

2024 Drought Risk and Management

Bow River Basin Council Drought Workshop

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Environment and Protected Areas
February 23, 2024



Agenda

1. Current Status
2. Drought Command Structure
3. 2024 Drought Emergency Plan
4. Water Sharing Agreements
5. Drought Response Timeline
6. Q&A

CURRENT STATUS

Flow Measurements – Winter Discharges

Winter measurements were conducted in January 2024 and indicated flows are at the following ranking when comparing data from the past 25 years:

- Milk River at the Town of Milk River: 4th lowest
- Oldman River at the City of Lethbridge: 3rd lowest
- South Saskatchewan at City of Medicine Hat: 2nd lowest
- Red Deer River at Town of Drumheller: 2nd lowest
- Battle River at the Town of Ponoka: lowest on record
- North Saskatchewan River at Whirlpool Point: 4th lowest
- Athabasca River at Town of Athabasca: lowest on record

Reservoirs: Current vs. Normal

As of February 21, 2024, storage is at:

- Oldman Reservoir - 30%
 - Normal = 62-79%.
- St. Mary Reservoir - 18%
 - Normal = 47-74%.
- Pine Coulee Reservoir - 28%
 - Normal = 74-91%
- Waterton Reservoir - 69%
 - Normal = 52-69%

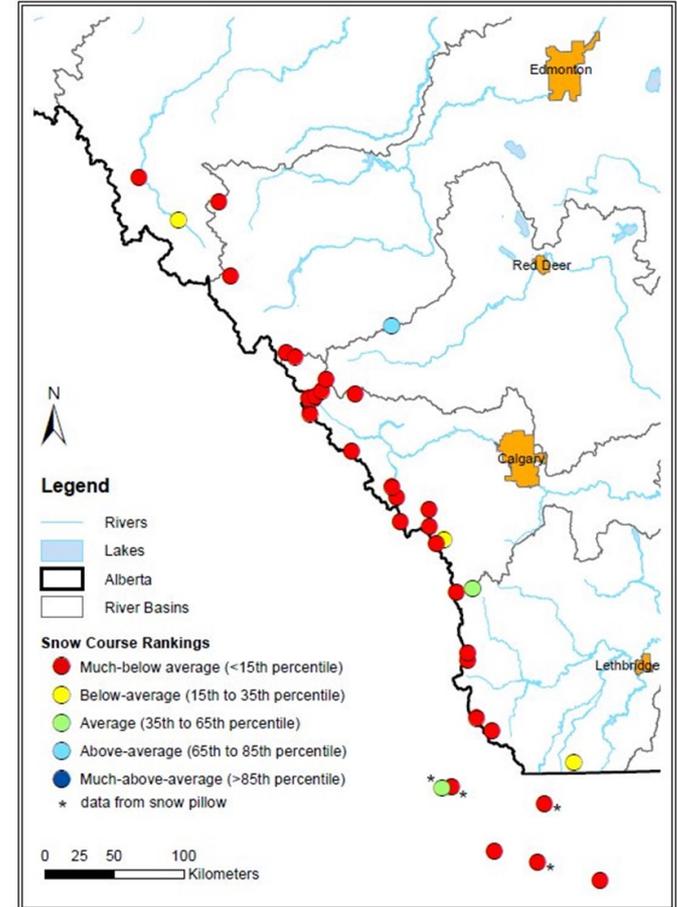


View of the St. Mary's reservoir from the spillway

Mountain Snow Information

Snow Water Equivalent as of January 1, 2024

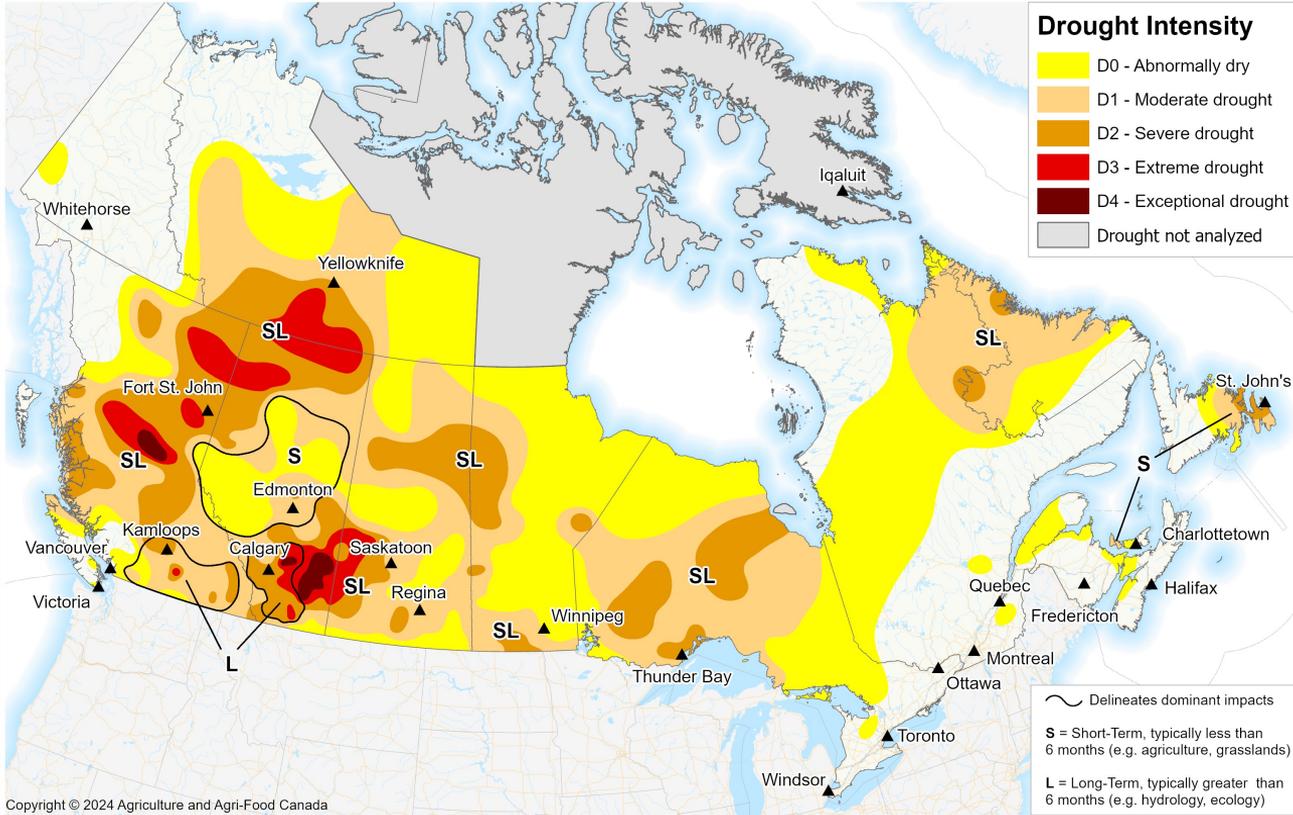
- Bow Basin – 67% of Average
- Oldman Basin – 40% of Average
- North Saskatchewan Basin – 95% of Average





Canadian Drought Monitor

Conditions as of January 31, 2024



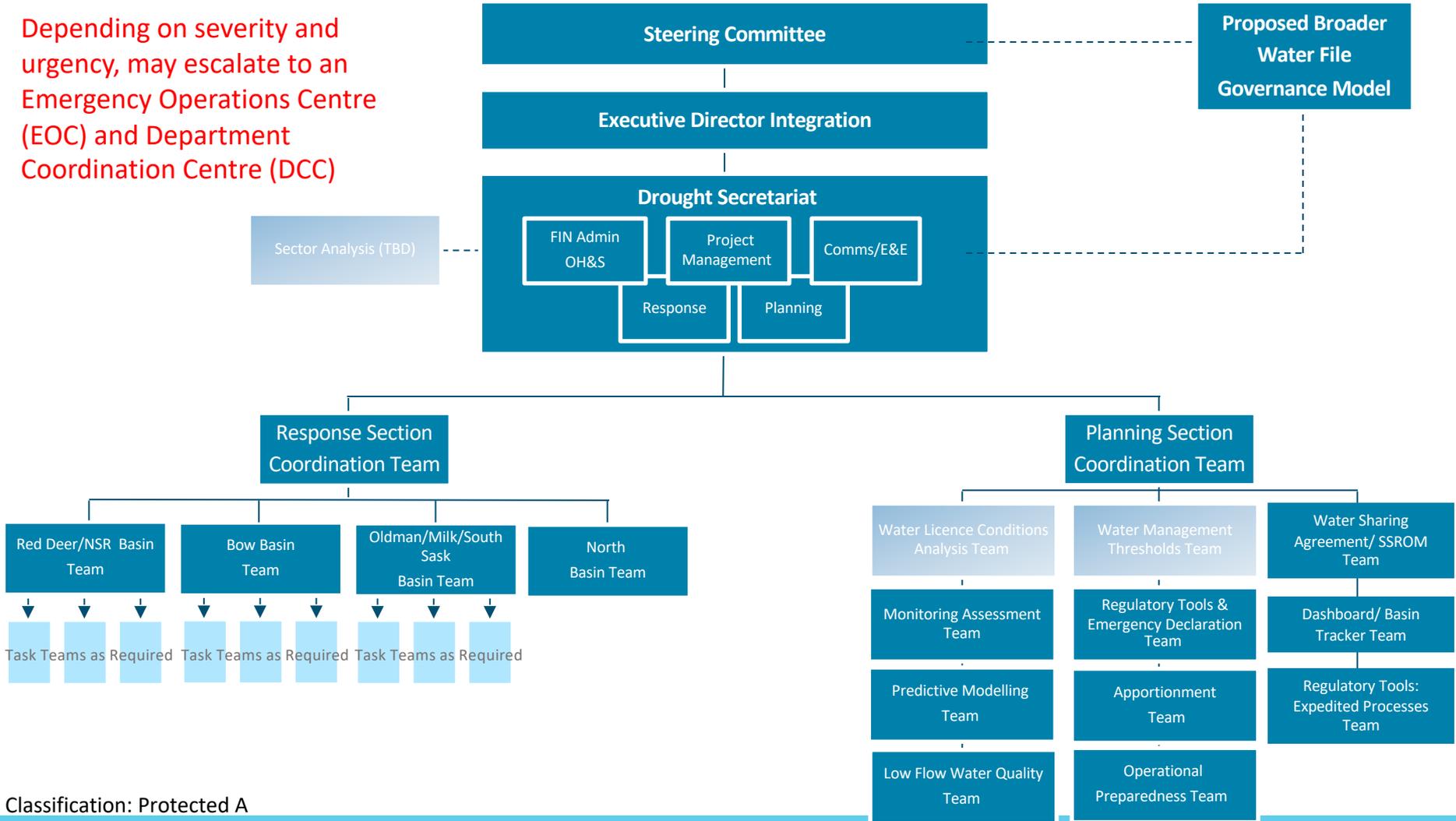
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Prepared by Agriculture and Agri-Food Canada's National Agroclimate Information Service. We also acknowledge various provincial, territorial and non-government organizations whose reports and assessments are consulted. The Drought Monitor focuses on broad-scale conditions. Regions in northern Canada may not be as accurate as other regions due to limited information.

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www.agr.gc.ca/drought

ENVIRONMENT AND PROTECTED AREAS DROUGHT COMMAND

Depending on severity and urgency, may escalate to an Emergency Operations Centre (EOC) and Department Coordination Centre (DCC)

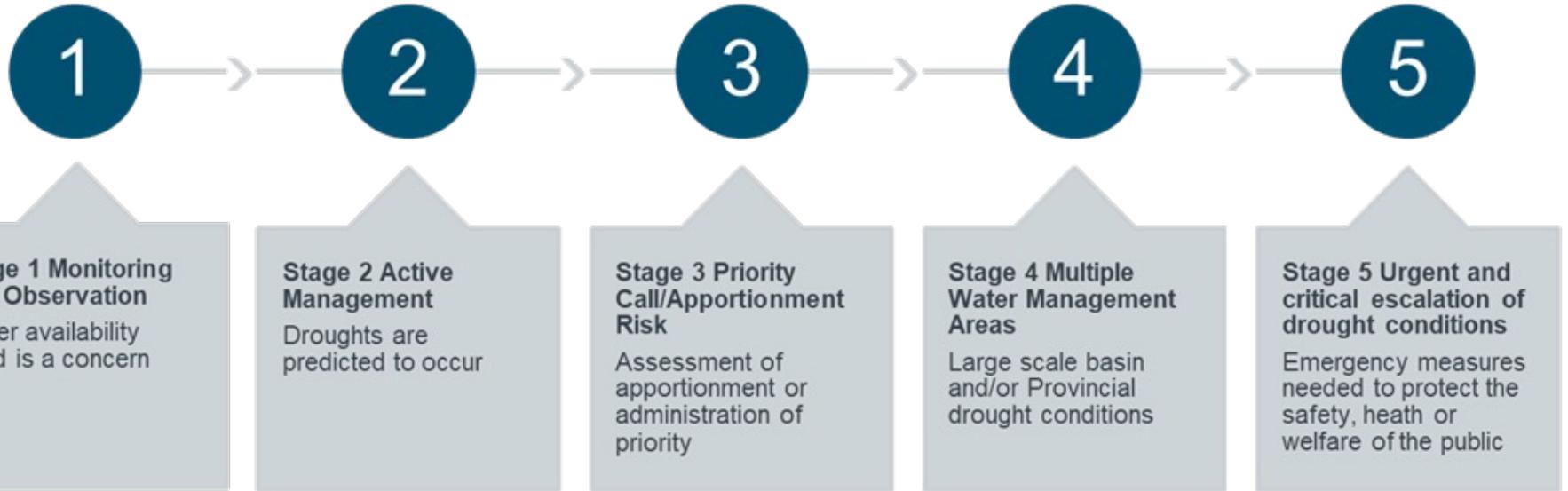


2024 DROUGHT EMERGENCY PLAN

Emergency Response Plan Objectives

- Protect the health and safety of Albertans from the impacts of drought
- Implement a framework to rapidly assess, plan and prepare for the impacts of a drought emergency in 2024
- If required, deploy required operational personnel and resources under an Incident Command System (ICS)-styled organizational response structure.
- Effectively and efficiently implement non-regulatory approaches and regulatory tools
- Lead a fully integrated drought planning and response process
- Implement communications and outreach processes

Stages of Drought



Management Tools: Non-Regulatory Approaches

- **On-going Stakeholder Outreach and Education**
 - One-on-one meetings
 - Increase awareness, focus on actions
 - Transitioning to more tactical discussions
 - Website enhancements
 - Sectoral analysis
- **Voluntary Water Conservation Measures and Water Use Restrictions**
 - Minister Letters to Municipalities and Licensees
- **Water Sharing Agreements**

Management Tools: Regulatory Approaches

- **Authorizations**
 - Approved Water Shortage Response Plans
 - Temporary Diversion Licences (Section 62)
 - Water License Transfers (Section 81)
 - Agreements to Assign Water (Section 33)
 - Water Licence Amendments (Section 54)
 - Water Act Approvals (Section 36)
- **Compliance Actions**
 - Priority Administration (Section 32)
 - Environmental and Enforcement Orders
- **Declaration of Emergency**
 - Limited Scale and Provincial Scale Emergency Declarations (Section 107)

Section 107 Emergency Declaration

- Establishment of emergency declaration triggers
- Considerations for the hierarchy of water uses after an emergency declaration
- Considerations for compensation
- Analysis of potential geographic extent of an emergency declaration

DRIVING FOR COLLABORATION

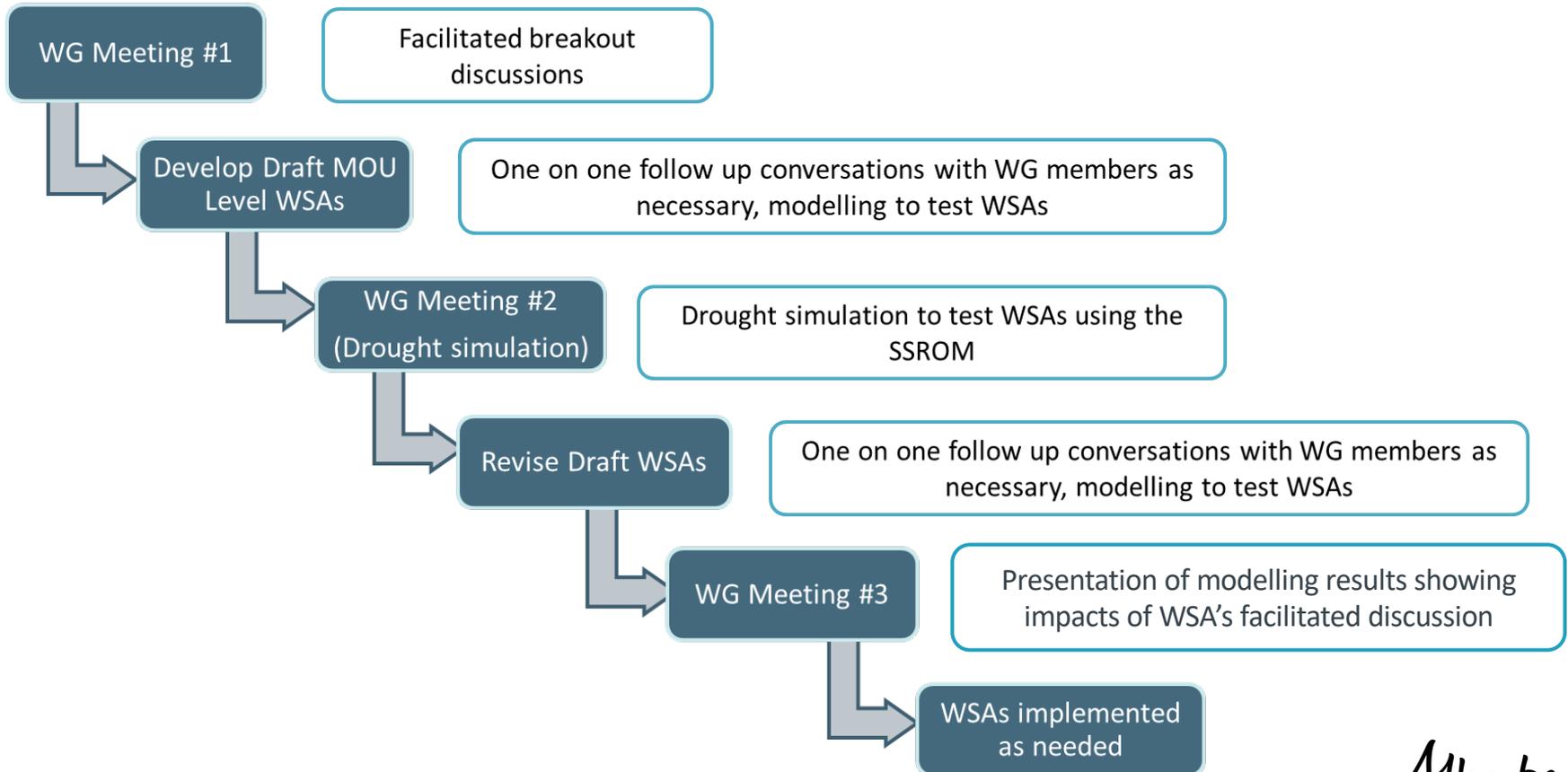
Water Sharing Agreements

- Voluntary, collaborative Water Sharing Agreements will see large water users come together to agree to use less water so that as many water users as possible have some water in 2024.
- This is the most effective tool for managing drought and was used in 2001
- EPA has hired WaterSMART to lead a drought modelling and facilitate development of collaborative water sharing agreements
 - In Feb/March 2024, the WaterSMART will use the South Saskatchewan River Operation Model (SSROM) for flow modelling and for developing collaborative (water sharing) agreements

Water Sharing Agreements

- SSRM will be supported by EPA models, data and information on river flows and precipitation forecasts
- Participants include all irrigation districts, TransAlta, City of Calgary, Treaty 7 First Nations, various municipalities, and environmental interest groups
- A report will be developed that contains the draft water sharing agreements based on likely water flow scenarios representing increasing levels of possible drought severity
- The agreements will be “implementation ready” should drought conditions materialize in the spring/summer

Work Plan Schedule and Outcomes



Working Group Participants

Red Deer River Basin

Largest licence holders holding roughly 70% of licenced demand

- Heartland Generation
- City of Red Deer
- North Red Deer River Water Services Commission
- Nova Chemicals Corporation
- Mountain View Regional Water Services Commission
- Ducks Unlimited Canada
- Vesta Energy Ltd.
- Town of Drumheller
- Shirley McClellan Regional Water Services Commission
- Red Deer County
- MEGlobal Canada
- Loyal Energy Operating Ltd.
- Aqua 7 Regional Water Commission
- INEOS Canada
- Town of Stettler
- Town of Three Hills
- Special Areas

Bow River Basin

Largest licence holders holding roughly 90% of licenced demand

- TransAlta
- Eastern Irrigation District
- City of Calgary
- Western Irrigation District
- Bow River Irrigation District
- Nutrien

Smaller licences (below the 90% of licenced demand threshold)

- Town of Strathmore
- Rocky View County
- Wheatland County
- Town of Cochrane
- Stoney Nakoda Nation
- Goodstoney Nation
- Chiniki Nation
- Siksika Nation
- Bears paw Nation
- Tsuut'ina Nation

Oldman/South Sask River Basins

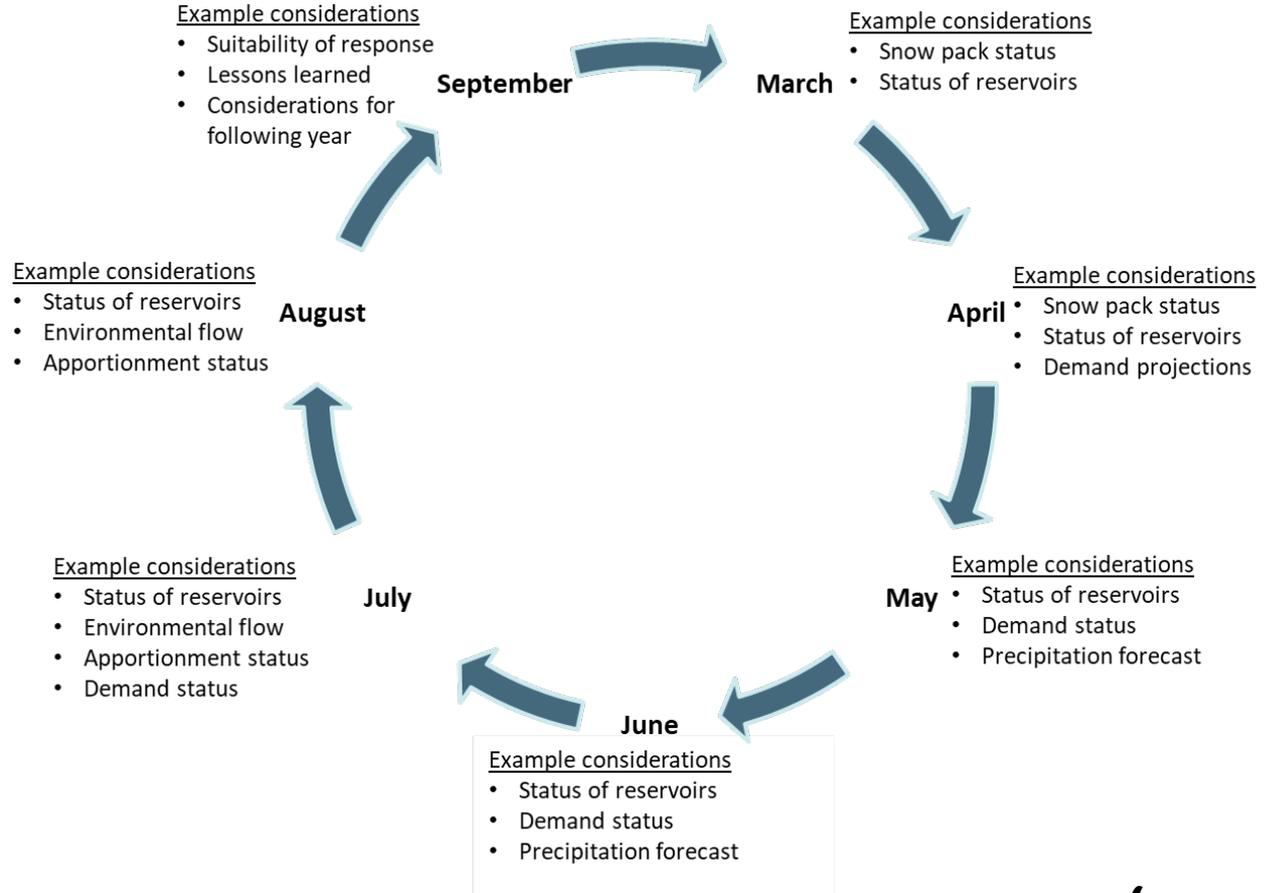
Largest licence holders holding roughly 90% of licenced demand

- St. Mary River Irrigation District
- Lethbridge North Irrigation District
- United Irrigation District
- Blood Tribe Agricultural Project
- Raymond Irrigation District
- Magrath Irrigation District
- City of Lethbridge
- City of Medicine Hat
- Mountain View Irrigation District
- Southwest Irrigation District

Smaller licences (below the 90% of licenced demand threshold)

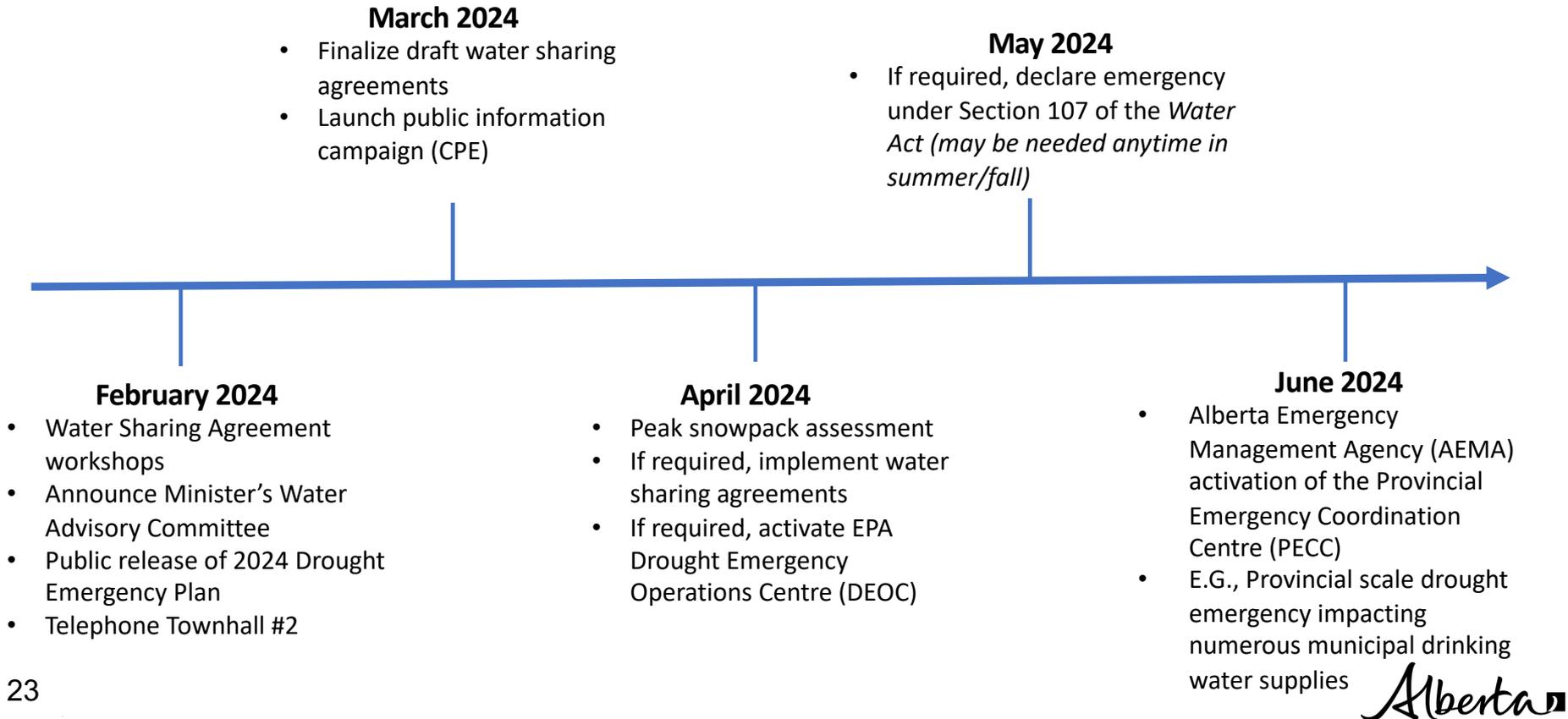
- County of Lethbridge
- Blood/ Kainai Nation
- Piikani Nation

Working Group Meeting #2 Example Process



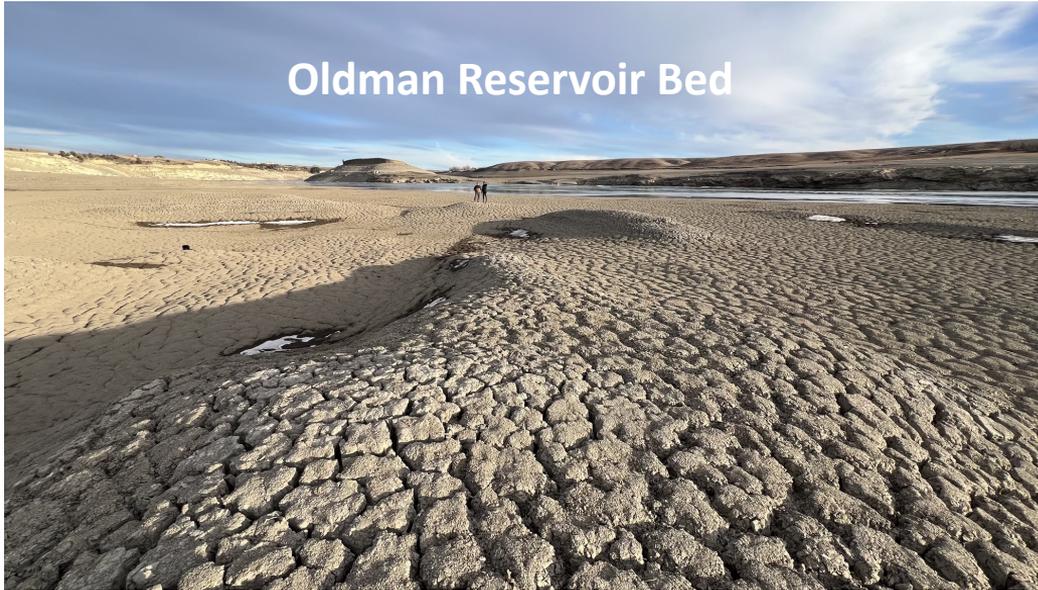
DROUGHT RESPONSE TIMELINE

2024 Drought Response Timeline



QUESTIONS

Oldman Reservoir Bed



Oldman Reservoir – Silt Plain
with the river running through

