

Appendix A SSROM Phase 3 Terms of Reference



SSROM Phase 3: Assessment of Strategic Projects to Support Economic Development – Terms of Reference

1.0 Background

Following the 2022 update of the South Saskatchewan River Operational Model (SSROM), this next phase will leverage and engage a group of informed stakeholders to identify and assess strategic water management in the South Saskatchewan River Basin (SSRB) using the SSROM. This project will engage knowledgeable stakeholders within the SSRB to determine how proposed projects that rely on water resources in southern Alberta can be assessed to support economic development, while respecting existing treaties and legislation and not causing stress within the watershed.

The Assessment of Strategic Projects to Support Economic Development is being led by the Alberta Irrigation Districts Association (AIDA). A Working Group will be convened with water managers and key water stakeholders within the SSRB. The Working Group will:

- Identify and understand water supply risks in the context of climate change within the SSRB.
- Where required, engage local experts beyond the Working Group to determine water management best practices that will enable sustainable economic development.
- Identify and assess new projects that can strategically support economic development in the province.
- Generate a report and roadmap that will be made available to the public to communicate climate change impacts on water resources and present the environmental, social, and economic considerations of strategic projects.

The Working Group will advise the project Steering Committee, which will provide project oversight and direction.

1.1 The SSROM and SSRB 2016 Water Management Roadmap

This phase builds on the work conducted in the 2016 [Climate Vulnerability and Sustainable Water Management in the South Saskatchewan River Basin Project](#), which produced a roadmap for sustainable water management in the SSRB.

A roadmap provides a solid foundation on which to determine, refine and implement appropriate actions; adapt plans; and invest in the science needed to better prepare the SSRB's water management system to respond when new challenges arise. By first exploring the capabilities of today's infrastructure and

SSROM Phase 3: Assessment of Strategic Management Projects to Support Economic Development – Terms of Reference



management, then considering additional strategies available now and in the future, a roadmap is useful for the adaptive management approach to develop a resilient and adaptive capacity to respond to various situations. It also raises social awareness of potential flood and drought risks to support development of appropriate water management arrangements in place now. Adaptive water management involves implementing and regularly revisiting the roadmap as demands and this dynamic river basin continue to change. To build resilience and sustainability in the face of climatic and environmental change and increased economic growth, a layered approach is required, as no single solution can address this broad challenge.

The SSROM is a comprehensive, daily, mass balance river model that enables collaborative working groups to compare individual strategies and evaluate the net benefits of combinations of strategies across the full basin. The SSROM was created because watershed management and climate adaptation issues are complex and cannot be appropriately addressed by any single initiative or sector, making collaboration essential. Since 2010, a series of initiatives brought together water managers and knowledgeable water users in each of the SSRB sub-basins to explore potential adaptation approaches. Building on the modelling collaborations, the project integrated the sub-basin models into one comprehensive model for the entire SSRB. Several adaptation strategies were developed for each sub-basin and, where data was available, strategies were modelled and assessed using the SSROM. Strategies were sorted into three Levels that reflect degrees of adaptation. Strategies already being implemented are recognized as well.

2.0 Mandate

In an advisory capacity, the Working Group will provide feedback and suggestions to the Steering Committee to develop an updated Water Management Roadmap for the SSRB, while balancing environmental protection and economic development within the SSRB.

3.0 Objectives

- Produce an updated Water Management Roadmap for the SSRB aimed at water managers, development planners and the general public.
- Demonstrate the degree to which economic development can be pursued while protecting drinking water for humans and ensuring healthy aquatic ecosystems.
- Develop an understanding of the amount of water that is available in the SSRB and how it is currently managed with the infrastructure and processes in place.
- Demonstrate economic opportunities for industry, agriculture, and municipal growth that will continue to increase efficiency in water use.
- Demonstrate potential impacts of climate change on the SSRB on water supply risks and identify climate adaptation opportunities.
- Identify complementary and mutually beneficial water management opportunities across the SSRB.
- Identify potential projects for further development that provide water management or economic opportunities for the SSRB (e.g., additional built or natural infrastructure).

SSROM Phase 3: Assessment of Strategic Management Projects to Support Economic Development – Terms of Reference



4.0 Scope of the Working Group

The Working Group will comprise three sub-groups representing the major sub-basins (Red Deer, Bow and Oldman/South Saskatchewan) of the SSRB. Each sub-basin group will meet individually and use their basin expertise to:

- Identify, model and test potential new strategies that use water, adjust exiting operations, or identify management opportunities for economic development in the context of climate change projection scenarios within their assigned sub-basin.
- Provide input and recommendations to support an updated Water Management Roadmap for the SSRB that can be used to form the basis of a comprehensive water management strategy.
- Provide technical advice and recommendations to inform Steering Committee decisions.
- Provide input and recommendations to support stakeholder engagement activities.

The larger SSRB Working Group will convene throughout the project to holistically assess the strategies proposed in the sub-basin working groups.

5.0 Scope of the Steering Committee

A project Steering Committee will be established to review the project workplan and discuss and provide direction and project oversight. The Steering Committee will advise and provide direction on key issues referred to the committee by the Working Group. WaterSMART will deliver regular budget updates for the Steering Committee to provide fiscal budgetary oversight throughout the project. The Steering Committee, comprised of key project funders, will meet bi-monthly and will be chaired by AIDA.

The Steering Committee comprises:

- Alberta Irrigation Districts Association,
- Alberta Innovates,
- Results Driven Agriculture Research, and
- Canadian Agricultural Partnership.

6.0 Project Funders

The project is driven and funded by the following project funders:

- Alberta Innovates
- Alberta Irrigation District Association
- Bow River Irrigation District
- Canadian Agricultural Partnership
- City of Calgary
- City of Lethbridge
- Eastern Irrigation District
- International Institute for Sustainable Development
- Lethbridge Northern Irrigation District
- Nutrien
- Palliser Economic Partnership
- Red Deer River Municipal Users Group
- Results Driven Agriculture Research
- Rocky View County
- Special Areas
- St. Mary River Irrigation District
- Town of Strathmore

SSROM Phase 3: Assessment of Strategic Management Projects to Support Economic Development – Terms of Reference



- United Irrigation District
- Western Irrigation District

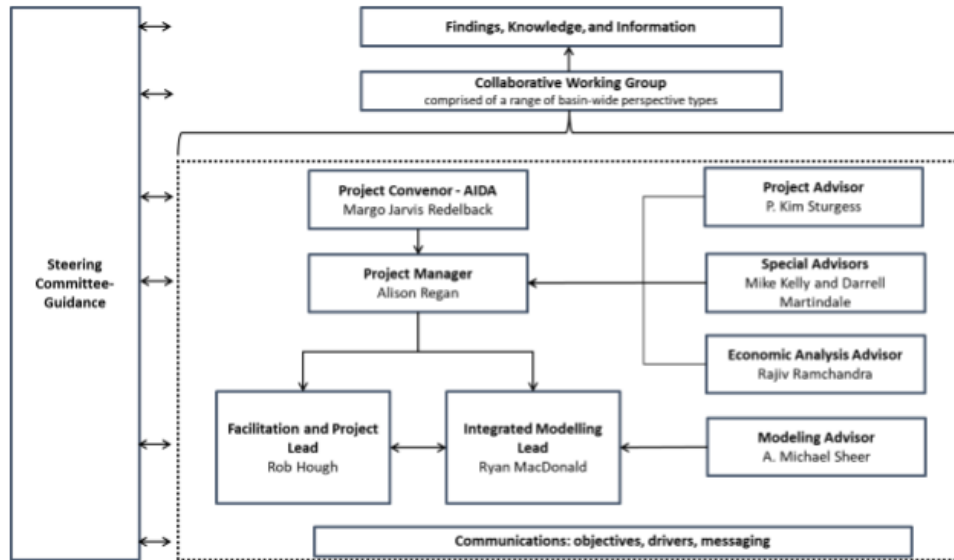
7.0 Project Governance

The Steering Committee, chaired by AIDA, will provide direction for the Working Groups and project oversight.

WaterSMART will chair and facilitate Working Group and sub-group meetings.

The meetings will be governed as per the following:

- Proposed meeting dates will be set according to the project schedule.
- The Working Group, sub-group and Steering Committee meetings will be by invitation only.
- Chatham House Rule will be applied to the Working Group meetings:
 - *When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.*
- Meeting summaries will be prepared and distributed to members for review before being considered final.



8.0 Project Schedule

The project schedule below provides a rough guide for the project timeline. Actual dates of Working Group meetings and deliverables are subject to change with approval from the Steering Committee.

SSROM Phase 3: Assessment of Strategic Management Projects to Support Economic Development – Terms of Reference



SSROM Phase 3 Schedule		Q1 2023			Q2 2023			Q3 2023			Q4 2023			Q1 2024
		Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
Task No.	Task name													
0	Steering Committee Meetings (bi-monthly)	[Yellow bar spanning all months]												
1	Establish, apply and document future climate scenarios	[Blue bar spanning Jan-23 to Mar-23]												
2	Establish options and assessment criteria	[Green bar spanning Jan-23 to Mar-23]												
2.1	Working Group Meeting #1	[Yellow star in Jan-23]												
3	Options Assessment: Individual SSRB sub-basins	[Orange bar spanning Mar-23 to Jun-23]												
3.1	Working Group Meeting #2: Bow River basin	[Yellow star in Apr-23]												
3.2	Working Group Meeting #3: Red Deer River basin	[Yellow star in Apr-23]												
3.3	Working Group Meeting #4: Oldman River basin	[Yellow star in Apr-23]												
4	Options Assessment: Full SSRB	[Purple bar spanning Jun-23 to Sep-23]												
4.1	Working Group Meeting #5	[Yellow star in Jul-23]												
5	Options Assessment: Climate Change	[Pink bar spanning Aug-23 to Oct-23]												
5.1	Working Group Meeting #6	[Yellow star in Oct-23]												
6	Final report and recommendations	[Brown bar spanning Nov-23 to Jan-24]												

9.0 Working Group Members

- Alberta Agriculture and Irrigation
- Alberta Environment and Protected Areas
- Alberta Irrigation Districts Association
- Alberta Cattle Feeders Association
- Blood Tribe Agricultural Project
- Bow River Basin Council
- Bow River Irrigation District
- Calgary Metropolitan Region Board
- City of Calgary
- City of Lethbridge
- City of Medicine Hat
- City of Red Deer
- Ducks Unlimited Canada
- Eastern Irrigation District
- Economic Development Lethbridge
- Fisheries and Oceans Canada
- Ghost River Watershed Alliance
- International Institute for Sustainable Development
- Lethbridge Northern Irrigation District
- Nutrien
- Oldman Watershed Council
- Palliser Economic Partnership
- Piikani Nation
- Results Driven Agriculture Research
- Red Deer River Municipal Users Group
- Red Deer River Watershed Alliance
- Rocky View County
- Siksika Nation
- South East Alberta Watershed Alliance
- Special Areas

SSROM Phase 3: Assessment of Strategic Management Projects to Support Economic Development – Terms of Reference

- St. Mary River Irrigation District
- Stoney Nakoda Nations
- Stoney Nakoda Nations (Bears paw Band)
- Stoney Nakoda Nations (Chiniki Band)
- Town of Cochrane
- Town of Strathmore
- TransAlta Utilities
- Trout Unlimited Canada
- United Irrigation District
- Western Irrigation District