

Alberta Provincial Case Study
Analysis of Water Strategies for the Prairie Watershed Region
Working Draft for Comment

Notice to Reviewer

This document is one of seven jurisdictional and inter-jurisdictional case studies that will form the knowledge base for a synthesis report entitled “A Synthesis of Challenges and Innovations in Provincial and State Water Strategies for the Prairie Watershed Region.” The other six case studies cover Saskatchewan, Manitoba, Interprovincial Management, Minnesota, North Dakota and International Transboundary Management. The synthesis paper will be presented at the Prairie Water Policy Symposium on September 22-23, 2005. The Prairie Water Policy Symposium is a project of the International Institute for Sustainable Development (www.iisd.org).

Information in the jurisdictional case studies was obtained from publicly available sources (e.g., Internet and literature sources) and supplemented through interviews with government officials. **The information was up-to-date as of September 21st 2005.** Comments received after this date are being incorporated and a new working draft will be posted later in September.

This case study is in an unedited, working paper format. Please email comments to Bryan Osborne at panteraman@shaw.ca.

Prepared as input to the Prairie Water Policy Symposium – a project of the International Institute for Sustainable Development (www.iisd.org).

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Prairie Water Strategies and Policies – Alberta

Contents

1. Provincial Context.....	3
2. Vision and Key Goals	4
2.1 Process and Content	4
2.2 Formalization	6
2.3 Priorities and Timeframes	7
3. Structure and Planning	9
3.1 Strategy Structure.....	9
Alberta Environment.....	9
Alberta Health and Wellness.....	9
Alberta Agriculture, Food and Rural Development	9
Alberta Sustainable Resource Development	9
Alberta Energy	9
Alberta Economic Development	10
Alberta Community Development	10
Alberta Infrastructure and Transportation.....	10
3.2 Ministry Structure	10
Environmental Assurance Division.....	10
Regional Services Division.....	10
Environmental Approvals Unit	10
Environmental Compliance Unit.....	11
Environmental Management Unit	11
Water Management Operations Unit and Alberta's Irrigation Districts	11
3.3 Planning Aspects of the Water For Life Strategy.....	11
Interdepartmental Planning	12
Alberta Water Council	12
Senior Government Participation on AWC.....	12
4. Multi-level Coordination, Participation, Watershed Partnerships	13
4.1 Federal Government.....	13
4.2 Other Provinces and States.....	13
4.3 Municipalities.....	13
4.4 Aboriginal Communities	13
4.5 Alberta Water Council	14
4.6 Public and Other.....	14
4.7 Watershed Management Partnerships	14
Local Watershed Stewardship Groups	14
Regional Watershed Planning and Advisory Councils	14
5. Implementation	16
5.1 Specific Policy Instruments.....	16
5.2 Funding	17
6. Monitoring and Review.....	18
6.2 Review and Improvement	20
7. Alberta Interview Contacts.....	20

1. Provincial Context

Seven major watersheds drain the Alberta landscape, including the following systems:¹

Peace/Slave River;
Athabasca River;
Hay River;
Beaver River;
North Saskatchewan River;
South Saskatchewan River; and
Milk River.

Most of the province's surface water is supplied from the eastern slopes of the Rocky Mountains, and much of this volume flows north toward the Arctic Ocean. However, the highest water use needs – for drinking water, agricultural, and industrial use – are in the southern half of Alberta.²

Current water strategies and policies in Alberta are heavily influenced by the importance of irrigated agriculture, which while comprising less than 5% of all cultivated land in the province – contributes almost 20% of total agricultural revenues.³

Energy development and its significant requirements for water use including oilfield injection practices used in the enhanced recovery of oil⁴ and emerging concerns over the extraction of coalbed methane⁵ in scenic southern watersheds – represent a major future challenge for Alberta water management – and have been the focus of both public concern and government response.

The importance of Alberta's natural capital – both economically and environmentally (in terms of both tourism and quality of life) – for all Albertans also plays a key role in driving the implementation of Alberta's water strategy and policy.

Given that surface water resources in southern Alberta are nearly fully allocated, future water management solutions will depend on new policy solutions – largely based on the means by which water use allocations are transferred and/or shared in support of both economic and instream flow needs, particularly during periods of drought.⁶

¹ Alberta Environment (2005). Water For Life background information/Watersheds in Alberta. Available: <http://www.waterforlife.gov.ab.ca/html/background3.html> (Accessed 31 July 2005).

² Keewatin Publications (2003). Water in the Prairie Provinces: Alberta. Available: http://www.keewatin.ca/Pages/Albertas_water_res.html (Accessed 31 July 2005).

³ Alberta Irrigation Projects Association (2005). in Alberta Institute of Agrologists (2005), "Environment for Growth: People to Water, Water to People" presented at the Banff Conference on Agriculture, Food, and the Environment (prepared by John Thompson, Watrecon Consulting). p. 2

⁴ Alberta Environment (2004). Final Report – Advisory Committee on Water Use Practice and Policy. Available: <http://waterforlife.gov.ab.ca/html/removed.html> (Accessed 5 August 2005).

⁵ Alberta Environment (2005). Coalbed Methane/Natural Gas in Coal Water Working Group. Available: <http://eee.WaterForLife.gov.ab.ca/html/coalbed.html> (Accessed 2 August 2005).

⁶ Alberta Institute of Agrologists (2005), "Environment for Growth: People to Water, Water to People" presented at the Banff Conference on Agriculture, Food, and the Environment (prepared by John Thompson, Watrecon Consulting). 26p.

2. Vision and Key Goals

Alberta Environment is the coordinating department of *Water For Life: Alberta's Strategy for Sustainability*. The vision of the strategy, while not directly presented in the document, can be interpreted from its introduction as⁷:

“Managing Alberta’s water needs, maintaining the province’s economic prosperity, and addressing environmental concerns – for the benefit of Albertans, now and in the future”

The Key Goals⁸ of the Water For Life (W4L) strategy are focused on:

- Assuring Albertans their drinking water is safe (*safe, secure drinking water supply*);
- Assuring Albertans that the province’s aquatic ecosystems are maintained and protected (*healthy aquatic ecosystems*); and
- Assuring Albertans that water is managed effectively to support sustainable economic development (*reliable, quality water supplies for a sustainable economy*).

Alberta has also identified outcomes for each goal (measurable in the short, medium, and long-term), and has committed to “key directions” or actions in the areas of⁹:

- Knowledge and research;
- Partnerships; and
- Water conservation

2.1 Process and Content

In the fall of 2001, Alberta embarked on a major consultation process in support of comprehensive water policy development. It included three phases:¹⁰

Ideas Generation

A small, diverse group of 15 Albertans with strong water interests were summoned by the Minister of Alberta Environment (Hon. Lorne Taylor), to meet with ministry staff and provide guidance regarding the province’s water challenges and possible responses. This “ideas group” met for approximately six weeks, resulting in a discussion workbook.

Public Outreach and Consultation

3000 Albertans identified as having a clear link to water (i.e. because they have a provincial license to use it, or are involved in water management) were contacted and invited to respond to the initial ideas proposed by the ideas group during March and April 2002. These key

⁷ Alberta Environment (2003). *Water for Life: Alberta's Strategy for Sustainability*. Queen's Printer, Edmonton, AB, p. 5-6.

⁸ Alberta Environment (2003). *Water for Life: Alberta's Strategy for Sustainability*. Queen's Printer, Edmonton, AB, p. 7.

⁹ Alberta Environment (2003). *Water for Life: Alberta's Strategy for Sustainability*. Queen's Printer, Edmonton, AB, p. 9

¹⁰ Harrison, Robert (2005). Personal Communication.

stakeholders provided comments and their own suggestions for addressing Alberta’s water management challenge.

Minister’s Forum on Water: Strategy Principles

In June 2002, a focused group of 108 invited Albertans and water experts met to review information gathered during the public outreach and consultation process. A clear set of principles¹¹ emerged:

- All Albertans must recognize there are limits to the available water supply;
- Alberta’s water resources must be managed within the capacity of individual watersheds;
- Citizens, communities, industry, and government must share responsibility for water management in Alberta, and work together to improve their local watersheds;
- Knowledge of Alberta’s water supply and quality is the foundation for decision-making;
- Albertans must become leaders at using water more effectively and efficiently, and will use and reuse water wisely and responsibly;
- Alberta must preserve the “first-in-time, first-in-right” principle for granting and administering water allocations, but water allocations will be transferable to ensure societal demands and needs can be met;
- Healthy aquatic ecosystems are vital to a high quality of life and must be preserved;
- Groundwater and surface water quality must be preserved in pursuing economic and community development; and
- Alberta will continue to be a leader in drinking water quality and standards in ensure Albertans have safe, secure drinking water.

A cross-ministry working group was then established to draft the *Water For Life* strategy (W4L), which was circulated for comment in March 2003; the finalized document was released in November 2003.

Alberta Environment (AENV) is the lead ministry for implementing the W4L strategy, in partnership with eight other ministries which have included W4L as a strategic priority in their 2005-08 business plans. A total of 13 ministries/boards are represented on the W4L cross-ministry committee.

Following a thorough review of water-related legislation from 1993-99, the ministry uses two major pieces of legislation (with supporting regulations) to directly address water management:¹²

- | Water Act | Environmental Protection and Enhancement Act |
|--|---|
| <ul style="list-style-type: none">- Water (Ministerial) Regulation AR 205/98- Water (Offences and Penalties) Reg. AR 193/98 | <ul style="list-style-type: none">- Conservation and Reclamation Reg. AR 128/93- Environmental Appeal Board Reg. AR 114/93 |

¹¹ Alberta Environment (2003). *Water for Life: Alberta’s Strategy for Sustainability*. Queen’s Printer, Edmonton, AB, p. 6.

¹² Alberta Environment (2005). *Water Act Legislation*. Available: <http://www3.gov.ab.ca/env/water/Legislation/WaterAct.html> (Accessed 25 July 2005).

- S. Saskatchewan Basin Allocation Reg. 307/91

Irrigation District Act

- Env. Prot. and Enhancement Reg. AR 118/93
- Potable Water Reg. AR 122/93
- Release Reporting Reg. AR 117/93
- Substance Release Reg. AR 124/93
- Waste Control Reg. 129/93
- Wastewater/Storm Drain. Reg. AR 119/93
- Wastewater/Storm Drain (Min.) Reg. AR/120/93

2.2 Formalization

Alberta's *Water Act* was proclaimed on 1 January 1999¹³. This comprehensive legislation provides the legislative framework by which water management challenges can be addressed, including:¹⁴

Water Allocation: The Water Act preserves a century of Alberta's "first in time, first in right" prior appropriation water use right foundation, although the province can now close a particularly water body to further allocations and may reserve water (for instream flow needs or other potential uses). If an approved Water Management Plan is in place (e.g., as in the South Saskatchewan River Basin), water allocation rights holders may now transfer their licenses independently from their land or projects (to which they were formerly attached), creating redistribution opportunities within a fully allocated basin;

Water Sharing: Water allocation rights holders may temporarily re-assign their licensed rights to other users, creating possibilities for sharing water during drought periods;

Interbasin Transfers: Without authorization by a special Act of the Legislature, the Act prohibits transfers between the seven major river basin systems, although the greatest challenges to date in fact lie within one of these – the South Saskatchewan River Basin. There are existing legal transfers occurring among its smaller sub-basins – the Red Deer, Oldman, and Bow rivers. Ultimately South Saskatchewan apportionment commitments to the province of Saskatchewan must be met; concerns have been raised over future development potential in the Red Deer watershed – if allocations in the Bow and Oldman systems are full – and Red Deer flows are required to fulfill obligations downstream in Saskatchewan.

Water Export: Raw water exports are prohibited under the Act (presumably by interbasin transfer or pipeline); processed or municipal water exports are not prohibited.

Water For Life was adopted by cabinet in November 2003. The strategy goals are a central part of the Alberta Environment ministry business plan.¹⁵

¹³ Alberta Environment (2005). Water Act Legislation. Available: <http://www3.gov.ab.ca/env/water/Legislation/index.cfm> (Accessed 25 July 2005).

¹⁴ Alberta Institute of Agrologists (2005), "Environment for Growth: People to Water, Water to People" presented at the Banff Conference on Agriculture, Food, and the Environment (prepared by John Thompson, Watrecon Consulting), p. 4-8.

¹⁵ Alberta Environment (2004). Business Plan 2005-08, Alberta Environment Edmonton, p. 218.

2.3 Priorities and Timeframes

Water For Life (W4L) is a comprehensive strategy, covering most aspects of water and watershed management. Its short, medium, and long-term outcome targets are¹⁶:

Goals and Timeframes	Safe, Secure Drinking Water	Healthy Aquatic Ecosystems	Reliable, Quality Water Supplies for a Sustainable Economy
Short-Term (2004/05 to 2006/07)	comprehensive drinking water strategy in place	protection efforts in critical areas are underway	broad range of water management tools and techniques are implemented; Albertans understand the value of water (economy, quality of life)
Med-Term (2007/08 to 2009/10)	Albertans have full knowledge of drinking water issues; real-time access to drinking water quality in communities	water management objectives and ecosystem priorities established with watershed plans	water management objectives and economic dev. priorities established with watershed plans; All sectors demonstrate BMPs to improve efficiency/productivity
Long-Term (2010/11 to 2013/14)	drinking water infrastructure meets emerging standards; Albertans have info/tools and are motivated to implement actions to improve water resources	water is managed and allocated to sustain aquatic ecosystems; Albertans have info/tools and are motivated to implement actions to improve water resources; communities are demonstrating leadership in watershed mgmt.	water is managed and allocated to support sustainable economic development and prov. priorities; Albertans have info/tools and are motivated to implement actions to improve water resources; overall efficiency and productivity of water use has improved by 30% from 2005 levels by 2015

Most outcomes ultimately depend on the success of community-based watershed planning, and Alberta Environment has developed a *Framework for Water Management Planning* based on the leadership of at least three existing community-based watershed organizations, who are also leading in the implementation of *State of Watershed Reporting* activities. Alberta’s approach is to help communities plan and manage their own watersheds – within the broad W4L framework.

Planning and performance measurement targets are clear, while specific water management and quality objectives are expected to differ within each watershed. Comparing indicator results on a watershed-by-watershed basis is not a major priority, in recognition of unique physical landscapes and differing community priorities within each watershed.¹⁷

Successful implementation of the strategy to date is attributed largely to the commitment of Alberta’s Environment Minister during strategy development – Lorne Taylor, and Deputy Minister Ron Hicks, who has a strong background in watershed planning and performance measurement. Strong support from another former environment minister – Premier Ralph Klein, also played an important role in strategy implementation.

¹⁶ Alberta Environment (2003). *Water for Life: Alberta’s Strategy for Sustainability*. Queen’s Printer, Edmonton, AB, p. 7-8.

¹⁷ Harrison, Robert (2005). personal communication.

Prairie Water Strategies and Policies – Alberta

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Current Environment Minister Guy Boutilier is also strongly committed to W4L, while current Deputy Minister Peter Watson, also has a strong background in watershed planning. Watson chairs the Alberta Water Council.

3. Structure and Planning

In coordinating the W4L strategy, Alberta Environment also works closely with several other departments and related boards.

3.1 Strategy Structure

The following ministries are directly involved in implementing the W4L strategy, although it is abundantly clear that the strategy is being implemented for all Albertans, in partnership with all stakeholders, by the Alberta Government (as opposed to any one department). Additional ministries are involved as required:

Alberta Environment

Alberta Environment (AENV) leads on planning and coordinating most cross-ministry implementation of W4L, while also managing most efforts related to water quantity and water quality, including drinking water. AENV has recently completed a comprehensive review of the source, operation, and treatment performance of over 500 municipal waterworks systems.^{18, 19}

Alberta Health and Wellness

Alberta Health and Wellness works to prevent disease and injury to Albertans, while enabling citizens to make informed decisions regarding their health. These roles come into play in the determination of water quality advisories in cases of potential waterborne illness and through the provision of centralized water quality testing and standards assurance.²⁰

Alberta Agriculture, Food and Rural Development

Among a broad range of rural development activities, Alberta Agriculture is responsible for on-farm water use, irrigation planning, industry growth through value-added products, drought preparedness, and the coordination of environmental farm planning in partnership with Agriculture and Agri-Food Canada.²¹

Alberta Sustainable Resource Development

Alberta Sustainable Resource Development manages most of the province's public land and wildlife resources, including provincial parks, fisheries, and public rangelands – all of which have direct linkages to water management.²²

Alberta Energy

Alberta Energy is primarily responsible for maintaining a competitive investment and development environment for the province's energy and mineral resources. This includes increasing Albertans' awareness of the economic importance of the industry. A major current

¹⁸ Alberta Environment (2005). Alberta's Drinking Water Program. Available: <http://www3.gov.ab.ca/env/Water/DWO/dwprogram/html> (Accessed 3 August 2005).

¹⁹ Rich, Kate (2005). Personal Communication.

²⁰ Alberta Health (2005). Ministry Overview. Available: <http://www.gov.ab.ca/hom/index.cfm?page=50> (Accessed 3 August 2005).

²¹ Alberta Agriculture (2005). Ministry Overview. Available: <http://www.gov.ab.ca/hom/index.cfm?page=39> (Accessed 3 August 2005).

²² Alberta Sustainable Resource Development (2005). Ministry Overview. Available: <http://www.gov.ab.ca/hom/index.cfm?page=61> (Accessed 3 August 2005).

focus involves researching the potential water-related and other impacts associated with coalbed methane developments proposed for the province.²³

Alberta Economic Development

Alberta Economic Development focuses on all aspects of development planning, market research, trade, investment, tourism, and regional economic development.²⁴

Alberta Community Development

Alberta Community Development has also identified *Water for Life* as a strategic priority in their 2005-08 Business Plan. A current focus involves upgrading water systems in provincial parks.

Alberta Infrastructure and Transportation

Infrastructure and Transportation oversees grants for municipal and regional waterworks systems; these have comprised a substantial portion of W4L funding to date.

3.2 Ministry Structure

AENV is organized into six main areas: Environmental Assurance, [Regional Services](#), Strategic Directions, Corporate Services, Communications and Human Resources. Of prime importance to the implementation of the Water Strategy are the Environmental Assurance Division and Regional Services. Strategic Directions is also somewhat involved as they coordinate strategic business and operational planning and assist the ministry in building cross-governmental shared vision and shared responsibility with partners.

Environmental Assurance Division

leads the Ministry in developing integrated environmental policy, enabling environmental stewardship and validating and assuring results. Environmental Assurance consists of four branches, all of which are involved in implementing W4L: Environmental Partnerships and Education; Environmental Policy; Drinking Water; Environmental Monitoring and Evaluation. The Water Strategy Implementation Office resides in the Environmental Policy Branch.

Regional Services Division

Alberta Environment provides services through three regional delivery teams and a provincial water management operation team – with operations coordinated from Edmonton (Northern), Red Deer (Central), Calgary (Southern), and Lethbridge (Water Management). Each regional team provides the following services:²⁵

Environmental Approvals Unit

Approvals for developments and municipal or industrial operations are designed to protect Alberta's natural resources and environment from possible adverse effects.

²³ Alberta Energy (2005). Ministry Overview. Available: <http://www.gov.ab.ca/hom/index.cfm?page=43> (Accessed 3 August 2005).

²⁴ Alberta Economic Development (2005). Ministry Overview. Available: <http://www.gov.ab.ca/hom/index.cfm?page=42> (Access 3 August 2005).

²⁵ Alberta Environment (2005). Welcome to the Regions. Available: <http://www3.gov.ab.ca/env/regions/index.html> (Accessed: 25 July 2005).

Environmental Compliance Unit

Compliance activities such as inspections and the enforcement of ministerial orders are in place to sure that developments and municipal or industrial operations are meeting the requirements of their approvals from the ministry.

Environmental Management Unit

Ongoing and long-term planning and management activities are intended to ensure a balance between environmental protection and economic development.

Water Management Operations Unit and Alberta's Irrigation Districts

This unit is responsible for the operation and maintenance of \$5B in provincially-owned water management infrastructure (dams and irrigation canals) across the province, primarily in southern Alberta. An additional \$2.5B in irrigation infrastructure is managed by Alberta's local *Irrigation Districts*, which supply approximately 70% of Canada's developed irrigation land.^{26, 27}

The importance of irrigated agriculture in Alberta cannot be underestimated, particularly in southern Alberta, where nearly a century of agricultural production and the communities built around this industry depend almost exclusively on irrigation. Today, 13 Irrigation Districts exist in the province, several of which where initially created by the Canadian Pacific Railway. Agriculture and Agri-Food Canada's Prairie Farm Rehabilitation Administration also played a key role in district formation after 1935.²⁸

As specified under the Irrigation Districts Act, the main functions of a district relate to:

- conveying and delivering water through the irrigation works of the district in accordance with the Act;
- diverting and using quantities of water in accordance with the terms and conditions of its license under the Water Act;
- constructing, operating and maintaining the irrigation works of the district; and
- maintaining and promoting the economic viability of the district.

Most Irrigation Districts also provide municipal water supplies for area communities through their works. These also often include various local recreation opportunities associated with stored water. Several districts are also heavily involved in wildlife habitat conservation.

3.3 Planning Aspects of the Water For Life Strategy

W4L represents Alberta's comprehensive, long-term policy direction for water – including management of drinking water quality, aquatic ecosystem health, and efficient water use in support of economic development.

²⁶ Keewatin Publications (2003). Water in the Prairie Provinces: Alberta. Available: http://www.keewatin.ca/Pages/Albertas_water_res.html (Accessed 31 July 2005).

²⁷ Tackaberry, John (2005). Personal Communication.

²⁸ Eastern Irrigation District (2005). District Information/About the EID. (Available: <http://www.eid.ab.ca/about.htm>). Accessed 30 September 2005.

Interdepartmental Planning

W4L is one of the Alberta Government's *Cross-Ministry Strategies*, for which all participating ministries are jointly accountable. Strategy implementation and reporting is coordinated by AE, although each ministry may lead on specific initiatives – and/or implement their own – in accordance with the broad W4L strategic direction.

Early in the W4L strategy development process, AE coordinated a cross-ministry team comprised of 13 separate ministries and other boards. *Water for Life* is now included as a strategic priority in the 2005-08 Business Plans for the following ministries: Agriculture, Food and Rural Development, Community Development, Economic Development, Energy, Health and Wellness, Infrastructure and Transportation, and Sustainable Resource Development.

In addition to the above, the W4L cross-ministry committee has representation from Aboriginal Affairs & Northern Development, Innovation and Science, Energy and Utilities Board, Municipal Affairs, and the Natural Resources Conservation Board.

Alberta Water Council

The Alberta Water Council (AWC) is a multi-stakeholder committee which provides strategic direction for the overall W4L strategy. The Council includes representation from industry, environmental groups, Aboriginal communities, urban and rural municipalities, and provincial and federal governments. The Council plays a central role in W4L, and will: provide an independent review of the implementation of the Water for Life strategy; examine and prioritize existing and emerging water issues; examine, report and advise the government, stakeholders and public on effective water management practices; and, set priorities for water research.²⁹

Senior Government Participation on AWC³⁰

One of the AWC's four broad membership categories, "Government of Alberta and Provincial Authorities," includes the following senior Alberta Government participants:

- Deputy Minister of Alberta Environment;
- Deputy Minister of Alberta Sustainable Resource Development;
- Assistant Deputy Minister of Alberta Agriculture, Food and Rural Development;
- Executive Director from Alberta Energy;
- Provincial Health Officer from Alberta Health & Wellness;
- Member of the Alberta Economic Development Authority;
- Member of Alberta Science and Research Authority (linked to Innovation & Science).

The AWC is chaired by the Deputy Minister of Alberta Environment.

²⁹ Alberta Environment (2005). Alberta Water Council. Available: <http://www.WaterForLife.gov.ab.ca/awc/index.html> (Accessed 28 July 2005).

³⁰ Rich, Kate (2005). Personal Communication

4. Multi-level Coordination, Participation, Watershed Partnerships

Alberta is primarily responsible for managing water within its boundaries. There is a limited role for federal and inter-provincial partnerships in the W4L strategy, as it is very much focused on supporting local and regional community watershed partnerships to achieve both local and provincial water management goals.

4.1 Federal Government

Federal jurisdiction cover areas with significant potential national impact such as: navigation, fish habitat, water on federal lands (i.e. national parks, First Nations), boundary waters, and transboundary waters. The federal government will be invited to sit as a partner where their involvement makes sense (i.e. where federal lands may form part of a watershed plan). A federal government representative also sits on the Alberta Water Council.

4.2 Other Provinces and States

Aside from the federally-coordinated provincial partnerships such as the Prairie Provinces Water Board, Alberta Environment also participates on the Mackenzie River Basin Board with Canada, British Columbia, Saskatchewan, the Northwest Territories and Yukon.³¹ In partnership with Canada and the Northwest Territories, Alberta is also a key partner in the Northern Rivers Ecosystem Initiative, designed to address water quality issues facing several rivers which drain into the Arctic Ocean.³²

Alberta also works with the State of Montana through the St. Mary-Milk River Basin Control Board, which reports to the International Joint Commission.³³

The Canadian Council of Ministers of the Environment (CCME) and the Council of Fish and Aquaculture Ministers (CFAM) also involve Alberta. AE and Alberta Sustainable Resource Development are represented respectively.

4.3 Municipalities

Large, small, and rural municipalities are all represented on the Alberta Water Council, while many individual municipalities are (or will become) directly involved in watershed management at the local or regional level.³⁴

4.4 Aboriginal Communities

It is anticipated that Alberta's Aboriginal communities will play a significant role in watershed management planning at the local and regional levels. There is currently one First Nations representative and one Métis Settlement representative participating on the 25 member Alberta Water Council.

³¹ Environment Canada (2002). Prairie and Northern Region: Regional Water Activities/Mackenzie River Basin Board. Available: <http://www.pnr-rpn.ec.gc.ca/water/fa00s02.en.html> (Accessed: 30 July 2005).

³² Environment Canada (2003). Prairie and Northern Region: Ecosystems/Northern Rivers Ecosystems Initiative. Available: <http://www.pnr-rpn.ec.gc.ca/nature/ecosystems/nrei-iern/index.en.html> (Access: 30 July 2005).

³³ Environment Canada (2004). Water Policy and Legislation: International/Canada-United States/IJC Water Boards. Available: http://www.ec.gc.ca/water/en/policy/intwp/e_can-us.htm (Accessed 30 July 2005).

³⁴ Alberta Environment (2005). Alberta Water Council. Available: http://www.WaterForLife.gov.ab.ca/awc/council_members.html (Accessed 28 July 2005).

4.5 Alberta Water Council

The Alberta Water Council (AWC) is a multi-stakeholder advisory committee which provides broad strategic direction for the overall W4L strategy. It is comprised of water-using industry leaders, non-government organizations, Aboriginal communities (First Nations and Métis Settlements), municipal government, the federal government, and senior Alberta Government representatives.

4.6 Public and Other

The 2001-2002 public outreach and consultation phase of the W4L strategy involved the participation of more than 3000 residents and many organizations.

Alberta Environment and the cross-ministry team responsible for W4L has devoted a substantial amount of time into finding ways to meaningfully involve all Albertans in strategy implementation. A document titled *Enabling Partnerships: A Framework in support of Water For Life* outlines the strategy's approach for all aspect of public participation.

Alberta has taken the view that all interests using Alberta's water must be engaged in a partnership process to manage this resource for the long-term; this shared responsibility can best be achieved through a range of collaborative activities including: public consultation, advisory groups, strategic alliances, and community/individual stewardship – towards improved watershed planning and management.³⁵

4.7 Watershed Management Partnerships

Alberta's approach toward watershed partnerships are based upon the W4L strategy principles (see section 2.1). Public participation in W4L is to occur through local and regional watershed organizations. These include:

*Local Watershed Stewardship Groups*³⁶

Many such groups existed prior to the W4L strategy, because they emerge to address local needs – gathering information and implementing beneficial actions to improve and protect their local watersheds. They are comprised of volunteer members who can provide advice to governments, the public, and other stakeholders. Their key role focuses on delivering watershed stewardship activities such as riparian health assessment, water quality and quantity monitoring, education, demonstration, and wildlife habitat management.

*Regional Watershed Planning and Advisory Councils*³⁷

Three of these groups (originally known as basin councils) existed prior to W4L implementation, and Alberta is looking to their leadership to assist in expanding the adoption of watershed planning and management activities across the province. The North Saskatchewan, Bow River and Oldman Watershed organizations existed prior to W4L and were not referred to as Watershed Planning and Advisory Councils until W4L was initiated. Watershed councils will

³⁵ Alberta Environment (2005). *Enabling Partnerships: A Framework in Support of Water For Life*, Alberta Environment, Edmonton, AB. p. 3.

³⁶ Alberta Environment (2005). *Enabling Partnerships: A Framework in Support of Water For Life*, Alberta Environment, Edmonton, AB. p. 6.

³⁷ Alberta Environment (2005). *Enabling Partnerships: A Framework in Support of Water For Life*, Alberta Environment, Edmonton, AB. p. 10.

build long-term partnerships across larger river basin areas – encompassing several smaller watersheds. Main roles for the councils will include:

- providing a forum for stakeholders to share information;
- reporting on “state-of-the-watershed” indicators; and
- preparing watershed management plans consistent with the broad W4L policy direction, as outlined with a guiding framework for watershed planning.³⁸ The guiding framework includes information on water management planning requirements, terms of reference, public consultation, performance monitoring, and the ministry approval process.

To date, the North Saskatchewan Watershed Alliance (an approved Watershed Planning Advisory Committee) has achieved strong progress, having completed a comprehensive state of the watershed report, and a terms of reference for its watershed management plan.^{39 40}

The Bow River Basin Council has also released its state of the watershed report⁴¹ and the Oldman Watershed Council has completed a five year water quality summary.⁴² Both of these basin councils lie within the South Saskatchewan River Basin, which along with the Red Deer River system have been part of a major water management process coordinated by Alberta Environment, which began several years ahead of the W4L strategy.

Phase One of the South Saskatchewan River Basin Water Management Plan has addressed the question of water allocation transfers – to create a means by which existing water rights could be transferred to other parties (while maintaining their priority, and with the Alberta Government retaining up to 10% of the previously allocated volume. This management plan and its proposed allocation transfer process was approved by Alberta Environment in 2002. The concept of water allocation transfers is intended to establish a mechanism for water use rights trading, for improved water use efficiency.⁴³

Phase Two of the South Saskatchewan planning initiative will involve expanded versions of the original three major basin councils (two approved Watershed Planning Advisory Committees – Bow River and Oldman Watershed), and two other basin advisory committees (Red Deer and South Saskatchewan. The final structural outcome will evolve during the planning process, which will take the form of a comprehensive watershed plan, encompassing conservation objectives, economic requirements, and instream flow needs.⁴⁴

³⁸ Alberta Environment (2002). Framework for Water Management Planning. Alberta Environment, Edmonton. 37p.

³⁹ North Saskatchewan Watershed Alliance (2005). State of the North Saskatchewan Watershed Report 2005. NSWA, Edmonton. 200p.

⁴⁰ North Saskatchewan Watershed Alliance (2005). Integrated Watershed Management Plan for the N. SK River Watershed in Alberta: Terms of Reference. NSWA, Edmonton. 50p.

⁴¹ Bow River Basin Council (2005). 2005 Report on the State of the Bow River Basin. Available: <http://www.brbc.ab.ca/issues2.asp> (Accessed 5 August 2005).

⁴² Oldman Watershed Council (2005). Oldman River Basin Water Quality Initiative: Five Year Summary Report. OWC, Lethbridge, 37p.

⁴³ Alberta Environment (2002). South Saskatchewan River Basin Water Management Plan: Phase One. Alberta Environment, Edmonton, 17p.

⁴⁴ Alberta Environment (2005). Water: Water Management/South Saskatchewan River Basin: Phase Two. Available: <http://www3.gov.ab.ca/env/water/regions/ssrb/index.asp> (Accessed 5 August 2005).

5. Implementation

Highlighted below are some specific policy instruments which are being implemented as part of the Water For Life (W4L) strategy, as well as a brief discussion of funding mechanisms for water management in Alberta.

5.1 Specific Policy Instruments^{45, 46}

Alberta has applied a mix of policy instruments to support of its water strategy – including **institutional** instruments (strategies), **regulatory** (laws), **expenditure** (education/awareness, research/development), and some **economic** instruments (taxes/incentives). Several aspects of Alberta’s water policy approach are:

Strategy Goal Areas	Key Policy Instruments	Status
1. <u>Safe, secure drinking water supply</u> – Albertans will be assured that their drinking water is safe	<p>Water system analysis, evaluation (institutional)</p> <p>System owners adopting a multi-barrier/source-to-tap protection approach (institutional)</p> <p>Technical support staff hired to assist system owners and operators (expenditure)</p> <p>Quality assurance option for lab testing by small municipalities (regulatory)</p> <p>Municipal water and wastewater grants (expenditure)</p>	<p>complete, to be repeated every five years (500 municipal systems)</p> <p>underway</p> <p>complete, 6 dedicated AB Env. staff</p> <p>underway – approved small system owners exempted from the cost of Can. Assoc. of Env. Lab. accreditation</p> <p>ongoing, \$54M in new funds for 2005-06. Alberta Community Development has also received an additional \$10M</p>
2. <u>Healthy aquatic ecosystems</u> – Albertans will be assured that the province’s aquatic ecosystems are protected and maintained	<p>Definitions, approaches, and targets for assessing aquatic ecosystem health are determined (institutional)</p> <p>Science-based decision-support tools for determining aquatic ecosystem health are in place (institutional)</p> <p>Update provincial wetland policy, inventory, and action plan (institutional) reported by providers</p>	<p>underway</p> <p>underway, focus is on determining how to measure in-stream flow needs (IFN)</p> <p>underway, with support from AB Water Council</p>

⁴⁵ Alberta Environment (2005) Water Strategy Map (working document), Alberta Environment, Edmonton, 2 p.

⁴⁶ Rich, Kate (2005). Personal Communication.

Prairie Water Strategies and Policies – Alberta

Working Draft: 21 September 2005

<p>3. <u>Reliable, quality water supplies for a sustainable economy</u>– Albertans will be assured that water is managed effectively to support sustainable economic development</p>	<p>Full cost analysis of supply infrastructure (institutional)</p> <p>Water allocation transfers approved (economic)</p>	<p>underway, focus on provincial reservoirs</p> <p>underway, approved for S. SK River Basin (Phase 1 mgmt. plan)</p>
<p>4. <u>Knowledge and research</u>– Albertans will have the knowledge needed to achieve safe drinking water, efficient water use, and healthy watersheds</p>	<p>Multi-disciplinary water research centre estab. (expenditure)</p> <p>Provincial water research plan in place (institutional)</p> <p>Public awareness and communication program (expenditure)</p> <p>Flood risk mapping (institutional)</p>	<p>complete, \$7M over five years (Lethbridge), with three AB universities</p> <p>underway, with support from AB Water Council</p> <p>in operation, AB Water Information Centre</p> <p>underway, 35 of 66 at risk communities on website</p>
<p>5. <u>Partnerships for watershed management and stewardship</u> – Citizens and stakeholders will have the opportunity to actively participate in watershed mgmt on a provincial, regional, and community basis</p>	<p>Watershed planning framework in place (institutional)</p> <p>Provincial water council in place (institutional)</p> <p>Watershed Planning Advisory Councils in place (institutional)</p> <p>Watershed management planning (institutional)</p> <p>BMPs implemented via environmental farm plans (expenditure)</p>	<p>complete</p> <p>complete (Alberta Water Council)</p> <p>ongoing, three approved to date (N. Sask, Bow, Oldman)</p> <p>underway, N. Sask process has begun</p> <p>underway, via AB Sus. Ag Agreement with AAFC (APF)</p>
<p>6. <u>Conservation</u>– Albertans will be leaders in conservation by using water efficiently and effectively</p>	<p>Actual (vs. allocated) water use reporting by all sectors (institutional)</p> <p>Value of water research (expenditure)</p> <p>Evaluate potential for economic instruments (economic)</p> <p>Review water use efficiency by sector (expenditure)</p>	<p>underway, web-based system to be in place in 2005.</p> <p>underway, pilot project in S. Sask basin, built on CCME work</p> <p>underway</p> <p>underway, focus on oil field use</p>

5.2 Funding

Proposed funding across the departments participating in the W4L strategy is in the range of \$90M per year. The total W4L operational request was \$425M over 10 years; the capital request is approximately \$1,350M, although capital requests are updated annually.

There are no specific revenue sources identified to fund W4L initiatives.

6. Monitoring and Review

Monitoring, review, and performance measurement has become a central focus for all Alberta government operations, with the annual budget estimates process largely driven by the annual business plans of all ministries, all of which are incorporated into an overall three year Alberta Government Business Plan (currently 2005-2008).⁴⁷

The Water For Life (W4L) strategy identifies three performance measures for successful strategy implementation,⁴⁸ while the Alberta Environment Business Plan establishes targets through 2008.⁴⁹ It is important to note that the W4L strategy specifies that enhancements to the identified performance measures are necessary, and additional measures will be developed in partnership with the Alberta Water Council. A current list of measures are summarized below in Table XX.

Several W4L performance measures are included in “Measuring Up,” the 2004/2005 Annual Report of the Government of Alberta, coordinated by Alberta Finance. W4L goals #1 and #2 are reflected within Measuring Up Goal 10 (River Water Quality Index, Drinking Water Safety Indicator), while W4L goal #3 is partially reflected within Measuring Up Goal 12 (Physical Condition of Water Management Infrastructure).⁵⁰

Alberta Environment also tracks a large number of water-related indicators through its State of the Environment reporting process; some W4L indicators are derived from this report, while other indicators related (but not included in W4L at this point are also included. One of these tracks the growing trend toward watershed organization development.⁵¹

The W4L “drinking water safety indicator” measures the performance of licensed facilities in delivering safe drinking water, in order to demonstrate continuous operational improvement. The Alberta Environment Business Plan references two additional process indicators beyond W4L: “effective water management infrastructure” (an evaluation of the overall state of provincially-owned water management infrastructure) and “community flood risk mapping” (to measure the number of flood risk mapping reports completed). It is not clear if these two indicators will be incorporated into W4L monitoring, although they are related. An additional “infrastructure and community flood risk mapping” is related to W4L, though not specified in the strategy.

The “river water quality index” is derived from total loads measured in six major river systems in the province; it shows relative quality differences between rivers, between sites on the same river, and over time (both upstream and downstream of major urban centres).

⁴⁷ Alberta Finance (2005). Government Accountability: About Performance Measurement. Available: <http://www.finance.gov.ab.ca/measuring/aboutperfmeas/html> (Accessed 6 August 2005).

⁴⁸ Alberta Environment (2003). Water For Life: Alberta’s Strategy for Sustainability. Queen’s Printer, Edmonton, p. 23.

⁴⁹ Alberta Environment (2005). Alberta Environment (2004). Business Plan 2005-08, Alberta Environment Edmonton, p. 221.

⁵⁰ Alberta Finance (2005). Measuring Up: Government of Alberta 2004-05 Annual Report. Available: <http://www.finance.gov.ab.ca/publications/measuring/measup05/goal.html> (Accessed 30 August 2005).

⁵¹ Alberta Environment (2005). State of the Environment Website/Watershed Organizations. Available: http://www3.gov.ab.ca/env/soe/water_indicators/33_watershed_groups.html (Accessed 30 August 2005).

The “water use efficiency and productivity indicator” will compare volumes of water used vs. its productivity value – and vs. population and economic growth. Baseline data for this indicator is not yet established?). The W4L strategy specifies a water use and efficiency measure, which compares the amount of water used in relation to productivity and in relation to population and economic growth. Targets are to be determined relative to a 2015 target of a 30% improvement in efficiency and productivity over 2005 levels. Firm targets are to be determined in conjunction with the Alberta Water Council. An electronic water use reporting system to monitor actual water use across Alberta is scheduled to be implemented in 2005, which will serve as the baseline year to compare improvements in water use efficiency and productivity.

Table XX. Water-related Indicators for Alberta
Indicator performance targets are updated annually, and may change during the Government of Alberta Annual Reporting process (from initial departmental targets).

Document	Indicator Elements	Time-bound Targets
AENV 2005-2008 Business Plan W4L Goal #1 – Safe, secure drinking water supply Drinking Water Safety Indicator Alberta Government Annual Report: Measuring Up Goal 10	FDS – # water systems meeting the most recent Facility Design Standards (of 545) FOR – # incidents where regulatory requirements have not met Facility Operation Reqs WQ – # of Water Quality incidents	Yes – currently at 409 05-06 target: 413 06-07 target: 425 07-08 target: 448 Yes – currently at 35 05-06 target: 20 06-07 target: 15 07-08 target: 10 Yes – currently at 49 05-06 target: 31 06-07 target: 29 07-08 target: 27
AENV 2005-2008 Business Plan W4L Goal #2 – Healthy aquatic ecosystems River Water Quality Index Alberta Government Annual Report: Measuring Up Goal 10	# of river systems with “good to excellent” water quality	Yes – currently at 5 of 6 05-06 target: 6 06-07 target: 6 07-08 target: 6
W4L W4L Goal #3 – Reliable, quality water supplies for a	The Water Use and Efficiency Productivity Indicator is in	In Progress – baseline to be set established in 2005-06

sustainable economy Water Use Efficiency and Productivity Indicator	development	
AENV 2005-2008 Business Plan Effective Water Management Infrastructure Alberta Government Annual Report: Measuring Up Goal 12	% of water management infrastructure in “fair,” “good,” or “excellent” condition	Yes – currently at 99.5% 05-06 target: maintain baseline 06-07 target: maintain 05-06 07-08 target: maintain 06-07
ANENV 2005-08 Business Plan Community Flood Risk Mapping	# communities for which flood risk mapping reports have been posted on AE website	Yes – currently at 35 of 66 05-06 target: 36 06-07 target: 37 07-08 target: 39
AENV SOE Report Watershed Stewardship Groups	# of organizations registered with AB Watersheds Network	No – currently at: 55 local groups 13 regional groups 10 lake groups

While the Alberta performance management system appears to be solid and is certainly institutionalized, it is too early to determine if significant progress is being made in the W4L performance measures.

6.2 Review and Improvement

Performance Measures and targets achieved are reviewed annually as part of each ministry’s business planning process. In addition, the W4L strategy specifies that enhancements to the identified performance measures are necessary and will be developed in partnership with the Alberta Water Council, as part of the implementation of specific actions.

7. Alberta Interview Contacts

We wish to thank the following government personnel for their assistance with the preparation of this case study through providing interview time, direction, and commenting on drafts of this study:

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Prairie Water Strategies and Policies – Alberta

Working Draft: 21 September 2005

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