

Irrigation in Saskatchewan

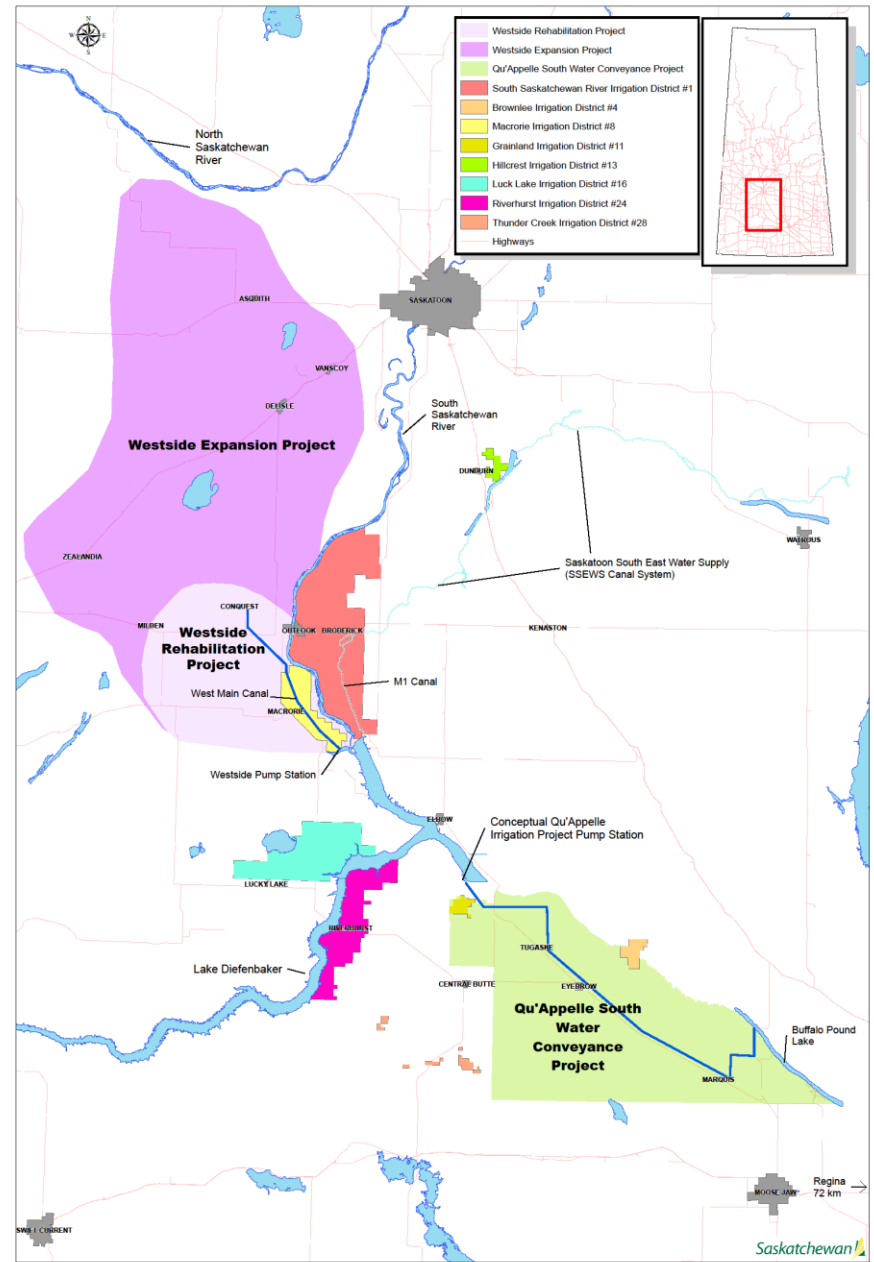
June 2022

Lake Diefenbaker Irrigation Projects

1. Westside Rehabilitation Project;
 2. Westside Expansion Project; and
 3. Qu'Appelle South Water Conveyance Project
- All design is presently at a high level completed on the desktop work.

Project Map

Lake Diefenbaker Development Area



History of Lake Diefenbaker



- This project dates to former Prime Minister John Diefenbaker
- Dirty Thirties created the need for irrigation
- Lake Diefenbaker officially created in 1967

History of Lake Diefenbaker

- Multi-purpose reservoir providing fresh source water to over 60% of SK population.
- Water supply for municipal, industrial, recreation, irrigation and hydroelectricity, as well as some flood control.
- Vision was for 500,000 acres of irrigation
 - Currently at 20% of envisioned irrigated acres

Lake Diefenbaker Water Supply

- Lake Diefenbaker is one of the largest and untapped sources of water in this country
- Analysis and studies show there is more than enough water to supply these two projects
- WSA reviewed 88 years of flow data and found that with no significant change in operating there is nearly 900,000 acre-feet/year of water available for irrigation
 - These projects will use less than 700,000 acre-feet/year.



Lake Diefenbaker Stats

9.4 million dam³ (7.6 million ac-ft) storage

Median annual inflow
5.5 million dam³ (4.5 million ac-ft)

225 km long

Surface area is
~110,000 acres



Lake Diefenbaker – Gardiner Dam



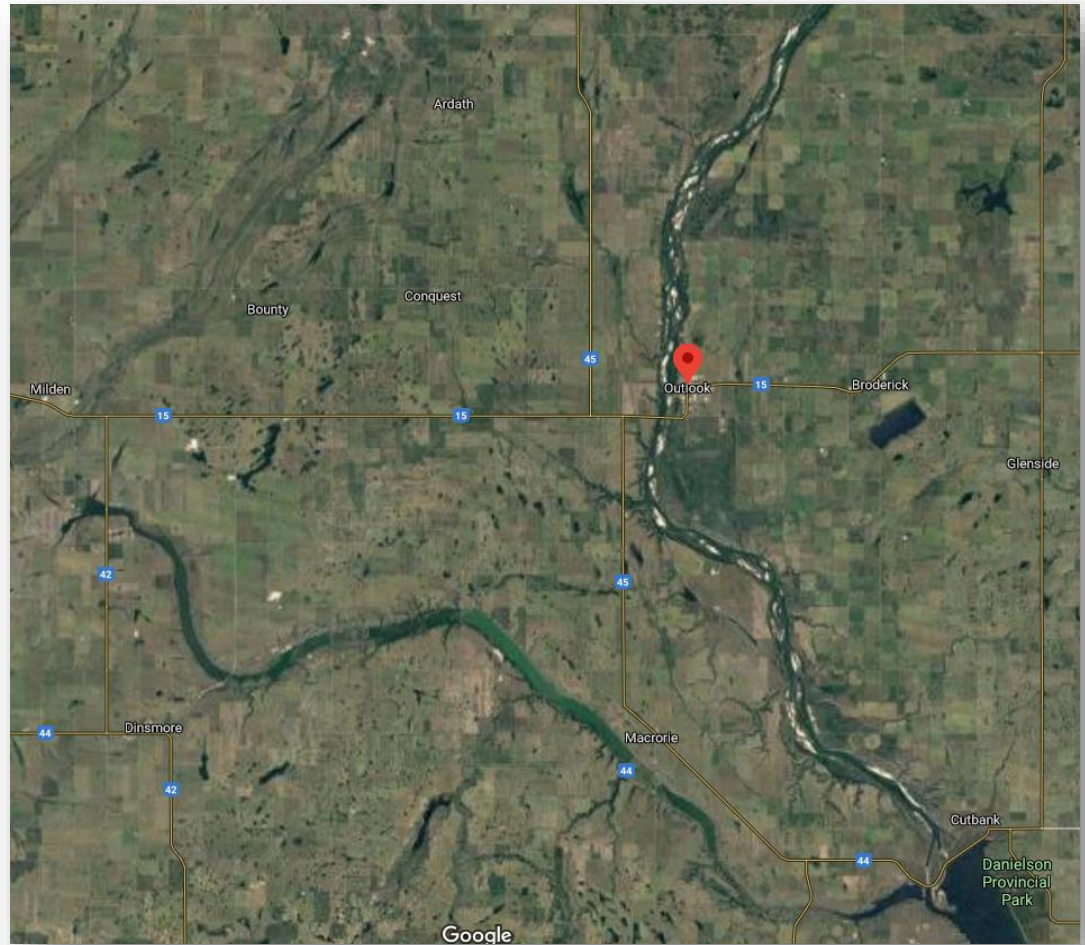
Existing Eastside Main Canal and Pump Station



History – Westside Irrigation Project

Canal construction was
95% complete
(42 of 45 km)
before discontinuation
in 1973

Pump station stopped
at completion of sub-
structure



What to Expect in the Future



340,000 irrigated
acres at full
development

Area stretching from
Gardiner Dam north to
Asquith

Nearly **400** km of
canals, plus pipelines
and 3 balancing
reservoirs

Westside Canal Pump Station



Westside Canal Outlet



Westside Canal



Westside Canal Pivot and Pump Site



Westside Canal Pivot



Westside Canal Block



Westside Dry Canal



Westside Canal Termination at Conquest



What to Expect in the Future

120,000 irrigated
acres at full
development

Area stretching from
Qu'Appelle Dam to
Buffalo Pound

Approximately **100 km**
of canal and 1 balancing
reservoir and outfall
into Buffalo Pound



What is Next?

- Complete the Engineering Pre-Design for WIPs 1 and 2
- Initiate environmental and engagement processes
- As part of Pre-Design, initial priorities include the collection of the following data:
 - Acquiring LiDAR
 - Conducting soils testing
 - Geotechnical testing
- Proceed with project planning and analysis, and secure funding partners

Benefits

- Provincial Industry Stimulus
 - Engineering and environmental activities
 - Significant construction requirements
 - Operations and maintenance related job opportunities
 - Potential for local irrigation and food processing industry growth
- Economic value-added (construction and long-term)
- Enhanced food security and crop diversity
- Support livestock industry
 - Increased feed and processing opportunities.
 - Source of high-quality water for producers.
- Supports climate change adaptation and resiliency

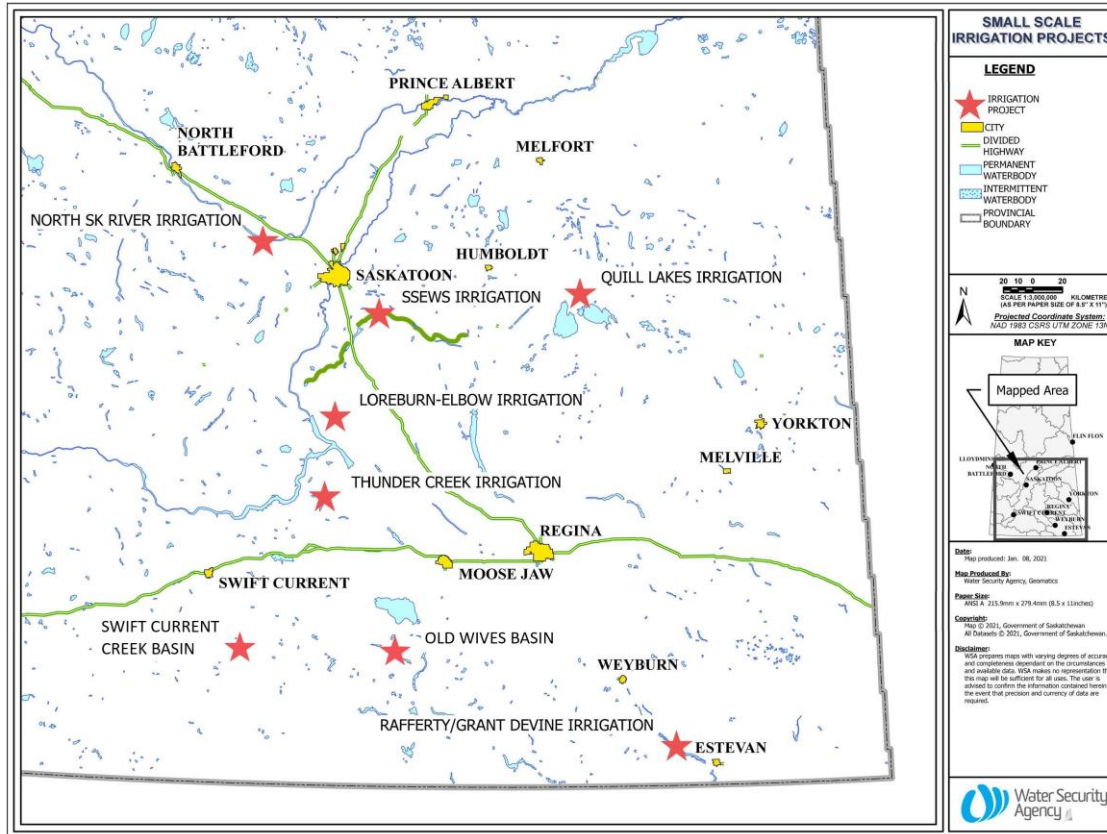
Conclusion

The *Lake Diefenbaker Irrigation Projects* will be **transformational**

- ✓ Provide significant economic benefit
- ✓ Adds value to the agricultural and food processing industry
- ✓ Considerably improves Saskatchewan's food supply
- ✓ Creates jobs
- ✓ Improves climate resiliency



Potential Irrigation Projects



Potential Irrigation Projects:

- Loreburn - Elbow
- SSEWS
- Quill Lakes Basin
- Thunder Creek
- SE Area Projects
- North Sask. River
- Old Wives Basin
- Swift Current Creek Basin

- Uptake will likely be individual projects except for Loreburn – Elbow.
- The studies underway will inform the next steps, the estimated irrigable acres, and feasibility.



Questions?