Alberta Energy

CFB Cold Lake

Economic Development
Cold Lake Chamber
Bonnyville Chamber
St. Paul Chamber
Lac La Biche Chamber
Travel Lakeland

Federal government
Agriculture Canada
Fisheries and Oceans Canada

First Nations
Beaver Lake Cree Nation
Cold Lake First Nations
Kehewin Cree Nation
Whitefish Lake First Nation (Goodfish)

Industry
Bonnyville Chamber
Cold Lake Chamber
Forestry
Kalinko Enterprises
Lac La Biche Chamber
North East Bulk Transportation
Oil and gas

- Cenovus
- Husky
- Imperial
- Nexen
- OSUM Oils Sands Corp
- CNRL
- Devon Energy

St. Paul Chamber

Local Government (elected officials and staff)
Athabasca County
City of Cold Lake
Lac la Biche County
MD of Bonnyville
Smoky Lake County
St. Paul County
Thorhild County
Town of Bonnyville

Local Organizations
Beaver River Naturalists Society
Bonnyville Fish and Game Association
Crane Lake Advisory and Stewardship Society
Lac La Biche Birding Society
Lakeland Agricultural Research Association
Moose Lake Watershed Society
Muriel Lake Basin Management Society
Riverland Recreational Trail Society
Skeleton Lake Stewardship Association

Local Youth

Métis Settlements
Buffalo Lake Métis Settlement
Elizabeth Métis Settlement
Fishing Lake Métis Settlement
Kikino Métis Settlement

Métis Nation of Alberta Regions 1

Métis Nation of Alberta Regions 2

Provincial Government/Regulators
Alberta Energy Regulator (AER)
Alberta Environment and Parks (AEP)
Alberta Agriculture and Forestry (AAF)
Alberta Health (AH)

Provincial/Regional Associations
Agri-Environmental Partnership
Alberta Beef Producers Association
Alberta Biodiversity Monitoring Institute (ABMI)
Alberta Conservation Association
Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA)
Alberta Forest Products Inc (ALPAC)
Alberta Lake Management Society
Alberta Native Plant Council
Alberta Trappers Association
Alberta Wilderness Association
Canadian Association of Petroleum Producers
Cows and Fish (Alberta Riparian Habitat Management Society)
Ducks Unlimited Canada
Land Stewardship Centre

First Nations Technical Services Advisory Committee (TSAG)

APPENDIX B. SUB-WATERSHEDS

The Beaver River watershed is comprised of ten sub-watersheds that were previously defined in the Beaver River state-of-the-watershed report by either a major lake, river or creek system (Figure 1).

Upper Beaver Sub-Watershed: Refers to the area upstream of the confluence of the Sand River, which contributes substantial flow and affects downstream water quality in the Beaver River (BRWA 2013). The Upper Beaver River has not typically been included in previous planning initiatives.

Amisk River Sub-Watershed: Located south of the Upper Beaver, originates in a former glacier outwash channel at Long Lake in the west. The Amisk River drains several large lakes and is considered a major tributary of the Beaver River (BRWA 2013).

Moose Lake River Sub-Watershed: Rises in the extreme south and joins the Beaver River a few kilometers upstream of the Sand River confluence. The watershed contains a number of long, shallow lakes within glacial outwash channels that generally flow north into Thinlake River before joining Moose Lake (BRWA 2013).

Sand River Sub-Watershed: The Sand River drains much of the watershed north of the Beaver River, including the Cold Lake Air Weapons Range. This river is considered a major tributary to the Beaver River. The upper part of the watershed lies in the central mixed wood natural sub-region, while the lower part is in the dry mixedwood sub-region (BRWA 2013). A major tributary to the Sand River is the Wolf River.

Lakeland Sub-Watershed: This area is comprised of the western tributaries that flow into the Sand River and includes Touchwood Lake, Spencer Lake, Seibert Lake, and Pinehurst Lake.

Manatokan and Jackfish Creek Sub-Watersheds: These sub-watersheds rise in the Moostoos Upland near the southern boundary of the Cold Lake Air Weapons Range. Manatokan Creek and Jackfish Creek flow south to join the Beaver River.

Marie Creek Sub-Watershed: Similar to Manatokan and Jackfish creeks, Marie Creek originates in the Moostoos Upland in the Cold Lake Air Weapons Range and flows south to join the Beaver River at Canadian Forces Base (CFB) – Cold Lake. Marie Lake is a dominant feature in the watershed.

Muriel Creek Sub-Watershed: Muriel Creek flows north to join the Beaver River south of CFB-Cold Lake. This sub-watershed is represented by Muriel Lake, and numerous smaller lakes, including Sinking lake, Jessie Lake and Charlotte Lake.

Lower Beaver River Sub-Watershed: This area includes the Beaver River lowlands from the confluence of the Sand River to the inter-provincial boundary, as well as Reita and Redspring creeks that flow from the south into the Beaver River east of CFB-Cold Lake.

Cold Lake Sub-Watershed: Cold Lake, the deepest lake in the watershed, and Primrose Lake are dominant features shared by Alberta and Saskatchewan. Medley River enters Cold Lake from the north and Martineau River (rising in Saskatchewan) enters Cold Lake from the north-east.

APPENDIX C. HISTORY OF BEAVER RIVER IWMP STAKEHOLDER ENGAGEMENT AND EXPERT ADVICE

The following describes previous effort taken in support of a Beaver River IWMP. Generally, engagement sessions were hosted in support of the Beaver River IWMP from about 2012-2015. A Technical Advisory Committee was established to review the issues identified, comment on the relevance of the issues and provide expert opinion along with science-based documentation for added context.

2012 The Beaver River Watershed Management Plan Terms of Reference (BRWA 2012) recommended that stakeholder consultations be held in two phases at the beginning of the project.

- Information sessions which provide a technical background to the public in an approachable format, as well as a forum for the public to voice their concerns to the BRWA;
- Stakeholder focus groups which target smaller groups of individuals from a common social or occupational background in order to bring forth sector-specific concerns and recommendations.

2013 In March and April 2013, the BRWA hosted four public information sessions. The series of session titled “What’s in Your Watershed?” gave attendees the opportunity to learn about watershed science from technical experts in various fields. Ninety-six people attended the sessions (ranging from 13 to 36 attendees at each session) (Keess 2013).

2014 In February 2014, six workshops were scheduled, one workshop for each of the following sectors: Industry, Non-Government and Stewardship groups, Recreation, Provincial government, Agriculture, and Municipal government. Thirty-nine issues that were identified from the State of the Watershed report (BRWA 2013) and Public Consultations completed in 2013 were reviewed for discussion. The workshops prioritized the top ten issues identified by sector group. All workshops had lower turnout than expected and one workshop was cancelled due to low attendance, however, valuable feedback was retained from all groups (CPP Environmental 2014).

2014 A meeting was held with staff from Alberta Parks and BRWA staff. A number of issues, priorities and recommendations were identified (Keess 2014).

2015 An updated Beaver River Watershed Management Plan Terms of Reference was developed (LICA and BRWA 2015).

2015 Issues identified through engagement, and recommendations pertaining to the issues were summarized in a brief report (BRWA 2015).

Informal, one-on-one meetings and/or presentations were initiated with local government) to encourage participation in the process.

2016 Feedback and advice on issues identified in the Beaver River watershed through previous engagement activities was provided by the BRWA Technical Advisory Team (PESL and Alan Dolan & Associates 2016). Draft Beaver River IWMP goals and objectives were developed along with preliminary recommendations (PESL 2016). The document was scheduled to proceed to engagement, but the planning process ended prematurely.