

Irrigation in Alberta

**A Statistical Overview
- 2017 -**

Irrigation in Alberta started in the late 1890s, before Alberta became a province. Through innovation and leadership, irrigation steadily expanded to over 700,000 hectares today. Water is supplied for irrigation by 13 irrigation districts, which represent 82% of the irrigated land, and through individual (private) licences. The majority (97%) of irrigation occurs within the Bow River, Oldman River, South Saskatchewan River Sub-Basins and Milk River Basin.

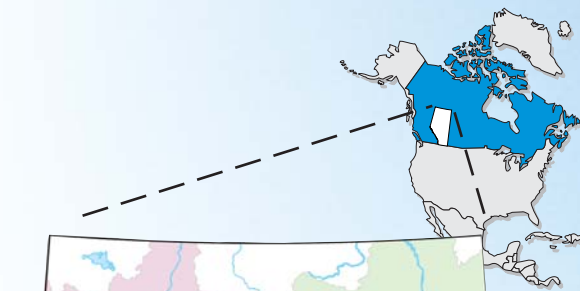
Irrigation is essential to the agricultural diversity and economic prosperity of southern Alberta. A network of over 7,500 km of irrigation district conveyance works delivers water for value added crop productivity and livestock watering, and also supports other water uses including wildlife habitat enhancement, hydropower generation, recreational activities, and municipal needs such as domestic and commercial uses.

The irrigation sector, as the largest consumer of water in Alberta, recognizes the importance of improving conservation, efficiency and productivity. With cooperative efforts from districts, producers, and government, the irrigation industry has been able to continue expanding within its water allocation as a result of water savings from continuous progress towards more efficient on-farm irrigation technology and rehabilitation of the conveyance infrastructure reducing runoff, seepage, evaporation and end of infrastructure spills.

Find the publication "2017 Alberta Irrigation Information" on-line at:

www.agric.gov.ab.ca

Select: Agriculture ⇒ Soil/Water/Air ⇒ Irrigation



LEGEND

- Private Irrigation
- ~ Major Rivers
- Irrigation Districts
- Major Cities

Alberta's River Basins

- Hay River Basin
- Peace/Slave River Basin
- Athabasca River Basin
- Beaver River Basin
- North Saskatchewan River Basin
- Red Deer River Basin
- Bow River Basin
- Oldman River Basin
- South Saskatchewan River Sub-Basin
- Milk River Basin

Alberta River Basins



Irrigation Area:

Irrigation Districts (13)	581,000 ha
Private Irrigation (by Basin)	126,420 ha
Peace River	1,530 ha
Athabasca River	800 ha
North Saskatchewan River	10,960 ha
South Saskatchewan River ...	105,480 ha
Milk River	7,640 ha
Total Alberta Irrigation	707,420 ha

Water Storage:

Irrigation District Reservoirs.....	1.826 Million dam ³
Provincial Reservoirs	1.102 Million dam ³
Total Storage	2.928 Million dam³

Irrigation District Allocations and Diversions:

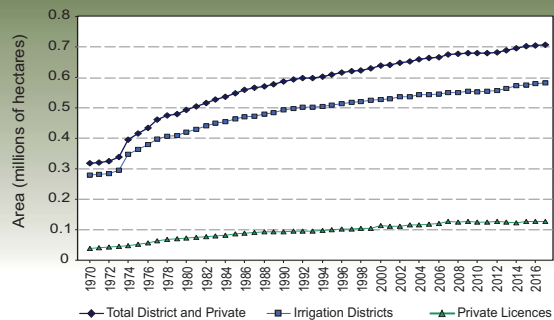
Licensed Allocations

Oldman River Basin	1.761 Million dam ³
Bow River Basin	1.778 Million dam ³
Total Licence Allocation	3.539 Million dam³

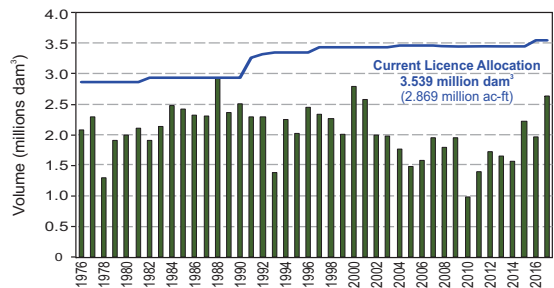
2017 Diversions

Oldman River Basin	1.306 Million dam ³
(74% of Licence)	
Bow River Basin	1.325 Million dam ³
(75% of Licence)	
Total Diversion	2.631 Million dam³
(74% of Licence)	

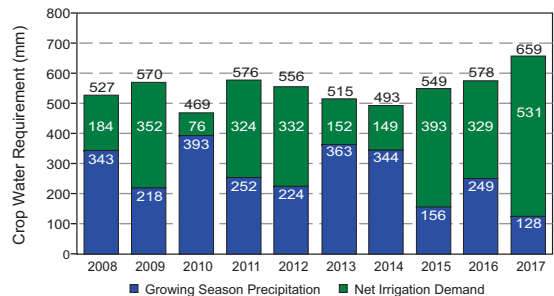
Growth in Irrigation Area in Alberta



Irrigation District Annual Diversions - The gross volume of irrigation diversions has decreased even as irrigation area increased.



Net Irrigation Demand - Comparison of mean annual crop water requirement, precipitation (blue), and net irrigation demand (green) based on 3-cut alfalfa for Lethbridge.



Irrigation District Infrastructure:

Conveyance Works:

Earth Canals	2,622 kilometres
Lined Canals	773 kilometres
Buried Pipelines	4,209 kilometres

Total Replacement Value \$2.71 Billion

Drainage Works:

Drains	4,853 kilometres
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Total Replacement Value \$117 Million

Major Structures:

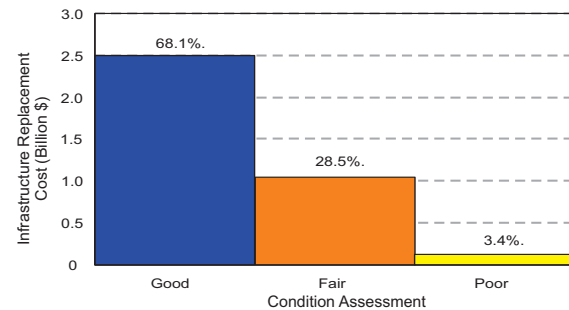
Number of Structures	170
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Total Replacement Value \$834 Million

All District Works:

Total Replacement Value \$3.66 Billion

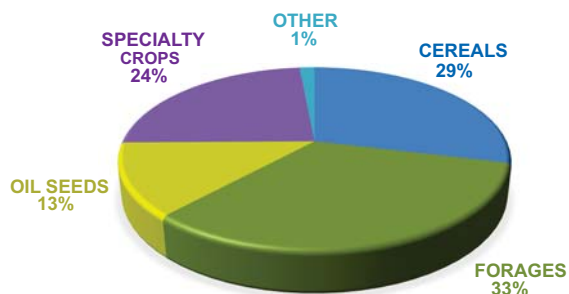
Summary of Infrastructure Condition Assessments



Hydropower Generation Capacity within Irrigation Water Supply Infrastructure:

8 plants Total 96 MW

Irrigation District Crop Mix (by area)



Evolution of On-farm Irrigation Method

