

# History of Manitoba FDR Activities

*March 1, 2006*

*By*

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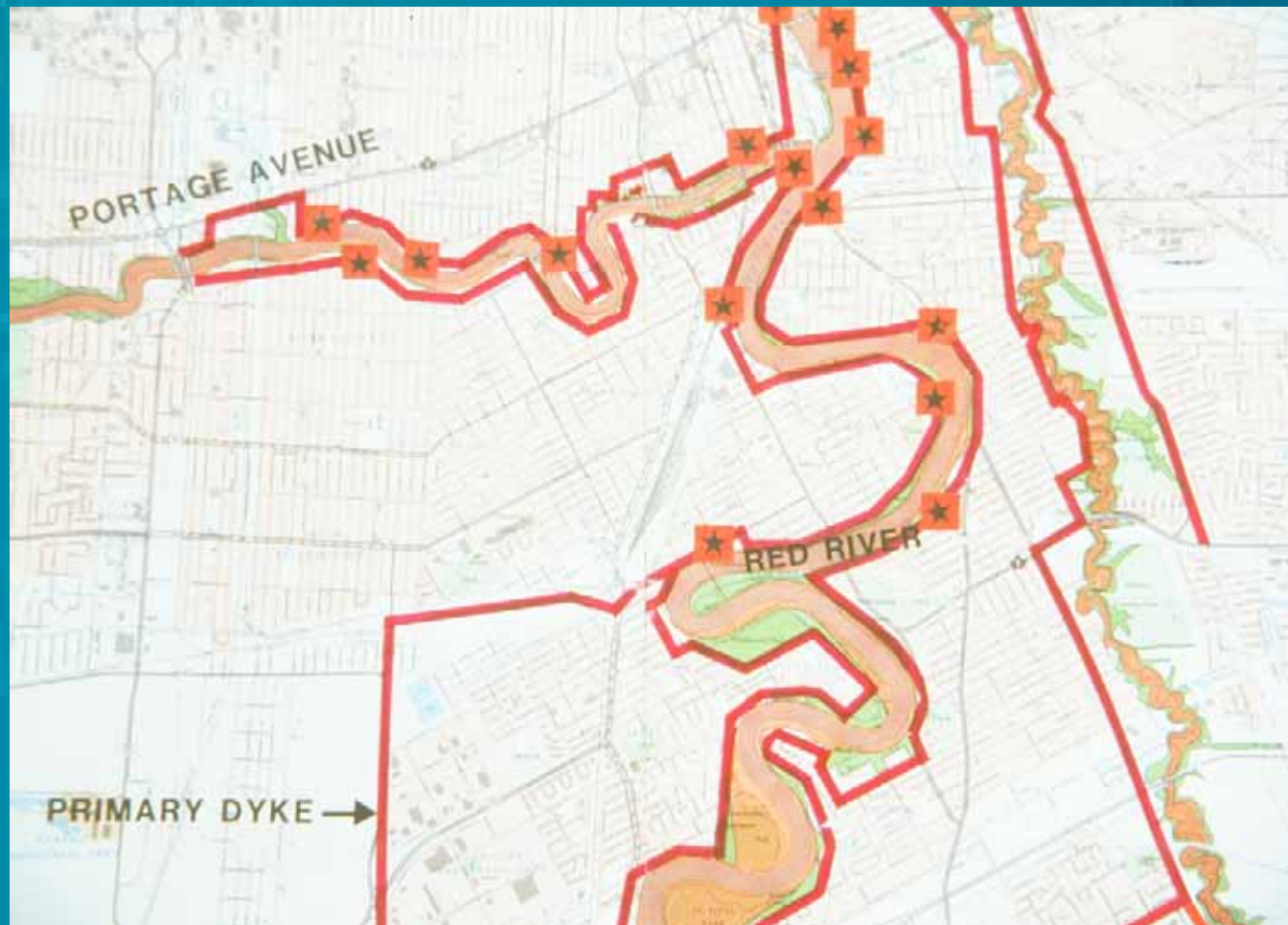
*Manitoba Water Stewardship.*



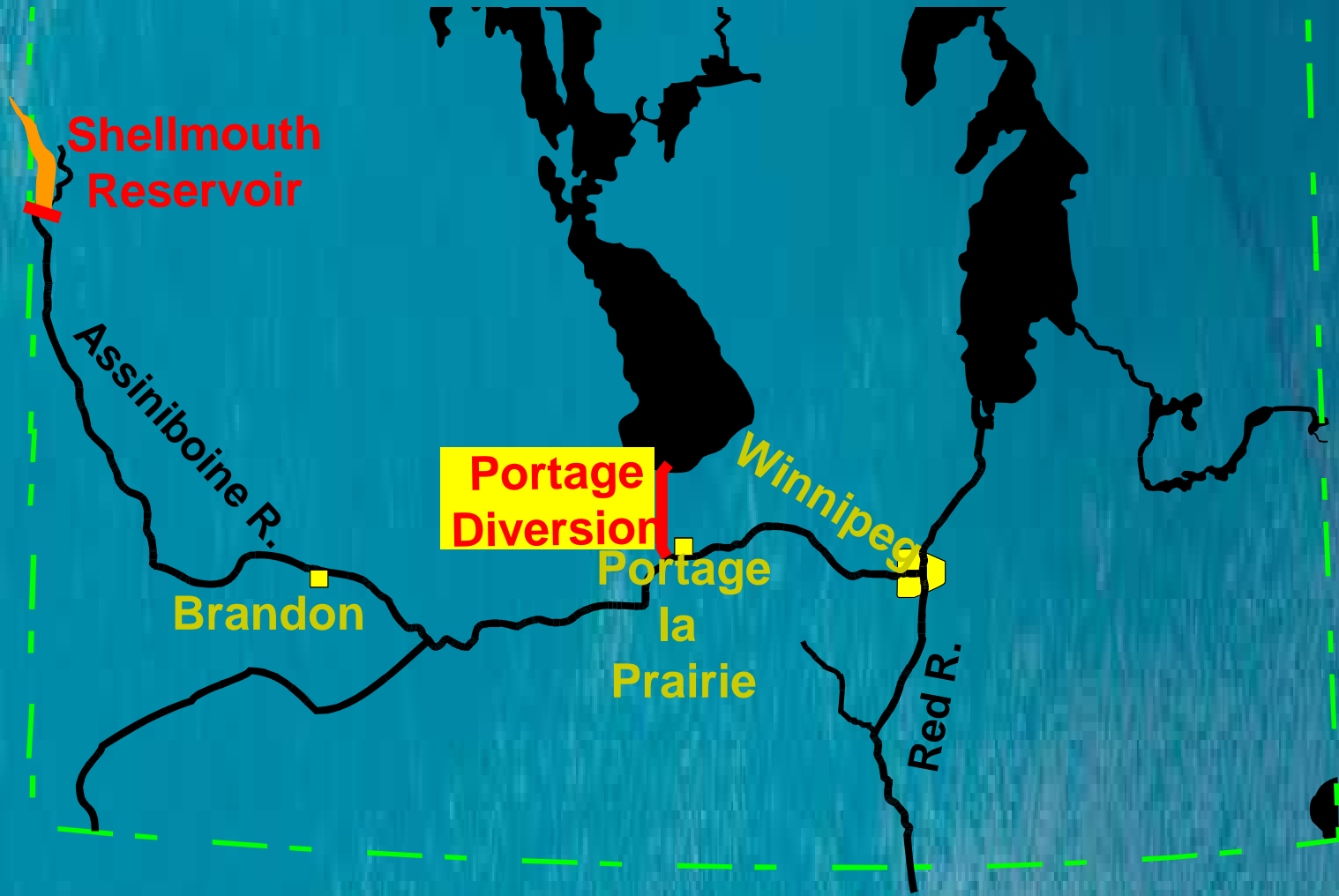
# Morris 1950



# Primary Dikes/ Diking Commissioner Act

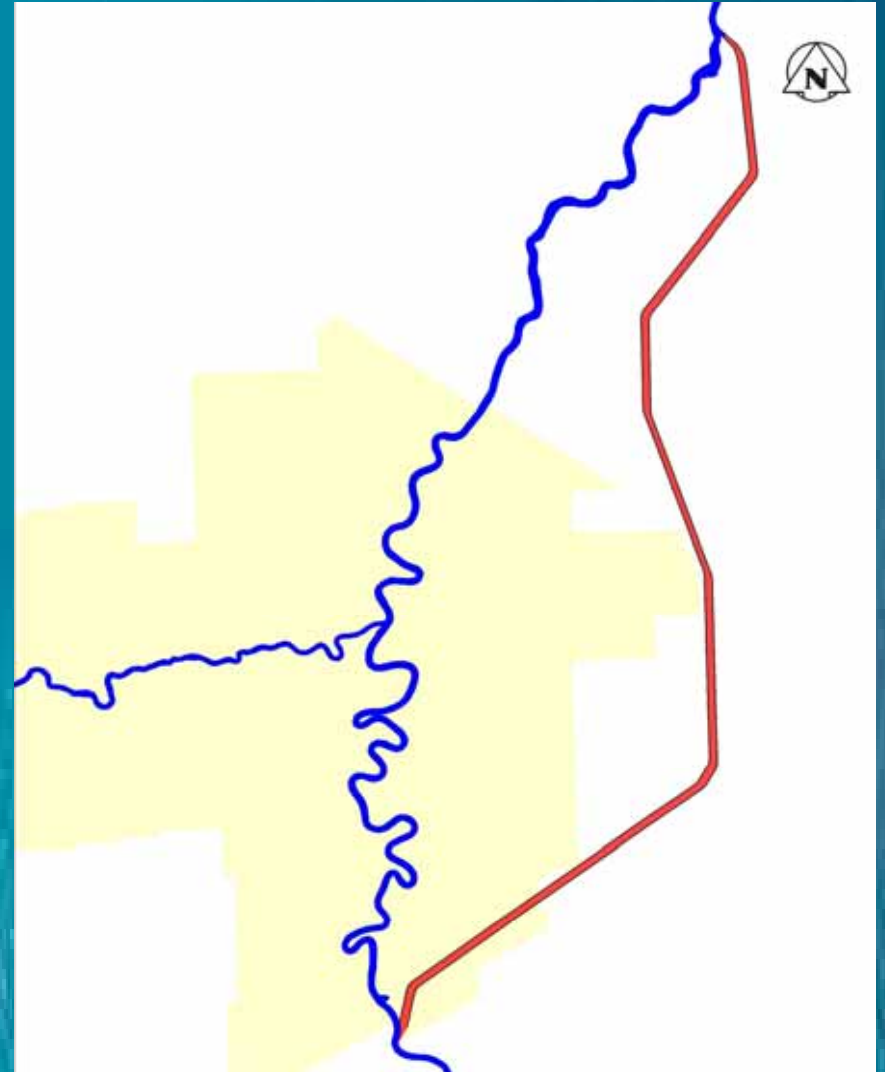


# Three Additional Works for Winnipeg



# RED RIVER FLOODWAY EXPANSION PROJECT

- Expansion of the existing channel to provide a design capacity to pass a 1 in 700 year flood (a reduction in flood risk to Winnipeg to less than one fifth of the current exposure);



# RED RIVER FLOODWAY EXPANSION PROJECT

- Modification of the 13 bridges, 5 hydro-electric power transmission lines, other crossings, and 7 drainage structures along the channel route;



# RED RIVER FLOODWAY EXPANSION PROJECT

- Expansion of the Outlet Structure and the discharge channel to the Red River;



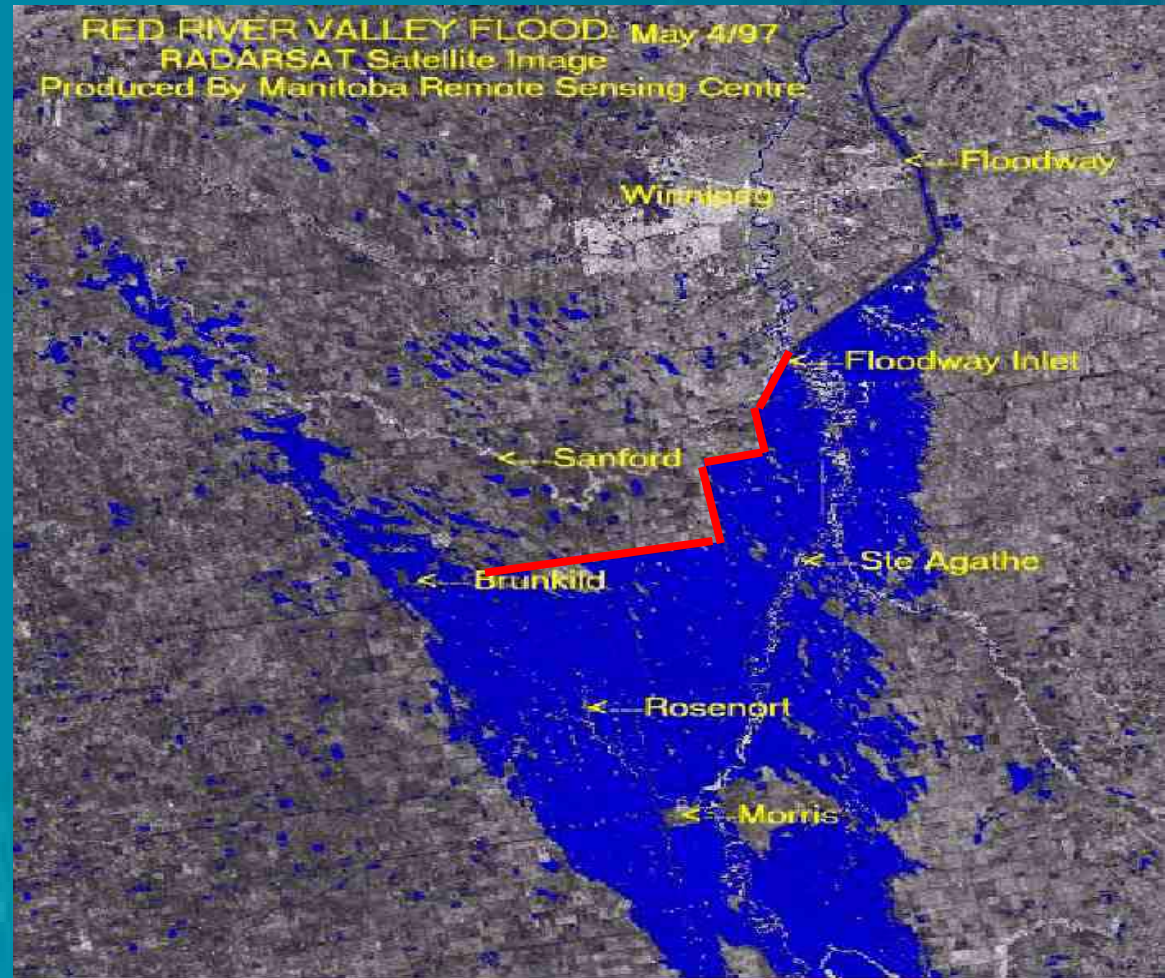
# RED RIVER FLOODWAY EXPANSION PROJECT

- Improvements to the Floodway Inlet Control Structure;



# RED RIVER FLOODWAY EXPANSION PROJECT

- Increasing the freeboard of the West Dike, with provision of protection from wind effects;



# Portage Diversion



# Shellmouth Reservoir

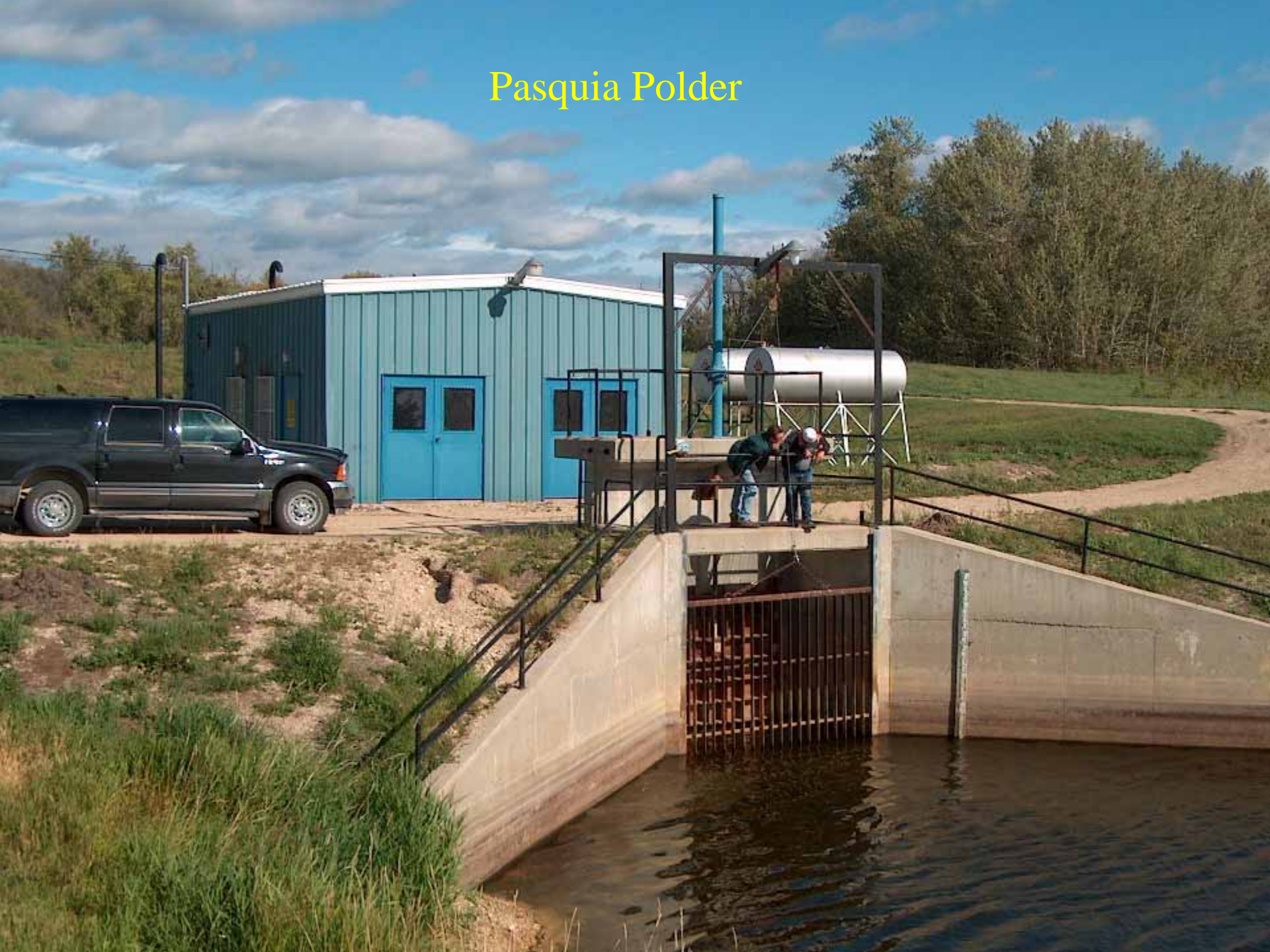


# Pasquia Polders

- 4 Polders
- 60,000 acres
- 100km diking
- 4 pump stations



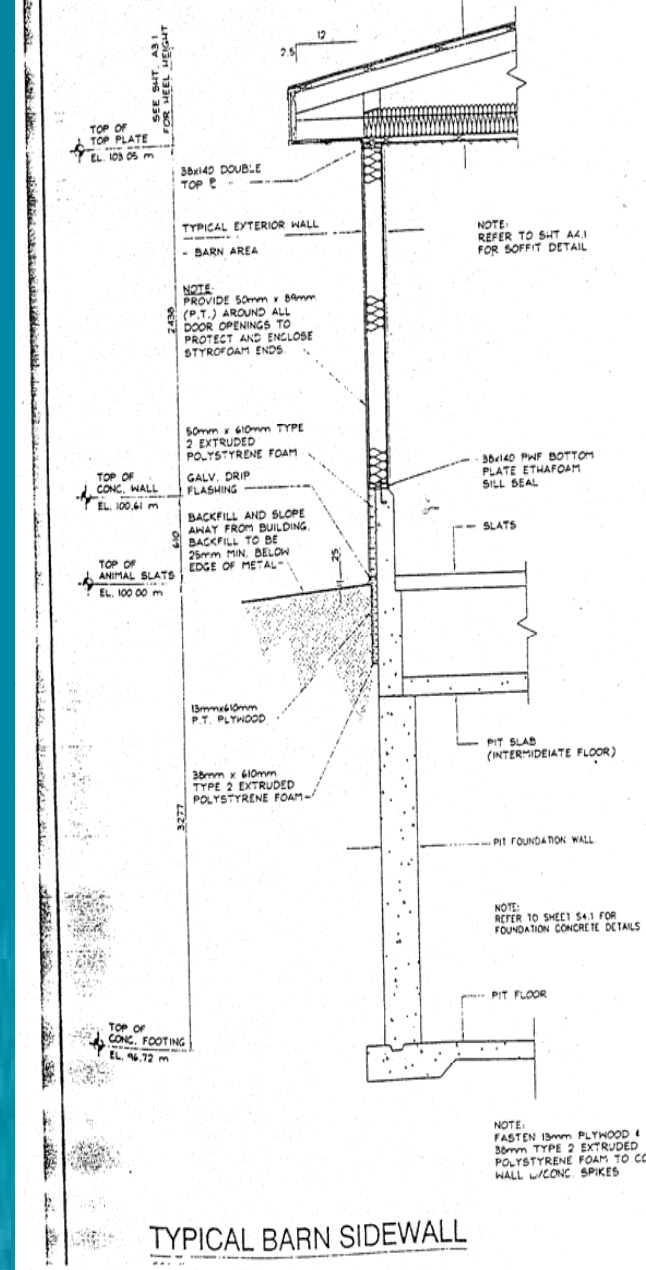
# Pasquia Polder



# National Hydrometric Agreement



# Water Resources Administration Act Designated Flood Area Legislation



# Moving

24/7/2001



# Raising

5/7/1999



# Ring Dike

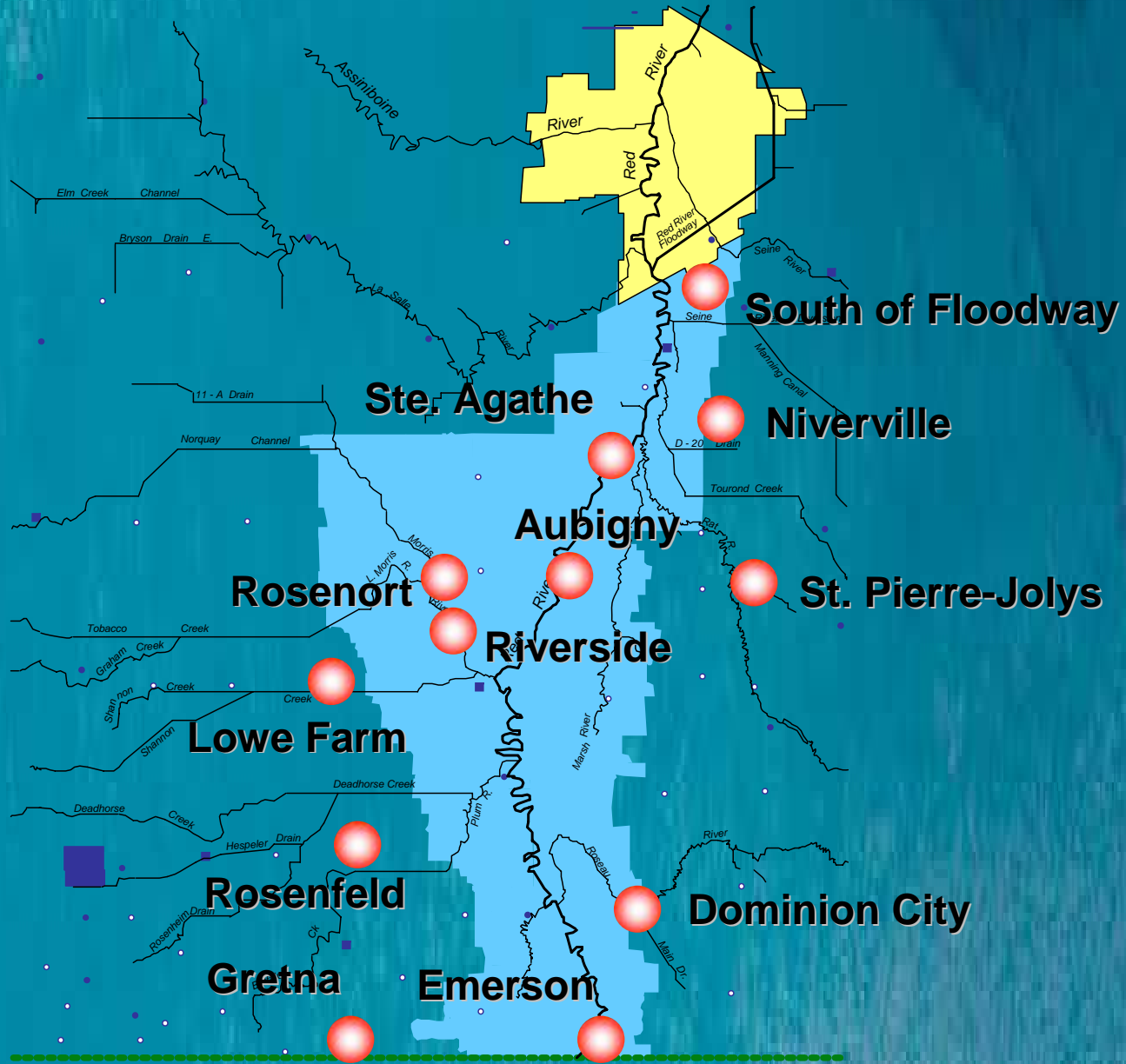
1999/10/13



# Structural Dike

1999/9/16





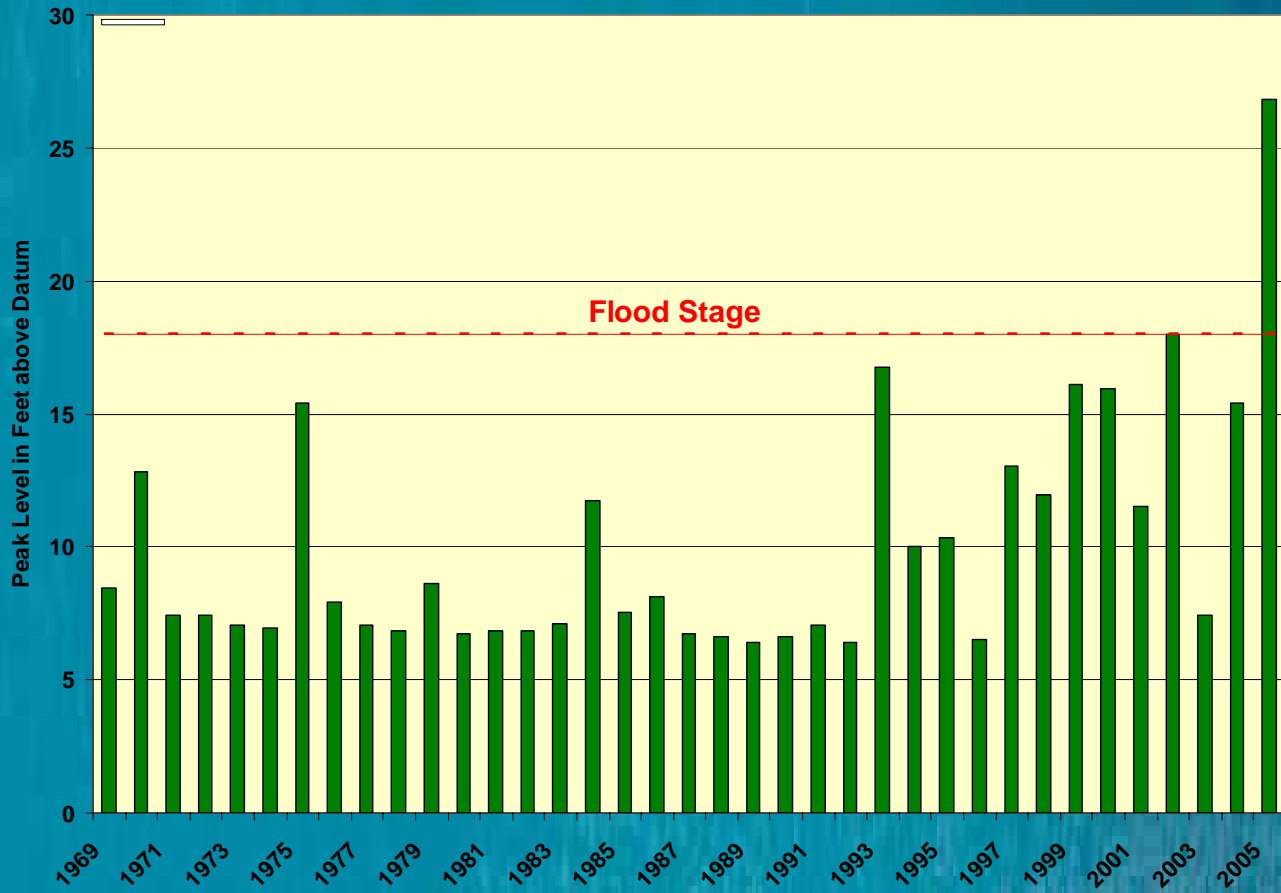
# Amphibex



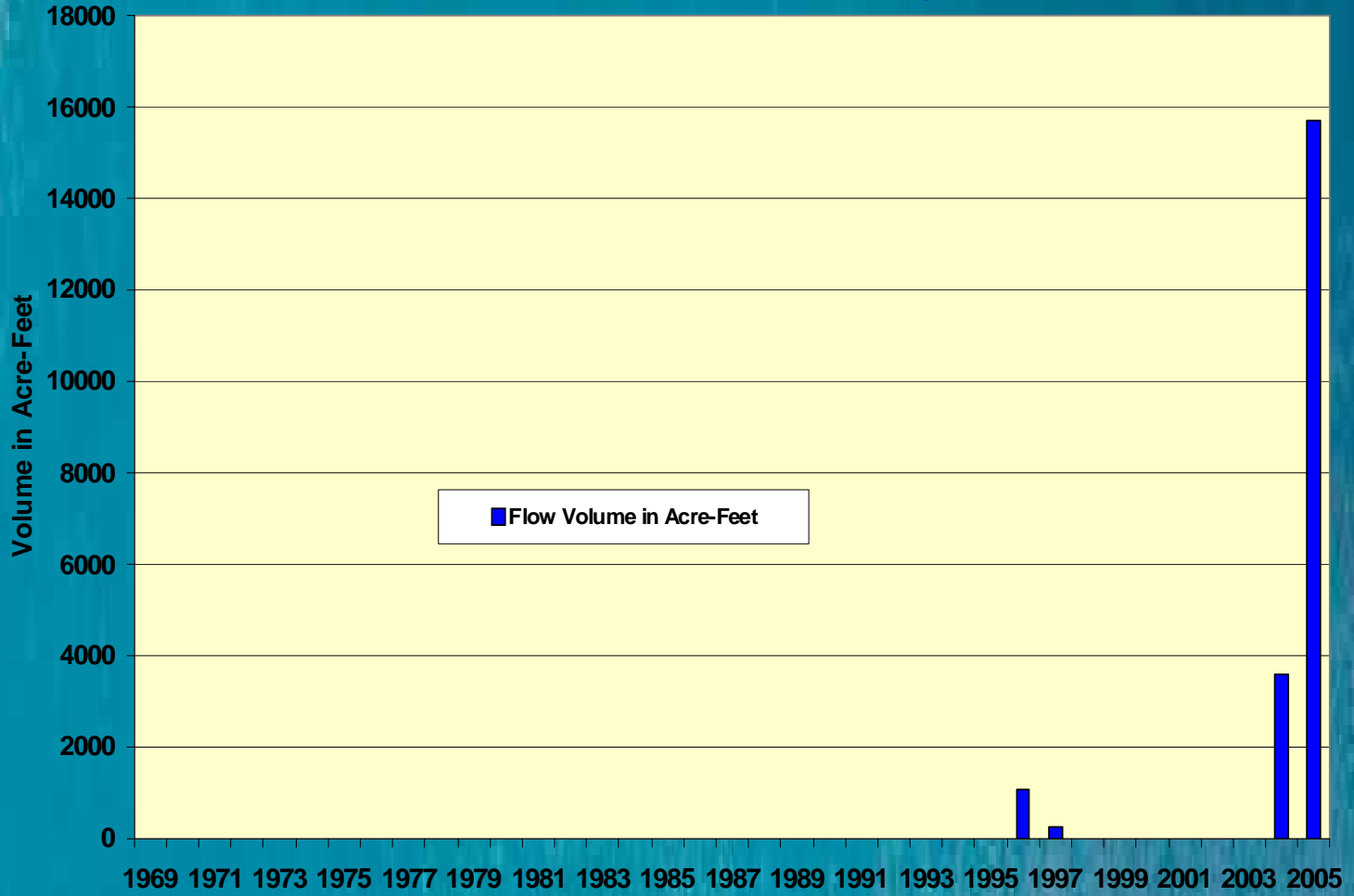
# Deloraine 2005



Red River--Downtown Winnipeg  
Natural Summer Peak Levels



# Red River Floodway Summer Volume Diverted (June-August)



**PORTAGE DIVERSION VOLUMES**  
**SUMMER 1970 - 2005**

