



Our Water, Our Future A Conversation with Albertans

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Our Water

- Government of Alberta is responsible for ensuring wise use of the province's water resources
 - Albertans expect water to be managed and conserved to meet current and future needs
- Alberta is guided by *Water for Life* strategy and its goals:
 - Safe, secure drinking water
 - Healthy aquatic ecosystems
 - Reliable, quality water supplies for a sustainable economy
- Water resource availability and use ranges in time (within and across years), place and type across the province
 - Averages are not always relevant

Engaging Albertans

- Water legislation and policies have been informed by stakeholders, aboriginal people, members of the public
- With Albertans input, the province has been successfully managing water for many decades
- Ongoing commitment on the part of everyone to understand what is required to ensure continued effectiveness of Alberta's water management system

Managing Our Water for the Future

- Province is growing, context has evolved
 - Desires for growing communities, energy development, agricultural production
 - Societal expectations for responsible and sustainable development
- Placing new and changing demands on water supplies
 - Areas of growth enabled by water access
 - All sustained by healthy aquatic ecosystems
- Need to prepare for this, and consider enhancements that might be required to our water management system
 - Goal: Ensure water resources will meet the needs of our people, environment and economy in decades ahead

Water Conversation

- Given pressures on the horizon, renewed discussion about water
 - Builds on past and ongoing engagement efforts
 - Builds from advice provided by many groups
 - Recognize lots of work has been done to date
- Based on advice and input received, four areas have emerged as priorities:
 - Healthy lakes
 - Hydraulic fracturing and water
 - Drinking water and wastewater systems
 - Water management
- Input sought on possible directions for moving forward on these issues
 - Direction forward, including business as usual, will have implications for citizens



Potential Direction

- Potential direction is just that – one possible path, or elements of a possible path
- Direction in some areas may not have full details – key is to consider the key attributes
 - Attributes reflect input and advice received from stakeholders as well as consideration of public comments and concerns
- Critical to responding to potential direction is the understanding of the drivers for change, and potential implications for action

Healthy Lakes



Where We Are Today

- Vary considerably in natural conditions and water levels
 - Multi-year natural variation a challenge for planning and development
- Generally, our lakes are:
 - Rich in nutrients
 - Naturally productive (i.e. capable of supporting life)
- Tend to be easily impacted with they receive additional nutrients from natural and human sources, leading to:
 - Algae blooms
 - Altered water quality
 - Impacts on fish populations, ecological well-being

On the Horizon...

- Lakes are impacted by a range of activities in the watershed
 - Issues often addressed on a lake-by-lake basis
- Although many of these activities are being managed, they are often addressed as separate issues
 - Lake stewardship groups are the point of integration
- Key issues
 - More growth will lead to greater pressure on lakes
 - Decisions on a lake-by-lake basis may lead to inconsistent approaches
 - Sustainability of lake stewardship groups
 - Lack of provincial-scale/integrated management and planning processes to guide local management

Options for Tomorrow

- Strengthen lake management approach
 - Place appropriate attention on all lakes (provincial scale objectives)
- Develop provincial framework to guide lake management decisions
 - Articulate provincial outcomes for lakes
 - Allow for local flexibility and decision-making
 - Framework developed in consultation with key water management stakeholders
 - Clarify authority for lake management
- Potential implications
 - Change in management practices to address impacts
 - Legislative changes
 - Resources for lake management

Hydraulic Fracturing and Water

Where We Are Today

- Hydraulic fracturing is not new to Alberta
 - Technology used for approx. 171,000 wells since 1950s
 - Since 2008, approx. 5,400 wells horizontal wells drilled
- Developments using hydraulic fracturing currently regulated under same framework as other oil and gas projects
- Rules in place to manage water impacts
 - Restrictions on where use of technology allowed (i.e., depth restrictions, lateral distance from water wells, etc.)
 - Handling of fracturing fluid and produced fluids
 - Cemented steel casing requirements

On the Horizon...

- More use of the technology expected, given significance of Alberta's unconventional oil and gas resources
- Existing framework may not effectively address the cumulative impacts of development
- Additional consideration for:
 - Overall water use and source
 - Increased public reporting (e.g. fracturing fluid)
 - Handling of wastewater

Options for Tomorrow

- Enhance regulatory approach to provide assurance to Albertans
 - Framework to reflect the shift from individual-well-based management to place-based
- Enhancements could include
 - Updating water conservation policy to include hydraulic fracturing operations
 - Expanding baseline water well testing
 - Adding sites to Groundwater Observation Well Network
 - Publicly accessible information about hydraulic fracturing, water quality

Drinking Water and Wastewater

Where We Are Today

- Government-approved municipal systems provide drinking water and treat wastewater for 90% of Albertans
 - Private systems in place for the remainder
- Must follow variety of standards and requirements, regulated by government, including:
 - Design standards of facilities
 - Water treatment requirements
 - Performance standards
 - Monitoring requirements
- Hundreds of drinking water systems and wastewater systems operating across the province
 - Promoting “full cost” accounting
 - Encouraging regionalization of systems
 - Grant to support infrastructure improvements

On the Horizon...

- Standards change over time to maintain and improve drinking water and wastewater treatment
 - Municipal systems need to keep pace with evolving standards and changing demands
- Variation in system realities (e.g. location, number of users) will mean different needs and opportunities to keep pace with new requirements
- Key issues
 - Financial sustainability of systems
 - Inequities in capacity to manage these systems
 - Infrastructure is aging
 - Effectiveness/efficiency of current governance for hundreds of operations



Options for Tomorrow

- Possible opportunities to share the investment needs more effectively
- Shift to geographic area management of water systems
 - Several connected and unconnected systems in a geographic area could be managed by single authority
 - Realize efficiencies in **management**
 - Number of physical water systems not necessarily reduced
- Implications
 - Investments required
 - Change in role of municipalities
 - Potentially new agencies to provide assurance
 - Legislative changes

Water Management



Where We Are Today

- Water diversions primarily managed through system of water licences, supported by a range of management tools
- Licence specifies allocation
 - Allocation different from use
 - Some portions of allocations may not always be used
 - Licence holders may also return water they divert
- “Prior allocation” concept is basis of priority for taking allocation
 - Older licences have priority over those more recent
 - During times of scarcity, senior licence holders have first right to allocation
 - Often specified in conditions of licence
 - Legislation enables broader management options

On the Horizon...

- Further action likely required in light of key issues:
 - Reality of water scarcity
 - Ensuring water supplies can be meet today's needs, and those of future population and economic growth
 - Supplies and demands vary in each river basin
 - Bow, Oldman, South Saskatchewan sub-basins closed to new allocations
 - Some licence holders have allocations that exceed current requirements, while others have allocations that can not accommodate growth
 - Increasing expectations around place-based management
 - Growing interest in water sharing, re-use and other collaboration



Options for Tomorrow

- Government committed to some fundamental principles:
 - Principle of “prior allocation”
 - Alberta will not sell water beyond province’s boundaries
 - Alberta will respect its obligations under existing transboundary agreements
 - Restriction of inter-basin transfers
- Work within our current approach to **optimize** the management and use of water supplies
 - Manage from a system perspective, not just an allocation perspective
 - Better match total supplies (in time and place) with current and future demand



Options for Tomorrow

- Enhanced management strategies to help achieve water optimization
 - Establish protected water in all river basins
 - Enhance water storage
 - Make it easier for licence holders to transfer water allocations
 - Rationalize allocations through enhanced collaboration and leverage of regional planning
 - Strengthen water conservation
 - Improve public access to water information and data
- Implications
 - Need to change the way we use water (from individual to collaborative)
 - Investments by individuals, businesses, industries
 - Address unused water
 - Legislative changes and policy enhancements

Questions ?