



water for life

action plan

Government
of Alberta 

water for life



TABLE OF CONTENTS

INTRODUCTION 3

ALBERTA WATER COUNCIL
RENEWAL RECOMMENDATIONS 5

SETTING THE DIRECTION 7

WHERE WE ARE HEADED 9

OVERVIEW OF KEY ACTIONS

1. Safe, secure drinking water 10
2. Healthy aquatic ecosystems 12
3. Reliable, quality water supplies
for a sustainable economy 14
4. Knowledge and research 16
5. Partnerships 18
6. Water conservation 20

CONCLUSION 23





INTRODUCTION

Life depends on water. In Alberta, our quality of life is tied to healthy and sustainable water supplies for the environment, for our communities, and for our economic well-being.

The *Water for Life* strategy outlines the Government of Alberta's commitments to manage and safeguard Alberta's water resources, now and in the future. The strategy has been the vehicle for managing Alberta's precious water resources since its release in 2003. Because it has been such an effective tool for managing Alberta's water resources, the Government of Alberta renewed the strategy and will implement a renewed action plan. The *Water for Life* renewal builds upon the good work already undertaken and reaffirms the Government of Alberta's commitment to the *Water for Life* approach for the wise management of Alberta's water quantity and quality for the benefit of all Albertans. In essence, we are making a good strategy better.

Water for Life goals and key directions will be achieved through the *Water for Life* action plan, which is designed to ensure achievable and timely outcomes that reflect growing pressures on our province's water supplies. Water is an essential resource that must be protected to ensure future growth and prosperity in Alberta.

Since its inception in 2003, *Water for Life* has made significant progress on a number of initiatives. Our understanding and knowledge about water and watersheds has improved significantly. As our understanding has grown, we have been able to share that information with our partners and Albertans, resulting in safer drinking water across the province.

Five years later, Albertans continue to care about the health of the aquatic environment, as well as issues concerning water quality and quantity. They are also aware of the impacts of climate change, unprecedented economic growth and development, and population demands on Alberta's water resources.

The renewed *Water for Life* strategy and action plan reflect current issues in our province and the recommendations made by the Alberta Water Council. It is a renewal that builds on an already strong foundation to ensure continued sustainable water quality and quantity in Alberta.

In most cases, significant foundational work has begun or will be initiated in the short-term.





ALBERTA WATER COUNCIL RECOMMENDATIONS

In June 2007 on behalf of the Government of Alberta, the Minister of Environment asked the Alberta Water Council to review Alberta's *Water for Life* strategy and provide renewal recommendations that reflect the new realities and challenges facing our province. Recommendations were delivered in January 2008 and adopted into the renewed strategy and action plan.

The Alberta Water Council confirmed that the *Water for Life* strategy goals and directions remain valid. However, success depends on focus, innovation, balanced social values, and a growing appreciation of the value of water as a scarce resource. The Council recommended the strategy be renewed around two key themes: safeguarding our water sources and accelerating our actions.

In practice, these two themes require the following actions:

- Address aquatic ecosystem degradation;
- Integrate water and land management;
- Create, enhance, and use innovative tools and best practices;
- Clarify roles, responsibilities, and accountabilities;
- Enhance data collection, analysis, and reporting; and
- Expand public awareness programs to build shared commitment.

The Government of Alberta has accepted the recommendations and has incorporated them into the renewed strategy. The action plan reflects the need to continuously improve and strengthen water policy and planning to ensure water sustainability for the future.





SETTING THE DIRECTION

Quality of life in Alberta is dependent, in part, upon the health and sustainability of our water resources. As our population continues to grow, so do the demands on the province's limited water supply. The impacts on our water quality from cumulative human activities also increase. These challenges threaten the reliability of our water supplies, the state of our aquatic ecosystems, and the health and well-being of Albertans.

We need to ensure reliable water resources, promote the health and integrity of our aquatic ecosystems, and safeguard Albertans from risks associated with water quality and quantity.





WHERE WE ARE HEADED

Alberta's municipalities are important partners in the effective management of the province's water resources. However, Alberta's growth has presented challenges for these partners to provide safe drinking water and environmentally acceptable wastewater. We will address these vulnerabilities by fostering municipal resiliency through sustainable waterworks infrastructure, effective operations, and preparedness.

The Government of Alberta intends to improve and maintain the health of our aquatic ecosystems by managing the cumulative impacts of point and non-point sources, promoting watershed management, and establishing water conservation objectives on all major basins. We will enforce protection on known critical aquatic ecosystems and take action to improve the health of significantly impacted aquatic ecosystems. Through these initiatives, the assimilative capacity, in-stream requirements, and riparian needs of our water bodies will be addressed, and standards to conserve wetlands will be implemented through a provincial wetland policy.

The current water allocation system has been in place for more than 100 years; however, limitations to this system have arisen out of the complexity of current and emerging allocation issues. New water allocation policies, principles, and tools must be developed to address growth pressures, promote conservation, ensure fair access and wise water use, and protect aquatic environments.

We will continue to develop well-informed and empowered partnerships to advance our collective efforts towards improved water conservation, efficiency, and productivity. The key to success is through enhanced knowledge, information, and public reporting systems as we advance into a cumulative effects approach using the Land-use Framework regional plans.

The following tables outline how the *Water for Life* goals and key directions are intended to be achieved. There is a strong inter-relationship among the three goals and three key directions towards effectively managing Alberta's water resources. For example, groundwater information is delivered through the "Working Well" education program to support private drinking water use. Groundwater mapping and modeling is required to support aquatic health information, wetland policy implementation, and watershed planning. Groundwater is also a key component to future water allocation and management systems.



1. Safe, secure drinking water

 **Goal:** Albertans are assured their drinking water is safe.

Ensuring quality drinking water for all Albertans is a priority. To secure safe drinking water supplies, we must recognize our dependence on aquatic ecosystems as source water. Furthermore, we must accept the potential requirements of other uses that support our economy, especially in light of increased pressures due to exceptional growth in our province.

A comprehensive strategy to protect our drinking water is one specific outcome of the *Water for Life* action plan. This strategy involves assuring Albertans have timely access to information about drinking water quality in their communities and ensuring drinking water infrastructure strictly adheres to emerging standards.


In the following table, new key actions have been added to actions from the original strategy. Within key actions a sample of specific deliverables have been identified to demonstrate how the key action is intended to be achieved. The timelines for key actions are divided into short-, medium-, and long-term periods, with the acknowledgement that some initiatives are ongoing, and therefore, inherently long-term.

Table 1. Key actions for safe, secure drinking water

Key Actions	Short-term by 2012	Medium-term by 2015	Long-term by 2019
<p>1.1 Provide and maintain the availability and accessibility of information to Albertans on private water systems</p> <ul style="list-style-type: none"> • Deliver the 'Working Well' education extension program for private well owners • Develop and deliver on-line and print information resources for private water supply owners 			
<p>1.2 Review and improve the management of small public drinking water systems</p> <ul style="list-style-type: none"> • Develop operating standards • Develop and deliver information resources • Conduct an initial audit based on a completed provincial inventory 			
<p>1.3 Work co-operatively with First Nations, Métis communities, and the federal government to ensure safe drinking water in Aboriginal communities in Alberta</p> <ul style="list-style-type: none"> • Provide on-going operator training and certification • Provide opportunity for participation in regional systems • Facilitate water needs assessments with participating First Nations communities 			
<p>1.4 Develop a waterborne disease surveillance system and undertake waterborne contaminant research</p> <ul style="list-style-type: none"> • Provide on-going drinking water quality testing and laboratory-based surveillance through the public health laboratories • Conduct domestic well water surveys of specific contaminants in identified areas (e.g. Beaver River and North Saskatchewan River Basins, etc.) • Undertake applied research in priority water contaminants and develop a public health risk management support system 			
<p>1.5 Design and implement regional drinking water and wastewater solutions</p> <ul style="list-style-type: none"> • Review delivery of the provincial drinking and waste water program including new funding support programs and governance 			
<p>1.6 Develop innovative approaches to build and ensure long-term operational capacity in smaller Alberta communities</p> <ul style="list-style-type: none"> • Develop operator consortiums • Provide on-going operator training and certification 			
<p>1.7 Update water quality programs to support source protection information and planning</p> <ul style="list-style-type: none"> • Work with Watershed Planning and Advisory Councils to incorporate drinking water source protection into watershed planning • Develop information on sector best management practices 			
<p>1.8 Facilitate upgrades to drinking water facilities and wastewater facilities to meet standards and, where possible, integrate with regional systems</p> <ul style="list-style-type: none"> • Develop a management framework to facilitate the safe use of reclaimed water for domestic applications in Alberta 			
<p>1.9 Facilitate upgrades to drinking water quality in provincial parks and recreation areas to meet drinking water standards and, where possible, integrate with regional systems</p>			



2. Healthy aquatic ecosystems

 **Goal:** Albertans are assured that aquatic ecosystems are maintained and protected.

Alberta's aquatic ecosystems include the full diversity of the province's rivers, streams, lakes, aquifers, and wetlands. Given the potential effects of growth pressures on the aquatic environment, there will be increased focus on maintaining the value and function of Alberta's aquatic ecosystems.

Aquatic ecosystems are the source of Alberta's water. Well-functioning aquatic ecosystems are required to maintain safe and stable drinking water supplies and to support economic needs. Aquatic ecosystems also provide important habitats for wildlife and fish while offering opportunities for human use and recreational development on Alberta's water bodies.

The renewed *Water for Life* action plan will work to protect aquatic ecosystems in critical areas and establish priorities for sustaining aquatic ecosystems balanced against human use to be implemented through place-based regional and watershed plans.


The renewed actions build on previous work and accomplishments from the original strategy. As well, commitments from the original strategy are included alongside the new key actions with sample deliverables highlighted. The following table outlines the short-, medium-, and long-term objectives of the action plan that address aquatic ecosystem degradation and continues safeguarding Alberta's water sources.

Table 2. Key actions for healthy aquatic ecosystems

Key Actions	Short-term by 2012	Medium-term by 2015	Long-term by 2019
<p>2.1 Finalize and implement a new wetland policy for Alberta</p> <ul style="list-style-type: none"> • Complete an Alberta wetlands inventory • Apply research and knowledge to develop and model indicators of wetland health 	■	■	■
<p>2.2 Protect Alberta's critical aquatic ecosystems and develop a provincial action plan to improve the health of significantly impacted aquatic ecosystems</p> <ul style="list-style-type: none"> • Define criteria and identify critical and significantly impacted aquatic ecosystems • Maintain or improve the health of critical and impacted aquatic ecosystems through legislation, watershed and regional planning, and conservation organizations • Monitor, report, and adjust, where necessary, to ensure the health of aquatic ecosystems are maintained or improved 	■	■	■
<p>2.3 Establish science-based methods and tools to determine ecological requirements for a healthy aquatic environment</p> <ul style="list-style-type: none"> • Complete instream flow needs methods and tools including a desktop approach • Complete the Alberta fish community index for assessing watershed health 	■	■	■
<p>2.4 Establish the Bow Habitat Station as a centre of aquatic ecosystem learning that focuses on public outreach and education</p>	■	■	■
<p>2.5 Set Water Conservation Objectives on all major basins</p>	■	■	■



3. Reliable, quality water supplies for a sustainable economy

 **Goal:** Albertans will be assured that water is managed effectively to support sustainable economic development.

Surface and groundwater management must be relevant and responsive. Years of tremendous growth have increased the pressure on our water resources. It is imperative we meet current and future water challenges to ensure the wise and long-term management of our finite water resources. Surface and groundwater management also takes into consideration transfer and use systems. In both cases, the amount of water required by our economy versus the amount of water necessary to support our ecosystem must be weighed carefully.

The renewed *Water for Life* action plan ensures that sustainable water supply outcomes are met. A broad range of water management tools and techniques – including comprehensive watershed plans – will be implemented to support sustainable economic development and the strategic priorities of the province based on coordination with the provincial Land-use framework and Provincial Energy Strategy regarding conservation and renewables. Albertans need to understand the value of water from a holistic perspective; water is both a part of the economy and quality of life.


The following table outlines key actions and sample deliverables required to achieve reliable, quality water supplies for a sustainable economy.

Table 3. Key actions for reliable, quality water supplies for a sustainable economy

Key Actions	Short-term by 2012	Medium-term by 2015	Long-term by 2019
<p>3.1 Develop and implement a viable governance system that supports sustainable management of water</p> <ul style="list-style-type: none"> • Review and renew Alberta’s current water allocation system to meet future needs including the environment and other protected uses <ul style="list-style-type: none"> ◦ Develop and implement an enhanced water rights transfer system that supports sustainable economic development • Develop a publicly-accessible, automated decision support system for temporary diversion licenses <ul style="list-style-type: none"> ◦ Investigate further support system applications for water approvals 			
<p>3.2 Address the water management and policy risks associated with a changing future water supply resulting from the impacts of changing climate regimes</p> <ul style="list-style-type: none"> • Develop future hydro-climate scenarios for major watersheds • Develop strategies to deal with the management of changing future water supplies through the provincial Climate Change Adaptation Strategy and through implementation of the Land-use Framework and watershed planning 			
<p>3.3 Institute mandatory water use public reporting for water licenses</p> <ul style="list-style-type: none"> • Implement a water measurement pilot project using the water measurement guide • Amend reporting conditions of existing water licenses • Implement electronic public reporting 			
<p>3.4 Assess future water supply demands and management options within watershed management planning. Options could include conservation, storage (based on provincial inventory), and water allocation transfers</p>			



4. Knowledge and research

 **Key Direction:** Albertans will have access to the knowledge needed to achieve safe drinking water, healthy aquatic ecosystems, and reliable, quality water supplies for a sustainable economy.

Comprehensive information about the state of Alberta’s water supply is critical to ensure the quantity and quality of our resources for the future. An investment in information and knowledge is the basis for informed decision-making. As well, knowledge and information-sharing encourages increased community collaboration, and most importantly, creates empowered partnerships.

Accessible knowledge of Alberta’s water resources is a fundamental part of the action plan. *Water for Life* partners must understand the state of Alberta’s drinking water, aquatic ecosystems, and the quality and quantity of surface and groundwater resources if we are to achieve the goal of healthy and sustainable water resources. Individual Albertans must have easy access to knowledge and information regarding Alberta’s water resources if they are to make informed water and related air, land, and resource management decisions. Educational tools and strategies will complement all *Water for Life* actions.

The following table identifies key actions and sample deliverables required to achieve the knowledge and research directions and outcomes. These key actions enhance data collection, analysis, and reporting, as well as expand public awareness and build shared commitment to water conservation and wise management.

Table 4. Key actions for knowledge and research

Key Actions	Short-term by 2012	Medium-term by 2015	Long-term by 2019
<p>4.1 Develop and implement an education framework to support <i>Water for Life</i></p> <ul style="list-style-type: none"> • Develop print- and web-based public information resources on the following topics: watershed management, wetlands, groundwater, and water conservation • Develop and support teacher resources and programs on watershed management, wetlands, groundwater, and water conservation • Support and facilitate partnerships on education programs related to watershed management, wetlands, groundwater, and water conservation 	■	■	■
<p>4.2 Enhance the water information centre for accessible web-based public information</p> <ul style="list-style-type: none"> • Establish a data management support and reporting system integrated with Land-use Framework and cumulative effects information systems • Complete flood risk maps and warning systems for all communities where a flood risk exists 	■	■	■
<p>4.3 Develop qualified water expertise and apply research findings</p> <ul style="list-style-type: none"> • Work with Alberta Water Research Institute (AWRI) to identify and resource key expertise in Alberta (e.g. Instream Flow Needs specialists, hydrogeologists) • Apply research findings from the AWRI and other research partners to support water management decision making 	■	■	■
<p>4.4 Enhance the provincial water monitoring and evaluation program to include information on wetlands, groundwater, aquatic health, water quality and quantity</p> <ul style="list-style-type: none"> • Ensure aquatic health instream flow needs are complete for major basins • Implement the system for monitoring, evaluation, and reporting on aquatic ecosystems • Complete mapping and modeling of Alberta's groundwater resources • Implement a long-term water quality and effluent monitoring and evaluation system • Implement a long-term water supply monitoring and evaluation system 	■	■	■



5. Partnerships



Key Direction: *Water for Life* partners are empowered, informed and fully engaged in watershed stewardship.

Water for Life is a shared responsibility that involves a network of partnerships, outcome-based approaches, and collaboration in delivery of services. The *Water for Life* partnerships are an important vehicle through which *Water for Life* goals are achieved.

Commitment to these partnerships is vital if we are to practise shared stewardship. We must ensure that our partners have the appropriate resources and scientific information required to fulfill their mandates. The Government of Alberta, Alberta Water Council, watershed planning and advisory councils, and watershed stewardship groups all have roles to play in maintaining empowered, informed, and fully engaged partners.


The following table identifies key actions and sample deliverables to support all partners and stakeholders. The actions also include work to complete watershed management plans, which will be integral to regional planning under the Land-use Framework.

Table 5. Key actions for partnerships

Key Actions	Short-term by 2012	Medium-term by 2015	Long-term by 2019
<p>5.1 Continue to resource and support <i>Water for Life</i> partnerships</p> <ul style="list-style-type: none"> • Work with partners to develop a sustainable funding approach • Establish regional cross-ministry support teams for watershed and regional planning 			
<p>5.2 Integrate watershed management with the Government of Alberta's Land-use Framework regional planning and cumulative effects management system</p> <ul style="list-style-type: none"> • Develop a watershed management planning framework and a guidebook for implementation • Review and update legislation as required • Develop core indicators and reporting tools for watershed and regional planning 			
<p>5.3 Establish Watershed Planning and Advisory Councils for the Athabasca and Peace watersheds</p>			
<p>5.4 Develop watershed management plans for the Milk, Oldman, South Saskatchewan, Bow, Red Deer, North Saskatchewan, Battle, Cold Lake-Beaver, and Lesser Slave Lake</p> <ul style="list-style-type: none"> • Integrate priority water management frameworks into watershed management plans (e.g. Industrial Heartland and mineable oil sands) 			
<p>5.5 Complete and implement watershed management plans for all major watersheds</p> <ul style="list-style-type: none"> • Assess the effectiveness of watershed management planning system achieving desired outcomes 			
<p>5.6 Complete transboundary bilateral agreements with neighbouring jurisdictions</p> <ul style="list-style-type: none"> • Montana regarding the water of the St. Mary and the Milk River • British Columbia, Saskatchewan, and the North West Territories, as part of the Mackenzie River Basin Transboundary Waters Master Agreement 			



6. Water conservation

 **Key Direction:** All sectors understand how their behaviours impact water quality, quantity and the health of aquatic ecosystems; they adopt a water conservation ethic and take action.

Individual Albertans, communities, industries, and governments share responsibility for the wise use and conservation of our water resources. Our fluctuating water supply is challenging the way we allocate and use this renewable, but increasingly scarce, resource.

By improving our ability to capture and store water during high flow periods and by improving water use practices through conservation, efficiency, and productivity efforts, we can tackle the challenge of unpredictable water supplies. Water conservation, efficiency, and productivity are fundamental to any provincial water strategy.

Education is an excellent tool to help Albertans make personal decisions regarding our water resources. By enhancing public awareness, enabling environmental stewardship and innovation, supporting educators, and engaging youth, we will equip Albertans with the knowledge and information to make wise water conservation and allocation choices.

We must demonstrate best management practices in all sectors. This will ensure an improvement in overall efficiency and productivity of water use in Alberta by 30 per cent by 2015, based on 2005 levels. Improvements will occur when water demand decreases or when efficiency and productivity increases.

The proceeding table identifies key actions and sample deliverables required to expand public awareness programs and build a shared commitment to water conservation and wise use.

Table 6. Key actions for water conservation

Key Actions	Short-term by 2012	Medium-term by 2015	Long-term by 2019
<p>6.1 Develop tools to integrate environmental, economic, and social values into water management decision-making</p> <ul style="list-style-type: none"> • Develop a policy framework for ecosystem service markets with the Alberta Institute for Agriculture, Forestry, and the Environment • Implement a market-based ecosystem services incentive program • Integrate economic instruments and full cost accounting tools into priority water policy and planning initiatives 			
<p>6.2 Develop and implement an enhanced education program to encourage water conservation</p> <ul style="list-style-type: none"> • Engage Albertans in water conservation activities through Education and Outreach programs • Develop information and education resources to help Albertans understand the uses of water in Alberta and opportunities for conservation 			
<p>6.3 Work with key water sectors to:</p> <ul style="list-style-type: none"> • Develop Conservation, Efficiency, and Productivity Plans • Implement Conservation, Efficiency, and Productivity Plans • Establish an on-going monitoring program to ensure all sectors are achieving water conservation, efficiency, and productivity outcomes 			





CONCLUSION

The renewed *Water for Life* action plan builds on the foundation laid by the original strategy. The action plan incorporates new recommendations with ongoing initiatives into a comprehensive road map for achieving the goals and key directions in the renewed *Water for Life* strategy.

By accepting the recommendations of the Alberta Water Council, the renewed *Water for Life* strategy and action plan will help sustain water quality and quantity in Alberta for today and tomorrow.

The action plan implementation will be aligned with other Government of Alberta strategic policies (e.g., Land-use Framework, cumulative effects management system, Provincial Energy Strategy, etc.) to support better consistency and certainty towards the environment, economy, and quality of life for Albertans.

We have had great success with the original *Water for Life* strategy, and with this renewal we will achieve even more. The *Water for Life* action plan remains a living document, and we will work with our partners to review and update this plan to make certain it is as effective as possible for the short-, medium-, and long-term.



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