



# Irrigation and Lake Management

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# Irrigation in Alberta

- There are 1.42 million acres of irrigated land in Alberta representing 65% of the irrigation in Canada



# Irrigation in Alberta

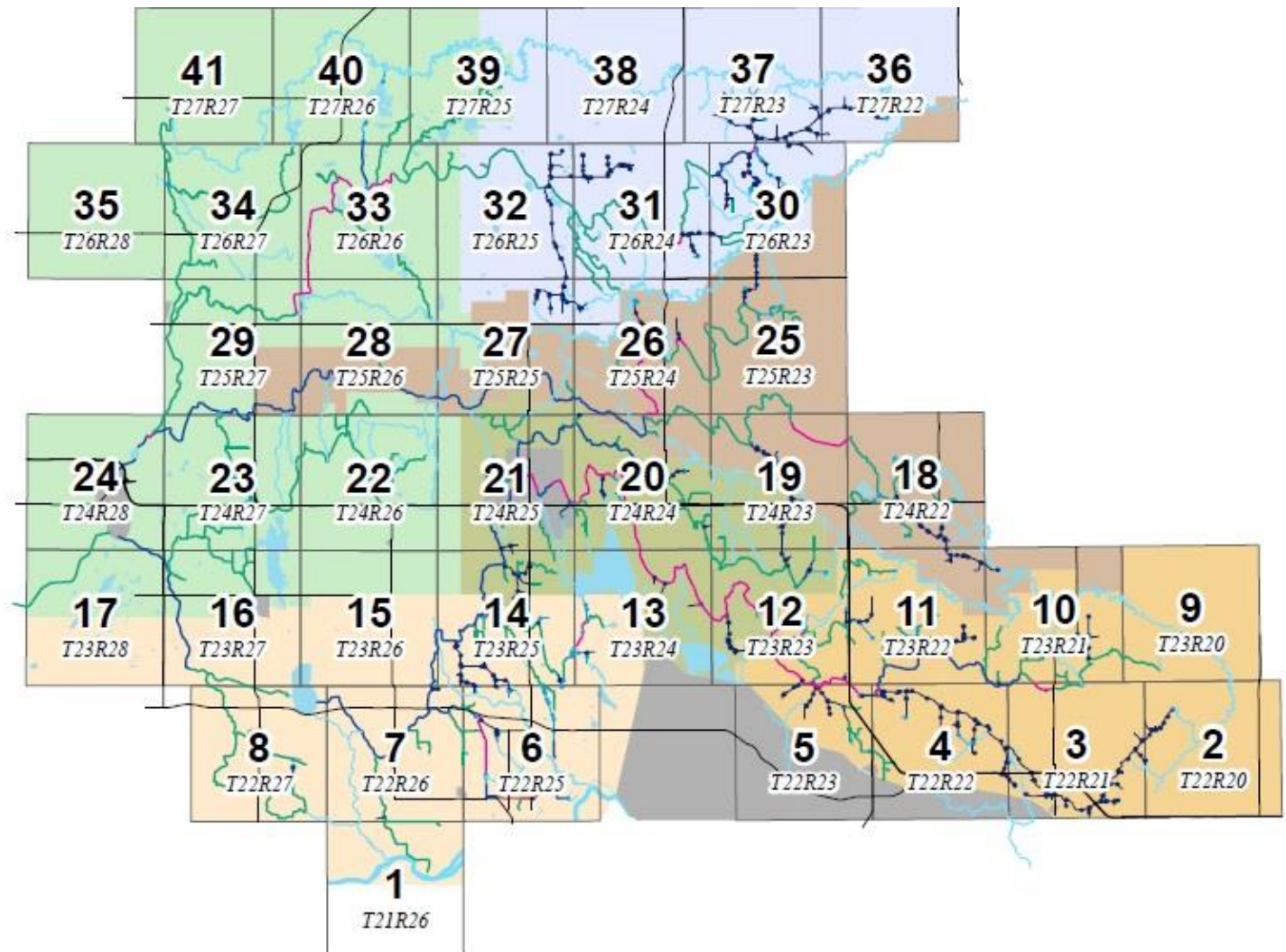
- Irrigated land is among the most productive in the province with 20% of the agricultural GDP coming from 4% of the land base
- Every \$1 invested in irrigation creates \$3 in additional benefits for the provincial economy





# Western Irrigation District Background

- The Western Irrigation District (WID) was founded in 1944 to provide water for agricultural use in the area east of Calgary.



While remaining true to our agricultural roots the WID has evolved to also provide conveyance or raw water service to municipal, commercial and other water users in the Calgary region.



CrossIron  
MILLS







*Chestermere Lake*  
History of WID and Chestermere Lake

# Development of Chestermere

- Chestermere Lake was constructed in the early 1900's and was known as Reservoir 1.
- In the 1950's cottages were leased by the WID around the reservoir which later led to sales of land leading to the creation of a municipality
- Chestermere was successively a summer village, a village, a town before growing into a city in 2015



## Current Agreement

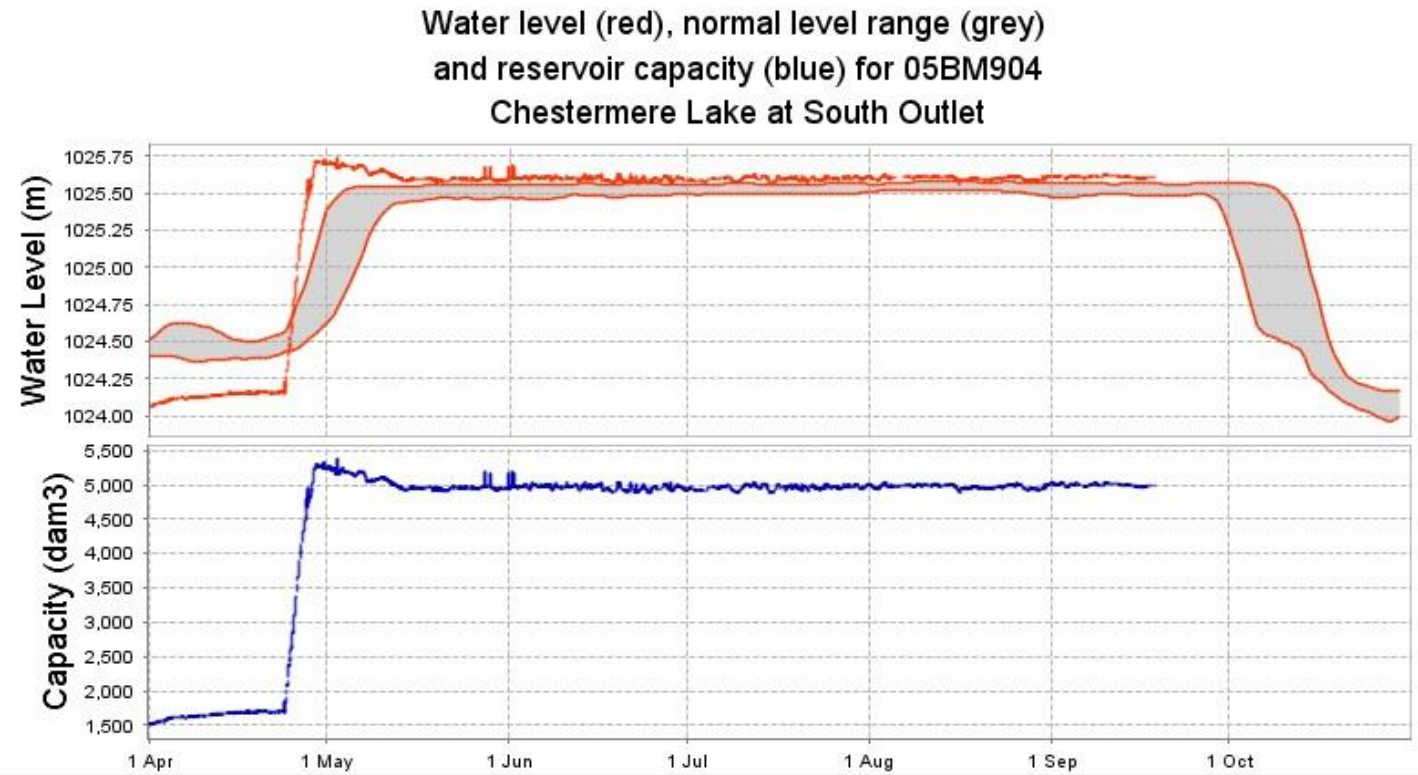
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- The Western Irrigation District and the Town of Chestermere entered into an agreement governing the operations of Chestermere Lake for irrigation, recreation and drainage in 2005



# Recreation

Chestermere Lake at South Outlet | Yearly Graph





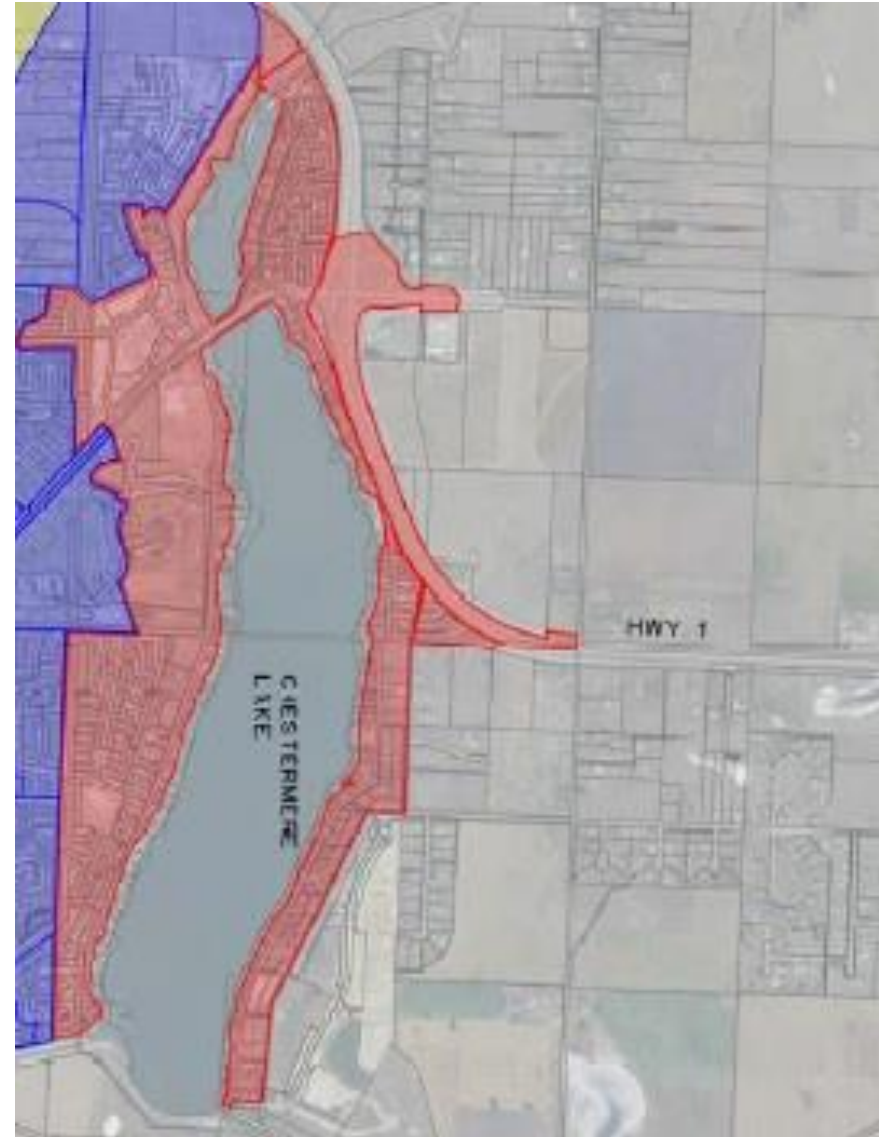
Recreation





## Stormwater Management

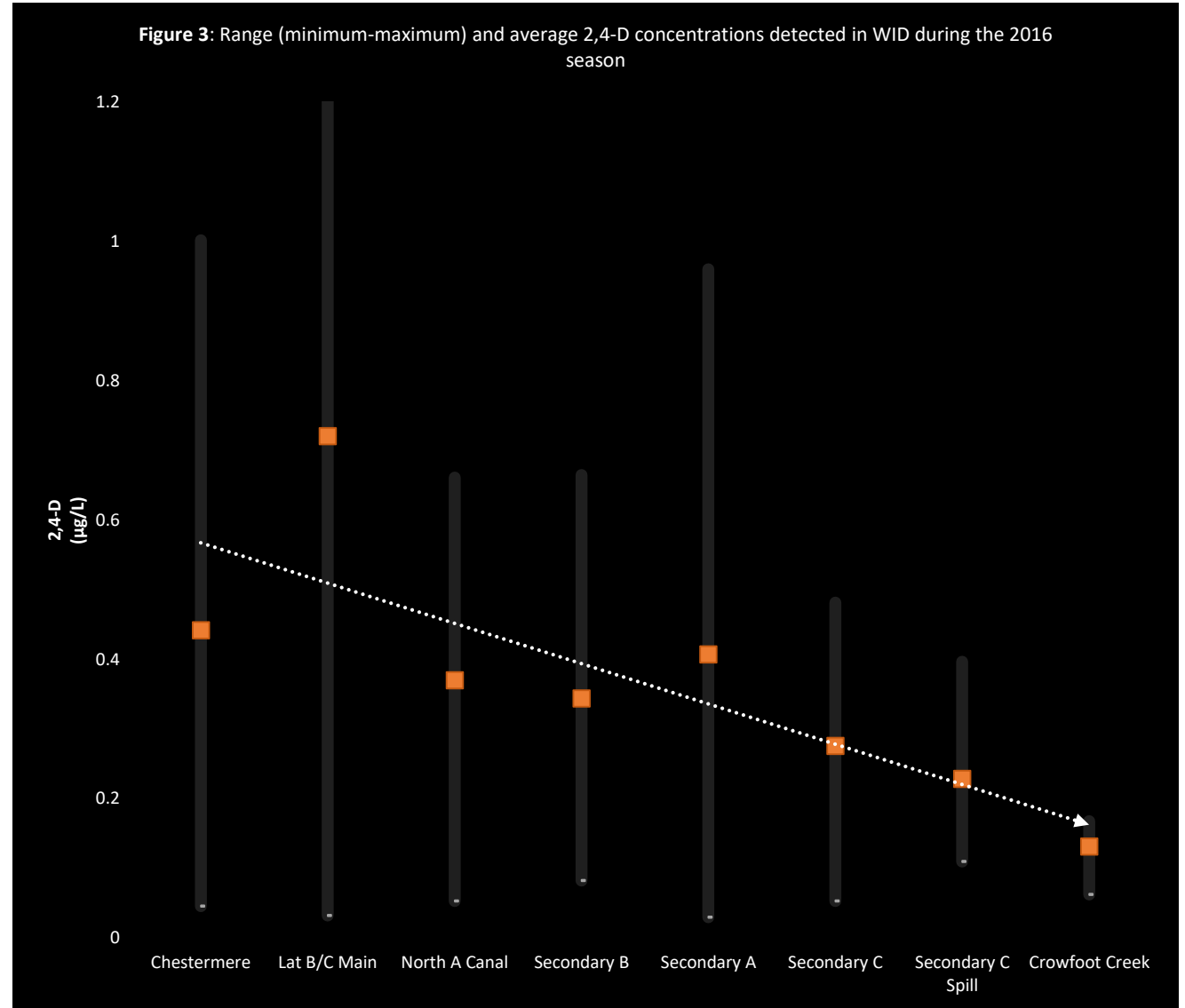
- The Town of Chestermere at the time of execution of the 2005 Use of Works agreement all drained to the Western Irrigation District requiring management of both stormwater quality and quantity





# Water Quality

- The stormwater impact to the WID system from the direct drainage into the lake is noticeable as concentrations of certain parameters, notably pesticides and herbicides, are observed more frequently in Chestermere Lake and decrease throughout the system

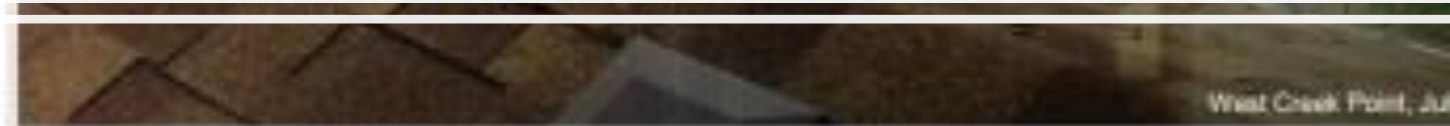


# SPURRED INTO ACTION

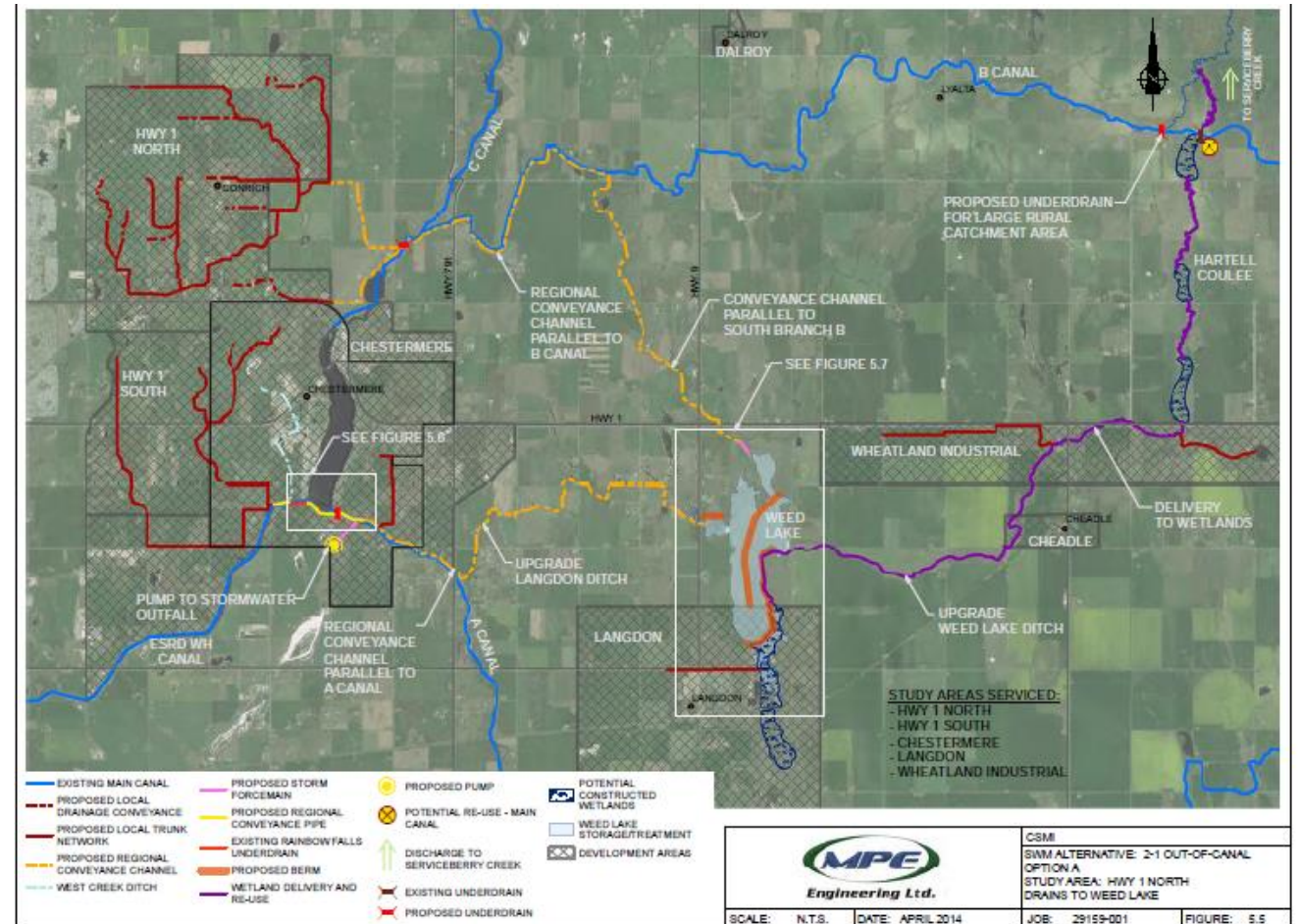
On Sunday, July 12<sup>th</sup> 2015, heavy rainfall led to significant flooding in the City of Chestermere, causing extensive damage to personal and City property. **The City is committed to developing strategies to reduce damage from storm events in the future.**



## Significant Rainfall



- The Collaborative Stormwater Management Initiative is intended to preserve the water quality of Chestermere Lake and the WID system by diverting flows into a parallel network for stormwater.





## Invasive Species

- The challenge presented by aquatic invasive species is significant and increasing







Plastic Pellets Cleanup



## Conclusion

The management of an irrigation reservoir for multiple purposes creates unique challenges that can only be solved by collaborative actions between all stakeholders.