

Dry But Not Shaken: What the Alberta Government is Serving Up to Tackle Drought



Stock photo, Pixabay.

With water shortages throughout various parts of the province, we wanted to find out how the Alberta government is proactively working to mitigate the impacts of drought.

WATER SHORTAGES

While waiting to see if April showers will bring May flowers, Alberta Environment and Protected Areas (EPA) is ramping up its action on drought. EPA's Assistant Deputy Minister Stacey Smythe addressed the situation in her "Town Hall Drought Readiness" presentation in late December. As she spoke about the current 51 water shortage advisories throughout the province, she said, "Where that is unusual in our minds is the spread. The breadth of the province that's impacted by this lack of water."



Current Situation

- Basins in critical water shortage condition due to low rainfall and high temperatures (over the summer):
 - Milk River and Oldman River basins.
 - South Saskatchewan River basin.
 - Bow River basin.
 - Red Deer and North Saskatchewan River basins.
 - Tributaries to the Peace, Athabasca, and Hay Rivers.

<https://rivers.alberta.ca/>

Alberta

Updated slide based on EPA's December presentation shows the areas currently experiencing low flow advisories, include three within our NSR watershed. Slide 4. <https://www.alberta.ca/system/files/epa-drought-risk-and-management.pdf>

REMEMBERING THE DROUGHT OF 2001-2002

Todd Aasen has spent most of his career in water resources and is currently an Approval Manager with the EPA. He is also the Lead for the Red Deer/North Saskatchewan River Basins' Drought Response Team. Aasen remembers well the dire drought conditions in 2001 and 2002, as he was working with Ducks Unlimited in southern Alberta at the time. He compares the current flow rates in the South Saskatchewan basin to those not soon forgotten conditions two decades ago. South and central Alberta, as well as northwestern Alberta are also facing low water flows, mainly due to:

- Low snowpack creating less runoff.
- Warmer, drier conditions

Added to that, many reservoirs that provide an insurance buffer in dry years were leaned on heavily last summer during hot and dry conditions and are now well below average.



Bull trout are at risk, so their habitat in the Clearwater River basin is of particular interest to the EPA when water flows are low. Photo credit: USFWS, Public Domain.

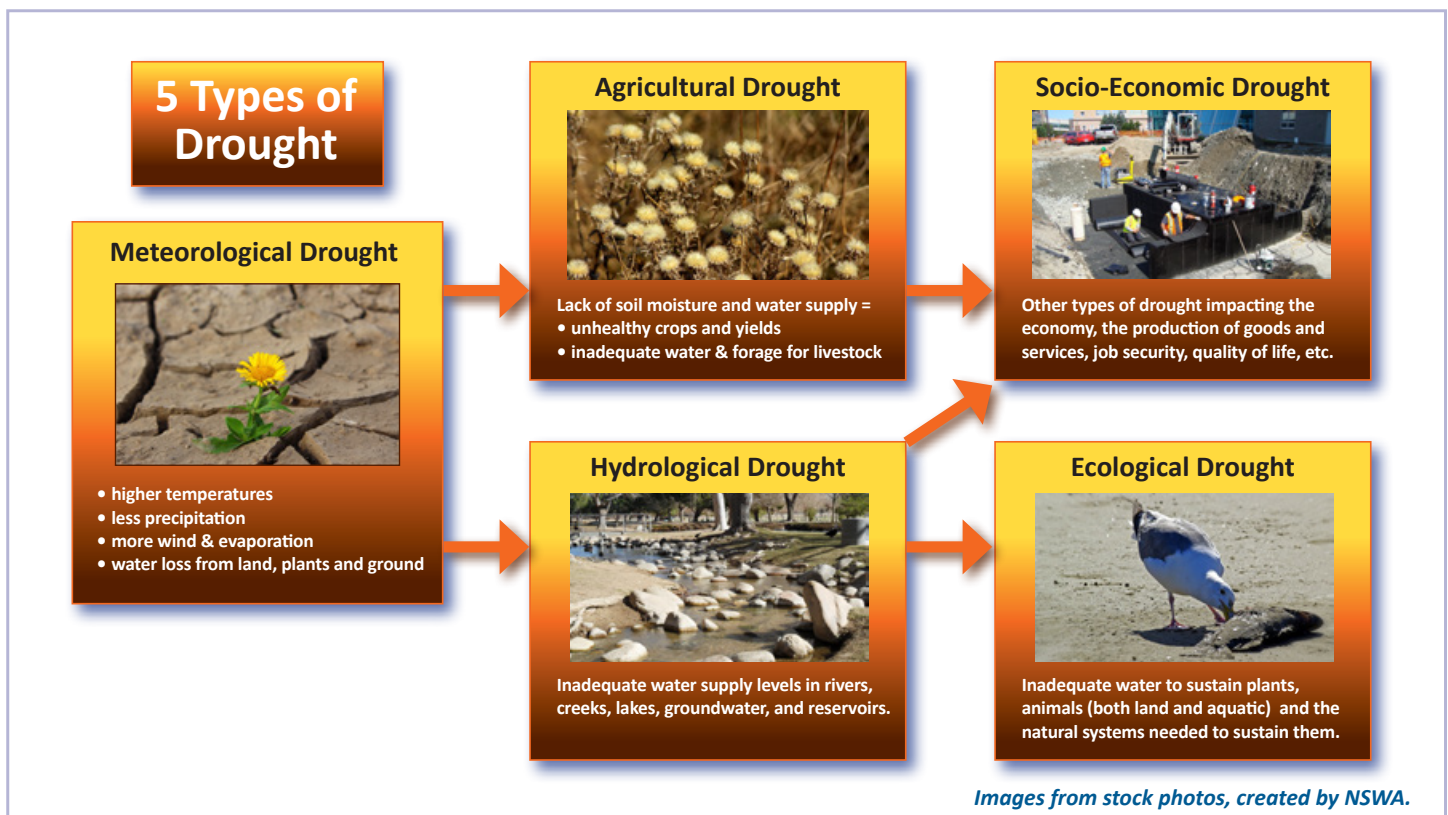
WATER SHORTAGES IN THE NORTH SASK WATERSHED

While flows in our watershed are relatively good, three of the 51 water shortage advisories found on the Alberta River Basins app (<https://rivers.alberta.ca/?load=watersupply>) are within the NSR's watershed. Tributaries of the Clearwater River experienced low flow throughout the spring and summer that led added it to the advisory list. South of the capital region, Strawberry and Weed Creeks dropped below the minimum flow threshold, caused the White and Blackmud Creeks were to experience low flow advisories since July. To the west, Big Lake's outlet into the Sturgeon River has had low flow advisories since this past October. Aasen says this will mainly affect Temporary Diversion Licenses (<https://www.alberta.ca/temporary-diversion-licence>) for industry and those who rely on smaller tributary flows in mid to late summer.

According to Aasen, the province takes a particular interest in this part of the Clearwater River because it is key bull trout habitat. This region has been recognized as a core area where the selective bull trout has habitat, along with all that is required for its long-term survival. Among the most prevalent threats are fishing (including accidental), sedimentation, and habitat fragmentation. To learn more about what Trout Unlimited is doing to restore trout habitat in the Clearwater River region, [watch: https://www.youtube.com/watch?v=0qzA1nP7cfU](https://www.youtube.com/watch?v=0qzA1nP7cfU).

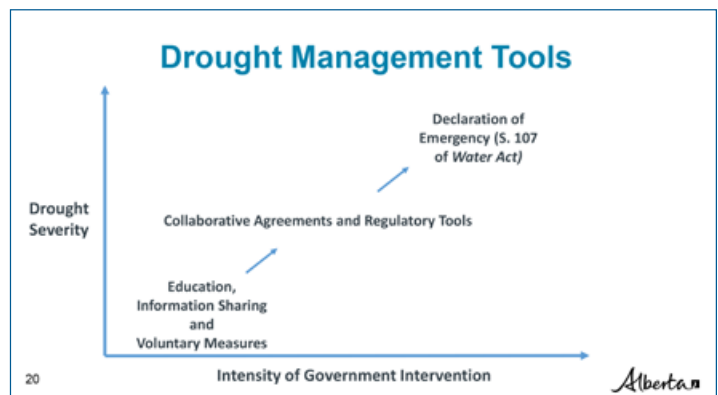
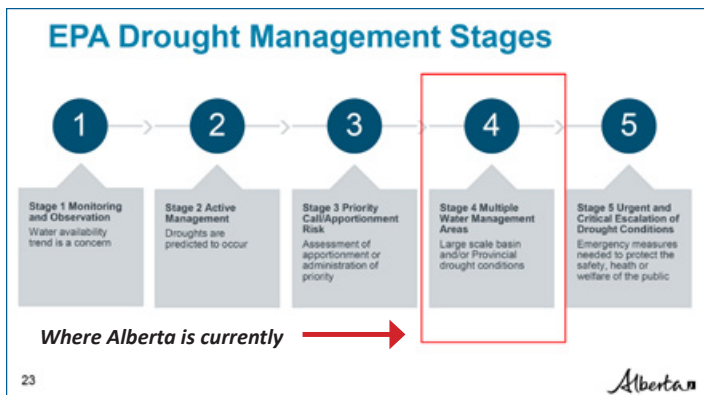
5 TYPES OF DROUGHT

Four types of drought can develop from the initial Meteorological drought and their impacts can be compounded by other types of drought.



MANAGING DROUGHT: IT'S COMPLICATED

Managing water – and drought – is a complicated matter. The province operates by a concept of older licences having more seniority, known as First in Time, First in Right (FITFIR). However, in the event of water shortages, these senior licences may not accurately reflect the most pressing needs, such as clean drinking water, according to Aasen. He explains that in the event of a 107 call, the priority system could be suspended.



Left: The 5 Stages of drought management named by the province are progressive in nature and shows where we are currently situated - box and arrow added. (slide 23). Both slides: <https://www.alberta.ca/system/files/epa-drought-risk-and-management.pdf>
Right: Graph shows how government intervention increases as drought increases (slide 20)

5 STAGES OF DROUGHT MANAGEMENT: WHERE WE ARE NOW

Alberta is currently sitting in Stage 4 of Alberta’s Drought Management Stages, which means there is widespread drought conditions throughout the province, in multiple water basins. Stage 5 would mean declaring a province-wide water shortage emergency, under Section 107 of the *Water Act* . It can also be implemented at a basin or sub basin level to a specific geographic location during Stage 4, according to Aasen.

While the province might initially be quite hands off and encourage education and voluntary measures, if drought conditions worsen, the government would take a more active role. The Drought Command Team, of which Aasen is a part, is currently using collaborative agreements and is tasked with meeting with all major water licence users to negotiate water sharing agreements in affected areas. This team “includes experts from Alberta Agriculture and Irrigation, Municipal Affairs, Public Safety and Emergency Services, and connects with other key players like the Alberta Energy Regulator,” according to the GOA website.



Stock photo of low flowing creek, Pixabay.

Proactively meeting with major water licence holders had good success in the 2001-2002 drought. Through collaboration with major water licencees, all users agreed to use 60%. It’s more well-received than legislative tools such as priority calls that tend to be “very blunt”, according to Aasen. He adds that it’s key to keep communication open and getting all users to “share a bit of the pain” allows everyone to continue to function on some level. Smythe similarly pointed out that most licencees recognize that drought is a big picture, societal problem that can’t just be addressed with one individual’s rights in mind.

MUNICIPALITIES’ ROLE IN ADDRESSING DROUGHT

Municipalities play a critical role in looking at that big picture water use. To learn more about what municipalities are doing to address drought, tune into our upcoming Watershed Wednesday Webinar on March 6th with the City of Camrose’s Jeremy Enarson (<https://nswa-events.tickit.ca/events/23403>) or watch for next month’s blog.

LINKS

2024 Drought Risk and Management document
<https://www.alberta.ca/system/files/epa-drought-risk-and-management.pdf>

“December 2024 [sic]: Town Hall Drought Readiness”
<https://www.youtube.com/watch?v=hrFSNVre8as>

Drought – What the GOA/EPA is doing
<https://www.alberta.ca/drought-what-government-is-doing>

Drought – Information for Water Licence holders and municipalities

<https://www.alberta.ca/drought-information-for-water-licence-holders-and-municipalities>

Register for Watershed Wednesday Webinar on March 6th:
<https://nswa-events.tickit.ca/events/23403>