

University of  
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# Beyond IWRM: Navigating Collaborative Watershed Scale Decision Making

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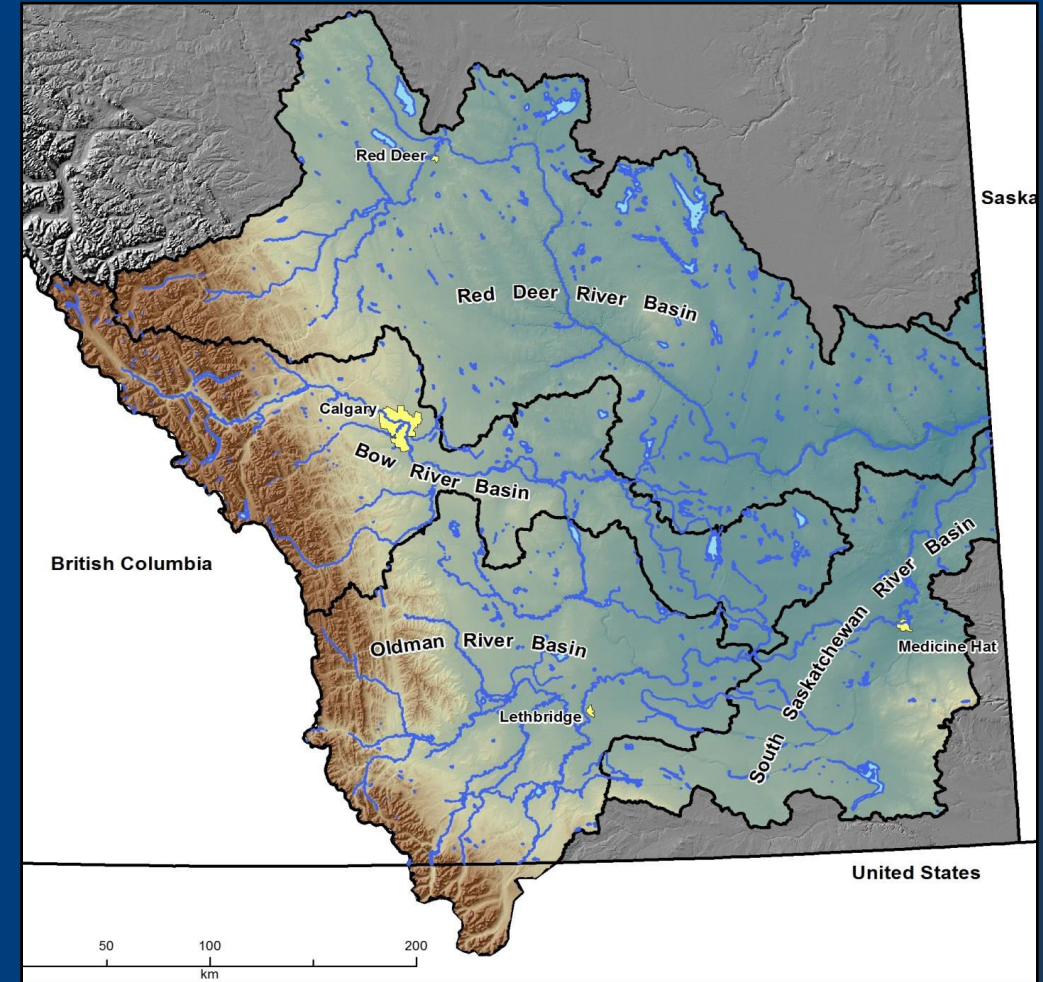
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## Geographical Context & Challenges ...

- Home to almost 40% of Alberta population.
- Basin contains almost 70% of all of the irrigated agriculture in Canada.
- Glacier recession (Bow River) is advanced.
- Well developed licensing system (FITFIR), but with all but Red Deer River closed to any new allocations.





## The Beginning ...

- This initiative grew out of informal discussions about ‘what if’ – ‘what if’ it were possible to OPERATE the water management facilities in a basin as if from a single point of dispatch and in doing so address unmet environmental performance outcomes while improving overall security of water supplies.
- Identified a pilot project (2010) to determine willingness amongst water managers to develop a stakeholder (vs government) driven initiative to explore what might be possible – from an operation perspective.





## The Approach ...

- Recruitment of majority of licensees (in excess of 90%) with the most impact on day-to-day operations.
- Agreement on a Terms of Reference, discover what's possible (managing resource vs managing licensing system), address environmental deficits, but do no harm to existing users.
- Completely open and transparent process, all water uses considered legitimate, data sharing.
- Government agencies directly involved, but as a stakeholder vs leader of the process.



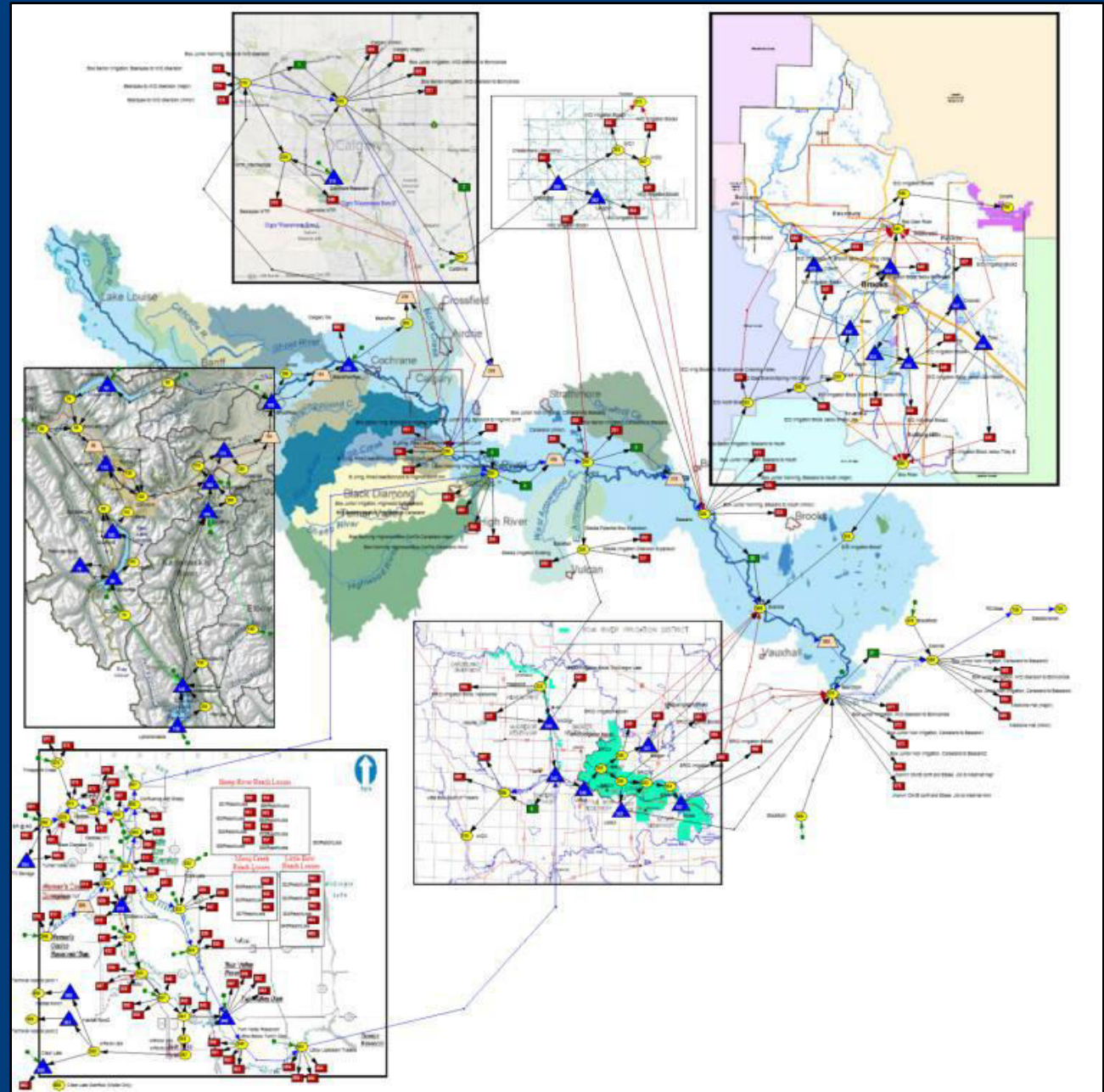
## Systematic Approach ...

- Step 1, Develop Performance Measures
- Step 2, Identify Data Available for Use
- Step 3, Achieve Consensus On Evaluation Methodology
- Step 4, Agree on Types of Alternatives to be Evaluated
- Step 5, Design Analytical Tools
- Step 6, Analyze Alternatives
- Step 7, Select Solutions
- Step 8, Move to Implementation



# The Bow ...

- 26 organizations engaged
- Identified solutions that can be implemented by agreement (no enabling regulations)
- Triled solutions in a day-long live simulation event.
- Water bank upstream on Bow
- Stabilize Kananaskis Lake/flows
- Adjust fill times for upstream hydro-electric utility
- Identified new operational plans to address floods
- Improved functional environmental flows in lower Bow River
- Identified potential new infrastructure.

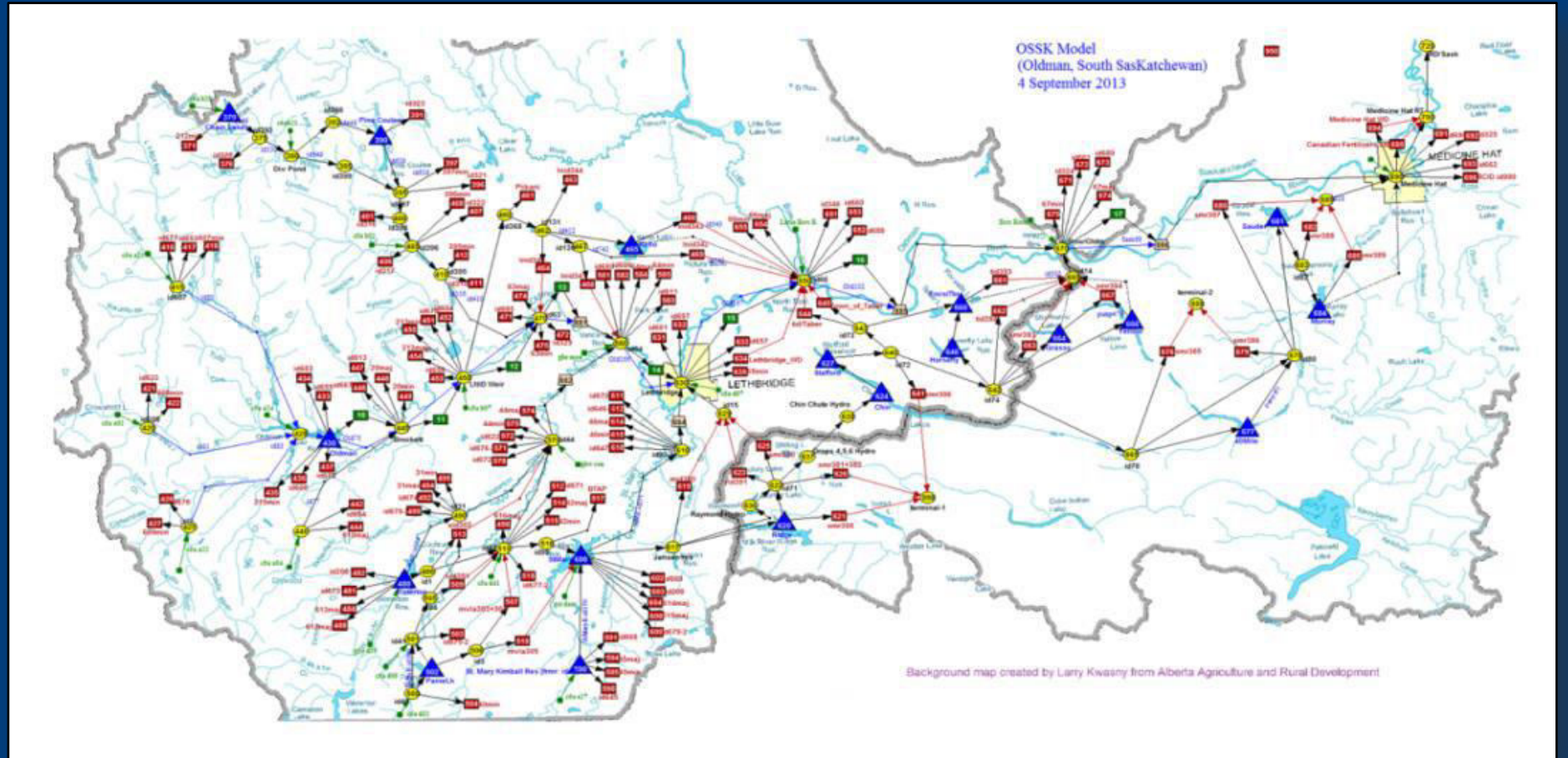






# The Oldman ...

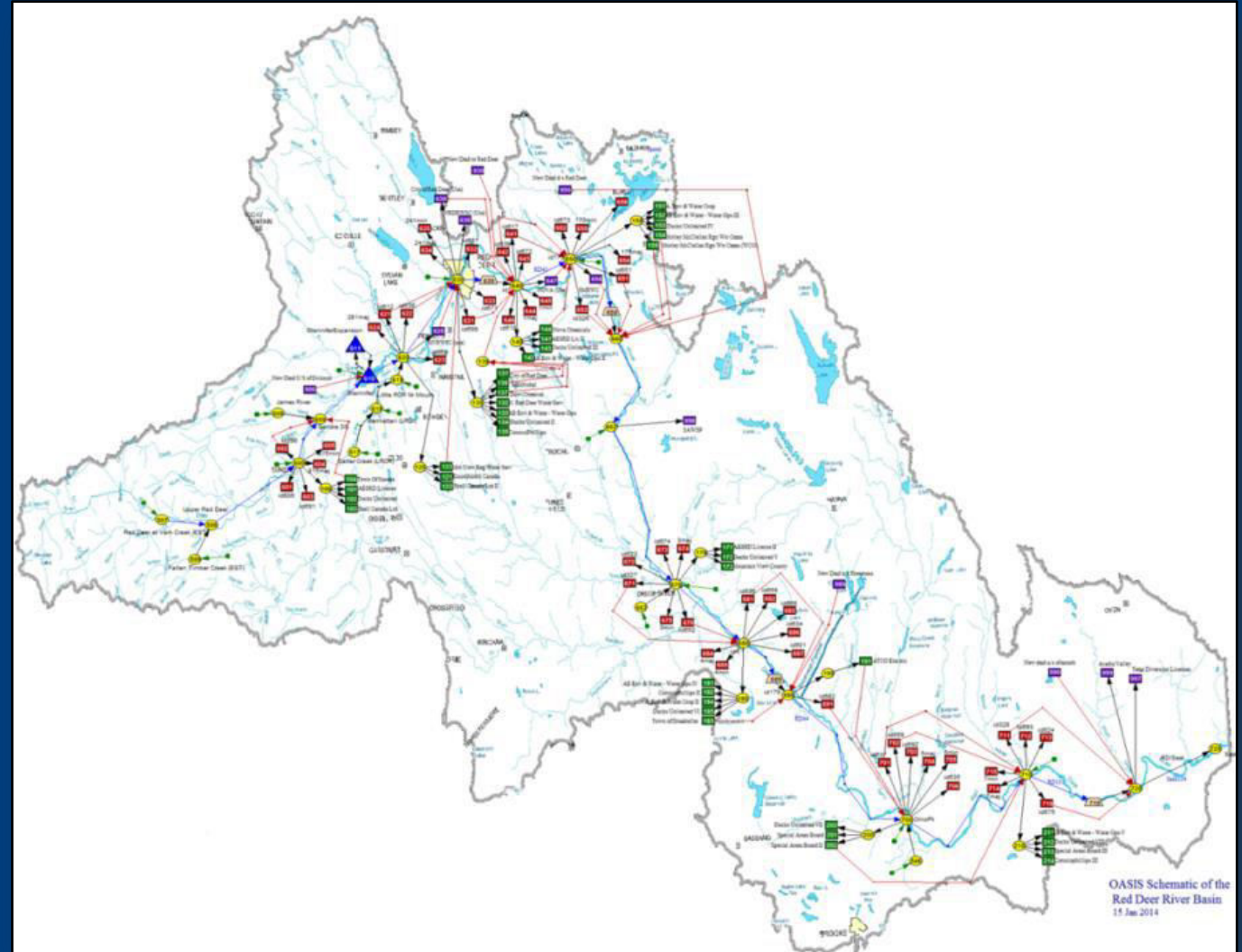
- 28 agencies involved, Functional environmental flows implemented below reservoirs, new operating rules for storage (drought and flood), forecast-based rationing for drought periods, new infrastructure identified.





# The Red Deer ...

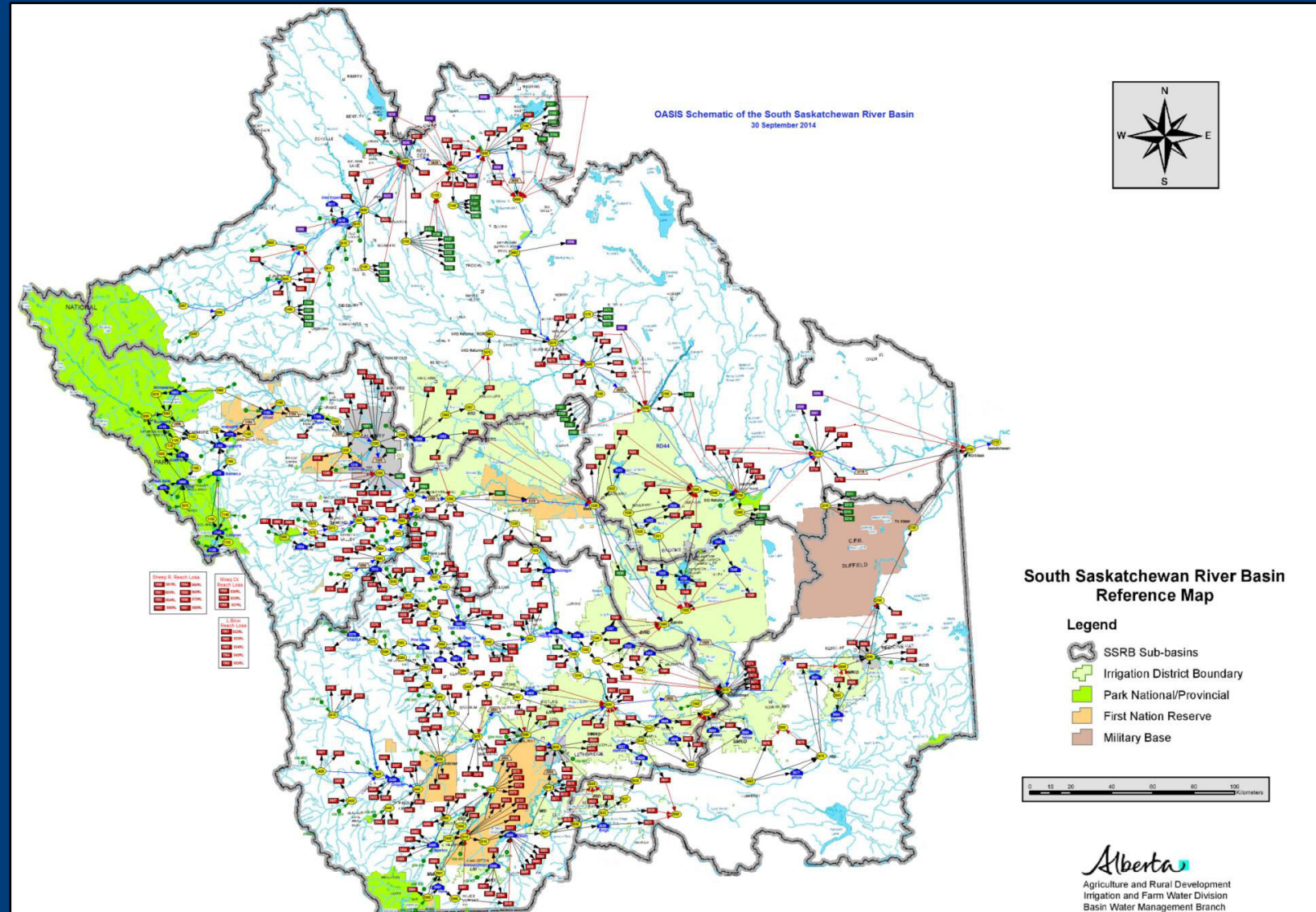
- 22 organizations engaged
- Implementation of functional environmental flows,
- Improved reservoir operations to address development, drought and flood,
- New water conservation activities adopted by participants,
- Improved land use decision-making for watershed protection,
- Additional storage,
- Implementation of provincial wetland policy.







# Bringing it All Together ...





## Successes and Challenges ...

- An intentional approach to improve water management decision-making can be developed and implemented where all the parties are committed to the process.
- Determining what can be done by cooperation without new regulatory processes is the low-hanging fruit.
- The use of data and analytical tools that are developed in the open increase understanding and provide a platform to test new ideas and processes in a virtual world, before implementation.





## Success and Challenges ...

- The relationships between the parties needs to be cultivated, the process lends itself to ongoing evaluation and implementation of new management approaches.
- Some organizations still feel the need for government 'permission' before moving too far with full implementation.
- New science and research will be needed to underpin future opportunities.
- This is an ongoing dynamic process that does require operational resources.
- Outlook is very positive ... much progress has been made in 5 short years.



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