



Paddle River Watershed Engagement Session

**Post-Event Summary, Key Findings &
Recommended Next Steps**

April 10th 2026

Athabasca Watershed Council

Watershed Planning & Advisory Council



Executive Summary

The Paddle River Engagement Session brought together municipal representatives, partners, and stakeholders to build a shared understanding of watershed conditions and explore practical opportunities to strengthen long-term water security, watershed resilience, and inter-jurisdictional collaboration.

Discussion focused on the Paddle River watershed as both a valued working landscape and an important source of drinking water. Participants reviewed current watershed pressures, including land use impacts, sediment and nutrient loading, hydrologic variability, aging infrastructure considerations, and increasing climate uncertainty. Existing stewardship and management efforts were also recognized, including riparian restoration, agricultural programming, municipal operations, and regional water quality monitoring.

Key Insights from the Session on Watershed Challenges

A central takeaway from the session was the recognition that numerous watershed challenges extend beyond individual boundaries. Issues such as water quality, drainage, erosion, flooding risks, and infrastructure pressures often originate upstream, flow downstream, or are collectively influenced throughout the watershed. Consequently, no single municipality or organization can effectively tackle these challenges alone. However, various successful initiatives are already in motion, providing a robust foundation for future collaboration.



Source Water Protection Planning (SWPP)

Source Water Protection Planning (SWPP) was introduced as a strategic framework to assist municipalities and partners in:

- Identifying risks
- Aligning priorities
- Protecting drinking water sources through practical and scalable actions

It was highlighted that while a formal plan is optional, significant progress can also be made through incremental steps, enhanced communication, and the integration of watershed considerations into existing planning and operations.

Next Steps and Local Capacity

During the session, participants sought clearer examples of practical next steps in case there is interest in advancing efforts. In response, this report offers a phased list of suggested actions aimed at helping organizations explore options at a pace that aligns with local capacity and priorities. These actions include:

- Identifying internal champions
- Conducting cross-departmental discussions
- Sharing priorities among neighboring municipalities
- Exploring interest in forming a collaborative working group
- Pursuing early actions such as improving high-risk crossings, targeting stewardship initiatives, and enhancing data sharing

Conclusion

Overall, the session highlighted a strong local interest in collaborative watershed management, affirming that relatively modest, well-coordinated actions could yield significant benefits. These advantages may encompass:

- Enhanced resilience of drinking water sources
- Reduced strain on infrastructure
- Healthier agricultural landscapes
- Improved preparedness for floods and droughts
- More efficient utilization of limited resources

The Athabasca Watershed Council is committed to supporting future initiatives through facilitation, technical information, coordination assistance, and phased planning support as interest grows.

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Event Overview & Session Summary

The Paddle River Watershed Engagement Session was convened to bring together municipalities, utilities, technical staff, watershed practitioners, and regional partners to discuss the condition of the Paddle River watershed, its importance as a drinking water source, and opportunities for coordinated watershed management.

Held at the Charles Godberson Rotary Room, Barrhead Regional Aquatic Centre on April 10, 2026, the session was designed to create a shared understanding of current watershed conditions, explore how those conditions influence drinking water risk, and identify practical next steps for collaboration.

The day was structured into two parts.

Morning Session – Shared Understanding and Technical Context

The morning focused on building a common foundation of knowledge through presentations and discussion. Topics included:

- Paddle River watershed context – why this watershed is a priority area, current land use, watershed pressures, and broader trends
- Paddle Dam history and management – operational context and infrastructure considerations
- Current watershed actions – ongoing monitoring, restoration, and stewardship initiatives underway in the broader Pembina watershed, with Paddle-specific relevance
- Drinking water perspectives – treatment challenges, water quality and quantity concerns, and the relationship between watershed condition and source water reliability

This part of the agenda was to make sure everyone had a shared understanding of the environmental and operational context before we moved into solutions-oriented discussions.

Afternoon Session – Collaboration and Path Forward

The afternoon shifted into facilitated dialogue focused on opportunities for future coordination. Participants explored:

- Key concerns and risks in the Paddle River watershed
- Areas of uncertainty and information gaps
- What level of coordination would be useful moving forward
- An overview of Source Water Protection Planning (SWPP) and other watershed governance approaches used elsewhere in Alberta
- Whether there is interest in pursuing a more formal collaborative process, working group, or phased planning approach



Key Themes from the Day

A few consistent themes emerged:

- Risk is shared across the watershed. No single organization or department is responsible for the issue or able to address it alone.
- Many good actions are already happening across municipal departments, agricultural stewardship programs (such as ALUS), and watershed initiatives.
- Opportunities exist to better align efforts. Particularly around infrastructure (e.g., road crossings), land management, and long-term planning.
- Uncertainty is increasing. Due to climate variability, funding cycles, and future demand, etc., making proactive approaches more valuable.



Acknowledgements

The Athabasca Watershed Council thanks all participants who contributed their time, knowledge, and perspectives to the Paddle River Watershed Engagement Session.

We appreciate the involvement of municipal representatives, utility and operations staff, technical advisors, stewardship organizations, landowners, and community members whose input helped shape the discussions and proposed next steps.

Thank you to Chaudhry Ali from Water Infrastructure & Operations (WIOB), Alberta Agriculture & Irrigation (AGI) for his presentation and invitation for further stakeholder involvement with the Paddle River Dam.

We also recognize the ongoing work underway across the watershed by local governments, agricultural producers, and partner organizations to support healthy land, water, and communities.

Special thanks to collaborating municipalities, regional partners, stewardship groups such as ALUS, and the funding programs that support watershed engagement, monitoring, restoration, and planning initiatives in Alberta.

The willingness of many groups to work together is an important foundation for the long-term resilience of the Paddle River watershed.

Why this Matters

Protecting a drinking water source at the watershed scale provides a practical and shared focus.

While the primary goal is a resilient, high-quality water supply, there are also important co-benefits:

- Reduced infrastructure strain and maintenance costs
- Improved flood and drought resilience
- Healthier agricultural landscapes
- Stronger cross-departmental and cross-municipal coordination

In a watershed like the Paddle, with significant agricultural land use, programs like ALUS and other stewardship initiatives are already demonstrating how multiple priorities can align toward improved land and water outcomes.

Similarly, municipal infrastructure, particularly road crossings and drainage systems, represents a key area where relatively small changes, applied strategically over time, can have measurable watershed benefits.

What Could Source Water Protection Look Like Here?

Whether to pursue a formal Source Water Protection Plan is entirely up to you.

The guide created by the Alberta Water Council that was discussed is one possible pathway.

At its core, this approach is about:

- Embedding a source water protection mindset into existing planning and operations
- Improving coordination and prioritization
- Supporting long-term resilience

This can be scaled to match available capacity.



Suggested Next Steps

Below are concrete next steps, structured so they can be taken incrementally.

1. Identify a Local Champion (Short-Term: 1–2 months)

Each municipality or organization can consider who is best positioned to champion or coordinate this work internally.

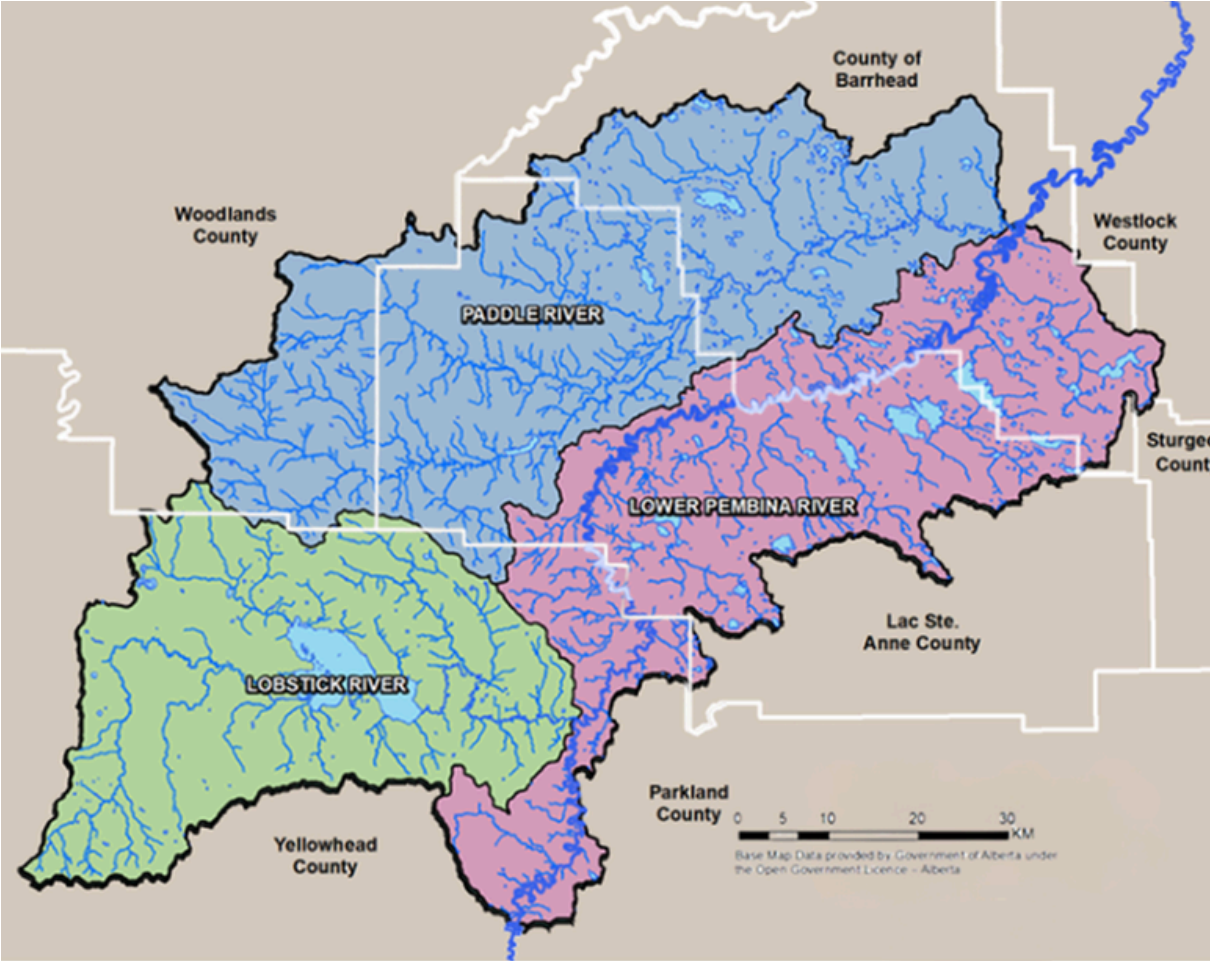
This does not need to be a full-time role.

Ideally, someone who:

- Has strong internal relationships
- Understands how departments interact
- Can bring the right people together when needed

This could be someone in:

- Public works
- Planning
- Utilities
- Environmental services



Suggested Next Steps

2. Internal Cross-Department Check-In (2–3 months)

A simple but high-value step:

- Hold a short internal meeting (1–2 hours) within your organization

Bring together:

- Public works
- Planning
- Ag services/stewardship
- Utilities/operations
- Etc.

Focus on:

- What are we already doing that affects water?
- Where do we see risks or recurring issues?
- What information would help us make better decisions?

This step can surface quick wins and alignment opportunities.

Each municipality can flag shared issues during this step:

“Are any of our challenges influenced by upstream or downstream neighbours?”

Example:

- Barrhead identifies recurring turbidity events
- Lac Ste. Anne identifies drainage or crossing issues upstream

That’s a natural collaboration trigger. Collaboration is identified here, not acted on yet.



Suggested Next Steps

3. Cross-Municipality Check-In (Low Commitment)

- 1–2 short meetings (virtual is fine)

Representatives from:

- County of Barrhead
- Town of Barrhead
- Lac Ste. Anne County
- Utility/operators

Purpose:

- Share what each municipality identified internally
- Compare concerns and priorities
- Identify overlap


4. Explore Interest in a Joint Working Group (3–4 months)

If there is interest:

- Let us know if your municipality or organization would participate in a multi-partner working group

This group could:

- Share information
- Align priorities where useful
- Explore funding opportunities
- Help determine whether a more formal SWPP is warranted



AWC's Goal for Source Water Protection

Putting Source First
The Water for Life strategy promotes a multibarrier approach—but in practice, most focus has been at the treatment plant.

Tools and Training
The THREATS tool supports science-based source risk assessment. It reduces the barriers for communities to inform Source Water Protection.

Connecting Communities
By facilitating upstream-downstream dialogue, AWC aims to foster collaborative planning that reflects real-world hydrological connections.

Suggested Next Steps

5. Start with a Focused “Scoping Phase” (Optional, Low Commitment)

Rather than jumping into a full plan, a small scoping exercise could:

- Compile existing information
- Identify key risks and gaps
- Map priority areas (e.g., crossings, erosion hotspots, intake concerns)

This could be done with support from AWC and partners.

6. Identify Early Action Opportunities

Some actions do not require a formal plan to begin. Examples include:

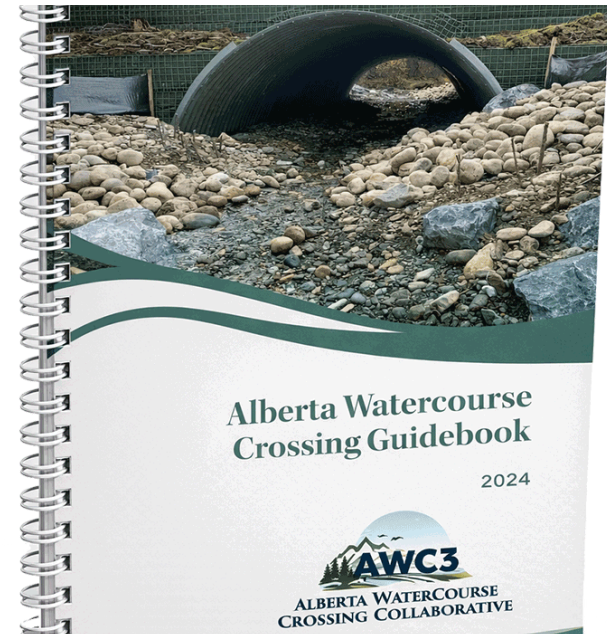
- Improving or inventorying high-risk road crossings
- Aligning with ALUS or stewardship programs to target priority areas
- Integrating water considerations into capital or maintenance planning
- Sharing data across municipalities where helpful

These actions can build momentum.

7. Explore Funding Opportunities

If interest grows, there may be opportunities to pursue funding.

A coordinated approach can strengthen applications.



Who Could Be Involved?

- **County of Barrhead**
- **Barrhead Regional Water Commission**
- **Town of Barrhead**
- **Lac Ste. Anne County**
- **Mayerthorpe**
- **Westlock County**
- **Utilities/operators/Public Works**
- **Planning departments**
- **Agricultural Services**
- **ALUS/stewardship groups**
- **Provincial partners, AEP, AGI**
- **Athabasca Watershed Council**

How the AWC Can Support You

The Athabasca Watershed Council can support next steps by:

- Facilitating discussions (internal or multi-partner)
- Compiling and summarizing existing data
- Identifying gaps and opportunities
- Connecting you with examples (e.g., Camrose SWPP)
- Supporting phased approaches, from scoping to implementation

Closing

Ultimately, this work does not need to be large or complex to be valuable.

What matters most is:

- Alignment
- Shared understanding
- And gradual integration into how decisions are already made

Many hands make light work, and much of the foundation is already in place.

We welcome your feedback on:

- What feels useful
- What feels unrealistic
- And how we can best support you moving forward



APPENDIX A: What We Heard

Why is the Paddle River important to you?

- Drinking Water Source: It provides drinking water for Barrhead (Town and County) and contributes to the Pembina River, which serves as Westlock's drinking water source. Additionally, it may be hydrologically linked to groundwater that supplies water for Mayerthorpe and local landowners.
- Agricultural Use: The river is essential for livestock watering, agricultural activities, small gardens, irrigation for two golf courses, and serves various industries and emergency services, such as firefighting.
- Recreational Activities: It offers opportunities for floating, fishing, camping, berry picking, winter sledding, and walking, hiking, or horseback riding along its trails.
- Mental Health and Personal Connection: The river holds historical significance and family roots, contributing to the identity of the Town of Barrhead.
- Outdoor Education: It's an ideal location for outdoor educational activities.
- Wildlife Corridor: The Paddle River serves as a habitat for biodiversity and supports wildlife movement.
- Natural Water Management: Riparian areas alongside the river play a crucial role in storing and slowing water during high water levels and floods. The river also facilitates drainage for farmland and helps carry away municipal effluent.



APPENDIX A: What We Heard

What changes in the river have you seen over the past decade or two?

- Increased occurrences of algal blooms and nutrient levels, along with lower water flow
- Rising manganese levels in the source drinking water necessitating enhanced treatment
- Accumulation of foam behind the intake weir during high flow and phosphorus levels
- Decreased rainfall in the upper Paddle, leading to prolonged periods of low rainfall, earlier droughts, and increased flooding at Manola
- Diminished tree cover and shelterbelts, along with a reduction in wetlands
- More dykes constructed along the river
- Increased development along the Paddle, including more recreational activities, random camping, two golf courses utilizing irrigation, and an additional 140 camping sites at Paddle River Dam
- Expansion of cropping in the floodplain, with fewer livestock being grazed and more producers involved
- Growing interest in initiatives aimed at enhancing water quality, biodiversity, and mitigating environmental impacts



APPENDIX A: What We Heard

What do you think are the biggest issues affecting the Paddle River watershed?

- Insufficient water supply (from snow and rainfall)
- Strain from water extraction by towns, counties, dugouts, and golf courses
- Contaminants from weed control (herbicides), surface water runoff, road salt, wastewater effluent (from Mayerthorpe and Barrhead), and agricultural practices (livestock, fertilizers, pesticides), as well as golf courses
- Limited awareness and public engagement
- Outdated and aging dam and flood control infrastructure
- Degradation of healthy riparian zones
- Urban development (housing) along the river
- Recreational watercourse crossings by ATVs



APPENDIX A: What We Heard

What information do you need to better manage the Paddle River?

- **Water Quality Data:** Insights on current conditions and recommendations for improvement.
- **Updated Floodplain Maps:** Recent maps to assist in planning and response efforts.
- **Water Quantity Data:**
 - Flow and lake level information
 - Naturalized hydrograph and trends
 - Water budget and allocations
- **Input Sources:**
 - Contaminants such as nutrients from livestock and wildlife
 - Municipal effluent
 - Stormwater runoff
 - Snowmelt piles and manure spreading
- **Priority Areas:** Identification of key conservation and restoration regions.
- **Watercourse Crossings:** An inventory and assessment of existing crossings.
- **Financial Capacity:** Understanding available funding and technical resources.
- **Infrastructure State:** Condition of weirs, dykes, and other structures.
- **Tributary Conditions:** Assessment of the health of tributaries.
- **Stakeholder Identification:** Who are the involved parties?
- **Public Awareness:** Level of understanding among the community.
- **Wetlands and Groundwater:** Current status of these vital ecosystems.
- **Emerging Technologies:** Innovations that could aid in management efforts.



Additional Resources & Reference Materials

The following resources may be useful for municipalities, utilities, landowners, and partners interested in learning more about watershed management and Source Water Protection Planning (SWPP) in Alberta.

Source Water Protection Planning (Alberta):

Alberta Water Council – Source Water Protection Overview

Background on Alberta’s Source Water Protection work, planning guidance, and tools.

[Alberta Water Council – Source Water Protection](#)

Guide to Source Water Protection Planning in Alberta

A practical guide outlining steps to develop a source water protection plan.

[Guide to Source Water Protection Planning](#)

Alberta Source Water Protection Web Tool (THREATS™)

Interactive platform supporting risk assessment, watershed characterization, and planning.

[THREATS™ Web Tool](#)

Source Water Protection Project & Risk Assessment Tools

Overview of Alberta’s ongoing source water protection initiatives and educational resources.

[Risk Assessment Tools & Data Project](#)

Camrose Source Water Protection Example

Example Alberta municipality using source water protection planning in a similar agricultural watershed context.

[Camrose SWPP](#)

Watershed Data & Monitoring Resources:

Mackenzie DataStream

Open-access water quality data platform used by watershed organizations across Alberta and Canada.

[Pembina Water Quality Monitoring Program](#)

Government of Alberta River Flows / Hydrometric Data

River flow and water level information useful for drought, flood, and watershed planning.

[Alberta River Basins](#)

Athabasca Watershed Council

Watershed reports, projects, education resources, and regional initiatives.

[Pembina Watershed Riparian Reports](#)

Alberta Water Tool

A point-and-click tool that helps to understand accurate, real-time information about water resources in Alberta.

[Alberta Water Tool](#)