



Improving Drought Resilience in Alberta Through a Simulation BACKGROUND

Introduction

- The Alberta Water Council (AWC) is a multi-stakeholder, collaborative partnership composed of representatives selected by industry, government, and non-government organizations. Its primary tasks are to advance the outcomes of *Water for Life*, provide advice that informs policy or actions, and provide a forum to discuss water perspectives.
- The Government of Alberta asked the AWC to develop a simulation to assist the GoA, municipalities, Indigenous communities and other groups to understand and plan for drought preparation and response, including mitigation, monitoring, decision-making, and communication before, during, and after a drought. An AWC project team was struck in February 2020 to undertake this work.
- Drought is a natural phenomenon in Alberta, and multi-year droughts have occurred frequently throughout the province's history. Over the last 120 years, at least five major droughts have occurred in the Canadian Prairies, some of which have lasted close to a decade. Projections using climate models and emission scenarios point to an increased risk of droughts with greater intensity, duration, frequency, and over larger areas in the Canadian Prairies in the future.
- Simulation exercises provide an opportunity for those involved in drought planning, management, and response to work through different scenarios that closely mimic real-life drought events and can be a powerful tool to test management structures and communication strategies.

Methodology

- With the assistance of WaterSMART Solutions, the project team developed and held a drought simulation exercise using the South Saskatchewan River Operational Model, a hydrological model designed as a support tool for collaborative processes and mutual learning among potentially competing water users.

- The South Saskatchewan River Basin Drought Simulation Exercise was held on June 4, 2022. The exercise was attended by representatives from municipalities, Watershed Planning and Advisory Councils (WPACs), irrigation districts, the Blood Tribe Agricultural Project, environmental organizations, industry, and the provincial government.
- Outcomes of the exercise and participant feedback were synthesized into lessons learned on holding a simulation exercise, key learnings about drought planning, and information gaps identified during the drought exercise.

Conclusion

- The project team developed nine recommendations based on key learnings from the exercise. The recommendations are organized into three themes and focus on increasing collaboration within drought planning and management, furthering the information base from which water managers and users can draw, and developing guidance tools to help water managers and users better understand the tools that are available to them in times of drought.
- On July 21, 2023, Alberta moved to water management stage 4 (out of 5) due to water shortage advisories being issued in numerous water management areas across the entire province. The project team report aims to provide water managers and users with additional information and resources relevant to drought planning, management, and response in a timely manner.
- This report supports the work completed by Alberta Environment and Protected Areas' provincial *Drought and Water Shortage Plan* which will outline management and communication actions in times of drought. It also supports previous and continuing work by the AWC and WPACs on multi-year drought resiliency.

Copies of the report and more information on the AWC and the Improving Drought Resilience in Alberta Through a Simulation Project Team can be found at <https://www.awchome.ca/projects/improving-drought-resilience-alberta-through-simulation-24/>.

The Alberta Water Council (AWC) is a collaborative partnership that provides leadership, expertise, and sector knowledge and perspectives to help governments, Indigenous Peoples, industry, and non-governmental organizations to advance the outcomes of Water for Life.

For more information, please contact:

Andre Asselin
Executive Director
aasselin@awc-casa.ca
www.awchome.ca