



DROUGHTS

IMPLICATIONS FOR THE PRAIRIE PROVINCES WATER BOARD

Ross Herrington

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The Resource

- ✍ Larger southern rivers from Eastern Slopes flow eastward to Hudson's Bay
- ✍ Some streams begin in the prairies
- ✍ Sharing the waters flowing through two jurisdictions can create administrative and water use problems

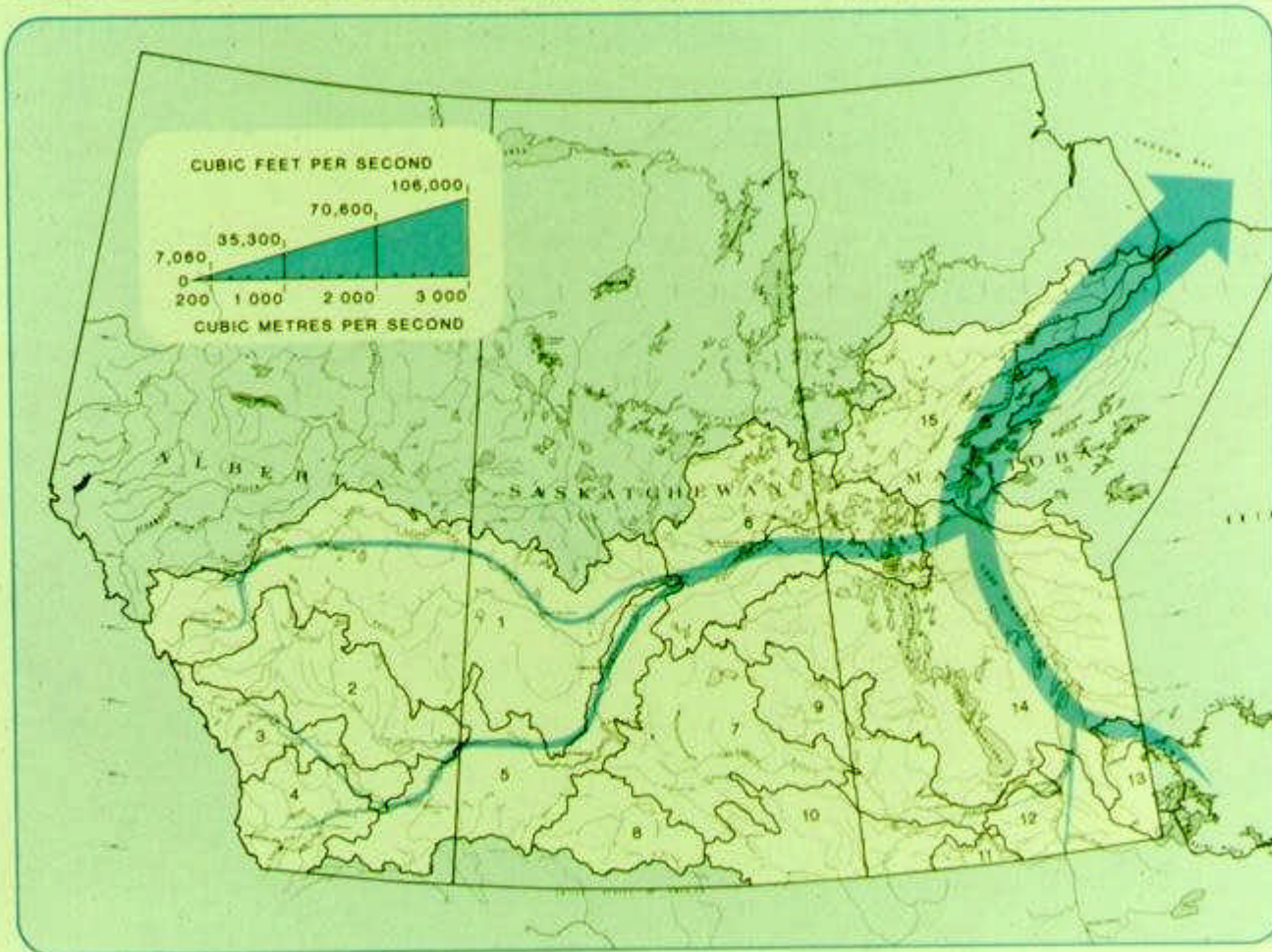


Figure 2.3 Relative Flows of Rivers

1969 Master Agreement on Apportionment

- ✍ 4 governments entered into the Master Agreement on Apportionment on October 30, 1969:
 - ✍ an apportionment formula for eastward flowing interprovincial streams
 - ✍ recognized problem of water quality and
 - ✍ reconstituted the PPWB

Administering the Agreement

- ✍ PPWB administers Master Agreement
 - ✍ ensures eastward flowing interprovincial streams are shared equitably
 - ✍ ensures water quality at interprovincial boundaries maintained at acceptable levels
 - ✍ facilitates cooperative approach for development and management of interprovincial streams and aquifers

Board Representation

- ✍ One member from each province
 - ✍ Alberta, Saskatchewan and Manitoba
- ✍ Two members from federal government
 - ✍ Environment Canada
 - ✍ AAFC / PFRA

Technical Committees

- ✍ Committee on Hydrology
- ✍ Committee on Water Quality
- ✍ Committee on Groundwater
- ✍ Other committees as needed to deal with other specific issues
 - ✍ Instream flows
 - ✍ Apportionment
 - ✍ Water use

Natural Flow

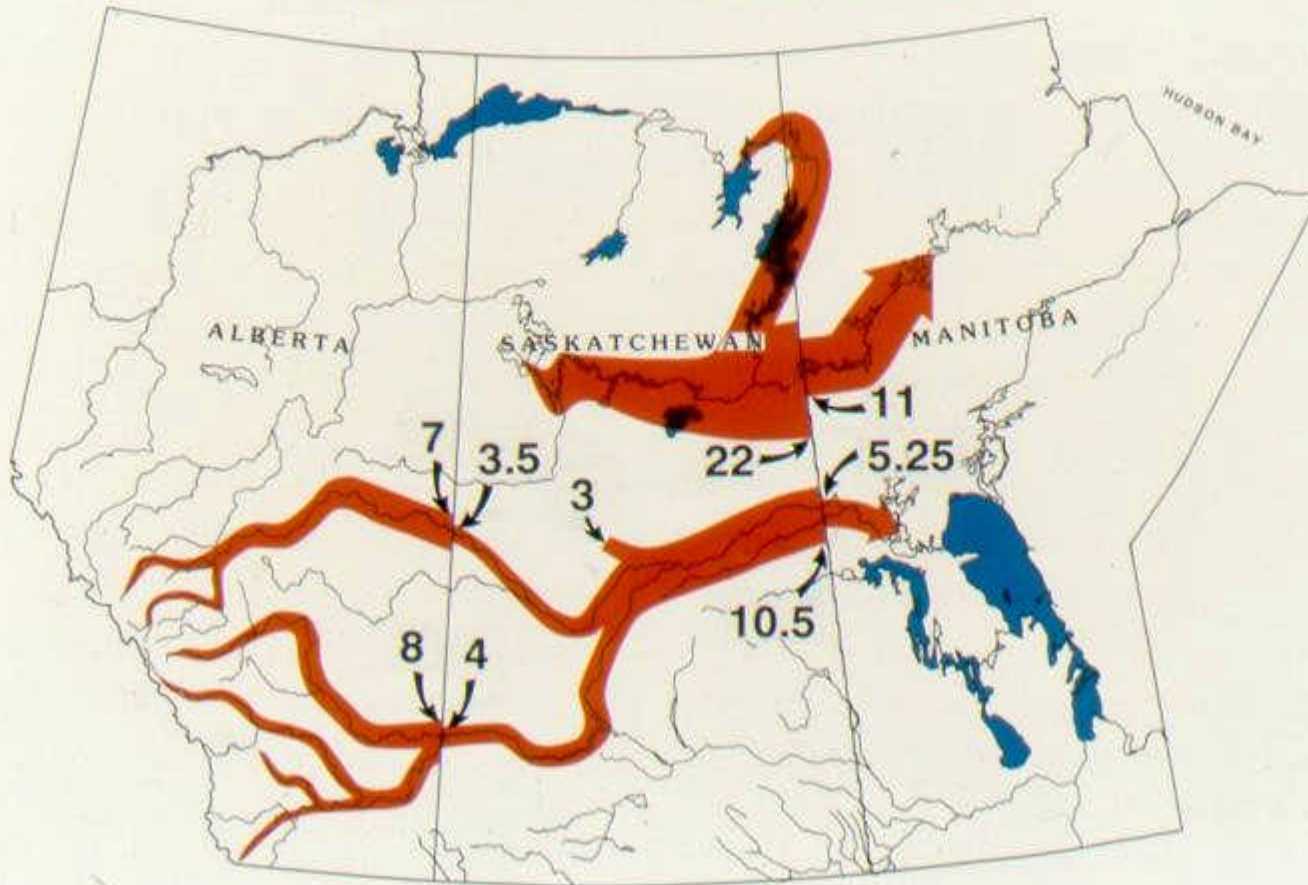
- ✍ Broadly defined as volume of flow if a stream or river had never been affected by human activity.

Apportionment Formula

- ✍ Simple formula for equal sharing of available water
 - ✍ Alberta & Saskatchewan may each take up to 1/2 natural flow originating within their boundaries;
 - ✍ Sask. also keeps one half of the flow entering the province;
 - ✍ remainder flows to Manitoba;
 - ✍ provinces decide how to use their share of water

APPORTIONMENT

(MILLIONS OF CUBIC DECAMETRES)



Apportionment

✍ Minimum Flow Criteria on S. Sask.:

- ✍ Sask. must receive minimum flow of 1500cfs (42.5cms) or 50% of natural flow, or which ever is less

✍ Eastern Tributaries:

- ✍ Sask. must receive 75% of the natural flow from Alberta – international commitments

Implications to PPWB

- ✍ Evaporation from reservoirs is considered a water use in the determination of natural flow
- ✍ Calculation of net evaporation becomes more important during low flow years (sensitivity)
- ✍ Increased evaporation under future climate scenarios will decrease the natural flow in the system

Conclusions

- ✍ Improving our understanding of water and energy fluxes and improving methods for calculating evaporation would be of value to PPWB
- ✍ Interprovincial apportionment should not be affected by more frequent or prolonged droughts (equitable apportionment formula)