PASQUA FIRST NATION

- PRESENTATION: February 22 & 23 - 2012
  - WATER
    - INDUSTRY

PASQUA FIRST NATION

- WATER
  - Contrary to the position of the Provincial and Federal Governments that the water flows thru the Qu'Appelle Valley are: NATURAL.
  - This position is untrue as Governments have constructed water control structures throughout the Qu'Appelle Valley since 1897.
  - These water control structures store and release waters throughout the Qu'Appelle Valley

PASQUA FIRST NATION

- WATER
  - Before we understand the dynamics on how the Qu'Appelle Valley Water Ways is managed, we must first look at all the water control structures.
  - We must also look at the man-made water bodies throughout the Qu'Appelle System.

Pasqua First Nation

- WATER
  - Diefenbaker Lake

Pasqua First Nation

- WATER
  - Diefenbaker Lake
    - Lake Diefenbaker is the largest body of water in southern Saskatchewan.
    - It was formed by two dams, the Qu'Appelle River Dam and Gardiner Dam.
    - 9,400,000 cubic dam Full Supply Level (FSL) or 7.6 million acre ft. storage.
    - The Qu'Appelle Dam controls flows in the Qu'Appelle River and the Gardiner Dam controls flows in the South Saskatchewan River.

Pasqua First Nation

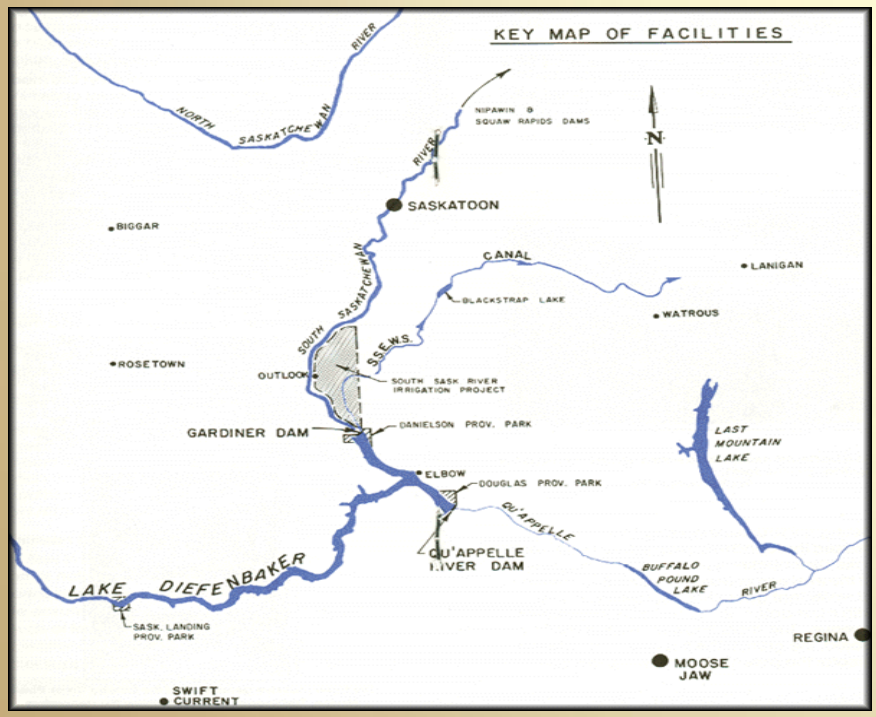
- WATER
  - Diefenbaker Lake
    - The dams were officially opened June 21, 1967.
    - Lake Diefenbaker provides domestic water for approximately 45 percent of Saskatchewan people.
    - Water is also stored for use by 10 potash mines, 4 major irrigation projects, various industries and wildlife interests. The lake also plays an important role in power generation and flood control.

Pasqua First Nation

- WATER
  - Qu'Appelle Dam Outlet to Buffalo Pound

Pasqua First Nation

- WATER
  - Buffalo Pound Lake and Spill-way



Pasqua First Nation

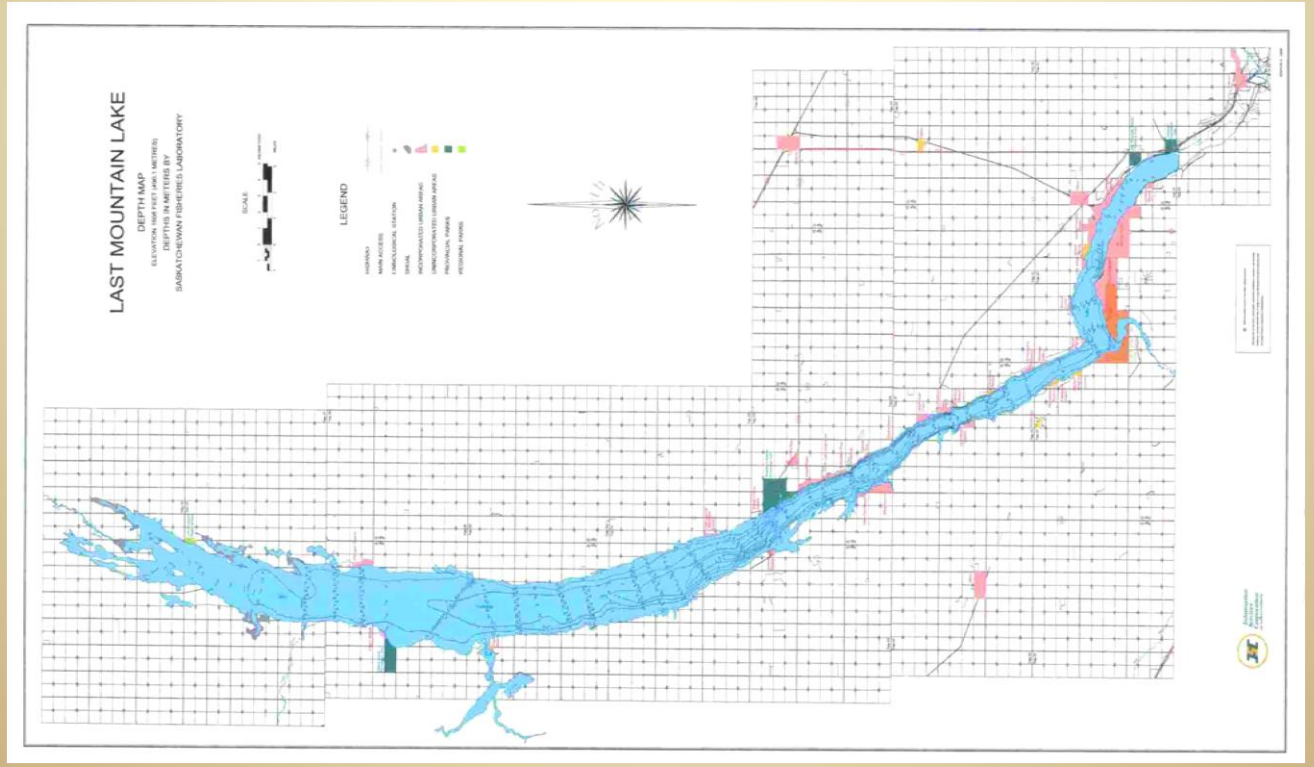
- WATER
  - Buffalo Pound Lake and Spill-way
    - Buffalo Pound Dam is located 100 km southeast of Lake Diefenbaker, and approximately 30 km northeast of Moose Jaw.
    - 91,279 cubic dam FSL
    - This reservoir is the first major lake on the Qu'Appelle River below the Qu'Appelle River Dam.
    - The dam and control structure provide a stable source of water for direct withdraws from the lake as well as for downstream use.

PASQUA FIRST NATION

- WATER
  - Buffalo Pound Lake and Spill-way
    - The works form an important component to the manage water along the Qu'Appelle River system.
    - The Saskatchewan Watershed Authority owns and operates the control structure and related works which impound Buffalo Pound Lake.
    - The Buffalo Pound Lake control structure and dam were constructed by the Prairie Farm Rehabilitation Administration in 1939. In 2000, a new control structure and improvements to the dam were completed and placed into operation

PASQUA FIRST NATION

- WATER
  - Last Mountain Lake/Kinookimaw Lake



PASQUA FIRST NATION

- WATER
  - Last Mountain Lake/Kinookimaw Lake
    - Approximately 81 km long, and only 3 km wide at its widest point. It is the largest naturally occurring body of water in southern Saskatchewan.
    - 1,840,000 cubic dam FSL
    - Lake level is controlled by the VALEPORT DAM.

Pasqua First Nation

- WATER
  - Valeport Dam
    - Valeport Dam was approved for construction by Order-In-Council PC 1601 on June 9, 1939.
    - 1947 Valeport Dam was removed.
    - 1958 Valeport Dam was rebuilt due to floods of 1955 and 1956.
    - Valeport maintains lake level from a low of 1604 Feet Above Sea Level (ASL) to 1609.5 Feet ASL.

Pasqua First Nation

- WATER
  - Craven Dam

PASQUA FIRST NATION

- WATER
  - Craven Dam
    - First constructed in 1903
    - Re-built in 1942-43
    - Replaced in 2003.
    - Regulates water flows downstream to the Qu'Appelle River and Qu'Appelle Chain of Lakes.
      - Pasqua Lake
      - Echo Lake
      - Mission Lake
      - Katepwa Lake
      - Crooked Lake
      - Round Lake

Pasqua First Nation

- WATER
  - Echo Lake Dam

Pasqua First Nation

- WATER
  - Echo Lake Dam
    - Constructed in 1941-42
    - Maintains lake levels on
      - Pasqua Lake: 119,000 cubic dam FSL
      - Echo Lake: 122,000 cubic dam FSL
        - Both Lake Levels
          - Low: 1564 ASL
          - High: 1572 ASL

Pasqua First Nation

- WATER
  - Pasqua Lake and Echo Lake

Pasqua First Nation

- WATER
  - Katepwa Weir
    - First constructed in 1888
    - Regulates water on all four lakes of the Upper Qu'Appelle
      - Pasqua Lake: 119,000 cubic dam FSL
      - Echo Lake: 122,000 cubic dam FSL
      - Mission Lake: 63,500 cubic dam FSL
      - Katepwa Lake: 229,431 cubic dam FSL
    - Reconstructed in 1957
    - Major renovations in 2005

Pasqua First Nation

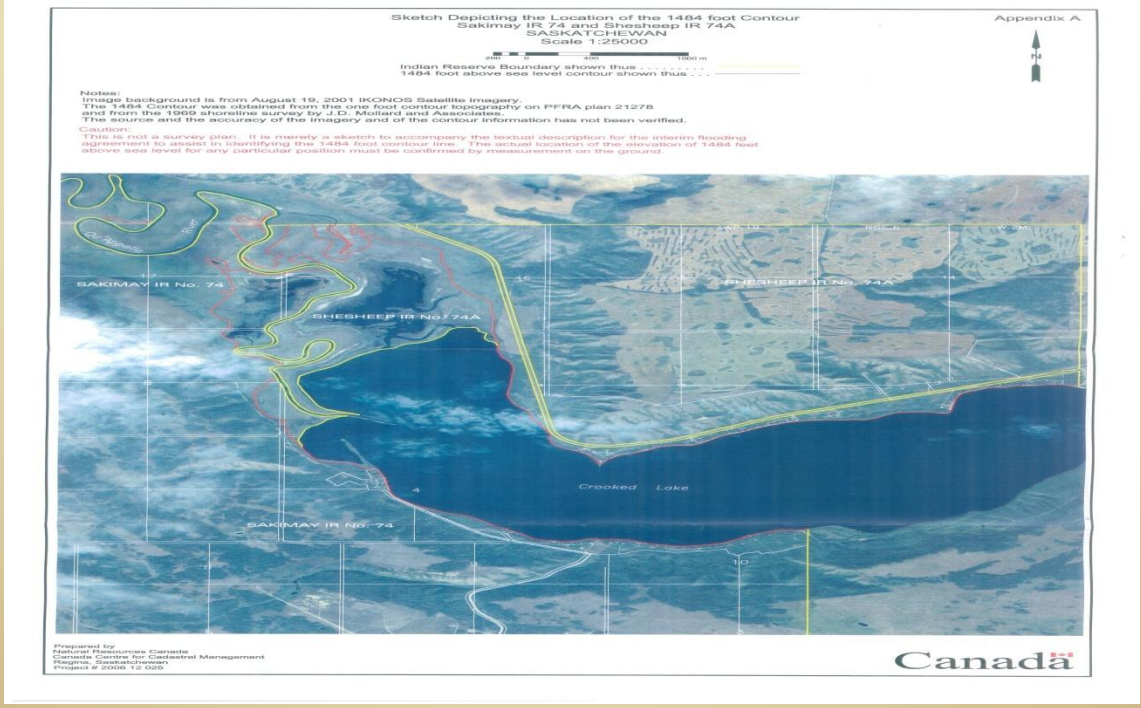
- WATER
  - Mission Lake

Pasqua First Nation

- WATER
  - Katepwa Lake

Pasqua First Nation

- WATER
  - Crooked Lake Dam
    - Constructed in 1942
      - 121,000 cubic dam FSL



Pasqua First Nation

- WATER
  - Round Lake Dam
    - Constructed in 1942
      - 10,855 cubic dam FSL
        - Renovations: 1971 & 2000

Pasqua First Nation

- Industry
  - POTASH
    - There are currently 10 potash mines operating in Saskatchewan.
      - 8 conventional underground mines: Started 1962
        - Potash Corporation of Saskatchewan
          - Cory
          - Allan
          - Lanigan
          - Rocanville
        - Mosiac Potash
          - Colonsay
          - Esterhazy K1 & K2
        - Agrium Inc.
          - Vanscoy

Pasqua First Nation

- Industry
  - POTASH
    - 2 solution mines: Started 1964
      - Potash Corporation of Saskatchewan
        - Patience Lake
      - Mosiac Potash
        - Belle Plaine

Pasqua First Nation

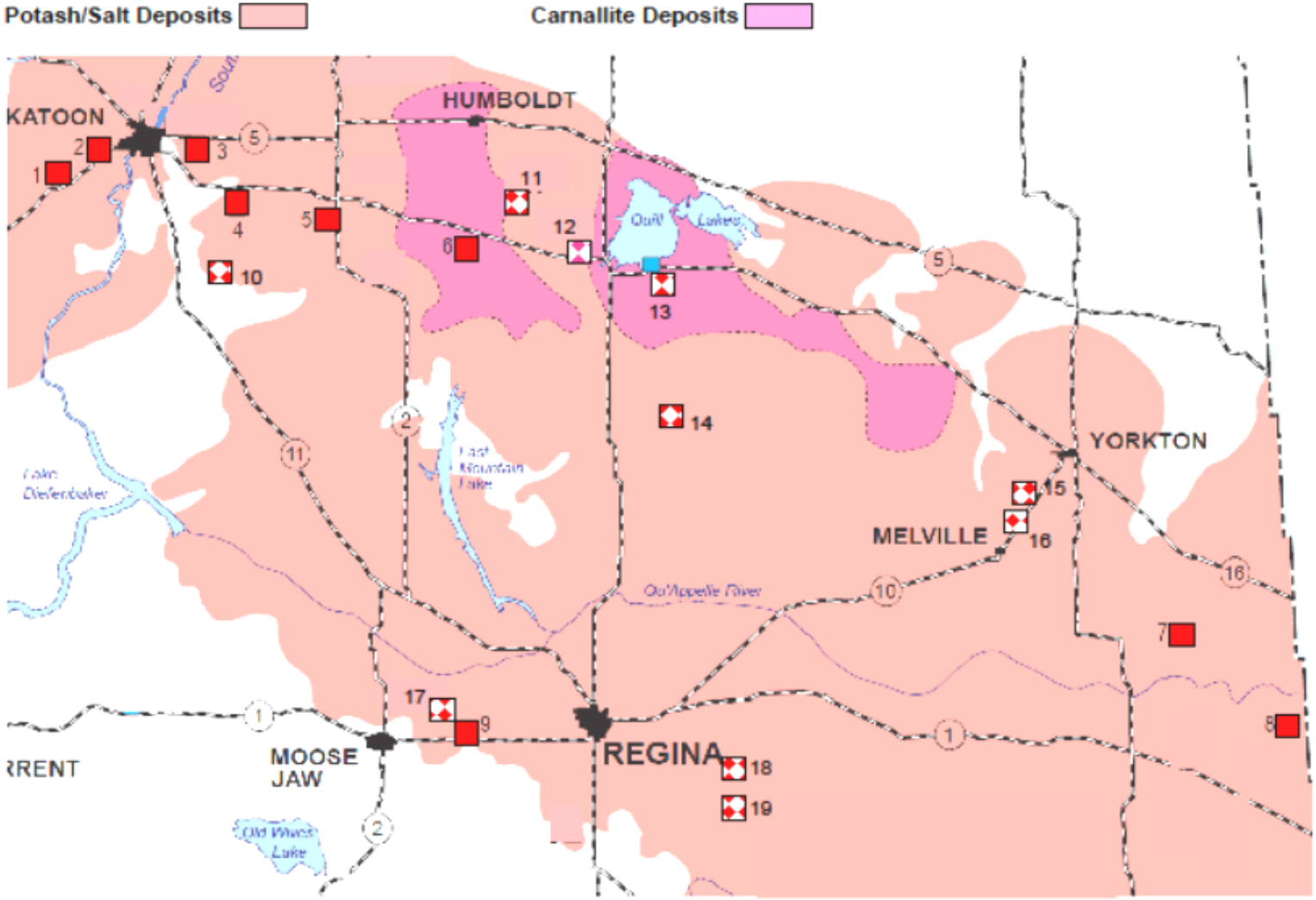
- Industry
  - Potash
    - Current capacity production
      - 23.1 million tonnes
    - Expansion by 2012
      - 28.8 million tonnes

Pasqua First Nation

- Industry
  - Potash
    - Water requirements
      - Mosiac - Belle Plaine Expansion Project
        - Current use: 12 Mm3 = 2.6 billion Imperial gallons
        - After expansion: 26 Mm3 = 5.7 billion Imperial gallons
      - K+S Potash Inc. – Legacy Project
        - Request approved: 17 Mm3 = 3.7 billion Imperial gallons
      - Vale Potash – Kronau Project
        - Requested: 21 Mm3 = 4.6 billion Imperial gallons

Pasqua First Nation

- Industry
  - Potash
    - Solution Mining
      - Other Projects
        - BHP Billiton - Melville Project – Unknown water source
        - Agrium Inc. – Triton Project – Unknown water source
        - Western Potash – Milestone Project
          - Water source
            - City of Regina sewage effluent



1 – Vanscoy; 2 – Cory; 3 – Patience Lake; 4 – Allan; 5 – Colonsay; 6 – Lanigan; 7 – Esterhazy (K1 & K2); 8 – Rocanville; 9 – Belle Plaine; 10 – M & J potash project; 11 – Burr potash project; 12 – Jansen potash project; 13 – Wynyard potash project; 14 – Muskowekwan potash project; 15 – Melville potash project; 16 – Triton potash project; 17 – Legacy potash project; 18 – Regina potash project; 19 – Milestone potash project.

PASQUA FIRST NATION

- THANK YOU

- QUESTIONS