

Saskatchewan Watershed Authority

Perspective on Drought

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Saskatchewan Watershed Authority

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Saskatchewan Watershed Authority

- ✍ Created October 2002
- ✍ Provincial Treasury Board Crown Corporation
- ✍ Staff from Sask Water, Environment, Wetlands Conservation Corporation
- ✍ Regulate surface and groundwater use
- ✍ “Source Water Protection” through Watershed and Aquifer Planning, stewardship projects, State of the Watershed Reporting, watershed monitoring and assessment.

Saskatchewan Watershed Authority (con't)

- ✍ Power to “regulate and control flow” ...
“in any reservoir” ... “in Saskatchewan”
- ✍ Own 42 dams and control structures
- ✍ About 200 staff. Head office in Moose
Jaw, Regional offices in Weyburn,
Yorkton, Nipawin, North Battleford, and
Swift Current.

Drought Hazard - Types

✍ Meteorologic

- ✍ Cumulative precipitation over a given area falls below “normal” by some degree for some duration

✍ Agricultural / Forest

- ✍ Precipitation deficit, sometimes combined with high evapotranspiration, results in soil moisture deficit and impacts crop development and pasture conditions
- ✍ Forests stressed, more susceptible to fire and disease.

✍ Hydrologic

- ✍ Extended precipitation deficit impacts stream flows, lake and reservoir levels, and water supplies.

✍ Socio-economic

- ✍ Extended precipitation deficit disrupts social structures and regional economies

Drought - Characteristics

- ✍ Slow onset (don't know until after)
- ✍ Long duration (months to years, decades)
- ✍ Precipitation deficit is not forecastable, hydrologic drought is forecastable after meteorologic drought has begun.
- ✍ Meteorologic drought can happen anywhere. Mountain-fed rivers less vulnerable than prairie streams.

Drought Mitigation

✍ Avoidance

- ✍ Water conservation to reduce reliance and stretch supplies

- ✍ Allocation policy – Firm draft for Municipalities, 70% reliability for intensive irrigation, 50% reliability for non-intensive irrigation.

✍ Design - Alternative water supplies

- ✍ Water supply reservoirs and dugouts

- ✍ Groundwater

Drought Preparedness

✍ Watershed Authority

- ✍ Operating Plans for reservoirs and watersheds
- ✍ Drought Management Plan (not complete)

✍ Municipal governments, individuals

- ✍ Plan for drought

Drought Response

✍ Watershed Authority

- ✍ Streamflow and level forecasts
- ✍ Advice to individuals, municipalities, dam-owners
- ✍ Assistance where possible
- ✍ Structure operations
- ✍ Pumping Equipment rental

✍ Municipal, individual

- ✍ Water rationing
- ✍ Emergency pumping
- ✍ Water hauling
- ✍ Relocate livestock out of drought area
- ✍ Move feed into drought area

Drought Recovery

✍ Review response, mitigation and preparedness