PROPOSED IRRIGATION EXPANSION 2026

Information for the Public

Public Meeting March 13, 2026 | 10:00 AM | WID Office A-1000 Pine Street | Strathmore | AB

Introduction

Section 12 (1) of the *Irrigation Districts Act*[1] (the Act) specifies that the sum of the irrigation acres plus the acres subject to terminable agreements in a district must not exceed the expansion limit for an irrigation district.

Section 12(3) of the Act states that a district may by bylaw change the expansion limit.

Section 12(4) of the Act states that if a district proposes to change the expansion limit, the board must hold a meeting with the public and hold a plebiscite to obtain the approval of the irrigators.

Section 4(1) of the *Irrigation Plebiscite Regulation*[2] (the Regulation) specifies that, before the public meeting, certain information must be available to the public.

The modelling analysis relied on two models: the Irrigation Demand Model version 3.0 (IDM-3) managed by AAFRED, and the Integrated Bow Basin Model (IBBM) operated by Unitech Solutions Inc. in collaboration with Alberta Environment and Parks (AEP), now Alberta Environment and Protected Areas, which was used initially modelled for the 2023 plebiscite. WID contracted MPE to further analyze the modelling and current system parameters to provide analysis for this plebiscite.

It has been determined that there is no additional risk to water security to irrigate 90,000 acres or 140,000 acres based on the inefficiency of our current system. Therefore, the WID is proposing to increase the current expansion limit from 110,000 acres to 140,000 acres.

[1] *Irrigation Districts Act*, Revised Statutes of Alberta 2000, Chapter I-11
[2] *Irrigation Plebiscite Regulation*, Alberta Regulation 79/2000, Irrigation Districts Act

Required Information

The information that the Regulation specifies the board must make available to the public is contained in this report and follows as items A through K.

A. The volume of water allocated to the district under all the district's existing water licences.

The WID has two water licences as shown in Table 1.
The total water allocated is **190,500 acre-feet.**

Table 1. WID Water Licences		
Priority Date	Allocation (acre-feet)	Purpose
1903-09-04-001	158,400	Irrigation, domestic, municipal, commercial and industrial.
2000-09-01-003	32,100	Irrigation
TOTAL	190,500	

B. The volume of water lost from canals and reservoirs.

Year	Seepage	Return Flow
2021	15131	34976
2022	4815	24094
2023	15200	27722
2024	13182	50623
2025	12896	58217
5yr avg	12245	39126
5 yr total	61224	195632

Water losses related to conveyance and storage operations occur because of seepage and evaporation from the canal systems and evaporation from reservoirs.
Seepage in 2025 was 12,895 acre-feet and the 5-year average was 12,245 acre-feet

C. The return flow volume

Based on the 2025 water audit, water returned to the river was **58,217 acre-feet**, however the 5-year average is **38,401** acre-feet. We continue to work to reduce return flows through control gates and automation of our systems with the goal of eventually becoming a closed system.

D. The volume of water allocated under the district's water licences that is required for uses other than irrigation.

The WID's original senior water license allowed for:

i. Municipal 1,000 acre-feet
ii. Commercial 1,400 acre-feet
iii. Industrial 100 acre-feet

In 2011, amendments stated that, as part of its existing allocation, up to **3,500 acre-feet** could be delivered for municipal, commercial or industrial purposes.

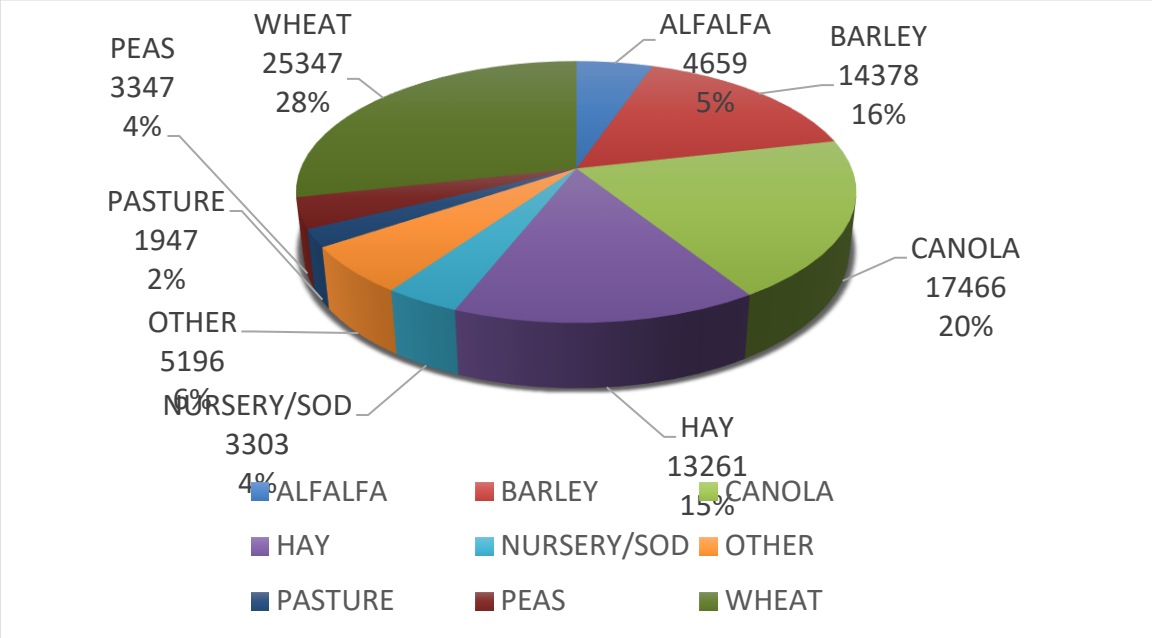
E. The remaining volume of water available for crop use

Total water allocated 190,500 acre-feet
Other (non-irrigation) uses 3,500 acre-feet
Remainder available for crop use = **187,000 acre-feet**

F. The gross volume of water required per acre at the farm turnout for crops.

(i) Average net depth of water required per acre
2025 Average Application was 6.12 Inches.
Average for the past decade is 9.5 Inches (Low 5.52" 2020, High 13.2 Inches 2015)

(ii) Percentage of each crop type
For modelling purposes, the 2018 crop mix was used
Total of 106,645 acres contracted for 2025
97,477 Active (Has an irrigation system)
88,904 Acres irrigated



(iii) Level of risk of a water shortage (deficit and frequency)

The simple answer is the risk of a water shortage is the same as it was irrigating 90,000 acres as it is today irrigating 110,000 acres and will be the same when we irrigate 140,000 acres. Due to the inefficiency of our system, we must divert the same amount of water to operate our system irrigating between 90,000 – 140,000 acres so the risk of water shortage is the same if all other constants remain the same. Ie. Water storage, operations, temperature, wind, precipitation. As the WID continues to improve controllable variables such as storage, operations, seepage, and process, along with irrigation efficiency, and increases our water license volume and diversion rates, we will reduce the risk to water shortages.

Expansion Analysis Guidelines

- 2023 AAFRED (AB Agriculture & Irrigation) Modelling used as baseline
- Water deficits of > 4” are of significant concern and forecasted to occur no more frequent than once every 10 years
- Water deficits of 4” or less are of minor concern and producers are not expected to experience any serious financial risk
- Water deficits of 1” or less are of no concern

Expansion Analysis Data

- WID average annual irrigation usage is 9.6” over the past 15 years
- WID current available storage volume of 12,770 acre-feet (between Chestermere and Langdon reservoirs)
- WID current water diversion rate is 1.5 acre-feet of water diverted per irrigated acre and trending lower
- 10% percentile available river diversion volume is 163,000 acre-feet with current license diversion rate limits (pending license amendment application has not been considered in the analysis)

Expansion Analysis to 140,000 acres

1.5 water usage diversion rate	**1.3 water usage diversion rate**	**1.2 water usage diversion rate**
• No additional storage • Water deficit less than 3” • **Minor concern for 1 of 10 years**	• No additional storage • Water deficit less than 0.5” • **No concern for 9 of 10 years**	• No additional storage • No water deficit • **No concern for 9 of 10 years**

Requirements to Expand to 140,000 acres

- Existing WID system, infrastructure, storage, operations and license can support expansion to 140,000 acres.
- No additional storage required.
- No significant concern of water deficit.
- No changes or improvements required to support expansion to 140,000 acres.
- Infrastructure investments to improve water usage diversion rate will support expansion beyond 140,000 acres.

Expansion Analysis to 160,000 acres

1.5 water usage diversion rate	**1.3 water usage diversion rate**	**1.2 water usage diversion rate**
• 10,000 ac ft additional storage *	• 10,000 ac ft additional storage *	• 10,000 ac ft additional storage *
• Water deficit +/- 4”	• Water deficit 2”	• Water deficit 0.5”
• **Minor concern for 1 of 10 years**	• **Minor concern for 1 of 10 years**	• **No concern for 9 of 10 years**

Requirements to Expand to 160,000 acres

- With additional storage, WID system, infrastructure, operations and license can support expansion to 160,000 acres.
- 10,000 acre-feet of additional storage required. Eagle Lake storage to be in service for 2027 irrigation season.
- No significant concern of water deficit. Water deficit will be reduced to less than 0.5” with efficiency improvements.
- Infrastructure investments to improve water usage diversion rate will support expansion to 160,000 acres.
- License diversion rate increases would provide additional water security with 24,200 acre-feet additional annual diversion.

G. The total acres that could be irrigated based on the calculation made under clause (f):

140,000 acres can be irrigated without WID making any improvements. Additional acres may be irrigated with the implementation of any of the noted net positive controllable variables. Storage, process improvement, license amendments etc. Of note is the WID is currently making positive improvements in all these areas.

i. **Eagle Lake Storage** - 10,000 acre-feet to be online in 2027

ii. **Inline Storage** - adding new projects and Ducks Projects into the system – 2,000 acre-feet

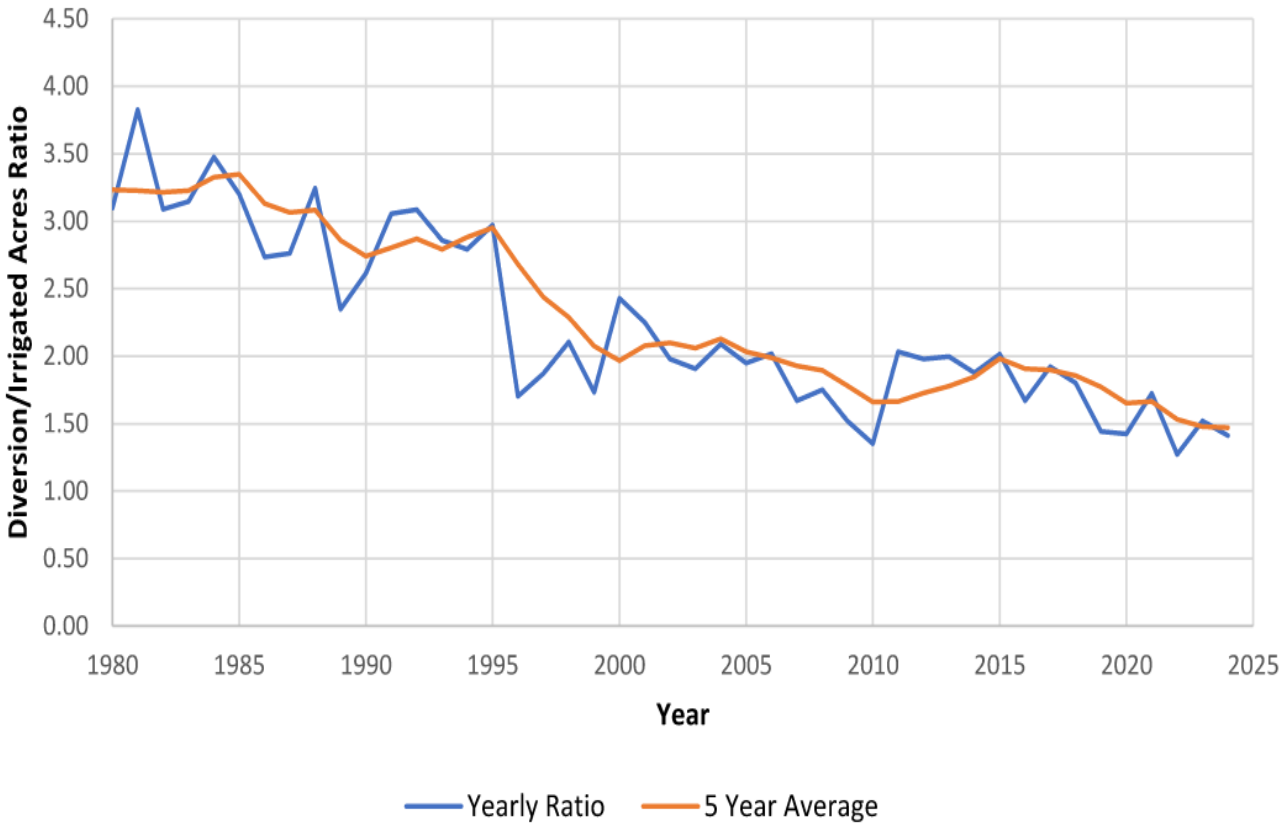
iii. **Operations efficiency** - added 5 control structures to minimize waste flow – program is slated for 30 structures over next 5 years – 10,000 acre-feet in reduced return flow

iv. **Senior License amendment** - currently in mediation process with GoA – GoA is more apt to increase diversion and volumes when there is a legitimate requirement versus a maybe.

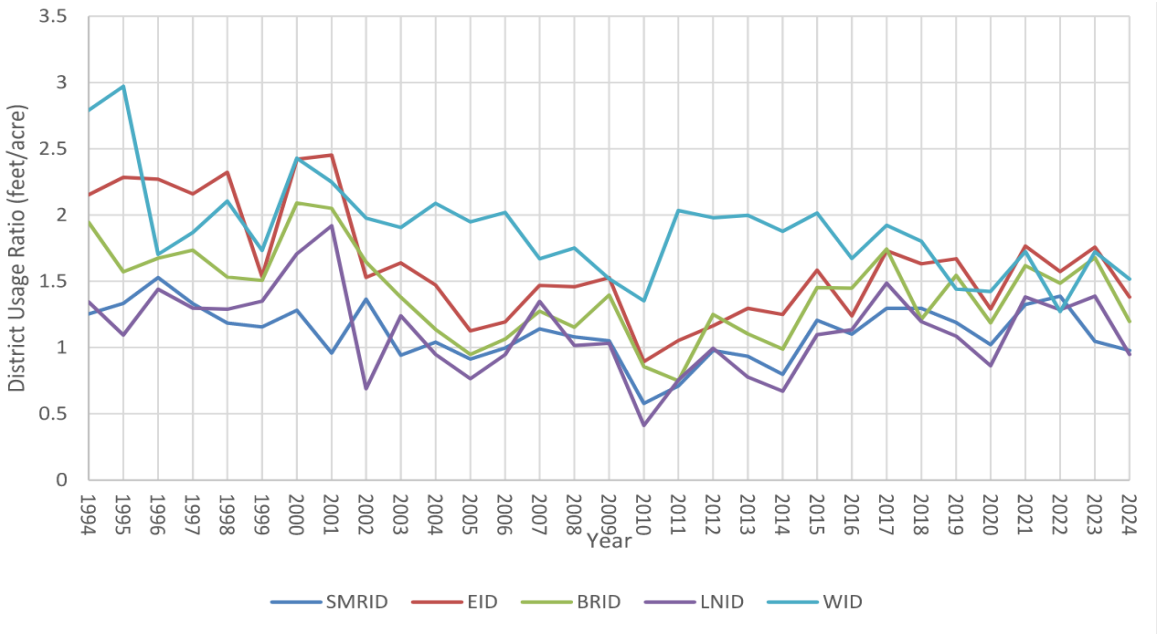
v. **Irrigation improvement -** Irrigators continue to use and require less water. Anecdotal evidence shows timing and correct amount of water has shown to be more productive, then 'more is better'.

vi. **Seepage reduction** – lining old canals, preventative maintenance program

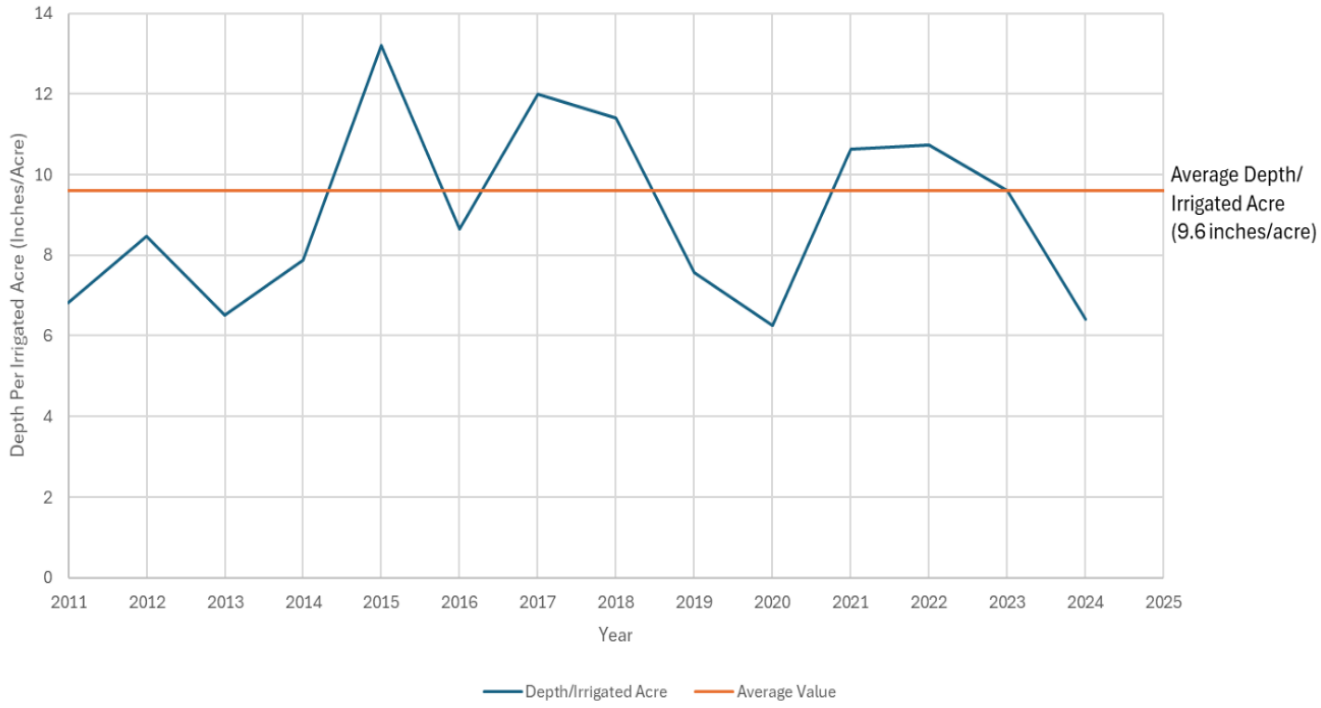
Ratio of Diversion Volume to Irrigated Acres per Year



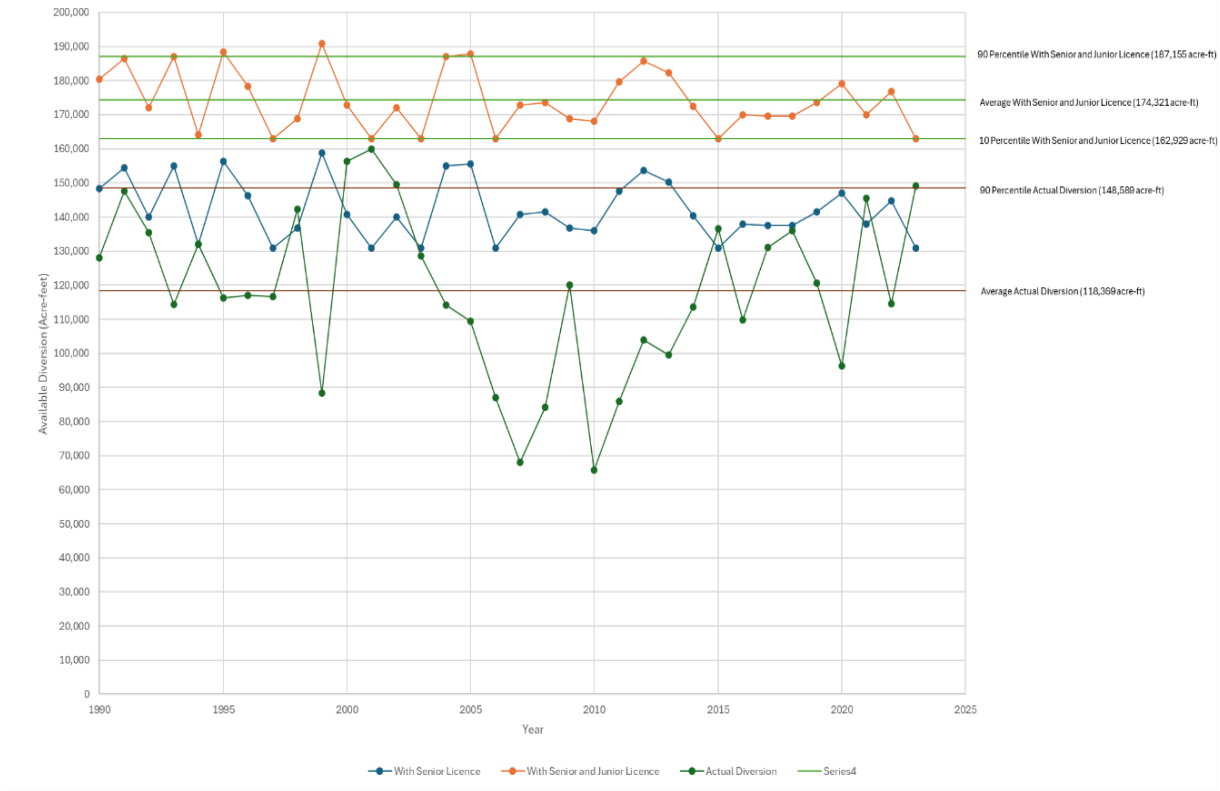
Comparison of Water Usage Ratios Between Southern Alberta Districts



Depth Used per Irrigated Acre



Annual Available Diversion Compared to Actual Diversion



H. The present expansion limit

The WID's present expansion limit is **110,000 acres.**

I. The number of acres on the current assessment roll

Assessed Acres in 2025

- Irrigation Acres - 104,335
- Terminable Acres - 230
- Annual Acres - 2,080.5
- TOTAL = 106,645.5 Acres

Year	Irrigation Acres	Term Acres	Annual Acres	Total Assessed Acres	
2020	88014.5	5672.5	2571.5	96258.5	
2021	88969.5	5647.5	2224.5	96841.5	
2022	89440.5	5527.5	5583.5	100551.5	**Includes 3,359 Annual Expansion Acres
2023	89460.5	5507.5	3664.5	98632.5	**Includes 2,192 Annual Expansion Acres
2024	98152.5	5424.5	2937.5	106514.5	
2025	104335	230	2080.5	106645.5	

J. The proposed expansion limit.

- The proposed expansion limit is 140,000 acres

K. A description of the areas in the district where additional irrigation will be allowed if the district will not allow additional irrigation in all areas of the district.

- The WID has no restrictions planned on where expansion will take place.

Conclusion

Today, the District has awarded all irrigation acres available to meet our cap of 110,000 acres. We currently have significant demand to expand (approximately 20,000 acres in applications) but to do so we need to have a mandate by our current irrigators to expand.

There is limited risk involved but major benefits include:

- Improved Financial Stability through spreading costs over more potential irrigators.
- Expedited pace of modernization of irrigation works to improve water service efficiency.
- Re-investment of expansion funds into infrastructure.
- Improved water delivery, improved efficiency and greater water security

Based on the modelling results, 140,000 acres could be irrigated with no additional risk to water security then we have irrigating 110,000 acres or even 90,000 acres.