NSWA
NORTH SASKATCHEWAN WATERSHED ALLIANCE

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Water Availability and Partnerships Branch
Alberta Environment and Protected Areas
Edmonton, Alberta

RE: Input for the Government of Alberta Water Availability Engagement

Introduction

Thank you for the opportunity to provide input to the Government of Alberta's Water Availability Engagement. The North Saskatchewan Watershed Alliance (NSWA) is proud to serve as a long-standing partner in Alberta's water management system, playing a key role under the province's *Water for Life* Strategy.

The NSWA's mission is to protect and improve watershed health, water quality, and water quantity within an adaptive management framework. We achieve this through knowledge sharing, fostering partnerships, conducting collaborative assessments, and advancing watershed stewardship practices.

This submission provides input to Alberta Environment and Protected Areas (AEPA) on foundational topics in water management, as well as on specific themes outlined in the engagement. Our suggestions and ideas focus on three overarching goals:

1. Increasing certainty in water management.
2. Enhancing water availability for sustainable use.
3. Reducing barriers to accessing water resources.

Through these suggestions, we aim to support Alberta's leadership in sustainable water stewardship while addressing emerging challenges. Given time constraints, the input offered is not a product of consensus among the variety of rights and stakeholders on the NSWA Board of Directors, but rather a gathering and consolidation of input from Board and staff. Government of Alberta representatives on the Board did not offer input to this submission.

Increasing Certainty in Water Management

1. Modernize *Water for Life*

Alberta's *Water for Life* Strategy has the potential to inspire ongoing improvement in water stewardship due to its early leadership in promoting shared governance. However, while this model was once world-leading, opportunities exist to to revitalize its strategic importance and enhance the implementation of *Water for Life* to better reflect evolving challenges and emerging best practice

The Watershed Planning and Advisory Council (WPAC) model within *Water for Life* demonstrates the significant value of collaboration. Organizations like the NSWA typically amplify operational funding by threefold or more, addressing critical water management and stewardship needs. Despite this success,

WPACs face persistent challenges, including limited capacity, lack of formal authority, and insufficient government recognition. These challenges hinder our ability to act as effectively as we could during crises, such as droughts or floods.

To restore *Water for Life* as a world-leading water strategy, Alberta should consider the following:

- Explore opportunities to embed WPAC assessment, planning, and collaboration mandates into legislation by linking *Water for Life* with the *Water Act*, *Environmental Protection and Enhancement Act*, and *Land Stewardship Act.*
- Strengthening WPAC partnerships through stable, sustainable funding mechanisms will magnify and supplement the ability of the Government of Alberta to respond to changing circumstances.
- Define and strengthen the connection between watershed planning (e.g., integrated watershed management plans) and legislated planning tools like regional and subregional plans developed under the *Alberta Land Stewardship Act*.

These suggestions aim to help Alberta address capacity gaps, improve coordination, and better equip watershed organizations to support government when tackling water management challenges.

2. Indigenous Rights and Water

The relationship between Indigenous peoples and water is deeply interconnected with cultural, spiritual, and practical dimensions. However, the ongoing lack of agreement on water as a Treaty right creates significant uncertainty for First Nations communities and industries reliant on water for their operations.

As Reconciliation takes center stage across Canada and globally, Alberta can be recognized for leading conversations to collaborate with First Nations to address and clarify Indigenous water rights, which will:

- Establish clearer, more predictable regulatory frameworks that investors value.
- Reduce conflicts and align Alberta's approach with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).
- Foster meaningful partnerships with First Nations to enhance social license, integrate traditional ecological knowledge, and create new economic opportunities.

Proactively addressing Indigenous water rights provides certainty for all stakeholders while advancing equitable and sustainable water management practices.

3. Environmental Flows

Environmental flows—the quantity, timing, and quality of water required to sustain ecosystems and their benefits—are fundamental to water and ecosystem management. Environmental flows are often likened to the circulatory system of ecosystems, sustaining their health, resilience, and productivity

In Alberta, water allocations often proceed without a comprehensive understanding of environmental flow requirements. While this may pose minimal risks during periods of low water demand, it creates significant uncertainty as water usage increases, jeopardizing both human and ecosystem needs.

To provide greater certainty, Alberta should:

- Establish science-based environmental flow thresholds for all major basins, prioritizing those without existing protections.
- Integrate these thresholds into water allocation frameworks to support sustainable municipal and industrial growth.
- Recognize the vital role environmental flows play in ensuring clean drinking water, reducing treatment costs, sustaining agriculture, and supporting industries like tourism and recreation.

- Using wetlands and other natural assets to retain and support environmental flows is a critical element of an effective water management approach and one that can be integrated into large and small-scale project as a regulatory consideration.

Balancing ecological health with economic and social needs ensures Alberta's communities, industries, and natural systems can thrive together.

Improving Water Availability

Through the water availability engagement process, seven key topics were identified for discussion, focusing on improving water availability and reducing regulatory burden. In the following sections, we provide ideas and suggestions for potential changes, supported by clear rationale to demonstrate the value and practicality of the input.

1. Inter-basin Transfers

Inter-basin water transfers must be carefully managed to balance the need for water in destination areas with the preservation of aquatic ecosystems in source regions. The NSWA does not support large-scale inter-basin transfers other than through existing Cabinet process, because of the potential environmental effects and the uncertainty it creates around water availability in the basin for municipal and industrial needs.

Here are our suggestions:

- Magnitude of Transfers
  - Clearly define small and large-scale transfers through a collaborative process and then use this definition in regulation.
  - Large-scale transfers, once defined, should continue to be specifically authorized by a special Act of the Legislature, as is currently required by the *Water Act*.
  - Allow small-scale, low-risk transfers (referred to below as *small transfers*) to proceed without requiring a special act of the legislature, streamlining the approval process for localized needs.
  - Rationale: The scale of inter-basin transfers significantly influences environmental and operational impacts, necessitating distinct guidelines for large and small transfers.
- Water Source Environmental Impacts
  - Permit small transfers from small watercourses only if cumulative licensed withdrawals (including the proposed transfer) do not exceed the water allocation limits described by the Alberta Surface Water Allocation Directive.
  - Allow small transfers from lakes only if cumulative licensed withdrawals (including the proposed transfer) do not exceed the water allocation limits described by the Alberta Surface Water Allocation Directive.
  - Size small transfer volumes to the needs of a single First Nation, Métis community, municipality, industrial user, or agricultural operation.
  - Rationale: Protecting aquatic ecosystems in the source area requires managing withdrawal volumes to maintain ecological balance.
- Destination Environmental Impacts
  - Prohibit direct environment-to-environment small transfers (e.g., from one stream or lake to another).
    - Direct environment-to-environment transfers may still be considered through a special Act of the Legislature, as per the *Water Act*
  - Permit small transfers of small volumes of treated water.

    - Allow small raw water transfers only if destined for a treatment facility or a fully consumptive use (e.g., hydraulic fracturing).
    - Limit storage volumes of transferred water.
    - Rationale: Minimizing the introduction of contaminants, pathogens, invasive species, or novel water chemistry is critical to protecting aquatic ecosystems in destination areas.
- Geographic Scope
    - Restrict small transfers to neighboring HUC8 watersheds across major basin boundaries.
    - Rationale: Short-distance transfers reduce logistical and environmental challenges.
- Purpose and Use
    - Allow small transfers for emergency drought relief or augmenting water supplies for human drinking water use and agricultural livestock.
    - Permit small transfers for use within a single industrial operation that spans a watershed boundary.
    - Allow small transfers where the end use is entirely consumptive (e.g., hydraulic fracturing).
    - Rationale: Small transfers should address specific, localized, or temporary needs to prevent overuse or long-term reliance.
- Infrastructure Requirements
    - Restrict small transfers to those involving small or temporary pipelines, trucked water deliveries, or localized pumping systems.
    - Rationale: Temporary or minimal infrastructure reduces environmental and economic costs.
- Regulatory Considerations
    - Require public reporting of all low-risk inter-basin transfers, with annual reports summarizing approved transfers and their adherence to the outlined criteria.
    - Include conditions in transfer licenses to report on water volumes transferred and used, enabling effective tracking.
    - Limit the duration of small transfer licenses to account for changing flow conditions, but include a rapid renewal and/or automatic renewal for longer-term operations where source flows will likely not be impacted (assessed at application).
        - Alternatively, include provisions requiring the licensee to cease transfers if the source waterbody deviates significantly from the conditions present at the time of application.
    - Rationale: Transparent and adaptive management builds public trust and ensures alignment with changing water conditions.

2. Alternative Water Sources and Wastewater Reuse flows

Effective water management must consider return flows and alternative water sources, such as stormwater and wastewater reuse, to build resilience and maintain ecological and community needs. Our suggestions:

- Understand Environmental Flow Thresholds
    - Develop a comprehensive understanding of environmental flow thresholds to assess the potential impacts of reducing return flows and guide water reuse decisions.
    - Rationale: Without clear environmental flow thresholds, reductions or redirections of return flows may degrade aquatic ecosystems and disrupt water availability for downstream users.
- Recognize Return Flows as a Critical Component of Water Management

    - Alberta's *Water Act* should explicitly recognize return flows as a key element of the water management system.
    - Reallocation of return flows to another user should only occur if the source watercourse remains above its environmental flow threshold.
    - Regardless of whether return flows are reallocated to another ruse, a specified percentage of return flow should always be directed back into the ecosystem, particularly when the diversion and return locations differ, to maintain ecological health and protect interconnected water systems.
    - Rationale: Return flows support environmental flows, ecosystems, and downstream communities, ensuring a balanced and sustainable water system. Failing to manage them effectively can harm hydrological systems and reduce water security.
- Stormwater Management and Reuse
    - Manage stormwater to support essential natural processes such as groundwater replenishment, nutrient and sediment purging, and aquatic habitat maintenance.
    - Enhance wetland retention in rural areas as a natural stormwater management solution, providing additional benefits such as biodiversity support and flood mitigation.
    - Rationale: Stormwater is an underutilized resource that, when properly managed, can replenish groundwater, support aquatic habitats, and mitigate floods, while also reducing the impacts of high-water events.
- Address Challenges in Wastewater Reuse
    - Ensure that wastewater reuse projects account for their impact on return flows, maintaining the assimilative capacity of water bodies and protecting ecosystems at return locations.
    - Rationale: Wastewater reuse poses risks to ecosystems and downstream users if return flows are reduced or redirected without careful consideration of environmental thresholds.

3. Water Conservation, Efficiency, and Productivity

Effective improvements in water conservation, efficiency, and productivity requires policies that balance environmental sustainability, economic viability, and equitable access to water resources.

- Recognize and Value Environmental Water Productivity
    - Given that water productivity is defined as the amount of water required to produce a unit of any good, service, or societal value, it is essential to recognize the contributions of environmental flows to societal well-being.
    - Use a natural assets approach to quantify the ecosystem services provided by these flows. This approach enables sectors to account for the value of natural systems in their planning and decision-making processes.
        - Utilize standards being developed nationally for assessing and reporting the economic value of environmental services.
    - Rationale: Environmental flows provide critical ecosystem services, such as maintaining biodiversity, supporting recreational opportunities, and improving water quality. Recognizing these contributions ensures that natural systems are valued alongside human uses of water.
- Water Use Reporting
    - Require mandatory public reporting of water use to ensure allocations are actively utilized. This promotes transparency and accountability.

    - Have a consistent electronic reporting system across water regulators and users for consistency and to reduce duplication. The digital regulatory assurance system (DRAS) appears to be a solid system to ensure consistency.
        - The basic information required would include volume, use, and timing of use. Optimally, reporting time increments would match the timestep of environmental flow reporting (e.g., weekly timestep).
    - Create a standard for reporting through regulation under the *Water Act*, but then have a sector-based approach to implementation where sectors co-create the implementation planning and timeline to meet the regulatory requirements.
    - Rationale: Mandatory reporting enhances the understanding of water allocation and use, helping identify inefficiencies, reducing oversized allocations, and supporting better-informed water management decisions.
- Standardize Licensing Practices
    - Establish clear guidelines for "right-sized" water licenses to standardize allocation practices across time.
        - Consider mechanisms to allow temporary transfers of unused allocations to mitigate opposition to "right-sizing."
    - Rationale: Standardizing allocation practices ensures fairness and equity among water users over time, as new users face more restrictive conditions than when historical users acquired licenses.
- Volumetric Water Pricing
    - Volumetric pricing at a provincial scale is perceived to enable large scale water sales (provincially, interprovincially, or internationally), which in turn would potentially affect how Alberta's water resource is handled under international trade agreements (e.g., United States-Mexico-Canada Agreement).
    - While volumetric pricing can encourage conservation and voluntary adjustments in allocation sizes, the risks of implementing such a measure should be very carefully considered.
    - Rationale: While pricing water by volume can incentivize conservation, there are potentially significant repercussions when implemented at a provincial scale.

4. Water Measurement and Reporting

Effective water management depends on robust environmental, social, and economic knowledge, paired with accessible and coordinated reporting. See water conservation, efficiency, and productivity for additional details.

- Enhance Environmental Monitoring, Evaluation, and Reporting
    - Strengthen monitoring programs by pairing them with robust interpretation, evaluation, and reporting functions to maximize their utility across users.
        - Some automated evaluation functions might be built into the DRAS system.
    - Braid western science with Indigenous traditional ecological knowledge to provide a richer and more nuanced understanding of environmental conditions.
    - Rationale: A comprehensive understanding of environmental conditions, including water quantity, quality, and climate trends, is critical for sound water management decisions. Inadequate evaluation and reporting undermine the value of monitoring programs and the ability to act on insights effectively.
- Improve Access to Environmental Data
    - Make government data more accessible and user-friendly in coordination with WPACs, ensuring it can be readily interpreted and understood by non-experts.

    - Create centralized, publicly available platforms to share high-quality environmental information for widespread use.
    - Rationale: Publicly accessible and interpretable information empowers communities, volunteer groups, and decision-makers to take informed actions and fosters greater public understanding of water issues.
- Incorporate Social and Economic Monitoring
    - Establish mechanisms to monitor and analyze changes in water use, allocation demands, and societal values connected to water.
    - Pair social and economic considerations with environmental data to enable integrated decision-making that reflects diverse needs and pressures.
    - Rationale: Understanding societal and economic trends, including water demand, efficiency, and conservation, support balanced water management decisions and recognize diverse perspectives, including cultural values and behavioral insights.
- Foster Holistic Knowledge Integration
    - Develop an integrated approach to knowledge-sharing that bridges gaps between water supply data (e.g., metering, environmental monitoring) and water demand insights (e.g., social and economic trends).
    - Address misinformation and misunderstanding by improving public communication about water issues, reducing polarization and fostering informed dialogue.
    - Rationale: An adaptable and resilient water management system requires the integration of diverse knowledge systems, including environmental, social, and economic insights, into a coordinated framework.

5. Water Allocations and Transfers

A well-designed water allocation and transfer system enables efficient and equitable water use while ensuring environmental sustainability.

- Ensure Environmental Flow Baselines
    - Establish clear environmental flow baselines to ensure ecosystem health is maintained and to inform allocation and license transfer decisions.
    - Use environmental flow data to determine when water can be reallocated to meet ecological needs or support transfers among users.
    - Rationale: Environmental flows are the foundation of sustainable water management, supporting ecosystems and the services they provide to people. Without understanding these flows, water transfers risk harming the environment and future water availability.
- Incorporate Return Flows into the Transfer System
    - Require that return flows are considered in transfer decisions to maintain downstream water availability and ecosystem integrity (see earlier comments on return flow).
    - Use return flow data to guide allocations and transfers, ensuring the system supports interconnected water needs.
    - Ensure a minimum volume or percentage of volume is returned to the ecosystem within each transfer between users.
    - Rationale: Return flows are a critical component of the water cycle, ensuring downstream users and ecosystems continue to receive adequate water. Their role must be carefully managed within the transfer system.
- Enhance Transparency in Water Transfers
    - Develop a highly transparent water transfer framework that provides clear information on allocation changes, ensuring public and stakeholder trust.

    - Address potential manipulation or "gaming" of the system through stringent oversight and publicly accessible records.
    - Rationale: A transparent transfer system prevents manipulation, fosters trust among stakeholders, and ensures equitable water distribution.
- Simplify the Regulatory Process
    - Design a user-friendly regulatory process for water transfers that minimizes complexity while maintaining ecological safeguards.
        - This could be accomplished through pre-set transfer criteria that have been co-designed by water users.
    - Rationale: A streamlined regulatory system reduces administrative burdens for both users and government, encouraging compliance and efficient water management.

6. Use of Rainwater

Enabling rainwater use in urban settings contributes to sustainable water management by reducing reliance on distribution systems and enhancing stormwater management. Some suggestions:

- Define Rainwater
    - Include a specific *Water Act* definition for rainwater: "precipitation from rain or snowmelt that is collected directly from a roof surface."
        - The 'roof surface' definition precludes large-scale rainwater harvest that could have detrimental ecosystem impacts.
    - Rationale: A clear and standardized definition provides regulatory clarity, ensuring rainwater use is understood and consistently managed across jurisdictions.
- Simplify Regulatory Processes for Rainwater Use
    - Align regulatory frameworks for rainwater collection with building and construction codes to facilitate widespread adoption.
    - Minimize administrative requirements for rainwater use, ensuring it is an accessible option for urban homeowners.
    - Rationale: Simplified and harmonized regulations encourage adoption by reducing barriers for homeowners, businesses, and developers.
- Enhance Urban Use of Rainwater
    - Support policies and incentives that encourage rainwater collection in urban settings to offset potable water use in non-potable applications, such as irrigation or toilet flushing.
    - Encourage developers to integrate rainwater collection systems into new construction projects, emphasizing sustainability and resilience.
    - Rationale: Rainwater use can decrease demand on centralized water distribution systems, enhancing efficiency and conservation in urban areas.

7. Exemptions from Water Authorizations

Expanding exemptions for low-risk activities can reduce regulatory burdens while maintaining environmental integrity. Suggestions:

- Create a definition for Low-Risk Activities
    - Clearly define low risk activities with very specific criteria for withdrawal volumes, disturbance areas, duration, waterbody type (e.g., non-fish bearing), etc.
    - Apply an exemption to any activity that meets the criteria.
    - Rationale: Simplifying regulatory requirements and processes (both provincial and municipal) for activities with minimal environmental impact reduces administrative workloads for both users and regulators, enabling focus on higher-risk activities.
- Maintain Oversight of Exempted Activities

- Establish audit and enforcement functions for exempted activities to verify compliance with low-risk and low-impact criteria.
- Use periodic reviews and data collected during the application phase to assess the cumulative impacts of exempted activities and refine exemption criteria as needed.
- Rationale: Even low-risk activities can pose cumulative or localized risks if left unchecked. Audit and enforcement mechanisms provide assurance that exemptions are not misused.

Conclusion

The NSWA appreciates being asked to contribute to the ongoing discussions about Alberta's water management system and enabling regulatory framework. The suggestions outlined in this submission reflect our commitment to collaborative, innovative, and practical solutions that enhance water availability, improve regulatory certainty, and support sustainable growth across the province. We welcome further engagement and are eager to continue working with the government and stakeholders to advance the shared goals of *Water for Life*.

Please do not hesitate to contact me should you have any questions.

Sincerely,

Scott Millar, Executive Director
North Saskatchewan Watershed Alliance