

Interprovincial Case Study: *The Prairie Provinces Water Board*
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 Manitoba, Saskatchewan, Alberta, 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 panterraman@shaw.ca.

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

Case Study researched and written by:
Bryan Osborne, President
Panterra Management Ltd.
Tel: 204-885-7308 Fax: 204-885-7312
Email: panterraman@shaw.ca
Website: <http://www.panterraman.com/>

Prairie Water Strategies and Policies

Interprovincial Case Study: *Prairie Provinces Water Board*

Contents

1.	Introduction and Prairie Context	3
2.	Vision and Key Goals	4
2.1	Process and Content.....	4
2.2	Formalization.....	5
2.3	Priorities and Timeframes.....	5
3.	Structure and Planning	7
3.1	Committee Structure.....	7
	Committee on Hydrology.....	7
	Committee on Water Quality	8
	Committee on Groundwater.....	8
	Committee on Instream Flow Needs.....	8
3.2	Interprovincial Planning	8
	Board Planning.....	8
	Interdepartmental Cooperation.....	9
4.	Multi-level Coordination, Participation, Watershed Partnerships.....	10
4.1	Federal Government	10
4.2	The Prairie Provinces.....	10
4.3	Municipal, First Nation, Public, and Other Participation	11
4.4	Watershed Management Partnerships.....	11
5.	Implementation.....	12
5.1	Specific Policy Instruments	12
5.2	Funding.....	15
6.	Monitoring and Review.....	16
6.3	Review and Improvement.....	17
7.	PPWB Interview Contacts.....	17

1. Introduction and Prairie Context

Canada's Prairie Provinces share a diverse, but common landscape and history, and they are linked to a great degree by the water which flows from west to east through each province – primarily through the Saskatchewan-Nelson River Basin while each province shares several smaller river systems with its adjacent provincial neighbour.

The future of these three provinces will be very much connected to water, and their ability to manage water flows to ensure equal opportunities for the sustainable development of each province will depend largely on their ability to work together.

There is a long history of interprovincial water management cooperation – embodied in the history of the Prairie Provinces Water Board (PPWB) – through which an upstream province guarantees its downstream neighbour an apportioned volume of natural flow as measured at the interprovincial boundary.

The information and water management insights generated through almost 60 years of PPWB operation, combined with the Board's future direction represents a key aspect of Canadian water management history which is vital in considering the future of water management in the region.

2. Vision and Key Goals

The Prairie Provinces Water Board Vision may be interpreted as¹:

“Achieving effective interprovincial water management within the Prairie Provinces”

The Key Goals of its Mission, in accordance with the Master Agreement on Apportionment relate to²:

- Ensuring that eastward flowing interprovincial streams are shared equitably;
- Maintaining acceptable water quality levels at interprovincial boundaries;
- Addressing interprovincial groundwater management issues; and
- Facilitating a cooperative approach for the integrated development and management of interprovincial streams and aquifers to ensure their sustainability.

2.1 Process and Content

The Prairie Provinces Water Board (PPWB) has existed since 1948, when the provinces of Alberta, Saskatchewan and Manitoba, along with the Government of Canada signed the original *Prairie Provinces Water Board Agreement*, in an effort to address emerging challenges associated with inter-jurisdictional water resources management. At that time, the guiding principle for determining provincial water allocations sought to support the “highest and best economic use” of interprovincial Prairie water resources. By the 1960s, this approach, and the Board’s judgements became problematic, as the provinces began requesting larger allocations.

In 1969, the PPWB was reconstituted under a new agreement – the *Master Agreement on Apportionment* – based on the principle of “equitable sharing of available Prairie water resources.” The Master Agreement on Apportionment (MAA) is based on a formula which states that Alberta and Saskatchewan may each take up to 50% of natural water flows originating within their boundaries and 50% of the flow which enters their province. The remaining flow is left for Manitoba’s use. Each province decides how to use their share of interprovincial water. On the South Saskatchewan River there are stipulations on minimum volumes of use in Alberta and minimum flows at the Alberta-Saskatchewan boundary. There are also exceptions to this formula where interprovincial streams also cross the Canada-U.S. border³.

The PPWB’s reconstitution occurred as the *Canada Water Act* was developed⁴ (enacted in 1970), as part of Canada’s contribution to UNESCO’s International Hydrological Decade, which⁵:

¹ Dybvig, W. (2005). Personal Communication

² Environment Canada (2001). Prairie and Northern Region; Prairie Provinces Water Board: Available <http://www.pnr-rpn.ec.gc.ca/water/fa01/index.en.html> (Accessed 27 June 05).

³ Environment Canada (2001). Prairie and Northern Region; Prairie Provinces Water Board: Available <http://www.pnr-rpn.ec.gc.ca/water/fa01/fa01s01.en.html> (Accessed 27 June 05).

⁴ Justice Canada (2004). Laws: Consolidates Statutes and Regulations; Canada Water Act. Available: <http://laws.justice.gc.ca/en/C-11/text.html> (Accessed 10 July 2005).

⁵ Canadian Environmental Law Association (2004). Canada Water Legislation FAQs: Available: http://www.cela.ca/faq/cltn_detail.shtml?x+1343 (Accessed 10 July 2005).

- Authorizes various federal-provincial arrangements such as joint subcommittees, programs or agreements with respect to water resource management (Part 1);
- Regulates discharges of waste into “prescribed water quality management areas” and establishes federal water quality management programs for inter-jurisdictional waters (Part II);
- Establishes advisory committees to assist in the implementation of the Act (section 28); and
- Requires the Minister of Environment to report annually to Parliament on operations under the Act (section 38).

The MAA is a flexible agreement, and the Board members are empowered to interpret it as they see fit – based on current issues, trends, or challenges facing Prairie water resources. There have been several distinct periods of PPWB focus since establishment of the MAA in 1969:

Natural Flow Determination: 1970s – Evolution of the methodologies for determining natural flows and establishment of the monitoring network to support them.

Drainage Issues: 1980s – Significant agricultural drainage concerns emerging along the provincial boundaries required a cooperative approach.

Water Quality: 1990s – PPWB members could see this would become a major issue in the future.

Emerging Issues: 2000+ – The PPWB is exploring emerging issues related to interprovincial groundwater management, in-stream flows for aquatic health, and climate change to assess their implications for transboundary water sharing arrangements.

2.2 Formalization

The Master Agreement on Apportionment consists of a series of Schedules between Alberta and Saskatchewan (Schedule A), and Saskatchewan and Manitoba (Schedule B) – signed by the applicable Ministers from each province and witnessed by Canada. In the event of a dispute that can not be resolved by the Board, the agreement could be considered in federal court. Subsequent Schedules cover additional agreements on PPWB operations, natural flows, scientific monitoring, and water quality.⁶ It is noteworthy that any change to the agreement requires the agreement of all the parties.

2.3 Priorities and Timeframes

The PPWB’s evolving mandate and focus under the MAA since 1969 has resulted in the following current Board priorities:

- Water Quantity: involving the ongoing estimation and reporting of natural stream flow volumes – and decisions regarding the sharing of flows subject to interprovincial apportionment. Within the watersheds over 80 hydrometric stations are used to calculate

⁶ Prairie Provinces Water Board (2003). The 1969 Master Agreement on Apportionment: By-laws, Rules, and Procedures, Regina, SK, p. 73-84.

natural flows. Eastward flowing streams are monitored at 14 locations along the Alberta/Saskatchewan and Saskatchewan/Manitoba boundaries;⁷

- Water Quality: based on Schedule E to the MAA, signed in 1992, focusing on the PPWB's role in "fostering and facilitating interprovincial water quality management among the parties that encourages the protection and restoration of the aquatic environment." This role involves monitoring of interprovincial water quality and promoting the establishment of compatible water quality objectives in the Prairie provinces;⁸ and
- Groundwater: involving the provision of advice and recommendations on the management of interprovincial aquifers.⁹

In keeping with the PPWB mandate through provisions in the Master Agreement to facilitate a cooperative approach to interprovincial water management, PPWB members maintain an awareness and explore the potential range of involvement in initiatives and challenges beyond interprovincial boundaries. For example, in 1997 it explored the possibility of playing a larger role in coordinating a Prairie regional water strategy by hosting a Western Water Forum. Such an initiative could possibly assist in clarifying federal-provincial water responsibilities and strengthen federal program delivery roles outlined within the Canada Water Act.¹⁰

Continued development and allocation pressure on the Prairies, particularly in Alberta, will likely pose future challenges, especially during future drought periods. It would appear the PPWB may be challenged to help address Prairie water management issues in the future – beyond only interprovincial boundaries. The PPWB is currently reviewing its mandate and role but has indicated that it will likely be focusing on its core responsibilities related to ensuring compliance with the terms and conditions of the MAA.

⁷ Environment Canada (2001). Prairie and Northern Region; Prairie Provinces Water Board: Water Quantity Activities: Available <http://www.pnr-rpn.ec.gc.ca/water/fa01/fa01s21.en.html> (Accessed 27 June 05).

⁸ Environment Canada (2004). Prairie and Northern Region; Prairie Provinces Water Board: Water Quality Program. Available <http://www.pnr-rpn.ec.gc.ca/water/fa01/fa01d03/fa01s04> (Accessed 27 June 05).

⁹ Environment Canada (2001). Prairie and Northern Region; Prairie Provinces Water Board: Groundwater Activities: Available <http://www.pnr-rpn.ec.gc.ca/water/fa01/fa01s55.en.html> (Accessed 27 June 05).

¹⁰ Dybvig, Wayne (2005). Personal Communication.

3. Structure and Planning¹¹

The PPWB is comprised of five members – who work together to interpret the MAA in light of current issues and trends affecting Prairie water management. PPWB members are appointed by the Ministers with responsibility for water in each province, in addition to Environment Canada and Agriculture and Agri-Food Canada. Current membership is as follows:

Alberta – Robert Harrison, Manager – Partnerships and Strategy, Alberta Environment;

Saskatchewan – Vacant - Rob Wiebe, Alternate Member – Saskatchewan Watershed Authority;

Manitoba – Steve Topping, Director – Water Infrastructure, Manitoba Water Stewardship;

Agriculture and Agri-Food Canada – Carl Neggers, Director General – Prairie Farm Rehabilitation Administration (AAFC coordinated PPWB activities from 1948-1973, and retains membership given this history and the vital link between water and agriculture on the Prairies);

Environment Canada – Jim Vollmershausen, Regional Director General – Prairie and Northern Region (given its responsibility for interprovincial waters under the *Canada Water Act*, Environment Canada chairs the PPWB and has primary responsibility for the monitoring under the MAA. Secretariat support, including an Executive Director, Board secretary, and administration, are staff of Environment Canada although the provinces each pay 1/6 of the salary and administration costs of the Secretariat.

3.1 Committee Structure¹²

Committees are formed to support PPWB program areas – or to explore emerging issues which may become future PPWB program areas upon agreement by the Ministers of PPWB member departments. Committee members are drawn from any department that might have relevant technical expertise. Other committees are established on an ad hoc basis to deal with issues as they arise (e.g. the Committee on Instream Flow Needs was established to compile methodologies used by each jurisdiction and the Committee on Water Use is established every five years to update the PPWB water use data base).¹³

The following committees are currently in operation:

Committee on Hydrology

The Committee on Hydrology considers questions related to the quantity of water in eastward flowing streams which cross provincial boundaries. A key aspect relates to the regular review of natural flow calculations used in the MAA water allocation formula – based on flow data collected from 88 Environment Canada monitoring sites across the Prairies.

¹¹ Environment Canada (2001). Prairie and Northern Region; Prairie Provinces Water Board: Available <http://www.pnr-rpn.ec.gc.ca/water/fa01/fa01s01.en.html> (Accessed 27 June 05).

¹² Prairie Provinces Water Board (2004). PPWB 2003 Annual Report. Regina, SK. p. 30-33.

¹³ Dybvig, Wayne (2005). Personal Communication.

Committee on Water Quality

The Committee on Water Quality studies issues related to water quality and coordinates the PPWB water quality monitoring program – involving 12 PPWB monitoring sites. Data from other provincial sites may be used from time to time to investigate particular water quality problems that arise at the primary sites. In addition, the committee coordinates the PPWB's Water Quality Contingency Plan, which keeps downstream users informed of any upstream contaminant spills or potentially problematic water quality concerns. The Committee's mandate comes from Schedule E to the MAA.

Committee on Groundwater

The Committee on Groundwater is currently exploring questions related to the long-term management of trans-boundary aquifers. The PPWB views interprovincial groundwater as a growing concern, which may necessitate a PPWB role formalized with an MAA Schedule.

Committee on Instream Flow Needs

The Committee on Instream Flow Needs (IFN) focused on sharing information and experiences among PPWB member departments, with a view to establishing a catalogue of suitable methodologies to best determine and assess the aquatic requirements of interprovincial Prairie streams, with specific attention on fish. The Committee was disbanded in 2003 due to limited activity since completing a report in 1999. Future questions regarding IFN estimation methodologies will be undertaken by the Committee on Hydrology.¹⁴ The PPWB is currently in the planning stages for a workshop on IFN methodologies.¹⁵

3.2 Interprovincial Planning

The PPWB has not played a formal role in the development of provincial water strategies in Alberta, Saskatchewan, and Manitoba. However, partly due to regular meetings and information sharing among both Board and committee members, the members maintain an awareness of policies in the other provinces so they can be considered in their own processes. The three Prairie strategies do contain many common elements.

Board Planning

The PPWB affords a unique opportunity for senior water management personnel from each province to meet regularly to discuss and comment on issues and challenges – together – and with key departmental leadership from the federal government. As a result, strong relationships, both business and personal friendships (with a high degree of trust), have been established among Board members over the years. The fact that such solid relationships have been fostered over the years is indicative of the value placed on the PPWB – by all member departments – as a valuable mechanism for Prairie water management cooperation.

In 2004, the PPWB embarked on a comprehensive strategic planning process. The planning process brought together a number of stakeholders to discuss the role of the PPWB. Several possible scenarios were considered (including the possibility of the PPWB playing an expanded role in the coordination of Prairie-wide water policy). The Strategic Plan and Charter have not

¹⁴ Prairie Provinces Water Board (2004). PPWB 2003 Annual Report. Regina, SK. p. 3, 12.

¹⁵ Dybvig, Wayne (2005). Personal Communication.

been finalized. At this time, the PPWB has indicated that it is likely to strengthen and focus its role on the management of water quantity, quality, and groundwater – at the interprovincial boundaries (instead of Prairie-wide).

The PPWB is currently in the process of finalizing a new vision document (Charter) and strategic plan, which will include guiding principles, goals, and performance measures – with the ultimate goal of improving its abilities to coordinate effective interprovincial water management within the Prairies.

Interprovincial Cooperation

PPWB committee members typically hold similar positions with their respective provincial and federal departments, serving as an excellent communication network – both formally (to assist in addressing long-term trans-boundary water quantity and quality issues) and informally (in the event of short-term issues or potential emergencies). An example would be contacts for the various planning initiatives that are underway ensuring there is good communication and sharing of information on transboundary watersheds.

There is a strong sense that the productive and cooperative relationships developed through PPWB committee work will play a major role in addressing future major Prairie-wide challenges related to water quantity (i.e. water for irrigation, industrial, municipal, or energy use) and water quality.

(e.g. Lake Winnipeg). A high degree of trust and understanding through these interprovincial relationships have seen:

- a sustained level of interprovincial federal-provincial activity on interprovincial water issues identified as PPWB priorities;
- some impressive interprovincial water research, particularly related to drainage and water use and demand, which could only occur with a high degree of interprovincial cooperation;
- solid data collection and analysis for several impressive water projects in every province (i.e. Bow River Irrigation District planning in Alberta, the Gardiner Dam in Saskatchewan, and Manitoba Hydro development); and
- ongoing and significant improvements in the collection and sharing of accurate water information.

4. Multi-level Coordination, Participation, Watershed Partnerships

While the Prairie Provinces have primary responsibilities and authority for water, each province relies to some degree on the cooperation and partnership of the federal government and other policy and program delivery partners.

4.1 Federal Government

The federal government is generally perceived to be effectively managing transboundary water interests – whether interprovincial (i.e. Prairie Provinces Water Board) or international (International Joint Commission), however the lack of a clear national water strategy (or a regional strategy for the Prairies) is viewed by some as one reason why some important (formerly federal) activities outlined within the Canada Water Act have been reduced in recent years, specifically:

- elimination of the Flood Damage Reduction Program;
- reduction of the Hydrometric Monitoring program; and
- perceived reduced federal role in supporting water science.

The PPWB plays a valuable role to Environment Canada – by providing a direct mechanism for their participation in interprovincial Prairie water management – along the provincial boundaries where relative provincial responsibilities become less clear, and where the federal government is to play an increased role under the *Canada Water Act*.¹⁶

AAFC also benefits from participation on the PPWB – by helping to better understand agricultural water use and quality trends across the Prairies, and to explore means by which agriculture can improve its environmental performance within Prairie watersheds.¹⁷

Some PPWB members would see value in better defining relative federal and provincial water management roles, respecting that fact the provinces may have differing views on how these roles should be articulated and implemented. The Prairie provinces have different realities in terms of their relative natural water abundance, growth rates, and future plans.

4.2 The Prairie Provinces

The spirit of provincial cooperation among PPWB members is embodied within the Master Agreement on Apportionment (MAA) and its component Schedule agreements. The fact that the MAA (or any of its Schedules, even those between only two provinces) cannot be altered or cancelled without the full agreement of all parties to the MAA (Alberta, Saskatchewan, Manitoba, and Canada) is a testament to the high level of jurisdictional cooperation and trust which sets the foundation for the PPWB's activities.¹⁸

¹⁶ Vollmershausen, J. (2005). Personal Communication.

¹⁷ Neggers, C. (2005). Personal Communication.

¹⁸ Prairie Provinces Water Board (2003). The 1969 Master Agreement on Apportionment: Interprovincial Agreements, sections 4 and 5: Administration. Regina, SK. p. 4-5.

It is also important to note that while the MAA does contain provisions for dispute resolution (to the Federal Court of Canada¹⁹), all three Prairie provinces have always complied with water management recommendations presented by the PPWB – by confirming the PPWB’s recommendations through provincial Orders-in-Council.²⁰ This is attributed largely to the consensus-based approach utilized by the Board.

4.3 Municipal, First Nation, Public, and Other Participation

The PPWB is focused solely on jurisdictional relationships between Alberta, Saskatchewan, Manitoba, and Canada – focusing on water management issues at the interprovincial boundaries only. The PPWB does not actively seek consultative input from other levels of government such as rural municipalities (Saskatchewan and Manitoba) or municipal districts (Alberta). The PPWB also does not actively consult with stakeholders like First Nations, industry, non-government organizations (ENGOS), or the public at large.

4.4 Watershed Management Partnerships

Any consultations regarding water management (even along interprovincial boundaries) are handled by the provinces; there are examples along both the Alberta/Saskatchewan and Saskatchewan/Manitoba boundaries where cooperative watershed planning has occurred (e.g. Cold Lake Basin and Upper Assiniboine River), but this was coordinated directly between the provinces. However, it is common for issues like those related to Cold Lake to be raised at the PPWB and then contacts identified through the PPWB so the matter can be pursued on a bilateral basis. The Board then is involved in an advisory capacity on matters as they relate to transboundary water management.

¹⁹ Environment Canada (2001). Prairie and Northern Region; Prairie Provinces Water Board: Available <http://www.pnr-rpn.ec.gc.ca/water/fa01/fa01s01.en.html> (Accessed 27 June 05).

²⁰ Prairie Provinces Water Board (2003). The 1969 Master Agreement on Apportionment: Schedule C: The PPWB Agreement, Confirmation of the Board’s Recommendations. Regina, SK. p. 22.

5. Implementation

The PPWB does not have any dedicated internal program capability, but instead tends to rely on the resources of the federal and provincial member departments, and in some cases – consultants. Environment Canada (EC) is the primary data source and consultant to the PPWB, providing routine water quantity and water quality data from numerous PPWB monitoring locations.

Any member may ask the PPWB to consider a particular issue and provide recommendations to address it. The PPWB will often refer the matter to one of three working committees for an assessment and recommendations.

Once PPWB members agree on a suggested course of action, recommendations are prepared for the PPWB member departments. Occasionally, PPWB recommendations may also result in the drafting of a Schedule to the MAA – requiring the approval and signature of all applicable Ministers, and likely resulting in the establishment of a new working committee.

5.1 Specific Policy Instruments²¹

Government bodies can apply a mix of policy instruments in support of water management – including **institutional** instruments (strategies), **regulatory** (laws), **expenditure** (education and/or awareness, research and/or development), and **economic** instruments (such as taxes or incentives).

The foundation of all PPWB activities is the MAA, which may be considered a **regulatory** approach; however most activities are conducted in partnership with federal and provincial agencies. These agencies dedicate funds and staff to specific water management activities, which generally fall into the **expenditure** realm, with a focus on education and/or awareness and research and/or development generally outlined in the table below:

Key Goals	Major Board Initiatives	MAA Schedule and Lead Ctte	Status
1. Water Quantity – To ensure that eastward flowing interprovincial streams are shared equitably.	<ul style="list-style-type: none"> • climate change research associated with the value of water under alternative uses in the SK River Basin (expenditure) • monitoring Montana proposal for IJC review of apportionment calculations on St. Mary-Milk River (expenditure) • interprovincial lakes apportionment provisions piloted in the Cold Lake Basin 	<ul style="list-style-type: none"> • MAA Schedule A (Committee on Hydrology) 	<ul style="list-style-type: none"> • research underway • tracking proposal • basin apportioned with entitlements for AB, SK, MB – with industry and municipal

²¹ Prairie Provinces Water Board (2004). PPWB 2003 Annual Report. Regina, SK. p. 2-17

Prairie Water Strategies and Policies – Prairie Provinces Water Board

Working Draft: 21 September 2005

	<p>(expenditure)</p> <ul style="list-style-type: none"> • AB irrigation return flow data considered for apportionment computations (institutional) • review of hydrometric network to ensure changing use patterns are accurately monitored for determining natural flow, apportionment (expenditure) • PPWB water demand website established (expenditure) • reservoir evaporation estimate guidelines reviewed – to determine possible apportionment impacts (expenditure) • potential impacts of interprovincial drainage projects examined (expenditure) • potential flow impacts of climate change reviewed (expenditure) • natural flows for small interprovincial basins explored (expenditure) 	<ul style="list-style-type: none"> • MAA Schedule A/B (Committee on Hydrology) 	<p>data collection assistance</p> <ul style="list-style-type: none"> • AB irrigation districts return flow data provided to PPWB • hydrometric network expanded or reduced as required; concern expressed to EC re: monitoring site reductions (currently 88 sites are used; 12 are transboundary) • www.mb.ec.gc.ca/water/fa01/index.en.html • new methods piloted on three AB reservoirs; additional estimate options being sought • research underway • some research complete – further work on determining future use and impact of climate change in the Sask River Basin is being initiated with involvement of Manitoba Hydro and Sask Power. • studies for all 21 interprovincial basins complete
<p>2. <u>Water Quality</u> –To ensure acceptable water quality levels are maintained at interprovincial boundaries</p>	<ul style="list-style-type: none"> • multi-media water quality monitoring, including macro-invertebrates (expenditure) • evaluation to support development of a PPWB water quality index (expenditure) • research to develop 	<ul style="list-style-type: none"> • MAA Schedule E (Committee on Water Quality) 	<ul style="list-style-type: none"> • continuing toward a long-term biological monitoring program • Canadian Water Quality Index to be tested at 11 of 12 transboundary sites for five years • assessment occurring

Prairie Water Strategies and Policies – Prairie Provinces Water Board

Working Draft: 21 September 2005

	<p>nutrient water quality objectives which are appropriate for Prairie streams (expenditure)</p> <ul style="list-style-type: none"> • Analytical Methods Task Force reviews data from all federal and provincial sources to assess comparability (institutional) • PPWB water quality database incorporates an automated statistical procedure and CD-based data view for rapid information release (institutional) • biological monitoring pilot studies conducted on Churchill River and Red Deer River on SK-MB boundary (institutional) • Interprovincial Water Quality Contingency Plan exists to inform PPWB member departments of spills or unusual water quality problems (institutional) 		<p>at one monitoring site; EC will interpret nitrogen and phosphorus data</p> <ul style="list-style-type: none"> • ongoing • ongoing, with database management support and real-time linkages with EC data • evaluation results expected soon, with a focus on the effectiveness of “rapid biological assessment monitoring” • ongoing
<p>3. <u>Groundwater</u> – to address interprovincial groundwater management issues</p>	<ul style="list-style-type: none"> • Aquifer mapping and assessment along the MB-SK boundary, including safe yield estimates (expenditure) • Aquifer mapping and assessment along the AB-SK boundary, including safe yield estimates (expenditure) • Logic of negotiating a PPWB groundwater apportionment agreement Schedule considered (institutional) 	<ul style="list-style-type: none"> • MAA Schedule C (Committee on Groundwater) 	<ul style="list-style-type: none"> • Complete • Research underway • mapping, assessment, and sustainable yields determined; mgmt plans to be completed
<p>4. <u>PPWB Cooperation</u> – to facilitate a cooperative approach for the integrated development and management of</p>	<ul style="list-style-type: none"> • Methods for calculating instream flow needs considered (expenditure) • PPWB workshop on 	<ul style="list-style-type: none"> • MAA Schedule C (Committee on Instream Flow Needs) • MAA Schedule C 	<ul style="list-style-type: none"> • Report completed in 1999; committee disbanded in 2003 • workshop expected to

Prairie Water Strategies and Policies – Prairie Provinces Water Board

Working Draft: 21 September 2005

<p>interprovincial streams and aquifers to ensure sustainability</p>	<p>Instream Flow Needs (expenditure)</p> <ul style="list-style-type: none"> • PPWB mission and vision reviewed; drafting of strategic plan (institutional) • PPWB Charter 	<p>(Committee on Hydrology)</p> <ul style="list-style-type: none"> • MAA Schedule C (PPWB members) 	<p>occur in 2005</p> <ul style="list-style-type: none"> • planning process near completion • To be final fall 2005
--	---	---	--

5.2 Funding

Through the *Canada Water Act* administered by Environment Canada, the PPWB has federal spending authority to \$625k per year.²² Environment Canada finances the PPWB’s operations to a total of 50% of all approved costs; the remaining 50% is recovered from Alberta, Saskatchewan, and Manitoba equally (1/6th each).²³ The value of federal and provincial water management staff and other resources engaged in support of interprovincial water management is not known. Such contributions are frequently supported by the individual jurisdictions without direct cost to the PPWB.

From 1972-1995, the PPWB was managed by a semi-autonomous secretariat with dedicated staff. This mode of operation ceased in 1996 – with the Executive Director remaining as an Environment Canada staff position. Additional PPWB staff support is provided as required by Environment Canada – with costs shared by Canada and the provinces.

²² Prairie Provinces Water Board (2004). PPWB 2003 Annual Report. Regina, SK. p. 3.

²³ Prairie Provinces Water Board (2003). The 1969 Master Agreement on Apportionment: By-Laws, Part II, sections 16-15. Regina, SK. p. 76

6. Monitoring and Review

The PPWB expects to formalize a series of performance measures as part of its current strategic planning process (in progress). However, the PPWB’s role is very much focused on scientific monitoring – in terms of water quantity and water quality, and some general indicators do exist.

General PPWB targets relate to: ensuring that interprovincial recorded flows are no less than the 50% of natural flow-based allocations apportioned for each province under the MAA; ensuring that PPWB water quality objectives are met at the provincial boundaries; addressing interprovincial groundwater concerns; and staying within approved financial budgets.

In addition to the 50% water quantity apportionment limits established for each province (based on annual flows), the PPWB has also established water quality objectives for 11 interprovincial streams (a 12th site does not yet have objectives). These objectives are specific to the particular streams they cover – in recognition of the reality of regional water quality variation. The objectives were developed using a combination of provincial objectives and/or the Canadian Council of Ministers of Environment Surface Water Quality Guidelines.²⁴

The water quality objectives are site specific and consider the natural water quality characteristics at each site, in recognition of existing upstream water uses. Consequently the constituents of interest and the objectives can vary by site. In cases of exceedence, reasonable and practical measures are undertaken by the province in question, with such follow-up usually occurring through the Committee on Water Quality.

Table XX. Water-related Indicators for the Prairie Provinces Water Board

Document	Indicator Elements	Time-bound Targets
PPWB MAA Schedule A (AB-SK) ²⁵	AB entitled to utilize 50% of natural flows on interprovincial streams (with some exceptions on lakes and U.S. agreements)	Permanent allocation
PPWB MAA Schedule B (SK-MB) ²⁶	SK entitled to utilize 50% of natural flows entering from AB and 50% of natural flows on interprovincial streams arising in SK	Permanent allocation
PPWB Water Quality Objectives (based on 30+ parameters specific to each of 11	Percent Adherence to PPWB Objectives	None; average adherence percentage in the 94% range for past several years ²⁸

²⁴ Environment Canada (2004). Prairie and Northern Region; Prairie Provinces Water Board: Water Quality Program. Available <http://www.pnr-rpn.ec.gc.ca/water/fa01/fa01d03/fa01s04> (Accessed 27 June 05).

²⁵ Prairie Provinces Water Board (2003). The 1969 Master Agreement on Apportionment: Schedule A: Apportionment Agreement between Alberta and Saskatchewan, Section 4a. Regina, SK. p. 11.

²⁶ Prairie Provinces Water Board (2003). The 1969 Master Agreement on Apportionment: Schedule B: Apportionment Agreement between Saskatchewan and Manitoba. Regina, SK. p. 16.

interprovincial streams ²⁷		
---------------------------------------	--	--

6.3 Review and Improvement

The PPWB reviews annual water quality and water quantity monitoring results each year, with a view toward intensifying monitoring activity, should significant trends develop.

The PPWB is committed to formalized water indicator development through its current strategic planning process. Ideally, this process will also include timebound targets and a formal mechanism for evaluation and improvement – based on annually measured indicator progress. Identifying clear responsibility for this process will be important.

7. PPWB 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:

Dybvig, Wayne – Executive Director, Prairie Provinces Water Board

Herrington, Ross – Acting Secretary, Prairie Provinces Water Board

Harrison, Robert – Manager, Partnerships and Strategies: Alberta Environment

Ireland, Bryan – Acting Vice President, Operations: Saskatchewan Watershed Authority

Neggers, Carl – Director General, Agriculture and Agri-Food Canada – PFRA

Topping, Steve – Executive Director, Infrastructure and Operations: Manitoba Water Stewardship

Vollmershausen, Jim – PPWB Board Chair and Regional Director General, Prairie and Northern Region: Environment Canada

Wetlaufer, Bob – Sr. Advisor, Resource Management, PFRA: Agriculture and Agri-Food Canada (ret.)

Wiebe, Rob – PPWB Alternate Member, Saskatchewan Watershed Authority

²⁷ Prairie Provinces Water Board (2005). PPWB Water Quality Objectives. Regina, SK, 11p.

²⁸ Prairie Provinces Water Board (2004). PPWB 2003 Annual Report. Regina, SK, p. 15.