



# Agricultural Producers Association of Saskatchewan

**Engineering Water Systems Symposium**

**September 24, 2021**



# Duane Haave General Manager

- APAS is Saskatchewan's General Farm organization
- Founded in 2000
- Based on Rural Municipal Boundaries
- In 2021, represented 137 RMs with 16,000 farm operations
- 33 Associate Member Groups
- One of 11 Provincial/Territorial General Farm Organizations
- Provincial component of the Canadian Federation of Agriculture
- HQ in Regina
- 12 Member Board
- 137 Elected Reps
- 6 Policy Committees

# Agricultural Policy and Advocacy

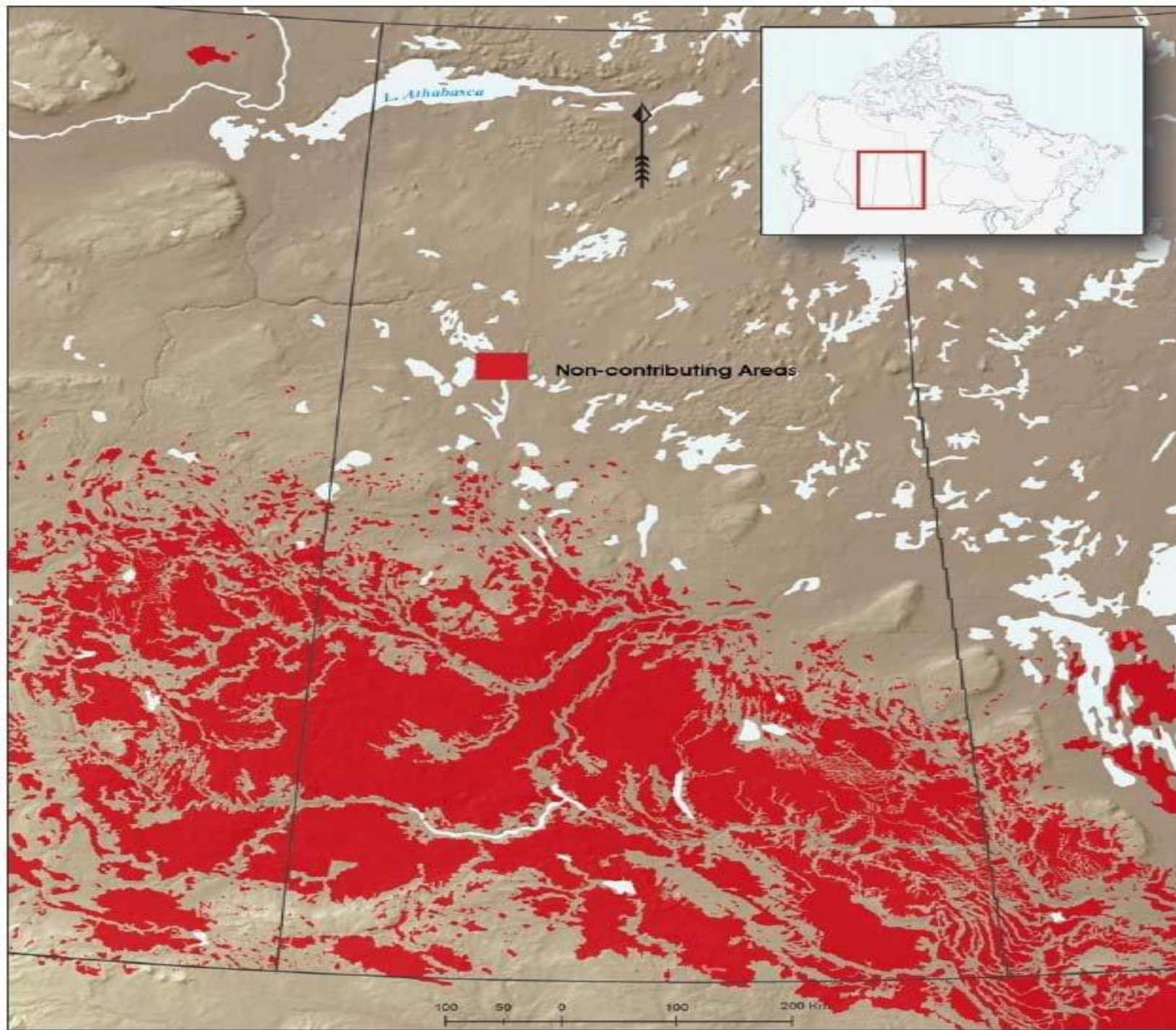
- ▶ Grassroots democratic policy organization
- ▶ Independent from government and industry
- ▶ Active in all areas of policy that impact agricultural sector
- ▶ Input from all sectors, crop, livestock
- ▶ Active discussion on problems and issues, provide research and identify solutions
- ▶ Advocate with decision makers on solutions
- ▶ Communications and public representation

## Major exporter of key commodities

- ▶ 85% of agricultural production is exported
- ▶ \$16 billion dollars of exports - 20% of SK GDP
- ▶ 60% of world lentil exports
- ▶ 22% of mustard
- ▶ 24% of canola
- ▶ 42% of durum wheat
- ▶ 30% of oats
- ▶ 43% of dry peas

# Saskatchewan Agriculture

- ▶ 40% of Canadian arable land
- ▶ 35% of grasslands and pasture
- ▶ 98% depends on natural precipitation
- ▶ Very dynamic and volatile climate - continental and semi-arid
- ▶ Most of land mass is not part of a contributory watershed
- ▶ Large areas in closed drainage basin
- ▶ Great variability in ground water quality





# Types of infrastructure

- ▶ Dugouts
- ▶ Wells - individual and community wells
- ▶ Road network
- ▶ Small dams
- ▶ Small scale irrigation - flood irrigation
- ▶ Drainage works and tile drainage
- ▶ Organized drainage through conservation and development Associations
- ▶ Remote water supplies for livestock
- ▶ Use of natural surface water
- ▶ Smaller number of producers have access to regional or municipal water supplies



# Limitations to water management in SK agriculture

- ▶ Limited access to surface water for both conveyance for irrigation and flood control
- ▶ Variable quality of ground water resources
- ▶ High cost of investment compared to yield and price
- ▶ Irrigation requires higher value crops- ie. Potatoes
- ▶ Lack of integrated design in existing works

# Historical perspective

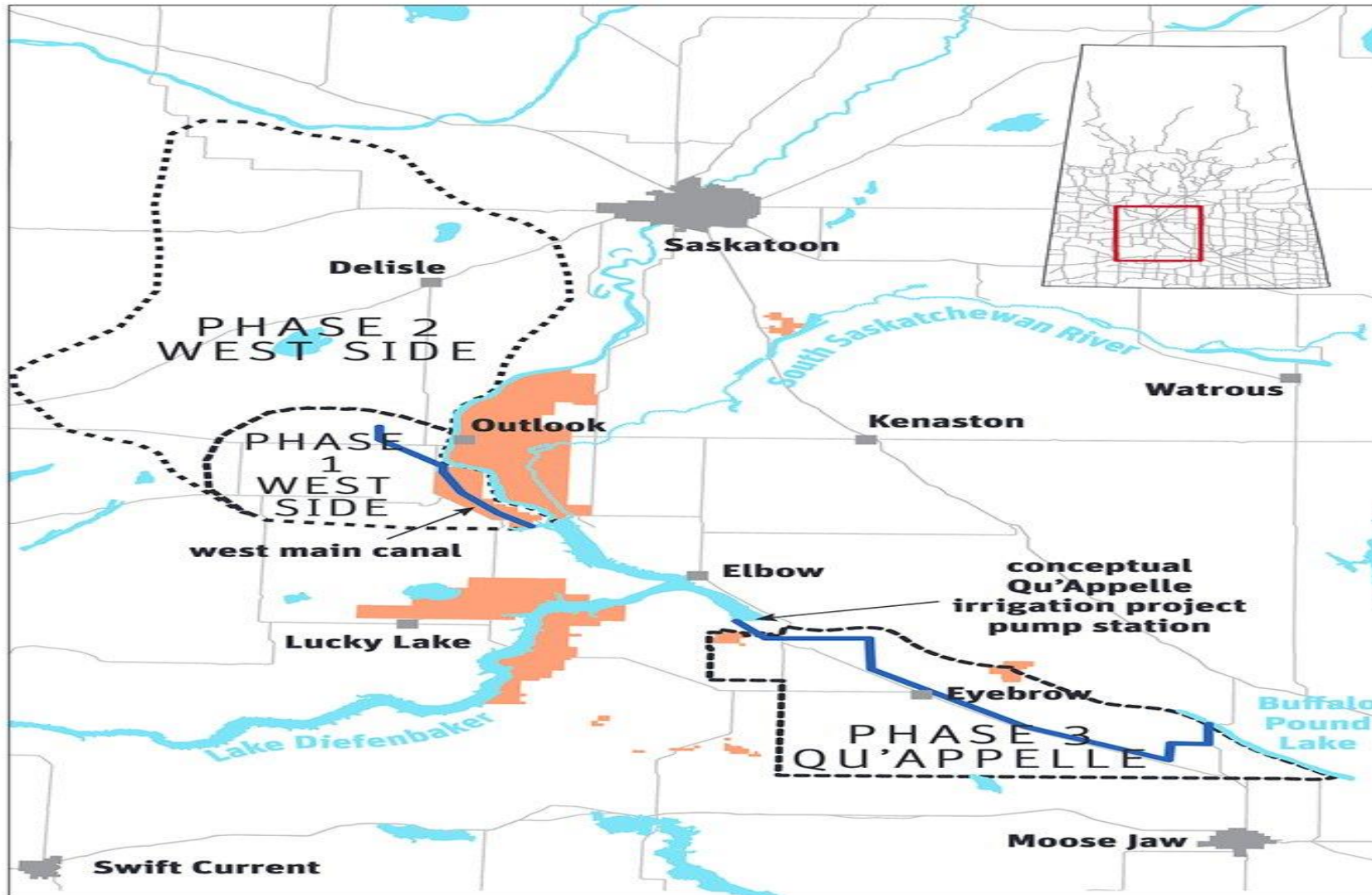
- ▶ Drought in the 1930s lead to water projects investment in South Saskatchewan project
- ▶ Construction of Gardiner dam, Quappelle dam and irrigation expansion
- ▶ Original plans from the 1950s has not been fulfilled
- ▶ Assistance to producers and communities was provided by **Prairie Farm Rehabilitation Administration** ( wound down in 2012)
- ▶ Conservation and Development districts -enabled in 1949
- ▶ 96 Conservation districts and 13 Watershed Boards
- ▶ 11 Watershed planning areas
- ▶ Saskatchewan 25 year Water Security Plan

# Barriers to water management

- ▶ High costs for design and construction, and maintenance
- ▶ Lack of governance structures to facilitate projects
- ▶ Smaller scale projects have problems accessing infrastructure funding pools
- ▶ Lack of integration between goals - flood management, water storage, water quality objectives, irrigation and ecological goods and services
- ▶ Urban centers do not “Look upstream”
- ▶ Individual producers are on their own

## EXPANSION PLANS

The Lake Diefenbaker Development Area will be developed over several phases.



# Agricultural Water Management

- ▶ Short growing season (below 120 days) requires earliest seeding date - need to move spring run-off
- ▶ Crop producers and livestock producers have different needs for water
- ▶ Extreme potential variability in annual precipitation- 98% of production depends on natural precipitation
- ▶ Focus to date has been on flood control or drainage
- ▶ Water management has focused on technologies that help improve soil quality - minimum tillage
- ▶ Environmental and water quality benefits are not funded by society

# Climate change

- ▶ Increased variability in temperature and precipitation
- ▶ Increased drought risk and intensity
- ▶ Design parameters for infrastructure can be exceeded
- ▶ Increased intensity of weather events - hail storms, rain events
- ▶ Timing of precipitation becomes less predictable
- ▶ Rapid evaporation can cause salinity
- ▶ Rapid evaporation can create water quality issues for livestock
- ▶ Longer growing season allow for different crops
- ▶ Warming temperatures can increase impact from pests, invasive weeds and plant diseases

# Agricultural water management should be a top priority

- ▶ Climate change adaptation and risk mitigation
- ▶ Preserve ag as an economic driver and develop new opportunities
- ▶ Food security
- ▶ Downstream water quality protection
- ▶ Maintain ecological goods and services

# Policy Priority list

- ▶ Increase technical resources to producers and communities
- ▶ Develop precision ag and data tools
- ▶ Increase access to infrastructure funding for rural communities
- ▶ Increase in practical research on technologies
- ▶ Innovation in irrigation technology
- ▶ Increase potential for processing to improve economics for irrigation development
- ▶ Take advantage of consumer interest in local food to diversify crops
- ▶ Look at integrated water management from an engineering point of view
- ▶ Demonstration projects help to show success