



Lakeland Industry and Community Association

☒ Box 8237, 5107W - 50 Street, Bonnyville, AB T9N 2J5

☎ 780 812-2182 ☎ 780 812-2186 🌐 www.lica.ca

LICA Watershed Committee Meeting Minutes Tuesday, April 4, 2023 1:00 p.m. – 4:00 p.m. LICA Boardroom and Microsoft Teams

- Present:** Richard Bourgeois
Kellie Nichiporik
Clem Parenteau
Kelly Dion-McFeeters
Bill Parker
Shawn Elgert
Annette Hobart
Randi Dupras
Roxane Bretzlaff
John Ilchuk
Amanda Avery Bibo
Abdi Siad-Omar
- Observers and Guests:** Sunal Ojha, Tribal Council Ventures Consultant
- Staff:** Kayla Hellum, LICA Environmental Coordinator
Kristina Morris, LICA Executive Director
Eveline Hartog, LICA Administrative Professional
Lori Jodoin, LICA Administrative Professional
- Regrets:** Kristen Berezanski
Robert Machatis

1.0 CALL TO ORDER

Kellie Nichiporik, the Committee Chairperson, called the meeting to order at 1:02 p.m.

1.1 Territorial Acknowledgement

1.2 Vision, Mission, and Values

1.3 Introductions

1.4 Roll Call

1.5 Approval of Agenda

1.5.1 April 4, 2023, LWC Agenda

#1 Moved by Clem Parenteau AND CARRIED that the April 4, 2023, Agenda be approved as presented.

1.6 Approval of Minutes

1.6.1 December 1, 2022, LWC Minutes

#2 Moved by Richard Bourgeois AND CARRIED that the December 1, 2022, Minutes be approved as presented.

2.0 NEW BUSINESS

2.1 2022- 2023 IWMP Budget Update

The Environmental Coordinator reviewed the 2022-23 IWMP Budget Update explaining that this budget came from the Palliser Environmental Proposal. There were leftover expenses due to fewer meetings and lower travel costs. With that extra money, hard copies of the IWMP were printed to be shared with decision makers in the Watershed, to assist with IWMP implementation.

2.2 2023-2024 Funding & Projects Update

The Environment Coordinator updated the Committee on the 2023-24 funding. They are still waiting to hear if the WRRP Grant application has been approved.

The WPAC Operational Grant will commence a new 4-year agreement in April 2023, where LICA was granted an increase in funding. With this increased funding, priorities such as the State of the Watershed Report will be addressed. The Riparian Health Campaign is also set to commence in the Spring of 2023.

A Committee member asked if any additional finances for 2023-2024 would be allocated towards the implementation process seeing that the organization received an increase in grant funding. The Executive Director shared that the consolidated budget is currently under review and will be brought to the Board in May for approval. This information will be available at the next Committee meeting. It was also suggested that the committee discusses budgetary needs while reviewing the IWMP Implementation document for a sense of how much funds will be required this fiscal year.

3.0 ONGOING BUSINESS

3.1 IWMP Implementation

The Environmental Coordinator presented IWMP implementation tables to the Committee to facilitate discussion.

9.2.3.2 Groundwater-

b) Deep groundwater availability mapping

A Committee member suggested our Environmental Coordinator reach out to AGS as they were the ones who completed deep groundwater mapping.

9.2.3.3 Lake Water Levels-

b) Monitor lake water levels of interest to First Nations and Métis

Kehewin is entering their second year of scientific study at Kehewin Lake. This should result in a micro version of this for Kehewin. They are looking forward to seeing what other communities are doing. The Indigenous Summit is being held in May 2023.

A Committee member asked if Beaver Lake should be included in this. Another member was going to check into flood plain mapping information from the planning and development department in Lac La Biche.

Tribal Council Ventures Consultant will be studying water quality in Beaver Lake, Cold Lake, and Frog Lake. Studies will occur in June and July of this year. A Committee member asked if they would be looking into what flows into Cold Lake to identify potential problems. The Consultant was not sure which areas would be used but will be looking at possible locations on April 5, 2023. LICA's EPA representative was interested in LICA partnering with this Consultant to implement this recommendation. They planned to discuss this further.

9.3.3.1 Maintain and Improve Water Quality

d) Assess septic and sewage discharge

The Environmental Coordinator asked if the Committee members had any ideas for incentive programs for septic /sewer discharge to surface water. A member stated that septic tank restoration is very expensive and rarely done unless the system is completely failing. The Executive Director suggested that maybe LICA could give a monetary incentive to homeowners through a project-specific grant. A member stated that it would have to be a considerable amount of money, since the replacement cost is so high. Another member suggested that LICA could connect with AUMA, a provincial organization to offer a tax break or possible grant options to be implemented.

It was also shared that Bonnyville Beach had all their residents complete a septic inspection to check for leakages and fix any issues. It was stated by another member that larger centers are accepting waste from smaller communities. Cold Lake is upgrading their septic system to handle waste influx that is being trucked into the city.

Another member suggested looking at the Environmental Damages Fund instead of private incentives. It was also brought up that in a local County for septic upgrades residents were taxed if they were not done, and rebates/credits were

handed out to those who were certified and upgraded their systems. This worked out for this county, but the member was not sure if the MD of Bonnyville would be willing to do this.

Another member stated that Lac La Biche has a bylaw for lake residents to have their water and septic systems connected to the main system. It must be done within five years; however, the cost is very expensive.

9.3.3.2 Monitoring and Evaluation

a) Monitoring the Beaver River and its tributaries

Moose Lake Watershed Society samples all five tributaries. The report is posted on their website.

9.3.3.4 Ground Water

b) Community-based monitoring

OSM does the monitoring for GOWN, which is a government program for groundwater. Muriel Lake Basin Management Society continues to monitor one ground water well. This information can be found on their website.

9.4.3.2 Riparian Protection

e) Agricultural setbacks

A Committee member will look into this and see what exists. They will then share their findings with the Environmental Coordinator. A Committee member stated that on private land, no one is out there enforcing setbacks. A discussion turned to how this could be a part of an educational workshop. LARA continues to send out education on this.

g) Oil and gas setbacks

A committee member stated that with most of these issues concerning oil and gas, the government has regulations in place and all of their plans have to be approved.

9.4.3.3 Riparian Conservation

a) Riparian Conservation

LICA's EPA representative stated that they would look into this.

9.4.3.4 Riparian Restoration

e) Industry support for community restoration projects

Oil companies are involved with this, with ALUMS. Industry is more than willing to discuss collaborative programs.

9.5.3.1 Wetland Inventory and Valuation

b) Wetland valuation

A Committee member shared that different levels of evaluation can be done to a wetland. Another member discussed land evaluations and was going to look into what subregional plans state.

Lac La Biche has had meetings with local EPA representatives for wetlands conservation, however, they can only push back where wetlands are prioritized.

A suggestion was also brought forward on connecting with Ducks Unlimited as they had looked into updating maps. Another member mentioned that there are grant opportunities available to get wetland evaluations done. Healthy Water Lac La Biche received a grant to get an evaluation done. This could be a possible LICA grant opportunity.

9.5.3.3 Mitigation

b) Agricultural activity

A Committee member stated that most grazing does not apply specifically to wetlands so this would be more of an educational component. However, more money is available for riparian projects, like RALF.

9.6.3.2 Fish Habitat and Restoration

a) Water temperature monitoring

A Committee member reminded the group that in the past LICA did complete a flyover of the Beaver River and Moose River. This footage could be reviewed. At that time, they found that riparian health did not need a lot of restoration, but ATCO discovered that they needed to remediate their clearing for power lines. Another member suggested the use of drone technology to view the riparian health of the Beaver River, instead of using a helicopter again, as the drone would be more cost-effective. It was also brought forward to connect with previous recipients of funding for riparian fencing and offsite watering system to see how it is working for them and if they had any recommendations.

c) Fish spawning habitat survey

The Muriel Lake Basin Management Society has been participating in a Fall Index Netting Program since the Fall of 2021. Once oxygen levels improve in the water, and fish start to survive over the winter, they hope to restock the lake with fish. It was also noted that oxygen levels were better this winter, in comparison to last year. The Environmental Coordinator asked if there was a priority lake that LICA could work to restore. A member suggested that Fishery Staff may be able to assist with information regarding programs that are already in place. It was also brought forward that ACA website has a list of aerated lakes. A member suggested using a biologist to investigate and provide data. Another member mentioned that there are programs for re-stocking lakes. Hilda Lake is an excellent example of this.

9.6.3.3 Watercourse Crossing and Stream Connectivity

a) b) c) Manage, Monitor and Remediate Watercourse Crossings

LICA's EPA representative mentioned that Alberta Watercourse Crossing Collaborative is working with industry and starting with communities. LICA can tell them priority streams for assessment. An app has been developed so you can map crossings.

9.6.3.4 Shoreline Management (Littoral Zone)

c) Shoreline Erosion

LICA's EPA representative suggested considering higher-level priorities, as this is rated medium to high.

9.6.3.8 Aquatic Invasive Species and Disease

b) Implement strategies to mitigate the potential for AIS

Cherry Grove has a government boat inspection site set up. There is a potential for spot checks at boat launches in various locations. A committee member stated that Lac La Biche has seasonal environmental technicians that conduct lake sampling and are trained in AIS, they will bring this recommendation forward to the Lac La Biche County and their technicians. Another member stated it is mandatory for dealerships to have boats inspected when they arrive at the dealership. Boats made out-of-province, would have been tested in water before they're sent out, so they are inspected before they are sold. An idea was also brought forward to hold a Citizen Science workshop to teach boaters how to properly inspect.

9.7.3.2 Agriculture

a) Environmental Farm Plan

LARA promotes the Environmental Farm Plan program and encourages farmers and ranchers to participate.

9.7.3.3 Forestry

a) Apply forestry industry standards

A Committee member stated that best practices are out in legislation and LICA is recommending them.

9.7.3.4.1 General

a) Apply oil and gas industry standards

These practices exist and Industry complies.

b) Road construction and stream crossings

These practices exist and AER does this as part of the approval process.

9.7.3.4.2 Remediation and Reclamation

a) Environmental Assessment

b) Reclamation

c) Reclamation certificates

Committee members from Industry stated that this is continuous and being done all the time.

9.7.3.4.3 Emergency Response Plans

b) Community emergency response

The city of Cold Lake holds meetings almost every month to discuss emergency response plans and they have also just updated their emergency response. AER has a dashboard for real time events, to alert of any emergencies. Lac La Biche has a voyent app specifically for emergencies. Industry members invite municipalities to emergency response plan exercises and communicates with them.

9.7.3.4.4 Orphan Wells

b) Recommend wells for reclamation

AER just released a closure nomination process to reclaim orphan wells.

9.8.3.2 Indigenous Knowledge

b) Map reflecting Indigenous place names

Kehewin has developed their own mapping platform, but they are interested to see what other communities are doing. A Committee member also suggested that there is a possibility to develop an educational interactive piece for schools with an audio component, so students could hear the Indigenous language being spoken. They spoke of the importance of medicinal plants in the watershed and how to live off the land, especially with health care declining.

Once the Committee had reviewed the IWMP Implementation document, they held a general discussion on what specific projects LICA could become involved in. One Committee member felt that an important project could be survival of the fish. Some assessments might have to be done before the project started but it would be worth looking into. Another member made a suggestion to possibly contact fisheries to see what projects they are involved in. At this time a committee member stated that they would find a contact and share that information with the Environmental Coordinator. It was agreed upon to look further into this.

The second idea brought forward was to focus on riparian health and assessment. A member stated that a lot has been done but the focus was not on why it is important. They agreed that this is a great area that could have a huge educational component brought in. Another member spoke of the importance of getting people outside to the wetlands, to educate them, and provide a space for them to connect with riparian health. This could include workshops for the public or promoting a Citizen Science component. A member spoke about the relationship between plants and nourishing our bodies. Another member brought up the safety side, knowing what is safe to eat in nature.

A question was brought forward asking what kind of projects can be focused on involving water quality. A member suggested possibly looking at scientific laboratory assessments and analysis of the CreekWatch sites, to back up the Citizen Science data. The Executive Director cautioned that LICA would have to verify with AEPA before embarking on this project to ensure that it is not considered monitoring as it is stipulated as being an ineligible expenditure within the WPAC grant. The Environmental Coordinator reminded the Committee that WPAC grant money cannot be used for monitoring, but it may be used depending on the assessment/project. Another member thought creating educational tools would be a great resource. Possibly a book about plants in our watershed areas and what their uses are. This tool could be shared in the community.

Another member spoke about several lakes in the area that have a large amount of recreation and housing development around them. The question was asked, how many houses have actual fields versus pump-out systems? Having a possible program that supports the change from field to pump-out systems could be an option. Funding would need to be made available from the government to get progress and interest in this.

Another Committee member spoke about getting involved in projects that do not involve government regulations. Possibly looking at algae outbreaks and how it affects vegetation and fish. If this project was chosen to move forward, it was

suggested to reach out to an educational institution to see if a graduate student would assist with the education component.

It was then brought forward that people could test their own well water and self-report. Another member suggested that LICA could help pay for the water testing kits. It was cautioned that this may be too close to monitoring and WPAC grant money could not be used in this case.

Lastly, a Committee Member suggested the possibility of doing a project to fill in the gaps of the State of the Watershed Report.

4.0 ACTION LIST

4.1 Follow-up on Action List

4.1.1 December 1, 2022

The Committee reviewed the Action List from the December 1, 2022 meeting.

5.0 UPCOMING MEETING DATES

5.1 Board of Directors Meeting – April 27, 2023

5.2 Next Meeting - TBD

6.0 ADJOURNMENT

The meeting adjourned at 3:27 p.m.

#4 Moved by Roxane Bretzlaff AND CARRIED that the meeting be adjourned.

Approved on: _____

Date

Signature

2022-23 Attendance
LICA Watershed Committee Meetings

NAME	December 1, 2022	April 4, 2023				
John Ilchuk	A					
Kelly Dion-McFeeters	TC					
Shawn Elgert	TC					
Robert Machatis	A					
Clem Parenteau	✓					
Amanda Avery Bibo	A					
Roxane Bretzlaff	✓					
Kristen Berezanski	✓					
Annette Hobart	✓					
Abdi Siad-Omar	A					
Bill Parker	✓					
Randi Dupras	✓					
Kellie Nichiporik	✓					
Richard Bourgeois	✓					

Notes: ✓ = Present TC = Telephone Conference A = Absent from Meeting



Lakeland Industry and Community Association

Box 8237, 5107W - 50 Street, Bonnyville, AB T9N 2J5

780 812-2182 780 812-2186 www.lica.ca

LICA Watershed Committee Meeting LICA Boardroom and via Microsoft Teams Thursday, April 4, 2023 1:00 p.m. - 4:00 p.m.

Item	Agenda	Discussion Leader	Required Outcome
1.0	CALL TO ORDER		
1.1	Territorial Acknowledgement	Kellie	
1.2	Vision, Mission, and Values	Kellie	
1.3	Introductions	All	
1.4	Roll Call	Kellie	For Review
1.5	Approval of Agenda	Kellie	For Decision
	1.5.1 April 4, 2023, LWC Agenda		
1.6	Approval of Minutes	Kellie	For Decision
	1.6.1 December 1, 2022, LWC Minutes		
2.0	NEW BUSINESS		
2.1	2022-2023 IWMP Budget Update	Kayla	For Information
2.2	2023-2024 Funding & Projects Update	Kayla	For Information
3.0	ONGOING BUSINESS		
3.1	IWMP Implementation ¹	Kayla	For Discussion
4.0	ACTION LIST		
4.1	Follow-up on Action List		
	4.1.1 December 1, 2022	Kellie	For Review
5.0	UPCOMING MEETING DATES		
5.1	Board of Directors Meeting – April 27, 2023	Kellie	For Information
5.2	Next Meeting – TBD	Kellie	For Information
6.0	ADJOURNMENT	Kellie	For Decision

¹ Please be prepared for implementation discussions based on recommendations in the Plan and responsible jurisdictions.



Lakeland Industry and Community Association
☒ Box 8237, 5107W - 50 Street, Bonnyville, AB T9N 2J5
☎ 780 812-2182 ☒ 780 812-2186 🌐 www.lica.ca

LICA Watershed Committee Meeting Minutes Thursday, December 1, 2022 1:00 p.m. – 4:00 p.m. LICA Boardroom and Microsoft Teams

Present: Richard Bourgeois
Kellie Nichiporik
Clem Parenteau
Kelly Dion-McFeeters (via Microsoft Teams)
Bill Parker
Shawn Elgert (via Microsoft Teams, arrived 1:18 p.m.)
Annette Hobart (via Microsoft Teams)
Randi Dupras (via Microsoft Teams)
Roxane Bretzlaff
Kristen Berezanski (via Microsoft Teams)

Observers and Guests:

Staff: Kayla Hellum, LICA Environmental Coordinator
Vicky Krawchuk, LICA Executive Director
Eveline Hartog, LICA Administrative Professional
Lori Jodoin, LICA Administrative Professional

Regrets: John Ilchuk
Robert Machatis
Amanda Avery Bibo
Abdi Siad-Omar

1.0 **CALL TO ORDER**

Vicky Krawchuk, LICA Executive Director, called the meeting to order at 1:02 p.m.

1.1 **Territorial Acknowledgement**

1.2 **Vision, Mission, and Values**

1.3 **Introductions**

1.4 **Roll Call**

1.5 Approval of Agenda

1.5.1 December 1, 2022, LICA Watershed Committee Agenda

#1 Moved by Richard Bourgeois AND CARRIED that the December 1, 2022, Agenda be approved as presented.

1.6 Approval of Minutes

1.6.1 September 9, 2022, IWMPMPC Minutes

#2 Moved by Roxane Bretzlaff AND CARRIED that the September 9, 2022, Minutes be approved as presented.

2.0 CHAIRPERSON APPOINTMENT

2.1 Appointment of Committee Chairperson

The LICA Watershed Committee appointed Kellie Nichiporik to be chairperson of the committee by acclamation.

3.0 POLICY REVIEW

3.1 Committee Terms of Reference

The LICA Watershed Committee reviewed the original IWMP Terms of Reference document with the intent to amend. The proposed changes were recommended to align it with the newly created LICA Watershed Committee. The following changes to the document were recommended to the Board of Directors.

#3 Moved by Clem Parenteau AND CARRIED that the LICA Watershed Committee Terms of Reference be accepted as amended.

3.2 Policy Review

3.2.1 Policy 1.5 Decision-Making Process

The LICA Watershed Committee reviewed Policy 1.5 *Decision Making Process* for information.

3.2.2 Policy 1.12 Volunteer Hours

The LICA Watershed Committee reviewed Policy 1.12 *Volunteer Hours*.

3.2.3 Policy 1.13 Confidentiality

The Watershed Committee reviewed Policy 1.13 *Confidentiality* and each member was requested to sign a copy for retention by LICA if they had not already done so.

3.2.4 Policy 2.7 Board and Committee Expenses and Remuneration

The Committee reviewed Policy 2.7 *Board and Committee Expenses and Remuneration*.

3.2.4.1 Expense Claim Form

The Committee reviewed the LICA Expense Claim Form.

3.2.4.2 Direct Deposit Option

The Watershed Committee members eligible for stipends were given the option to complete the Direct Deposit form noting that a VOID cheque will be required to accompany the form.

3.2.5 Committee Member Sign-on

The Committee was requested to complete the Board and Committee Sign-on sheet for retention by the Financial Coordinator. Members who have already completed this form were requested to complete the form should their contact information have changed.

4.0 NEW BUSINESS

4.1 Environmental Coordinator Watershed Projects Update

The Environmental Coordinator reviewed projects forthcoming for the Watershed Committee noting:

- If successful in receiving the funding, the WRRP grant will allow LICA to complete a large-scale riparian intactness assessment in the Sand, Martineau, and Lower Beaver River HUC6 watersheds. This project will conclude the assessment of the entire Beaver River watershed.
- The WPAC operational grant was submitted in September 2022. This grant will allow the Environmental Coordinator to develop a riparian health campaign to increase awareness of riparian health within the LICA Region. The Coordinator suggested that in support of the educational campaign, tree seedlings would be purchased and given to those committed to healthy riparian areas on their property. It was suggested by the Committee that these seedlings comprise edibles such as Saskatoons and wild roses.

4.2 IWMP Implementation

4.2.1 Top Five Priorities for Beaver River IWMP Implementation

The Environmental Coordinator reviewed the top five priorities identified in the IWMP, with potential implementation strategies. The Committee inquired as to how LICA would move forward on these priorities. Specific to a water quality monitoring program, the Coordinator suggested that one option would be for LICA to seek funding from municipalities in order to conduct water testing and monitoring by trained professionals. A

Committee member indicated that he would offer the Coordinator the name and contact information of someone who could assist her with further information regarding floodplain maps and watercourses.

The Coordinator thanked the Committee for their ideas, and she suggested that they review the priorities and come back with further suggestions at the next meeting.

4.3 Revisiting the State of the Watershed Report

4.3.1 Current Proposed Budget

The Environmental Coordinator reviewed the budget proposed for the State of the Watershed report which will need to be addressed in 2023. She indicated that the budget of \$40,000.00 is being presented as information as the funding has not been secured. Further conversations regarding the State of the Watershed will need to be had to determine the direction needed to revisit the report. The Coordinator is currently researching and making contacts regarding this project.

5.0 ACTION LIST

5.1.1 Follow-up on Action List September 9, 2022

The Committee reviewed the Action List from September 9, 2022. A Committee member inquired if going forward with this action item if the Environmental Coordinator would be presenting the IWMP to municipalities in the LICA region. The Coordinator replied that she would be, and she would also be explaining how the information presented in the report could be implemented in their municipalities.

6.0 UPCOMING MEETING DATES

6.1 Board of Directors Meeting and Christmas Luncheon -December 15, 2022

6.2 Next Meeting - TBD

7.0 ADJOURNMENT

The meeting adjourned at 1:48 p.m.

#4 Moved by Clem Parenteau AND CARRIED that the meeting be adjourned.

Approved on: _____
Date

Signature



2022-2023 IWMP Budget Update

The IWMP budget is part of a larger Watershed Advisory and Planning Committee (WPAC) grant agreement with the Government of Alberta. The WPAC grant does not disclose a specific amount for IWMP expenses, but for internal budgeting purposes, LICA designates a specific amount for IWMP. The 2022-2023 budget was derived from the Palliser Environmental Proposal. Palliser Environmental expenses were lower than expected due to fewer meetings (final plan presentation), and lower travel costs, leaving \$6,849.32 within the budget. With the end of this 4-year grant cycle, this budget needed to be spent before March 31, 2023.

To support IWMP implementation, hard copies of the IWMP were printed for dispersal to decision makers in the watershed. IWMP promotional items were purchased to increase awareness in the community. The IWMP quote 'A healthy Beaver River Watershed for the future' – LICA IWMP is on each promotional item.

Table 1. 2022-2023 Expenses.

Company	Deliverable	Amount
Palliser Environmental	Draft 2 Meetings Engagement Session 3 Draft 3 Final Draft & Submission Summary Document	\$25,950.68
Staples Printing	Printing Hard copies of the IWMP and Summary of Key Contents document for decision makers	\$2,865.99
Thinkwrx, 4Imprint, Portage College	IWMP Promotional - Shirts, Hats & Water bottles, Tumblers - Ceremonial Pouches	\$3,960.45
Amount Remaining		\$22.88



2023-2024 Funding Update

Watershed Projects

WRRP Project Grant: Riparian Area Assessment

Amount Requested: \$93,564.60

Outcome: Currently, we have not received an update on the funding request.

WPAC Operational Grant

A new 4-year grant agreement will commence in April 2023. For this 4-year term LICA received an increased in funding from the Government of Alberta to support government priorities such as State of the Watershed Reporting.

Riparian Health Campaign:

With the WPAC funding approval, the riparian health campaign planning and development will commence in the Spring of 2023. The budget and brief timeline is shown below as presented at the December 2022 Committee meeting.

Table 1. Riparian Health Campaign project cost and brief timeline.

	2023-2024	2024-2025	2025-2026	2026-2027
Riparian Area Health Campaign Budget	\$2,500.00	\$2,000.00	\$2,000.00	\$2,000.00
Deliverable	Campaign Development		Campaign Execution	

State of the Watershed

Within the WPAC grant proposal, the following amounts were included over a 4-year term. The breakdown below was presented at the December 2022 Committee meeting. The following costs were estimated based on a *revisit* of the current report and from the 2013 development costs. Internal budgeting will be finalized and updated based on the new funding agreement and amount received.

Table 2. Proposed State of the Watershed Budget.

WPAC Operational Grant Proposed Budget: State of the Watershed				
Year	2023-2024	2024-2025	2025-2026	2026-2027
Amount	\$10,000	\$10,000	\$20,000	0
Total	\$40,000			

9.2.4 Implementation Table for Water Quantity

H=High Priority (implement in 1-3 years); M=Medium Priority (implement in 4-6 years); L=Low Priority (implement in 7-10 years)

LICA Watershed
 LICA Education and Outreach
 Seeking Committee Member Input

10 A lake may be viewed as culturally significant because it has been or is a source of subsistence fishing, where medicinal plants were or are grown and gathered, where a certain language is spoken, and/or has been or is being used as sacred traditional ceremonial grounds for the community.

High
 Medium
 Low

Recommendation	Responsible Jurisdiction	Actions	Priority	Confirmed Action Taken (Y/N), Name of Jurisdiction	Date	Notes
9.2.3.1 Low streamflows and lake water levels						
a) Consistently apply the SWAD	AEP	Consistently apply the SWAD when considering applications for new water licenses or the temporary diversion of water.	H			
b) Water storage and the creation of new dams	AEP	Consider existing water supplies to meet the needs of water users in the Beaver River basin as demand increases.	H			
c) Hydrologic processes and connectivity	AER; Alberta Transportation; CLAWR; Municipalities; Oil and Gas Industry; Agriculture Industry	Assess watercourses to determine where streamflow has been disconnected and the cause (e.g., roads, ditches, culverts, other). Determine the scale of impact on hydrology.	M			
		Prioritize projects to restore hydrologic processes where the impact on hydrology and aquatic life is highest. Develop a site remediation plan and seek funding opportunities to restore connectivity.				
9.2.3.2 Groundwater						
a) Refine groundwater models	Alberta Geological Survey; AER; AEP; Industry; LICA; CLFNS; Municipalities	AEP should consider this recommendation as the regional Groundwater Management Framework is developed. Refer to existing groundwater numerical models where available (e.g., models for Muriel and Skeleton lakes (2008-2010), developed to understand declining lake water levels at that time).	H			
		Identify priority lakes where groundwater-surface water interactions are of interest (e.g., Crane Lake).	M			
		Establish specific objectives for the modelling efforts. Gather additional data from stakeholders to support groundwater modelling efforts (e.g., industry seismic/reports mapping the groundwater, Environmental Impact Assessment work, local studies (e.g., Muriel Lake basin).				
b) Deep groundwater availability mapping	Alberta Geological Survey; AER	Continue with the provincial effort to map deep groundwater availability by completing the work for the Beaver River watershed.	M	Annette, do you know of any updates?		
c) GOWN wells	AEP	Continue to collect continuous water level data and annual water quality data at GOWN wells. Report on long-term trends and disseminate findings to the community every five years.	M			
9.2.3.3 Lake Water Levels						
a) Improve understanding of hydrologic processes	AEP; LICA	Assess available water level data (preliminary assessment in Appendix D), and report on historic and current water level trends.	H			
b) Monitor lake water levels of interest to First Nations and Métis	First Nations; Métis; AEP; LICA	Determine FN and Métis interests in lake and stream monitoring. First, identify culturally significant lakes ¹⁰ . Establish appropriate indicators to address interest, including lake water levels and water quality (Section 9.3).	H	1. LICA supports Buffalo Lake Metis Settlement in water quality monitoring at Buffalo Lake by providing insight into sampling techniques, protocols and equipment. Continue to provide in-kind Support as requested.		
				2. Cold Lake First Nations has an interest in Reita Creek - CreekWatch? Look to support in-kind or monitor as funds are available. 3. Support Kehewin Cree Nation with water quality monitoring at Kehewin Lake, as requested.		
				Ideas on additional areas of interest?		
9.2.3.4 Flood Mapping						
c) Flood mapping	AEP	Collaborate with partners (e.g., municipalities, LICA) to determine the need for floodplain maps at waterbodies and watercourses in the Beaver River watershed. Prioritize the list and systematically work to delineate floodplains and high-water marks.	H			
	Municipalities	Establish flood mapping priorities for the watershed. Submit a letter from all municipal Councils in the watershed to AEP's Technical Staff and River Engineers requesting mapping support. Note that AEP's River Engineers only complete floodplain mapping for watercourses, and do not establish high water marks at lakes. However, AEP hydrologists should be able to assist.				
9.2.3.5 Water Conservation						
a) Encourage water conservation by all sectors.	AWC; Industry; Agriculture	The AWC should continue to publish and disseminate the water conservation and efficiency performance reports to all sectors and LICA every five years.	H	Last update 2017		
b) Reduce household water use	Municipalities; LICA	LICA and municipalities should collaborate to establish water conservation performance targets for municipal water users as part of the Keep Our Lake Blue campaign (refer to Section 9.3.3.3). A 'friendly competition' could be struck among municipalities to help encourage participation.	M	KOLB will be more heavily advertised and encouraged this season. E&O will implement KOLB in the Bonnyville area and will be working with LLB to begin KOLB in their region.		
	Residents and Landowners	Implement actions outlined in the Keep Our Lake Blue Campaign.	H			
c) Household and agricultural water use reporting	AWC; Municipalities, LICA	Explore strategies for water use monitoring and reporting for household water users, and for agricultural water users.	L			

9.3.4 Implementation Table for Water Quality

H=High Priority (implement in 1-3 years); M=Medium Priority (implement in 4-6 years); L=Low Priority (implement in 7-10 years)

14 The Alberta Safe Beach Protocol outlines the provincial program to assess and manage the public health risks associated with recreational waters throughout Alberta. It specifies recreational water quality standards designed to protect bathers primarily from microbiological risks and, where applicable, from physical and chemical risks.

LICA Watershed
 LICA Education and Outreach
 Seeking Committee Member Input

High
 Medium
 Low

Recommendation	Responsible Jurisdiction	Actions	Priority	Confirmed Action Taken (Y/N), Name of Jurisdiction	Date	Notes
9.3.3.1 Maintain and Improve Water Quality						
a) Reduce external nutrient and sediment inputs	AEP; AER; AAF	Encourage the use of beneficial management practices and monitor and report compliance with existing regulations on Crown Land.	H			
	Municipalities	Minimize the potential for erosion at stormwater discharge locations. See 9.3.3.5.				
	Industry	Develop integrated stormwater management policies that support low impact development.				
	Landowners	Apply industry best practices as recommended and/or according to regulation. See 9.3.3.2 Agriculture, 9.3.3.3 Forestry, 9.3.3.4 Oil and Gas.				
b) Adopt riparian targets and setbacks	GOA	See section 9.4.	H			
	Municipalities; Industry	Incorporate riparian health targets and setbacks into land use bylaws.				
c) Retain wetlands, mitigate loss	GOA; Municipalities; All Industry	See Section 9.5.	H			
d) Assess septic and sewage discharge	Alberta Health Services	Collaborate to understand and document the occurrence of septic/sewage discharge or leakage to surface water. Establish an incentive program to upgrade old systems that may be leaking. Inform landowners of the impact leaking septic systems have on water quality.	H			Looking for committee ideas on an incentive program. Kellie - Did MLWS receive the results from the Microbial testing at Moose Lake?
	Municipalities					
	LICA					
e) Municipal services in new development	Landowners	Prevent septic leakage and/or nutrient rich runoff water from fertilized lawns from reaching surface water.	H			Community awareness - LICA, KOLB.
	Municipalities	Determine the feasibility of supplying municipal water and sewer infrastructure to new developments, particularly those developments that are adjacent to lakes.				
f) Source Water Protection Plans	AWC	Share information with WPACs regarding the web-based system being created to support small communities develop source water protection plans.	H			
	AWC; LICA	Work with LICA to host training workshops and share information with communities in the Beaver River watershed.				
	Municipalities; First Nations; the Metis	Explore opportunities to complete source water protection plans. Participate in training workshops if possible.				
9.3.3.2 Monitoring and Evaluation						
a) Monitoring the Beaver River and its tributaries	PPWB	Continue to monitor three sites on the Beaver River, and to report on discussions and trends. Share results with LICA and other watershed stakeholders.	H			
	AEP	Include Beaver River tributaries in the provincial Tributary Monitoring Network.				
	LICA; AEP; WSGs; All Industry; Academia	Coordinate partners to secure funding for the monitoring program. Funds may be sought through grant programs or partner contributions.				Will be looked more into Summer 2023
		Identify and prioritize sites to include in the program. Establish a list of parameters and other indicators that should be monitored. Implement the program.				Open to input from the Committee.
b) Lake water quality	ALMS; AEP; LICA; WSGs; Academia	Continue to monitor lake water quality in the watershed. Host a meeting with the community to present results, and discuss additional program opportunities (e.g., other lakes, water quality indicators, etc.).	H			LICA approved the 2023 LakeWatch program to monitor the following lakes: Kehewin, Long, Skeleton North, Skeleton South, Garner, Moose, Minnie, Marie, Laurier, and Amisk
	LICA; AEP; WSGs; Industry; Academia	See actions for 9.3.2 a.	H			Moose Lake Watershed Society - Samples Moose River?
c) Lake tributary water quality	AEP; WSC; LICA; WSGs; Academia	Prioritize lake tributary monitoring programs using the criteria established in (Appendix E), considering available historic water quality data. Access Water Survey of Canada (WSC) streamflow data to use in the assessment of water quality at major tributaries to the Beaver River. Where WSC does not collect streamflow data, consider measuring streamflow either at the time of sampling or continuously using appropriate instruments.	H			
d) Monitoring public beaches	Alberta Health Services	Identify priorities for beach monitoring in the Beaver River watershed with stakeholders. Follow the Alberta Safe Beach Protocol 14 to monitor beaches and disseminate results to the community.	H			
	LICA; Municipalities	Collaborate with Alberta Health Services to communicate the results of the beach monitoring to the community. Consider reporting updates on websites and social media.				Will be completed this summer.
e) Water quality indicators	LICA; AEP; WSGs; Industry; Academia	Coordinate partners in a meeting to discuss water quality indicators to use in the long-term monitoring program.	H			
f) Knowledge sharing	First Nations; Metis	Consider sharing knowledge with watershed stakeholders, landowners, and residents to help inform water monitoring programs and watershed conditions reports.	H			
9.3.3.3 Lake Stewardship						
a) Support stewardship initiatives	LICA	Host a meeting with Partners to discuss the implementation of the Keep our Lakes Blue campaign. Present an annual report to the public regarding the successes of the program. Identify actions that could increase the success of the program (e.g., contests, awards, etc.). Participate in planning meetings to discuss lake stewardship programs. Encourage residents and landowners to be lake stewards.	H			Spring/Summer 2023
9.3.3.4 Groundwater						
a) Groundwater water quality indicators	Oil and Gas Industry; AHS; Academia; LICA	Collaborate to identify a list of groundwater parameters to monitor in support of community-based programs.	M			
b) Community-based monitoring	Academia; LICA; Industry;	Lead the development of a community-based monitoring program	M			Looking for Committee suggestions to start a community-based monitoring program.
c) Industry reclamation	Industry	Refer to Section 9.7.3.4.2	-			
d) Abandoned water wells	LICA (Partners: AEP; AAF; AHS; municipalities; watershed stewardship groups)	Host groundwater working well workshop(s)	H			LARA will be offering this workshop in 2023 and plans on continuing to host them in the future. LICA will assist LARA where needed.
e) Working water well workshops and well decommissioning		Coordinate partners and create an inventory of abandoned water wells using community surveys.	M			
		Secure funding from federal and provincial programs to properly decommission abandoned water wells. Prioritize those wells that may be located in vulnerable aquifer areas. Promote a water well abandonment program.	M			

9.4.4 Implementation Table for Riparian Areas

H=High Priority (implement in 1-3 years); M=Medium Priority (implement in 4-6 years); L=Low Priority (implement in 7-10 years)

LICA Watershed
 LICA Education and Outreach
 Seeking Committee Member Input

High
 Medium
 Low

Recommendation	Responsible Jurisdiction	Actions	Priority	Confirmed Action Taken (Y/N), Name of Jurisdiction	Date	Notes
9.4.3.1 Riparian Area Condition						
a) Adopt targets and thresholds	AEP; AAF; AER Municipalities	Adopt riparian area condition targets for Crown Land and integrate targets in industry codes of practice and/or operating standards and guidelines. Adopt the riparian area condition targets and include them in applicable policy and planning documents.	H			
b) Riparian condition monitoring	LICA LICA; Municipalities; WSGs	Develop a strategy to prioritize riparian health assessment work in the watershed. Host a workshop with shoreline owners to present riparian health assessment methods and encourage them to complete a self-assessment using incentives.	H	Riparian Web Portal Training Initiative Summer 2023 - in support of LICA Riparian Health Campaign		
9.4.3.2 Riparian Protection						
a) Development setbacks	Municipalities	Determine the potential impact of riparian setbacks on landowners adjacent to recreation lakes and watercourses. Specify and apply development setbacks to lakes, rivers, creeks, and ephemeral and intermittent streams at the time of subdivision. Develop a tool that clearly shows the riparian setback delineation.	H			
b) Development in the floodplain	Municipalities; Realtors; Lawyers Landowners	Establish a communication strategy for development setbacks to ensure they are implemented and respected in developments. ER and MR provide community access to the lake and should be disclosed at the time of sale/purchase. Explore opportunities to educate lawyers and real estate agents of ER and MR that exist on private lands (e.g., place ER and MR on land titles so the buyer is aware). Identify riparian setbacks on all site plans submitted to the appropriate jurisdiction for permitting. A development permit should only be approved after the delineation of the riparian setback is completed.	H			
c) Riparian policy	Municipalities	Develop a riparian policy, if one has not been created, to guide planning and manage future development on municipal riparian lands.	H			
d) Permitted activities in riparian areas	Municipalities	Consider the list of permitted activities in riparian areas. Update applicable land use bylaws to include permitted activities.	H			
e) Agricultural setbacks	AAF Agriculture Industry	Develop and share resources related to agricultural responsibilities outlined in AOPA. Adhere to established agricultural setbacks regulated by AOPA (Appendix H)	H	Shawn - Anything you can speak to?		
f) Forestry setbacks	AAF Forest Industry	Monitor harvest practices to ensure setback compliance. Adhere to forestry setbacks established in Northeast Alberta Timber Harvest Planning and Operating Ground Rules (GOA 2018a) (Appendix H).	H			
g) Oil and gas setbacks	AER Oil and Gas Industry	Monitor oil and gas activities to ensure setback compliance. Adhere to oil and gas activity setbacks established in the Integrated Standards and Guidelines: Enhanced Approval Process.	H	Roxanne & Kristen, anything to add?		
h) CLSRP setbacks	AEP	Clarify expectations regarding riparian setbacks in the CLSRP and communicate these to municipalities, industry and landowners in the watershed.	H	Abdi, can you speak to this?		
i) Regional shoreline protection policy	AEP; Municipalities	Develop a policy to maintain >75% of shoreline habitat. Explore opportunities to maintain >75% of shoreline at the lot level using policy and incentives. Tools available to municipalities include:	H			
j) Lot level shoreline protection policy	Municipalities	i. Environmental Reserve ii. Conservation Easements (refer to Greenaway 2017 for more information regarding Conservation Easement as a tool for municipalities) iii. Incentives for voluntary conservation including payment for ecosystem services, changes to tax regimes, or other BMP programs	H			
9.4.3.3 Riparian Conservation						
a) Riparian Conservation	GoA; Municipalities	Update Figure 10 in the CLSRP (GOA 2022) to include names of the named waterbodies and watercourse where the 250 m setback applies.	H	Abdi, can you speak to this?		
b) Unnamed Lakes	GoA	Explore the use of Protected Notation and/or Consultative Notation to protect and/or conserve critical shoreline habitat on Crown Land.	M			
c) Ecological Goods and Services	LICA	Organize a Forum with Municipalities, GOA and non-government organizations to explore opportunities to provide incentives for riparian management.	M	To tie into Riparian Health Campaign?!		
9.4.3.4 Riparian Restoration						
a) Restoration to achieve targets and thresholds	AEP LICA; Municipalities; WSGs First Nation; Metis	Resource managers should prioritize restoration activities on Crown Land where riparian intactness scores are <75%. Consider popular Crown Land recreation areas. Use available riparian condition data (e.g., the riparian intactness assessment, riparian health inventories/assessments) to further prioritize sites for restoration. Identify partners interested in restoring riparian function on private lands. Share information with LICA regarding restoration priorities.	M-H M-H H M-H	Riparian Health Campaign will target lakes with reduced riparian health. Riparian reports were shared with decision-makers and Indigenous communities. Riparian Health Campaign. Potentially seek additional grant funding for larger-scale projects. Any suggestions committee? MLBMS is willing to assist where possible.		Do our Indigenous reps have anything they'd feel comfortable adding here?
b) Refine restoration priorities	LICA; Municipalities; WSGs	Use field validation methods (e.g., riparian health assessments) to refine priorities and establish restoration plans for priority sites. On private lands, field technicians may interact with landowners and residents to heighten awareness and increase riparian literacy.	H	Potential for a Cows and Fish workshop?		
c) Riparian health assessment/inventory	Cows & Fish; LICA; WSGs	See 9.4.3.1 b.	H			
d) Explore administrative tools	LICA; Municipalities	Evaluate administrative tools that could help to restore riparian areas.	H			
e) Industry support for community restoration projects	LICA; LICA's Industry Steering Committee All Industry	Develop a list of restoration priorities in collaboration with stakeholders, First Nations and the Métis, and seek support for projects. Seek opportunities to collaborate in restoration projects.	M-H	Any suggestions from the Committee/Industry reps?		

9.5.4 Implementation Table for Wetlands

H=High Priority (implement in 1-3 years); M=Medium Priority (implement in 4-6 years); L=Low Priority (implement in 7-10 years)

LICA Watershed
 LICA Education and Outreach
 Seeking Committee Member Input

High
 Medium
 Low

Recommendation	Responsible Jurisdiction	Actions	Priority	Confirmed Action Taken (Y/N), Name of Jurisdiction	Date	Notes
9.5.3.1 Wetland Inventory and Valuation						
a) Detailed wetland inventory	LICA; AEP; DUC	Access the Alberta Merged Wetland Inventory data layer and create a detailed wetland inventory map for the watershed.	H			
	Lac La Biche County	Share the local wetland inventory data with LICA, and others as requested, to support the creation of a detailed wetland inventory for the watershed.				
b) Wetland valuation	CLAWR; AEP; AAF; LICA	Collaborate to develop a detailed wetland valuation. Apply the Alberta Wetland Policy methodology to assign values to wetlands. Generate a map that shows wetland values as a decision support tool for use by municipalities and industry.	H	Abdi, Shawn - Are you familiar with generating these maps?		
	AEP	Assist LICA and municipalities to assign values to wetlands in the watershed according to the Alberta Wetland Policy and Alberta Wetland Rapid Evaluation Tool				
	Municipalities	Consider the wetland valuation early in the planning process. Note that the value of wetlands may change, and wetlands may need to be re-evaluated closer to the application date.				
c) Biodiversity Valuation Calculation Matrix	DUC	Apply the Biodiversity Valuation Calculation Matrix to the Beaver River watershed.	H			
9.5.3.2 Wetland Retention						
a) Maintain high-valued wetlands	AEP	Any work within a water body requires Approval under the Water Act. Wetland retention and compensation are considered in AEP's decisions.	H			
		Review MDPs at an earlier stage so opportunities to retain wetlands are not lost. Consider if the wetland is provincially "Crown claimable" or if decisions can be deferred to the local authority.				
		Address the timeliness of the application review process for wetland restoration projects under the Water Act where clear benefits to the watershed were identified (e.g., ecological health, biodiversity, water quality improvement, hydrologic function, and human uses).				
	Municipalities	Develop policy, procedures, and strategies to ensure that wetland management is integrated into urban planning and development, and water resource management.		H		
	LICA; Municipalities	Collaborate with Land Trust organizations, Ducks Unlimited Canada, Nature Conservancy Canada, and others who have an interest in the preservation of wetlands.	H	Potential projects or workshops with partnerships.		
b) Development and industry setbacks	All	See implementation actions 9.4.3.2 Riparian Protection	H			
c) Carbon credit system	Industry	Explore opportunities to offset carbon production by investing in carbon credits through federal and/or provincial programs, or programs aimed at preservation of ecological goods and services (e.g., ALUS).	L			
9.5.3.3 Mitigation						
a) Road construction	GoA; Industry; Municipalities	Refer to available guidance to mitigate the impacts of road construction on wetlands.	H			
b) Agricultural activity	Agricultural Industry	Apply grazing and cropping BMPs to maintain wetlands on agricultural land.	H			

9.6.4 Implementation Table for Biodiversity

H=High Priority (Implement in 1-3 years); M=Medium Priority (Implement in 4-6 years); L=Low Priority (Implement in 7-10 years)

LICA Watershed
 LICA Education and Outreach
 Seeking Committee Member Input

High
 Medium
 Low

Recommendation	Responsible Jurisdiction	Actions	Priority	Confirmed Action Taken (Y/N), Name of Jurisdiction	Date	Notes
9.6.3.1 Fish Habitat						
a) Determine local and regional goals for fisheries	AEP	Meet with the community to determine local goals for fisheries in the Beaver River watershed. Review fisheries management objectives with the community.	H			
	WSGs; Municipalities; LICA	Explore more opportunities for catch-and-keep fishing in the watershed, using science to help the fishery adapt and grow (GOA n.d.). Support AEP in an effort to determine local goals for fishery by circulating information and hosting forums.				
b) Sport fish regulations	AEP	Meet with the community to determine fisheries management objectives for species other than Northern Pike and Walleye.	H			
c) Fall Index Netting	AEP	Consider including additional key species in lakes in the FIN monitoring program.	H			
d) Fishery monitoring	AEP; Academia; ACA	Collaborate to collect additional fisheries information using a community-based approach. Consider reporting tools, and student-led research to augment FIN data.	H			
e) Fish education	LICA	Develop educational resources about the state of the fishery in the watershed, linkages to development, ecosystem processes and water quality to support a healthy fishery.	H			E&O is working to update fisheries education programming for the summer. There is the potential to tie in a workshop (Cold Lake fish hatchery).
9.6.3.2 Fish Habitat and Restoration						
a) Water temperature monitoring	WSGs; LICA	Deploy water temperature loggers in the Beaver River and other streams based on community interests, to determine if the water temperature is meeting fish habitat needs.	H			Committee input?
b) Strategy to maintain water temperature	LICA	Review IBI scores and riparian intactness assessment to prioritize riparian and streambank restoration activities that could improve fish habitat conditions.	H			
c) Fish spawning habitat survey	LICA, Watershed Stewardship Groups	Collaborate to better understand and document critical fish habitat in recreation lakes to inform fisheries goals and management objectives (see implementation 9.6.3.1 a).	H			Richard, can you speak to projects that MLBMS has done?
	AEP	Develop resource material to inform the community about fish habitat and actions that can be taken to maintain healthy fisheries (see implementation 9.6.3.1 e). Collaborate with the community to better understand critical fish habitat.				Abdi, do you any input?
d) Determine status of lakes closed to fishing	AEP; LICA; Municipalities; WSGs; First Nations; Metis	Lakes previously closed to fishing should be assessed to determine the current status (see implementation 9.6.3.1 a) A water quality and fish habitat suitability study for several lakes in the watershed was recently undertaken to explore opportunities to restore fish habitat. The results of this work recommended actions such as: - Fish transplants at Upper Mann, Frenchman, Minnie and Vincent Lakes - The consideration of aeration at Lower Mann, Bonnie, Muriel - Water level assessments at Lower Mann, Muriel Refer to EnviroMak Inc. (2022) for more details regarding these assessments. Use this assessment to support next steps to advance fisheries management discussions.	H			
9.6.3.3 Watercourse Crossing and Stream Connectivity						
a) Manage watercourse crossings	AEP; Municipalities; AB Transportation; Industry	Consider the need for new stream crossings in project planning.	H			Abdi, do you know how the Alberta Watercourse Crossing Collaborative project is going?
b) and c) Monitor and remediate watercourse crossings	AEP; WSGs; LICA	Collaborate according to the Watercourse Crossings Management Directive (GOA 2020) to inventory and prioritize crossings for remediation.	M			
9.6.3.4 Shoreline Management (Littoral Zone)						
a) Shoreline habitat inventory	AEP; Municipalities; WSGs; LICA	Collaborate to map important shoreline habitat, including spawning areas at recreation lakes. Prioritize recreation lakes for shoreline habitat inventory based on community goals and fisheries management objectives (refer to implementation 9.6.3.1 a).	H			
b) Administrative tools	Municipalities	Use the resulting shoreline habitat inventory (refer to implementation 9.6.3.4 a) to establish shoreline policies to preserve critical habitat and support healthy fisheries.	M			
	AEP	Enforce LUBs to maintain shorelines designated as municipal environmental reserve.	H			
c) Shoreline erosion	AEP	Maintain natural shoreline functions on Public lands, including in provincial parks and recreation areas.	H			
	Residents and lake users	Post speed limits in critical fish and waterfowl habitat areas in recreation lakes. Respect speed limits at recreation lakes in the watershed to help maintain the fishery.	M-H H			Any possibility of this being completed?
9.6.3.5 Beavers						
a) Assess occurrence of beaver	LICA; Municipalities; Cows and Fish	Use drone technology to better understand the occurrence (distribution/abundance) of beaver in the watershed.	M-L			
b) Identify beaver management tools		Identify areas where beaver activity impacts on local infrastructure or is a nuisance to adjacent landowners. Explore management options that would allow beaver activity to continue while protecting infrastructure or landowner property. Demonstrate the use of management tools in the watershed to increase adoption, where possible.	M			
9.6.3.6 Cormorants						
a) to c) Cormorant management	AEP; Municipalities; WSGs; LICA	Implement recommendations to better understand the impact of cormorants on the local fishery. Establish a community-based monitoring program that documents the occurrence of cormorants at recreation lakes and where community interest is high.	L M			
9.6.3.7 Key Wildlife and Biodiversity Zones						
a) Key wildlife and biodiversity zones	AEP; Industry; Municipalities	Overlay key wildlife and biodiversity zones on maps to assess potential impacts from proposed new developments.	H			
b) Habitat restoration	AEP; Municipalities; WSGs; LICA	See recommendations for riparian and wetland restoration (refer to Section 9.4.3 and Section 9.5.3).	H			
9.6.3.8 Aquatic Invasive Species and Disease						
a) Himalayan balsam	Municipalities; LICA; LARA; WSGs	Document the occurrence of Himalayan balsam in the watershed. Create a factsheet about Himalayan balsam and disseminate it to landowners, residents, and greenhouses. Collaborate to organize an event to hand-pull plants.	H M-H			Summer 2023, E&O includes invasive species in school programming. Summer 2023 - Shoreline & Weed pulls.
b) Implement strategies to mitigate the potential for AIS	AEP	Re-establish highway check-stops for AIS to help prevent the spread.	H			In 2022, there were 5 watercraft inspection sites in Alberta. 1 was in the LICA Region.
	Municipalities	Establish a boat inspection station, and boat-wash stations at major access points, particularly during fishing tournaments and peak season	H			Randi & Bill, thoughts?
		Provide training to summer staff working at municipal boat launches to assist with education and proper cleaning techniques for boats. Work with LICA to circulate a notice to ratepayers regarding AIS risks and stewardship.				Randi & Bill, thoughts? Randi & Bill, thoughts?

9.7.4 Implementation Table for Land Use

H=High Priority (implement in 1-3 years); M=Medium Priority (implement in 4-6 years); L=Low Priority (implement in 7-10 years)

LICA Watershed
 LICA Education and Outreach
 Seeking Committee Member Input

High
 Medium
 Low

Recommendation	Responsible Jurisdiction	Actions	Priority	Confirmed Action Taken (Y/N), Name of Jurisdiction	Date	Notes
9.7.3.1 Urban Development						
a) Development setbacks	Municipalities	Prioritize lakes and watercourses where flooding and impacts to infrastructure is a concern. Work with AEP to delineate floodplain maps and high-water marks for lakes and watercourses [refer to Recommendation 9.2.3.4 a]. Use the flood maps to refine development setbacks where appropriate.	H			
b) Manage stormwater release rates and volumes	Municipalities	Explore concepts of LID in urban areas to manage rates and volumes of stormwater discharge; consider deep frost and spring conditions (e.g., maximize retention in spring and release at a variable rate).	M-H			
c) Incorporate LID practices	Municipalities	Review standards and procedures; consider updates to design standards, construction specification and maintenance procedures that consider LID (e.g., minimum topsoil depths of 300 mm, bioretention).	M-H			
d) Assess stormwater quality	Municipalities; LICA	Plan a synoptic survey of municipal stormwater quality where surface water quality is a concern.	M			
e) Strategies to improve stormwater quality	Municipalities Municipalities Alberta Transportation	Where stormwater quality is poor and impacting surface water quality, explore opportunities to treat stormwater through the use of LID (bioretention), oil/grit separators or other strategies listed in Recommendation 9.7.3.1 e. Develop a snow management strategy to minimize impacts of snow removal and storage on surface water, and riparian areas and wetlands.	M			
9.7.3.2 Agriculture						
a) Environmental Farm Plan	LICA; LARA; EFP; Municipalities (ASBs) Farmers; Ranchers	Promote the Environmental Farm Plan program. Encourage farmers and ranchers to participate. Complete an EFP and follow-up any actions that are identified to help achieve a healthy Beaver River watershed. Complete an EFP to help identify areas on the operation where BMPs may apply.	H H	is LARA currently doing this? Promote and follow up		
b) and c) BMP implementation for livestock and farm operations	Farmers; Ranchers Municipalities (ASBs); AAF	Consider the BMPs listed in this Plan, and others that may be identified by the agricultural industry. Determine where they may apply to protect water quality and riparian health. Seek cost-sharing opportunities to implement BMPs that result in on-farm benefits and support watershed goals (e.g., Watershed Resiliency and Restoration Program, Canadian Agriculture Program; other). Work with the agricultural community to relate the value of BMP implementation to on-farm and community (watershed-wide) benefits.	H			
d) Increase collaboration among organizations to promote us of BMPs	LICA; LARA; Municipalities (ASBs)	Establish an agricultural community network that promotes on-farm stewardship programs (e.g., EFP, CAP) and host field days and workshops relevant to agricultural producers. Organize a forum to discuss ecological goods and services. Invite the Alternative Land Use Services (ALUS) or other similar organization to present to local governments and landowners.	H	LARA - anything to add?		
e) Ecological Goods and Services	LICA Municipalities Landowners	Participate in a forum to learn more about ecological goods and services programs.	M	ALUS 101 Workshop at the LICA office on Feb 27, 2023		
9.7.3.3 Forestry						
a) Apply forestry industry standards	Forestry Industry Alberta Agriculture and Forestry	Apply industry standards to harvest practices, and seek opportunities to implement industry BMPs that result in forest benefits and support watershed goals. Work with the forestry industry to relate the value of BMP implementation to forest benefits.	H	Amanda, anything to add? Amanda & Shawn.		
9.7.3.4 Oil and Gas						
9.7.3.4.1 General						
a) Apply oil and gas industry standards	Oil and Gas Industry AER	Apply industry standards and practices, and seek opportunities to implement industry BMPs that support watershed goals. Work with industry to promote use of minimal disturbance practices. Promote sharing of information and increased collaboration to achieve watershed goals.	H	Industry reps. Annette, anything to add?		
b) Road construction and stream crossings	Oil and Gas Industry	Implement best road construction practices to maintain water quality.	H	Industry reps.		
9.7.3.4.2 Remediation and Reclamation						
a) Environmental Assessment	Oil and Gas Industry	Complete environmental assessments and reclamation activity according to applicable guidelines and regulations.	H	Industry reps, do you want to add anything?		
b) Reclamation						
d) Reclamation certificates	AER; Indian Oil and Gas Commission	Determine if reclaimed sites meet the Alberta Reclamation Criteria requirements and issue certificates for sites that meet the criteria.	H	AER/Industry		
9.7.3.4.3 Emergency Response Plans						
a) Emergency response plans	AER Oil and Gas Industry	In the event of a release, continue to coordinate AER's response with other municipal, provincial, and federal agencies, and to follow the Energy Resources Industry Emergency Support Plan (ERESP) during emergencies of large consequence or that require joint response from multiple government agencies. Ensure that an emergency response plan has been created and continue to hold annual emergency exercises.	H	Industry reps, do you want to add anything?		
b) Community emergency response	Municipalities	Engage with AER and the oil and gas community to determine how they communicate releases, and determine a mechanism to communicate risks to the public through the preparation of a Community Emergency Response Plan. Consider the Voyent Alert! App, a multi-purpose communication service and alerting app that is designed to support communities through rapid dissemination of targeted information (e.g., critical emergencies, or day-to-day notifications).	M-H	Randi and Bill, thoughts?		
9.7.3.4.4 Orphan Wells						
a) Assess the extent of orphan wells in the	AER; Oil and Gas Industry	Complete an assessment of orphan wells and prioritize sites for reclamation.	M-H			
b) Recommend wells for reclamation	AER; Landowners; Oil and Gas Industry; Orphan Well Association	Recommend sites for reclamation to the Orphan Well Association.	M-H			
9.7.3.5 Tourism and Recreation						
a) Recreation management plan	GOA	The recreation management plan should align with the goals and objectives outlined in the Beaver River IWMP. In addition to the considerations outlined for the recreation management plan (GOA 2022), planners should consider existing watershed health data and or generate new data related to riparian and biodiversity health. Collaborate with the community to plan the proposed trail network. The new trails should not impact water quality, riparian and wetland health, biodiversity or traditional uses.	H M-H			
b) Trails		Ensure that necessary upgrades to highways/access are completed alongside promotion of tourism and recreation to improve visitor experience.	H			
c) Infrastructure supports (e.g., roads)			L-M			
d) Bridges to span watercourses on trail network.	AEP; Municipalities LICA Trail Users	Encourage stewardship by OHV and off-road motorized vehicle clubs and users. Collaborate with OHV clubs, dealerships, and AEP to develop resources specific to the Beaver River watershed. Use bridge crossings to cross rivers and creeks when possible.	M M-H H	OHV Rally on May 6 - Maybe LICA can set up a booth for watershed health? Or LICA can have a OHV workshop aimed workshop.		
e) Stewardship education resources	LICA; Watershed Stewardship Groups	Continue to disseminate existing stewardship resources to the public. Develop new resources to reflect new knowledge and understanding of watershed resources.	H	QR codes added to Iron Horse Trail signage to show LICA projects.		

9.8.4 Implementation Table for Knowledge and Understanding

H=High Priority (implement in 1-3 years); M=Medium Priority (implement in 4-6 years); L=Low Priority (implement in 7-10 years)

LICA Watershed
 LICA Education and Outreach
 Seeking Committee Member Input

High
 Medium
 Low

Recommendation	Responsible Jurisdiction	Actions	Priority	Confirmed Action Taken (Y/N), Name of Jurisdiction	Date	Notes
9.8.3.1 State of the Watershed Report						
a) Update 2013 State of the Watershed Report	LICA; WSGs	LICA should review the 2013 Beaver River State of the Watershed Report. Develop a Terms of Reference for the update of this report to include new information available since 2013, including but not limited to human footprint mapping, water level trends, water quality monitoring programs, riparian intactness assessments, wetland inventory; estimates of riparian loss, biodiversity (fisheries updates). Condition indicators identified in this IWMP should be considered in the report. Establish partnerships to increase understanding of watershed resources (research and monitoring), to leverage funding and disseminate findings.	H	To be revisited within the next year.		
			H	LICA continued partnership with MLBMS & MLWS		
9.8.3.2 Indigenous Knowledge						
a) Conduct interviews and studies	LICA; First Nations; Métis; Consultant	Collaborate to document First Nation and Métis knowledge and experience to support watershed condition reporting and decision-making. This may be completed during the next 3 years, and prior to the next update of the Beaver River IWMP.	H	Robert, Kelly, Clem - Would you like to speak to anything here?		
b) Map reflecting Indigenous place names	LICA; First Nations; Métis; Consultant	Meet with First Nations and the Métis to determine Indigenous place names in the watershed. Create a watershed map that identifies Indigenous names.	H			
9.8.3.3 Climate Change and Climate Variability						
a) Consider climate change, climate variability and adaptation in land use planning	Municipalities	Develop and adopt principles to integrate climate change and climate variability assessment in decision-making. Efforts may include research and planning, training and skills development, and infrastructure design and construction from a climate perspective. Continue to explore climate risks to municipal assets and operations, and to participate ongoing discussions and programs (e.g., Building Green). Develop a climate adaptation plan when feasible.	H			
	AUMA; FCM	Continue to provide resources as science and understanding about climate change adaptation advances	H			
b) Assess regional climate	LICA	Implications of climate change relate to a longer ice-free season, the fishery, more mixing in lakes, storage, wildfire, agriculture, among others. Collaborate to assess regional climate (historic and forecast). Evaluate climate scenarios as it relates to water quantity, water quality, riparian areas, biodiversity and land use. Consider connecting with the University of Saskatchewan (D. Sauchyn) for historical back-casting.	M-H			
c) Publish research findings	LICA	Disseminate climate change and climate variability findings to stakeholders to consider in stewardship planning (water conservation, landscaping, development design, other).	M			

Priority	Recommendation	Lead Role	Confirmed Action Taken (Y/N), Name of Jurisdiction	Date	Notes
1	Develop and implement a long-term surface water quality monitoring program in collaboration with all stakeholders to leverage resources and achieve mutual goals.	LICA, supported by All			
2	Collaborate to implement BMPs and land use strategies to protect water quality and riparian health, particularly where riparian intactness scores are below the target and threshold and water quality is a concern.	LICA, supported by All			
3	Seek opportunities to support riparian restoration where assessments indicated health condition does not achieve targets and/or thresholds.	LICA, supported by All			
4	Collaborate with stakeholders to prioritize and develop a fishery monitoring program, including key habitat. Update fisheries management objectives prior to tourism and recreation planning (proposed in the Cold Lake Subregional Plan).	AEP			
5	Prioritize the completion of floodplain maps for watercourses and high-water marks for lakes to support implementation and enforcement of urban development setbacks through policy and planning.	Municipalities; supported by AEP			

LICA Watershed Committee Meeting

Date: December 1, 2022

Recorder: Eveline Hartog

ACTION LIST

<u>Task</u>	Date to be completed	Person assigned to task	Y
4.1 <u>Environmental Coordinator Watershed Projects Update</u>			
• Purchase tree seedlings of edibles for proposed project	Spring 2023	Kayla	IP
4.2.1 <u>Top Five Priorities for Beaver River IWMP Implementation</u>			
• Contact AEP regarding assistance with floodplain mapping	Spring 2023	Kayla	IP
• Continue to assist where possible to implement and share the IWMP.	Winter/Spring 2023	LWC	IP
4.3.1 <u>Current Proposed Budget</u>			
• Continue to research and establish contacts regarding review and revision of State of the Watershed report	Spring 2023	Kayla	IP
5.1.1 <u>Follow Up on Action List</u>			
• Present IWMP report to municipalities in the LICA region	Winter/Spring 2023	Kayla	IP

Next Meeting: TBD