



Watershed MAPS

(Watershed Management and Planning System)

Challenges in Geospatial Information Management



Ducks Unlimited Canada



Agriculture and
Agri-Food Canada

Watershed MAPS

(Watershed Management and Planning System)

- **Collaborators:** Manitoba Water Stewardship, Ducks Unlimited Canada, Agriculture & Agri-Food Canada, Water Planning Authorities (WPAs)
- **Objective:** To support Manitoba's WPAs in their desire to effectively conduct Integrated Watershed Management and Planning (IWMP)
- **Approach:** To develop a geospatial application through Geoconnections and partner support to improve the ability of WPAs to effectively and efficiently develop and implement IWMPs across Manitoba

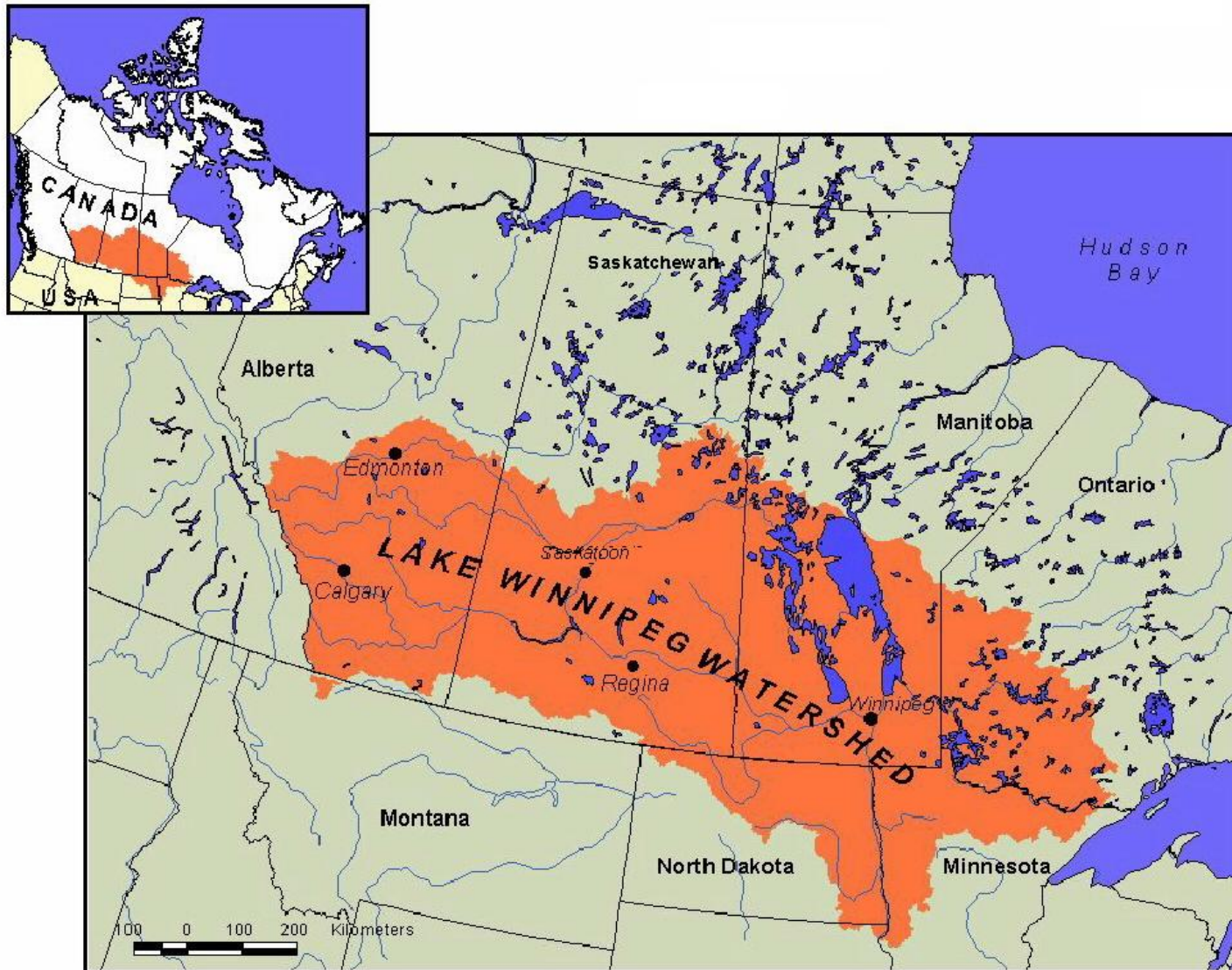
Water in Manitoba

- Canada contains 20 % of the world's fresh water.
- Wetlands and peatlands cover 41% of Manitoba
- 13% of Canada's renewable freshwater flows through Manitoba.
- 16% of Manitoba is covered with water
- 70% of the water that flows through Manitoba comes from outside of our jurisdiction.
- 3 of Canada's 14 largest lakes in Manitoba

*Lake Winnipeg:
10th largest body of fresh water in the world.
A global treasure,
Manitoba's global responsibility*



Protecting Lake Winnipeg



Water Issues: old and new

- 30 yrs. deteriorating water quality in Lake Winnipeg!!
- 50 yrs. of drainage and water allocation issues
- 1997 Manitoba flood, Walkerton, North Battleford
- Boil Water Orders
- Loss of wetlands and deteriorating riparian areas
- 2005 Water Protection Act: Watershed planning
- 2007 Manitoba CEC: Pembina Valley Water Coop
- Ag. Policy Framework: Environmental Farm Plans

the need for greater attention to the planning, management and protection of our water and the land that sustains it.

Functions

- Inventory of conservation projects/sites within watershed: multi-agency effort
 - Track existing, new, old efforts
 - GAP analysis of where to go next
- Watershed health indicator tracking across watersheds
 - Indicator of data base needs
 - Advance use of indicators
- Interactive: uploading/downloading geospatial data, map based.

Observations and One-Liners

- Multiple agencies at work: multiple benefits, multiple barriers
- Privacy/Security issues
- Different agency cultures/histories
- Different capacities to collect, store, retrieve data
- Different knowledge and skill levels
- Different expectations and awareness on value of information management

Observations and One-Liners

- Paper records/digital records: lack of investment
- “There is inconsistent project naming, numbering and ways of doing business across Water Planning Authorities: How do you build a standard application?”
- “How do we identify and use watershed health indicators?”
- Different sense of “due diligence”
- Different sense of accountability “We’ve never been audited, why keep track?”

Observations and One-Liners

- Technology Capacity Gap: Techno Agencies vs Paper Agencies
- Loss of Future Visioning: “Your dreaming if you think we’ll ever have those kinds of tools”
- The Techno-Cline: gap between working level staff and executive staff
- IT Staff vs Business Owners: an uncomfortable divide
- Lack of provincial leadership in geospatial data management and standards

Observations and One-Liners

- “We’ve never thought of connecting this data base to anything else”
- “We don’t have spatial coordinates for this data: no one every thought of that”
- “Our data bases are in disarray”
- “We don’t have the time (skills/interest?) to use this”
- “Who will manage the application, host it, provide ongoing training and support?”

What Needs to Be Done?

- Development of Industry/Agency Competency Standards for the creation, management and sharing of geospatial information:
 - Technology, training, info/data management protocols, business rules, investment and maintenance guidelines, governance/decision making
- National Rating/Reporting System
- Self -Assessment Tools
- Engage Senior Decision Makers/Investors

Conclusions

- Greatest barriers to Interoperable Technologies and CGDI standards are “Non-Interoperable” Agencies:
 - Varying capacities and knowledge: staff
 - Lack of awareness: executive levels
 - Technology lag
 - Information Management lag
 - Mistrust, security issues
 - Lack of inter-agency coordination

Conclusions

- Technical skills and technologies already exist, but...
- Need more Organizational Development and Change Management skills to take advantage of benefits of technology
- Remember the Avro Arrow....

The image features a background with a vertical gradient from light blue at the top to golden yellow at the bottom. A central rectangular inset shows a serene landscape of evergreen trees reflected in a calm body of water. The text "Thank You" is centered within this inset in a black, italicized serif font.

Thank You