

ANNUAL REPORT • 2005

CANADA • ALBERTA • SASKATCHEWAN • MANITOBA

**PRAIRIE
PROVINCES
WATER
BOARD**



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WATER
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ANNUAL REPORT
FOR THE YEAR ENDING MARCH 31, 2006

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LETTER OF TRANSMITTAL

October 30, 2006

Honourable Rona Ambrose
Minister of the Environment
Ottawa, Ontario

Honourable Guy Boutilier
Minister of Alberta Environment
Edmonton, Alberta

Honourable Chuck Strahl
Minister of Agriculture & Agri-Food
Ottawa, Ontario

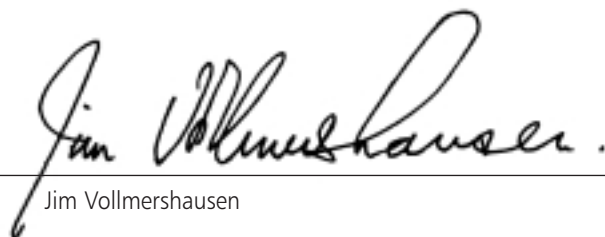
Honourable Christine Melnick
Minister of Manitoba Water Stewardship
Winnipeg, Manitoba

Honourable John Nilson, Q.C.
Minister Responsible for Saskatchewan Watershed Authority
Regina, Saskatchewan

Honourable Ministers:

On behalf of the members of the Prairie Provinces Water Board, it is my pleasure to submit herewith the Annual Report of the Prairie Provinces Water Board for the fiscal year ending March 31, 2006.

Yours truly,



Jim Vollmershausen

MESSAGE FROM THE CHAIR

This past year was one of considerable change for the Prairie Provinces Water Board (PPWB) in terms of both new directions and new people. Our Executive Director for 18 years, Richard Kellow, retired. He was replaced by a former Board member for Saskatchewan, Wayne Dybvig, under an Interchange Agreement between Canada and the Saskatchewan Watershed Authority. As well, the former secretary to the Board, Jim Rogers, accepted a position with Indian and Northern Affairs Canada and a replacement, Esther Kienholz, was recruited. I welcome these new staff to the PPWB and look forward to working with them.

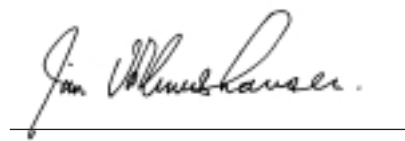
Over this past year, the Board became more engaged in defining its role. At the same time, other organizations such as the International Institute for Sustainable Development and the Conference Board of Canada undertook special studies and examinations of water governance. As part of these projects, case studies on the role of the PPWB in water management governance on the prairies were conducted. These activities are indicative of the growing interest in the role of the PPWB in the prairie region.

Over the past two years, the PPWB has been working on the development of a Charter and a Strategic Plan (Appendix I). Both of these were finalized this year and will serve as excellent information for anyone interested in the role and function of the Board. These documents lay out the accountabilities of the Board and its members. As a result, the activities of the Board are now more focused on ensuring that these responsibilities are

accomplished with the appropriate amount of due diligence and documentation.

The new Strategic Plan will serve us well for the next several years. In keeping with its use as a performance measure for the Board, our annual report this year is structured to report on our accomplishments within those defined goals. We have also changed how we report on compliance with our water quality objectives, with a view to making the information more relevant to the Master Agreement on Apportionment and understandable to the general public.

The success of the Board each and every year is due in large part to the work of the secretariat and its supporting committees. The Committees on Hydrology (COH), Groundwater (COG), and Water Quality (COWQ) are made up of senior representatives from all of the parties. It is their work that helps to ensure the Board and the parties can meet their obligations under the Master Agreement. The Board members appreciate their professional conduct and their hard work.



Jim Vollmershausen
Chair

MESSAGE FROM THE EXECUTIVE DIRECTOR

During 2005, runoff was well above normal across the prairies with record flows on some systems. As a result, apportionment was met on all watercourses. On the South Saskatchewan River, where there is the largest amount of development of all eastward flowing watercourses, Alberta delivered about 93% of the natural flow to Saskatchewan.

The Board finalized a Charter and a Strategic Plan in 2005, culminating work that was initiated in 2004 with a multi-agency workshop and subsequent work by a special Board committee of agency representatives. The refinement of the Board's role and responsibilities has provided a renewed consideration of the accountability of the Board and its supporting committees. As a result of this process, the Board has become more focused on its core responsibilities: ensuring apportionment is met, identifying exceedences to water quality objectives; and determining any threats to transboundary aquifers.

The Board continued its role in helping to ensure coordination of water management and planning that may have transboundary implications. The Board also coordinated a very successful workshop on instream flow needs. Representatives from a number of agencies that have an interest in instream flow needs were brought together for a day and one half to share information on approaches in general use within the prairies. Such a workshop highlights an important role the Board can play in helping convene forums for exchange of information.

Each of the three standing committees for Hydrology, Water Quality, and Groundwater had at least one face to face meeting and additional conference calls, as necessary, and each continued to advance knowledge in their particular areas of interest.

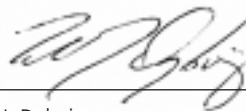
The Committee on Hydrology continued to look at ways to refine and improve the extensive PPWB

hydrometric network to ensure the accurate determination of apportionment. The Committee started the process of reassessing its data management and computational infrastructure in 2006.

The Committee on Water Quality revised how it will report on water quality objective exceedences, revised and updated its Spill Response Plan, and continued its work on the development of nutrient objectives.

The Committee on Groundwater finalized its project on the mapping of transboundary aquifers and initiated the development of a framework plan for aquifer management.

The PPWB continues to be responsive to new issues and tries to look ahead within the framework of the 35 year old agreement that established the Board. This past year, this was exemplified by: its support for the instream flow needs workshop; the continuing support for the development of nutrient objectives, a major issue throughout the prairies, particularly in Manitoba and Lake Winnipeg; completion of a study on the economic value of water in alternative uses; and the development of a forecast of future water use. Presentations at Board meetings on a new land and water information system under development by PFRA and on the new drought study by the University of Saskatchewan and other universities helped to keep the PPWB informed on new and emerging issues.



W. L. Dybvig
Executive Director

SUMMARY OF PERFORMANCE RESULTS

During 2005-2006, apportionment responsibilities of the Board were met through the following activities:

- reviewing and approving the hydrometric and meteorological networks;
- initiating a review of the natural flow computation computer programs;
- monitoring apportionment of the South Saskatchewan River below the Red Deer River, North Saskatchewan River, Churchill River, Saskatchewan River, Qu'Appelle River, Battle Creek, Lodge Creek, Middle Creek, and Cold Lake;
- undertaking and conducting various studies related to the current and future hydrology of eastward flowing prairies streams, and the impact of irrigation and other water uses on stream flows; and
- monitoring the impact of interprovincial drainage projects.

Apportionment requirements were met on all streams.

Cooperative efforts continued in 2005-2006 to better understand the nature and extent of interprovincial aquifers in support of their sustainable use and management. Efforts included studies related to mapping and assessment of trans-boundary aquifers, initiation of the development of an aquifer management framework study, a review of the Q_{20} concept and sustainable yield, development of an aquifer priority list for monitoring, and reporting of well casing failures and large groundwater withdrawals which might have interprovincial impacts.

The Committee on Water Quality (COWQ) implemented a new format for reporting water quality excursions, approved by the Board in 2004, and initiated review of water quality objectives, with nutrient objectives given top priority.

In 2005, water quality objectives were adhered to an average of 93% of the time.

A revised water quality monitoring program was presented to the Board. As agreed to by the

Board, the program will not address pharmaceuticals at this time. It was agreed that, in the future, the monitoring program would be approved in the fall of each year so that changes can be made based on a calendar year.

Through reporting procedures outlined in the PPWB Interprovincial Water Quality Contingency Plan, Alberta advised the COWQ and downstream users of water quality conditions resulting from high rainfall events during June and September. Higher than normal municipal effluent discharges resulted. In some cases, untreated effluent was released into receiving waters. No other spills were reported under the PPWB Contingency Plan.

During the year, the PPWB discussed issues related to several projects of interest to different jurisdictions. Among the issues discussed were:

- Highgate Dam proposal - North Saskatchewan River;
- Upper Assiniboine River/Shellmouth Reservoir;
- Co-Management of Resources in the Qu'Appelle River Basin;
- Water Management Plan for the South Saskatchewan River Basin;
- Special Areas Water Supply Project; and
- 1921 Order for the St. Mary/Milk Rivers.

The PPWB member agencies were informed about PPWB activities through:

- Board and Committee Minutes, Quarterly and Annual Reports, brochures/fact sheets, and technical reports;
- PPWB website;
- presentations at workshops and symposia; and
- letters to the Ministers of member agencies.

The PPWB organized a workshop on Instream Flow Needs (IFN) which was held March 8-9, 2006 in Calgary, Alberta.

PPWB, through the Executive Director, participated on a steering committee to oversee a study of the value of water to the Alberta economy.

1. INTRODUCTION

This report summarizes the activities of the Prairie Provinces Water Board (PPWB), its three standing Committees, the Transboundary Waters Unit (TWU) and Environment Canada (EC) staff involved in supporting PPWB activities for the period April 1, 2005 to March 31, 2006.

The PPWB administers the Master Agreement on Apportionment, signed on October 30, 1969 by Canada and the provinces of Alberta, Saskatchewan, and Manitoba.

The Board consists of three provincial members, representing the provinces of Alberta, Saskatchewan, and Manitoba and two federal members, representing Environment Canada and the Prairie Farm Rehabilitation Administration (PFRA) of Agriculture and Agri-Food Canada.

PPWB activities are equally funded by the provinces and the federal government, with the provinces each contributing one-sixth and the federal government (Environment Canada) contributing one-half of the annual budget. The Board approves the annual budget and workplans.

The Agreement provides for an equitable sharing of available waters for all eastward flowing streams, including interprovincial lakes, crossing interprovincial boundaries. It also serves to protect interprovincial aquifers and water quality. Schedules to the Agreement describe the role of the Board, stipulate how the water shall be apportioned and set water quality objectives for the water passing from Alberta to Saskatchewan and from Saskatchewan to Manitoba.

2. PERFORMANCE RESULTS

GOAL 1: AGREED INTERPROVINCIAL APPORTIONMENT OF WATER IS ACHIEVED

Monitoring Responsibilities

The 1969 Master Agreement on Apportionment directs "...that the Prairie Provinces Water Board shall monitor and report on the apportionment of waters set out in the provisions of the First and Second Agreements and ratified by the Master Agreement."

In accordance with the 1969 Master Agreement on Apportionment, all eastward flowing streams are subject to apportionment. At present, the Board monitors, on a monthly basis, the apportionment of the South Saskatchewan River below Red Deer River, the North Saskatchewan River, Churchill River, Saskatchewan River, Qu'Appelle River, Battle Creek, Lodge Creek, Middle Creek, and Cold Lake. In addition, the Board carries out the apportionment monitoring for the Assiniboine River, Pipestone Creek, and the Red Deer River (Sask) on an annual basis. Hydrometric stations needed for apportionment computation of these streams are included in the PPWB stations list.

Formal apportionment monitoring of an eastward flowing water course is initiated when water use increases to a level whereby the downstream jurisdiction's entitlement may be threatened.

The 1993 Committee on Hydrology (COH) report "Strategies for Apportionment Monitoring of Small Interprovincial Streams" (PPWB Report No. 122), evaluated and ranked interprovincial streams in terms of their potential for apportionment monitoring.

The categorization of small interprovincial streams for potential apportionment has been based on the following criteria:

- the number of times an apportionment deficit has, or would have, occurred in the past;
- the present level of use and forecasted future demands in both upstream and downstream provinces;
- the existence of storage projects in the upstream province; and

- the perception of basin residents towards the reality of an apportionment problem.

The COH reviews these water courses from time to time to identify whether water courses are to be monitored for apportionment.

In fulfilling the terms of this Agreement, Environment Canada, on behalf of the PPWB, monitors streamflow at several hydrometric sites. Data gathered are used by the PPWB to determine annual natural flows for apportionment purposes.

During 2005-2006, the COH reviewed the hydrometric network to ensure changing use patterns were appropriately monitored to allow computation of natural flow. As of March 31, 2006, 88 stations were required for computational purposes. These are plotted on the map in Appendix II.

The COH confirmed the continuing need for 17 Environment Canada meteorological monitoring stations in the three Prairie Provinces. These sites provide information for computing natural flow at the interprovincial boundaries.

At its October 31, 2005 meeting, the Board approved the 2006/2007 list of PPWB hydrometric and meteorological monitoring sites, as recommended by the COH.

Based on the advice of the COH, the Board directed the COH to undertake a review of the existing documentation of natural flow computational programs to ensure orderly transition of future secretariat staff so they will be able to undertake computations in an efficient and effective manner.

The Transboundary Waters Unit, Environment Canada, maintains 50 computer programs which are used for interprovincial natural flow computation. The COH has initiated a process to review the computational programs and data management techniques.

In 2005, Environment Canada, Calgary office, provided PPWB with hydrometric records needed for apportionment balance computations of the South Saskatchewan River. Quarterly reports on natural flows, consumptive uses, and storage changes for the South Saskatchewan River basin in Alberta were prepared and distributed.

The total annual natural flow for the South Saskatchewan River, at the point below its junction with the Red Deer River near the Alberta-Saskatchewan boundary, was 12,631,000 dam³. This compared with the total annual recorded flow of 11,813,000 cubic decametres (dam³). Recorded flow represented 93.5 percent of natural flow. A summary of recorded and natural flow volumes for 2005 at this apportionment point is shown in table and graph form in Appendix III. Figure 1 illustrates the percentage of annual natural flow, passed to Saskatchewan for the period 1980 to 2005. (Figure 1).

The natural flow of the Qu'Appelle River at the Saskatchewan-Manitoba boundary, between January 1, 2005 and December 31, 2005, was 333,133 dam³. Recorded flow, augmented by releases of 84,400 dam³ from Lake Diefenbaker, was 443,280 dam³. Recorded and natural flows for the year 2005 are shown in Appendix III.

Natural flows for the South Saskatchewan River basin were calculated using the Project Depletion Method (PDM), while natural flows for the Qu'Appelle River basin were determined using the Annual Water Balance Method (AWBM). Both methods have been approved by the Board.

Environment Canada continued to provide the Board with hydrometric information needed for computing natural flows of Lodge and Middle Creeks for apportionment purposes. Apportionment balance reports, providing the month-end apportionment balance of these two streams for the months of March through October, were prepared and distributed to PPWB agencies eight times during 2005.

In accordance with Article 6, Schedule A of the Master Agreement on Apportionment, Alberta is required to pass 75% of the annual natural flow of the Battle, Lodge, and Middle Creeks to Saskatchewan. During 2005, Alberta passed more than 75% of the annual natural flow to Saskatchewan. The 2005 flow data for Battle, Lodge, and Middle Creeks are shown in Appendix III.

The Board, at its March 1994 meeting, reviewed a COH report entitled "Interprovincial Lakes

Apportionment Study". Use of the Rational Method, and accompanying provisions, was approved for apportioning Cold Lake basin. In accordance with the Rational Method, the computed percentage of Cold Lake's natural flow to which each province is entitled is 31.6% for Alberta, 43.4% for Saskatchewan, and 25% for Manitoba.

Natural flow at the outlet of Cold Lake was computed periodically during 2005 to determine if Saskatchewan had received its share of natural flow from Cold Lake. Based on the information provided by Environment Canada, Imperial Oil, and the City of Cold Lake, recorded outflow for the period January to December 2005 was 896,633 dam³, or 99.4 % of the natural outflow of 902,443 dam³. Figure 2 illustrates the percentage of annual natural flow passed to Saskatchewan for the period 1993 to 2005.

Natural flows (or apportionment flows) were also calculated for the North Saskatchewan, Saskatchewan, and Churchill Rivers at the provincial boundaries. Monthly recorded and natural flows (or apportionment flows) at these sites, as well as recorded flows at five additional boundary sites, are shown in Appendix III. Apportionment was met on all the watersheds.

In addition to the apportionment monitoring activities, PPWB also computed the apportionment balance of Pipestone Creek, Assiniboine River, and Red Deer River at the Saskatchewan-Manitoba boundary. The 2005 annual natural flow on Pipestone Creek was 55,266 dam³ compared with recorded flows of 54,816 dam³ (99% of natural flow). The annual natural flow on the Assiniboine River was 174,600 dam³ compared with recorded flows of 169,000 dam³ (97% of natural flow). The natural flow on the Red Deer River (Sask) at Erwood was 950,914 dam³ compared with recorded flows of 991,000 dam³ (104% of natural flow).

In 2005, Saskatchewan met the apportionment requirements by passing more than 50% of the natural flow to Manitoba on each watercourse.

Figure 1

**PERCENT OF NATURAL FLOW PASSED TO SASKATCHEWAN
SOUTH SASKATCHEWAN RIVER BELOW RED DEER RIVER**

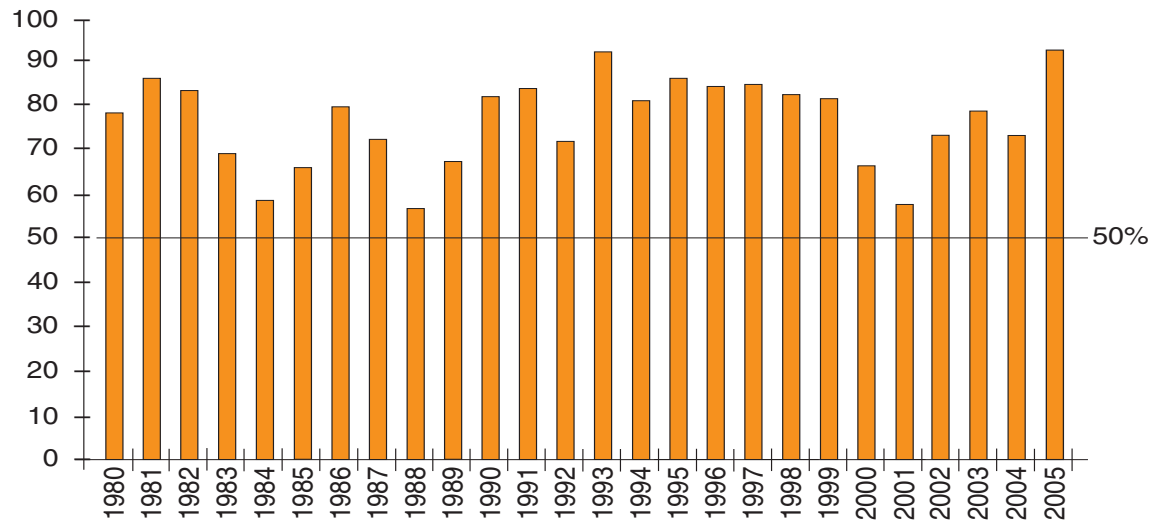
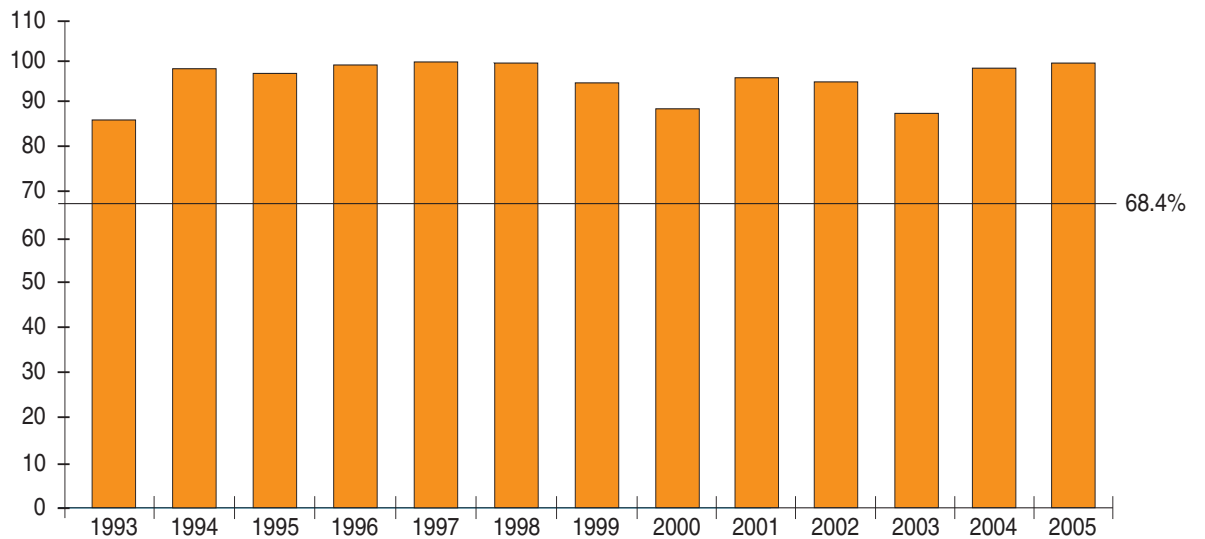


Figure 2

**PERCENT OF NATURAL FLOW PASSED TO SASKATCHEWAN
COLD LAKE BASIN**



STUDIES

Battle River Natural Flow Study

In the spring of 2005, the COH identified the need for a Battle River Natural Flow Study, to be undertaken by the Saskatchewan Watershed Authority. It is anticipated that the first draft will be completed early in 2006-2007 fiscal year.

The Battle River Natural Flow Study will be updated using the 1982 study methodology and current Terms of Reference to meet the following objectives:

- 1) determine the historic (1980-2004) level of water use for the Battle River upstream of the Alberta-Saskatchewan boundary;
- 2) naturalize flows for the Battle River at the Alberta-Saskatchewan boundary by adding the water uses to the recorded flows at hydrometric station 05FE004, Battle River near Saskatchewan Boundary; and
- 3) determine if an apportionment deficit would have occurred at the Alberta-Saskatchewan boundary from 1912 to 2004, based on historic (1912-2004) and current (2004) water uses within the Battle River basin.

Saskatchewan River Future Streamflow Study

The PPWB approved funding for a study to provide information on possible future flow conditions in the Saskatchewan River system. Phase 1 of the study, "Projected Flows of the Saskatchewan River System for Hydro Development and Planning", was completed in February 2006 by R. Halliday and Associates.

At its meeting in March 2006, the Board asked the COH to develop Terms of Reference for Phase 2. SaskPower and Manitoba Hydro have expressed an interest in this study to assist their future business planning and have offered financial support. Phase 2 will proceed in 2006-2007.

The COH suggested that a sequence of flow arrays be generated using the historical natural flow, adjusted for the effect of future consumptive use.

Proposed Drainage Impact Studies

The PPWB, through the COH, discussed a potential collaboration with Ducks Unlimited Canada (DU) on proposed drainage impact studies. DU proposed using Smith Creek, near Marchwell, Saskatchewan as a test watershed for developing and evaluating tools to assess the impacts of drainage on flood flows and restoration of wetlands. The COH has also had discussions with university researchers to develop a computer model to predict runoff from drained areas. This project was deferred this fiscal year.

South Saskatchewan River Irrigation Return Flow Monitoring Network

At its October 2005 meeting, the Board approved, in principle, the initiation of a review of current methods used to estimate return flows. As directed by the Board, the COH developed draft terms of reference for the study.

The scope of the study requires liaison with Irrigation Districts in Alberta, Alberta Agriculture, Food, and Rural Development, Alberta Environment, Environment Canada, and Agriculture and Agri-Food Canada. It includes three work elements: data compilation, data analysis and reporting, and recommendations.

The Environment Canada, Water Survey of Canada office in Calgary will proceed with the study in 2006-2007, with funding support from PPWB.

Hydrometric Monitoring Network Evaluation Studies

The COH recommended that further investigation of the Qu'Appelle River's apportionment monitoring network is required. The Saskatchewan Watershed Authority is currently developing a Water Resources Management Model (WRMM) application for the Qu'Appelle River. It is anticipated that a report will be completed in 2006-2007.

Annual Water Use Report Boxelder Creek Basin

Boxelder Creek is part of an internal drainage basin straddling the Alberta-Saskatchewan bound-

ary, midway between Maple Creek, Saskatchewan and Medicine Hat, Alberta. Because of the complexity of the basin, including numerous diversions and the high percentage of natural flow allocated for water use, the PPWB has agreed that Boxelder Creek be treated as a special interprovincial basin. Available flow in this basin is to be jointly managed by Alberta and Saskatchewan.

Alberta and Saskatchewan annually collect sufficient water use data to provide an estimate of total consumption in the Boxelder Creek Basin. This data is reported to the COH.

In 2005, a total of 938 dam³ was diverted for irrigation purposes in the Alberta portion of the Boxelder Creek Basin. Based on the responses of the 2005 water use survey, conducted by the Saskatchewan Watershed Authority, 21 dam³ was diverted for irrigation purposes in the Saskatchewan portion of the Boxelder Creek basin.

Annual Report on Interprovincial Drainage Projects

The COH prepares an annual report on drainage projects approved in Saskatchewan that could have downstream impacts in Manitoba.

The Board agreed with the COH that there is no need for Alberta to provide the PPWB with drainage project information on an ongoing basis, unless there is a specific project that could have an impact on Saskatchewan.

In 2005, Saskatchewan licensed 26 new drainage projects. Manitoba reported no projects with the potential to affect streams crossing interprovincial boundaries.

PPWB WATER USE DATABASE

At its March, 2006 meeting, the Board decided to discontinue the current water use database, based on a recommendation from the COH. The rationale for the decision was that the database has not been well used in the past and that most jurisdictions have accessible databases showing the quantities of water allocated.

New allocations of water use will be reported annually to the Board by the members so that they can be considered in the calculation of natural flows. The COH will be addressing related procedures further in 2006-2007.

GOAL 2: INTERPROVINCIAL GROUNDWATER AQUIFERS ARE PROTECTED AND USED SUSTAINABLY

The Committee on Groundwater (COG), at its October 2005 meeting, discussed the recommendations of Parts 1 and 2 of a study conducted by the Saskatchewan Research Council (SRC) dealing with the mapping and assessment of transboundary aquifers.

Recommendations related mainly to the sharing of data bases and naming of aquifers. The COG agreed that a unified naming system be established to ensure that a consistent approach is used in the naming of transboundary aquifers.

The Committee also agreed that geochemical and pumping test data be linked to provincial water well databases by using the unique well / testhole identifier. Such tasks were to be implemented by individual provinces.

The COG has initiated discussions on the possible need for baseline groundwater monitoring at the Alberta/Saskatchewan and Saskatchewan/Manitoba boundaries. In 2006 they expect to identify priority aquifers for monitoring.

Conceptual Aquifer Management Framework Study

In October 2005, the COG proposed that a conceptual aquifer plan project be undertaken. The project would provide a better understanding of the kind of information that is needed to allocate, or apportion, surface and groundwater within a complete hydrological balance at transboundary locations.

The Committee finalized the Terms of Reference for the "Conceptual Aquifer Management Framework Study" in March 2006.

As suggested by the COG, in March 2006 the Board entered into a contract with the SRC for a transboundary aquifer management framework study. The study will likely be completed in the fall of 2006.

The Q_{20} Concept and Sustainable Aquifer Yield

The Board, at its March 2003 meeting, approved funding for a contract between Alberta Environment and SRC to conduct a review of the Q_{20} method to determine sustainable aquifer yield.

The report was discussed by the COG in October 2005. The Q_{20} Method, as described in the report, is a straight forward procedure which can be used to calculate the degree of impact of withdrawals in any area on aquifers. This is one way of transforming the impact of withdrawals to a large-scale aquifer.

In October 2005, the Committee discussed ways to quantify groundwater and surface water interaction and to quantify sustainable yield. A short discussion paper describing the concept of sustainable yield will be prepared for discussion at the fall 2006 COG meeting.

Priority Listing for Transboundary Aquifers

Establishment of a priority listing for transboundary aquifers where issues could arise is one of the work items identified in the COG multi-year work plans. There are 13 transboundary aquifers along the Alberta-Saskatchewan boundary and six along the Saskatchewan-Manitoba boundary. Appendix IV provides a list of major interprovincial aquifers in the prairies.

The Committee agreed that the priorities for determining future sharing arrangements for aquifers along the Alberta-Saskatchewan boundary should be ranked as follows:

- 1) aquifer along the Cold Lake area;
- 2) aquifer near the South Saskatchewan River crossing, and
- 3) aquifer near the North Saskatchewan River crossing.

Along the Manitoba-Saskatchewan boundary, the aquifer near the Three Rivers area should be ranked highest.

Well Casing Failure Reporting

Due to historical public concerns about the potential threats from well casing failures, the COG agreed that any well casing failure in the Cold Lake area (Township 63 to 66 and Range 6) should be reported to the Committee. The Alberta COG member will inform the Committee of any casing failure incidents, as they are reported to Alberta Environment.

One casing failure event was reported by Alberta during 2005/2006. This well casing failure had no adverse effect on the aquifer in the area.

Reporting of Large Withdrawals

The COG, in dealing with guidelines for reporting projects with large groundwater withdrawals near

the interprovincial boundary, agreed that the types of projects for which the neighbouring provinces should be notified include:

- 1) projects with the cone of depression potentially extending into the neighbouring province; and
- 2) controversial projects where the cone of depression from the project may not be expected to extend into the neighbouring province.

Provincial COG members have contacted their respective water rights offices to inform them of the need to report groundwater projects with significant withdrawals to the neighbouring province.

GOAL 3: AGREED INTERPROVINCIAL WATER QUALITY OBJECTIVES ARE ACHIEVED

The Master Agreement on Apportionment includes a schedule of water quality objectives that were established for a number of key water courses at Alberta-Saskatchewan and Saskatchewan-Manitoba boundary locations. The monitoring locations are shown in Appendix II.

Each year a water quality monitoring program is approved by the PPWB and the results compared with the objectives to determine if any excursions to the objectives occurred. If there are any, the COWQ will prepare a workplan to undertake an assessment of the cause and the potential to mitigate.

Water Quality Monitoring Program

As in previous years, the Committee reviewed and approved the PPWB Water Quality Monitoring Program for fiscal 2005/2006 at the March 15, 2005 meeting. Changes to the monitoring program from the previous year included:

- 1) a reversion to monthly monitoring at the Beaver River site, as per the alternate year strategy for this site and,
- 2) at a request from the Saskatchewan member, an increase to the major ion sampling at the Qu'Appelle River site from 4 to 12 times per year in order to augment several new provincial assessments.

No biological sampling was scheduled for fiscal year 2005/2006.

In addition to the review in March 2005, the PPWB water quality monitoring program was reviewed in detail at the fall meetings. This included a review of the sampling frequency and seasonality over the previous 10 years at each site. A revised monitoring program was prepared for recommendation and presentation to the PPWB.

Recommendations included changes to the monitoring program but also to the process such that, the monitoring program be reviewed and approved in the fall each year so that changes can be implemented on a calendar year in con-

cor- dance with the excursion reporting. In addition, two key points were considered while reviewing the monitoring program: 1) a need for consistent sampling of parameters and frequency at a site to allow for more consistent results input into trend analyses, and 2) a need to take into account seasonality in discharge and parameter concentrations for sites with monitoring frequencies of fewer than 12 times a year. The COWQ also evaluated the need for pharmaceuticals monitoring and the issue was discussed by the COWQ at the joint meeting with the Board October 31 - November 1, 2005. The Board believes that it is still too early to consider developing monitoring for pharmaceuticals. A record of the discussions for changes for each site is provided for future reference in the minutes to the COWQ meetings (COWQ Meeting #80). Specific changes to the monitoring program included:

- the full parameter suite (nutrients, major ions, metals) will be collected at all sites for each scheduled visit;
- the frequency will increase to 7 time/year for sites with bacteriological sampling in open water;
- the sampling frequency for the Red Deer River at the Saskatchewan-Manitoba border will increase from 4 to 6 times per year;
- the sampling frequency for the Beaver River station will remain at 12 times/year and not alternate with a lesser frequency; and
- the sampling collection will be based on the seasonality of the water quality data for stations with a sampling frequency of fewer than 12 times/year, to ensure that sampling is conducted at time periods when exceedences may occur.

The PPWB Water Quality Monitoring Parameter List is included in Appendix V.

Water Quality Objectives

The COWQ started to review the existing water quality objectives to determine if they are still appropriate, given the monitoring information compiled to date. The first priority is to develop new nutrient objectives.

An approach for establishing new site-specific nutrient water quality objectives for transboundary

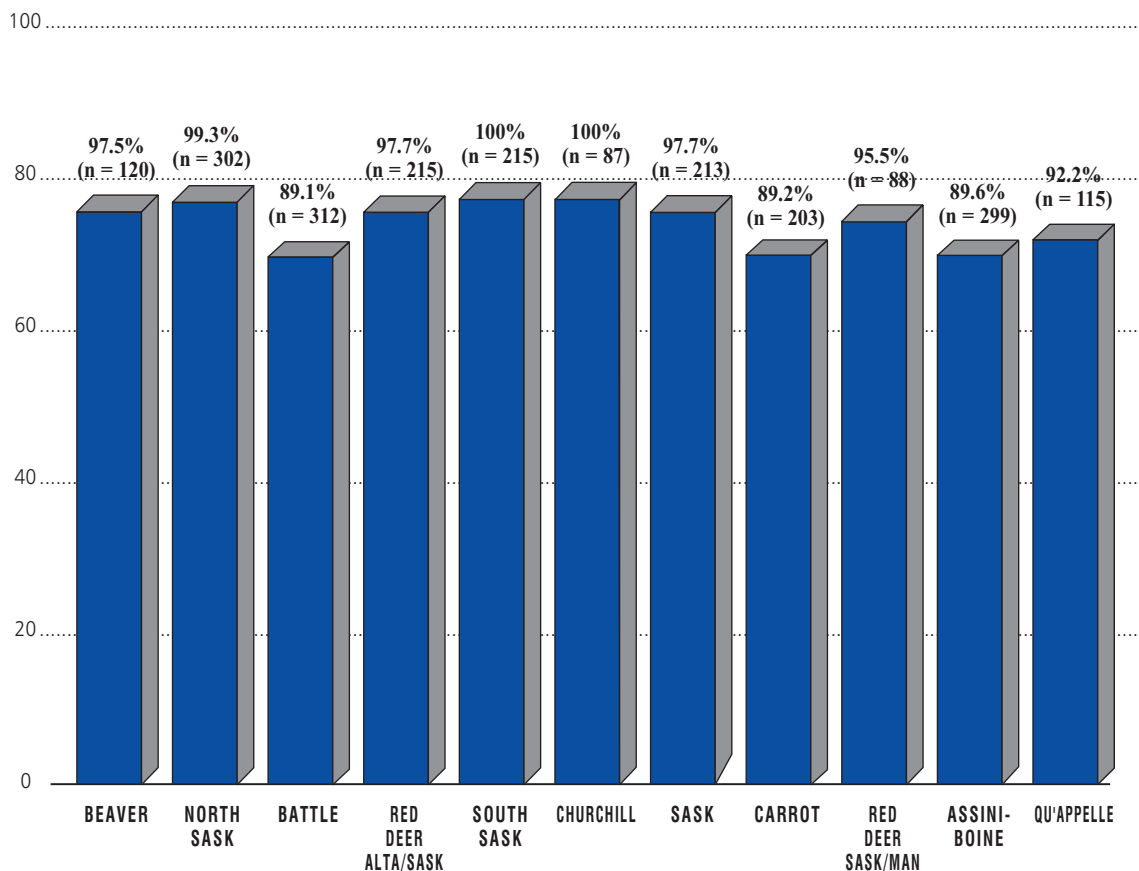
sites was developed and a pilot study initiated. The steps of this approach are based somewhat on those within the Environment Canada Framework for Phosphorus Management, (Environment Canada 2004 Canadian Guidance Framework for the Management of Phosphorus in Freshwater Systems. Ecosystem Health: Science-based Solutions Report No. 1-8).

Included are determination of the ecosystem goal for setting the objectives, and determination of an appropriate nutrient reference condition which includes consideration of seasonal patterns and long term trends in nutrient concentration as well as relationships with river discharge. Although this approach was agreed to in principle as a scientifically defensible approach, the COWQ will review

examples of how the site specific objectives derived in this manner would be applied and validated. Environment Canada is currently preparing several examples for the COWQ to review at a future meeting.

The COWQ annually reviews the results of the PPWB Water Quality Monitoring Program and compares the data to PPWB Water Quality Objectives. In 2005, the PPWB reach-specific water quality objectives were adhered to, on average, 93% of the time over a total of 2270 comparisons of water chemistry results to the objectives (Figure 3). Although the overall adherence rate is similar to previous years, some differences were observed on a site specific basis.

Figure 3 **2005 PERCENT ADHERENCE TO PPWB SITE SPECIFIC OBJECTIVES**
(n=total number of comparisons to PPWB objectives)



Two sites, the Churchill and Beaver Rivers, exhibited 100% adherence in 2005. High adherence at the Churchill River site is typical. However, the number of comparisons was reduced by about 25% due to a missed sample in mid-winter because of unsafe sampling conditions. Although, in the past, the Beaver River typically had several excursions per year (fecal coliforms, manganese, iron), this year no exceedences were detected, even with an increased number of comparisons completed (203 in 2005 compared to 122 in 2004). The remaining four sites on the Alberta - Saskatchewan border (N. Sask, S. Sask, Battle, and Red Deer Rivers) exhibited decreases ranging from 0.4- 7.9% in overall adherence rates, compared to 2004. The largest change was observed at the Red Deer River (Alta/Sask). For the most part, these decreases can be attributed to excursions at these sites to total metal objectives. These excursions occurred in April, June, and August. All were associated with 2-3 fold increases in suspended sediment concentrations, likely associated with high discharge events. Fecal coliforms exhibited typical excursion rates at these sites (2-4/year), with the exception of the South Saskatchewan River which exhibited 2 excursions in 2005. Excursions have not been noted in recent years at this site. High precipitation and river flow rates in May and June, resulting in several sewage lagoon overflow events, likely contributed to the fecal coliform excursions in June of 2005.

For the more southerly sites on the Saskatchewan - Manitoba border, little change to overall adherence rates was observed for the Saskatchewan, Carrot, or Red Deer (Sask/Man) River sites. Adherence rates for these sites decreased slightly (1-2%). Changes for the Saskatchewan and Red Deer River sites were due to a single additional excursion for a single parameter. In the Carrot River, 6 excursions to the dissolved oxygen objective of 6.5 mg/L were observed during the growing season (May - October). The lowest value of 3.7 mg/L occurred in June. The average over the 6 months was 5.1 mg/L. The Saskatchewan River also had an excursion to the oxygen objective in July, not typically observed at this site. As these are spot oxygen readings typically measured during mid-day when daily maximums may be occurring, these findings will be investigated further.

The remaining two sites at the Saskatchewan - Manitoba border exhibited improvements to their

adherence rates. The Assiniboine and Qu'Appelle Rivers improved their adherence rates by 3%, largely due to the elimination of excursions to the fecal coliform objective and, in the Assiniboine, to chloride and sodium.

Seven parameters consistently show exceedences at several sites and account for 72% of all exceedences observed in 2005. These parameters and their overall exceedence rates in descending order include: total phosphorus (28%), dissolved manganese (11%), dissolved sodium (11%), dissolved oxygen (9%), total copper (8%), and total dissolved solids (5%).

Relatively high nutrient levels are typical of prairie streams. Similar to previous years, adherence to the nitrate plus nitrite objective (10 mg/L) was 100% for all PPWB river reaches. However, at all sites where an interim total phosphorous objective exists (0.05 mg/L), with the exception of the Churchill River (100% adherence), the percent adherence ranged from, at best, 50% (Red Deer (Sask/Man) River) to 0% in the Assiniboine, Carrot and Qu'Appelle Rivers. The PPWB is in the process of revising the total phosphorus objective so that it is more appropriate to prairie stream ecosystems.

The dissolved manganese objective was exceeded a total of 17 times, 7 of those being from the Assiniboine River with the remainder distributed among the Battle, Red Deer (Sask/Man), Carrot, and Qu'Appelle Rivers. Previous provincial and federal studies have concluded that these exceedences are largely natural in origin (e.g., groundwater source).

The objective for sodium was exceeded on a total of 17 occasions. Exceedences largely occurred in the Qu'Appelle (9/10 samples) and Battle (7/12) Rivers, with one excursion in the Carrot River. The reduced sodium excursion rate in the Battle River corresponds to a decrease in average concentrations throughout the year (sodium concentration: 2005 - 111 mg/L; 2004 - 163 mg/L).

Comparisons to sodium excursion rates for previous years for the Qu'Appelle River is difficult as an increased sampling effort for major ions was initiated in 2005. However, of the three major ion samples taken in 2004, all three exceeded the sodium objective. As in previous analyses, these excursions may, in part, be due to a high propor-

tion of groundwater input to the systems during low flows. There may also be point and/or non-point inputs which need further investigations.

At least one excursion to the dissolved oxygen objective is observed at each of the Saskatchewan-Manitoba border sites, with the exception of the Churchill River. Of particular interest this year is the increase in excursions in the Carrot River where 6 of 7 samples were below the 6.5 mg/L objective during open water sampling. The Assiniboine River had the next most dissolved oxygen excursions, not atypical from previous years, while the other Saskatchewan-Manitoba sites exhibited a similar number of excursions compared with previous years. No dissolved oxygen excursions were observed at the Alberta-Saskatchewan Sites.

The total copper objective was exceeded 13 times at sites along the Alberta-Saskatchewan border, all of which were associated with the high sediment loads mentioned previously.

Of the four PPWB sites with an objective for total dissolved solids, only the Battle River exhibited exceedences. The total dissolved solids objective (500 mg/litre) for the Battle River was exceeded 66% of the time, an improvement over the 2004 rate of 100%. As with sodium at this site, these

excursions may, in part, be due to a high proportion of groundwater input to the systems during low flows, and the underlying geology. With a higher discharge regime in 2005, the proportion of ground water would be reduced and thus, the reduced exceedence rate is not surprising.

Other parameters which occasionally exceeded objectives were chloride, dissolved iron, ammonia, and, this year in particular, many of the total metals. All other parameters, which have PPWB objectives listed in Schedule E and which were measured in 2005, did not exceed the objectives.

Excursion Report

A review of the final corrections to 2003 Excursion Report was conducted and presented to the PPWB. An erratum was drafted and is included with the 2003 PPWB Annual Report.

The 2004 Excursion Report was reviewed for recommendation to the PPWB. This 2004 review included a revised Excursion Reporting Format and Protocol which simplifies the results for presentation. This new format was recommended to the PPWB for future excursion reporting and was implemented for 2005 (Appendix VI).

GOAL 4: JURISDICTIONS ARE INFORMED ABOUT EMERGENCY AND UNUSUAL WATER QUALITY CONDITIONS

PPWB Contingency Plan

The PPWB Interprovincial Water Quality Contingency Plan is an effective method of informing Board agencies of spills or unusual water quality conditions in interprovincial streams. The plan was updated in October 2005 with member agencies reporting any spills or unusual water quality conditions with the potential to affect downstream water quality or create possible public concern. A spill notification form was drafted for use by Board agencies.

In June and September of 2005 high rain fall events in Alberta triggered several municipal facili-

ties to exceed their capacity. As a result, there were higher rates of effluent discharge and some untreated sewage released into receiving waters. These conditions were reported to the COWQ as well as downstream users. Environment Canada increased sampling efforts at several locations. Although four sampling locations on the Alberta-Saskatchewan border (North and South Saskatchewan, Battle and Red Deer Rivers) did exhibit fecal coliform exceedences in June and September of 2005, overall, excursion rates for fecal coliforms at the Alberta-Saskatchewan border were not substantially different from previous years.

No other spills have been reported under the PPWB Contingency Plan in 2005.

GOAL 5: CONFLICTS OVER INTERJURISDICTIONAL WATER ISSUES ARE AVOIDED

During the year, the PPWB discussed issues related to several existing or proposed projects of interest to different jurisdictions.

Highgate Dam Proposal - North Saskatchewan River

A local non-profit group in the North Battleford area of Saskatchewan is promoting the construction of a dam on the North Saskatchewan River about 15 km upstream from North Battleford. Funding was requested from AAFC, under the National Water Supply Expansion Program, for a pre-feasibility study. The proposed project is being discussed as a concept and no feasibility assessment has been conducted.

Upper Assiniboine River/Shellmouth Reservoir

The project involves modifications to the Shellmouth Dam on the Assiniboine River in Manitoba. An environmental assessment was undertaken with completion planned for the fall of 2006. Further study of downstream impacts was required. Operation of the project will flood additional land upstream in Saskatchewan. The project, therefore, requires licensing by both Manitoba and Saskatchewan. PFRA is the lead agency responsible for acquiring upstream land control.

Co-Management of Resources in the Qu'Appelle River Basin

At issue here is the ongoing operation and maintenance of three federally owned water control structures on the Qu'Appelle River (Echo Lake, Crooked Lake, and Round Lake) during negotiations towards final settlement agreements that will resolve First Nations' claims. Interim Agreements were signed May 20, 2005 by Canada, Saskatchewan, and First Nations to facilitate operation of the Echo Lake structure in 2005 - 2006. The structures on Round and Crooked Lakes have not been operated for the past three years.

Transboundary implications for Manitoba will likely be minimal but there could be minor water quality impacts.

Water Management Plan for the South Saskatchewan River Basin

The province of Alberta undertook the development of a Water Management Plan for the South Saskatchewan River Basin in Alberta. Public consultations, including aboriginal consultations, were completed in 2005-2006. Instream flow needs, existing allocations, and conservation objectives were considered.

A Draft Plan was released in October 2005 with the final plan expected early in 2006-2007.

When the plan is finalized, it might establish allocation limits and instream flow targets on the Bow, Oldman, Red Deer, and South Saskatchewan Rivers.

Flows in the South Saskatchewan River basin are apportioned among Alberta, Saskatchewan and Manitoba.

Special Areas Water Supply Project

The Special Areas Board in Alberta filed an application to divert water from the Red Deer River to provide an improved supply of water for landowners and communities in the counties of Stettler and Paintearth in the Special Areas of the province.

The average use of the project would amount to about 5% of the median annual natural flow of the Red Deer River. The percentage of withdrawals will be higher in some months when flows are lower or in low flow years.

The proposed pump station will be located near Nevis. Water will be conveyed through a combination of pipelines and canals to the distribution system in Sounding and Berry Creeks. As a portion of the water would pass through the Battle River sub-basin and eventually flow into the Sounding Creek Basin, this is considered an inter-basin transfer and will require approval via a Special Act of the Alberta Legislature. Based on hydrological modelling (1930s - 1995) spilling of water from Sounding Lake into the Battle River is considered very unlikely.

Public consultations demonstrated considerable local public support for the proposal in the bene-

fitting areas of the Red Deer Basin with less support outside. No decision will be made until after the South Saskatchewan River Basin Plan is approved.

1921 Order for the St. Mary and Milk Rivers

In response to a request from the State of Montana to open the 1921 Order for review, the International Joint Commission (IJC) established the St. Mary-Milk Rivers Administrative Measures Task Force in December 2004. The Task Force was to examine whether the existing administrative procedures in the basin can be improved to ensure more beneficial use and optimal receipt, by each country, of its apportioned waters within the terms of the 1921 IJC Order. Canadian members

included Environment Canada (Co-Chair), Saskatchewan Watershed Authority, and Alberta Environment. Consideration was given by PPWB to the potential future implications for apportionment of the Eastern Tributaries to the Milk River. The St. Mary River contributes to the South Saskatchewan River. Any change to the current administrative measures and the 1921 Order could impact flows on the South Saskatchewan River.

The report to the IJC was completed in 2005-2006 and posted on the internet at http://www.ijc.org/rel/news/060418_e.htm

Submission of the report to the IJC was planned for April 2006 with public consultations to follow in May 2006.

GOAL 6: JURISDICTIONS ARE INFORMED ABOUT PPWB ACTIVITIES

The PPWB member agencies were informed about PPWB activities through various means, including the ongoing distribution of Board and Committee Minutes and Quarterly and Annual Reports, as well as through brochures and fact sheets, technical reports, presentations at workshops and symposia, and the PPWB website housed on Environment Canada's website at <http://www.pnr-rpn.ec.gc.ca/water/fa01/index.en.html>

In particular, senior levels in member agencies were informed about PPWB through the distribu-

tion of the new PPWB Charter with a letter to Ministers regarding Board groundwater mapping studies. A second letter from the Chair to PPWB Ministers explained the rationale for additional funding over the next three years to improve the documentation and efficiency of natural flow computation procedures.

The role of PPWB was discussed by the Executive Director with the International Institute for Sustainable Development (IISD) to assist in their development of a case study on the PPWB for their Prairie Water Policy Symposium held in Winnipeg in September 2005.

GOAL 7: INFORMATION, KNOWLEDGE AND RESEARCH ARE SHARED AMONG JURISDICTIONS

Instream Flow Needs Workshop

The PPWB held a workshop on Instream Flow Needs (IFN) in March 2006 in Calgary, Alberta. The workshop was attended by about 50 participants, representing all member agencies, academia, and other interested parties. This workshop represents the first step in fostering improved communication among professionals working in the area of IFN. Workshop participants strongly supported an ongoing role for PPWB in facilitating the sharing of information and experience related to the application of IFN.

The PPWB Secretariat was directed to explore other opportunities to facilitate the sharing of information related to IFN.

Climate Change and Water in the South Saskatchewan River Basin

In 2003, the Board initiated funding of a three year study to estimate the value of water in alternative uses in the South Saskatchewan River Basin. The work was contracted to Dr. Suren Kulshreshtha, University of Saskatchewan. The main objective was to estimate the value of water to major withdrawal uses in the basin for present and future conditions under climate change. A report on the value of water in irrigation was distributed to the Board in June 2005. The report was completed by March 2006.

Natural Capital Evaluation: Value of Water to the Alberta Economy

In 2005, Alberta Economic Development initiated a study of the value of water to the Alberta economy. The study was co-funded by Canada under its Natural Capital Valuation Project. PPWB, through the Executive Director, participated on a steering committee to oversee the study.

Phase 1 of the study determined the value of water in a portion of the South Saskatchewan River Basin in Alberta.

Phase 2 will build on the results of the first phase by providing an economic valuation based upon the Total Economic Value (TEV) framework and by establishing the economic value of water, as natural capital, in relation to the Alberta economy.

Lake Winnipeg Nutrient Issues

Concern over nutrient loading in Lake Winnipeg has risen in recent years, with reports of increased frequency, duration, and intensity of algal blooms. Managing nutrients within the lake's watershed, comprising four provinces and two states, poses a complex challenge. Provincial and federal agencies have responded to the challenge through the initiation of interagency, multidisciplinary research programs.

3. ADMINISTRATIVE AND FINANCIAL MANAGEMENT

The Board consists of senior officials engaged in the administration of water resources in each province of Alberta, Saskatchewan and Manitoba and senior officials from Environment Canada and Agriculture and Agri-Food Canada - PFRA (Appendix VII). As illustrated by the organization chart in Appendix VIII, the Board operates through its Executive Director and three Standing Committees (Committee on Hydrology, Committee on Groundwater, and Committee on Water Quality). The Board is chaired by Environment Canada.

Secretariat support is provided to the PPWB through the Transboundary Waters Unit, Environment Canada at Room 300, 2365 Albert St., Regina, Saskatchewan. The portion of time each Secretariat staff person spends on PPWB activities is charged to the PPWB and cost-shared by the members. In addition, technical support is provided, as required, by other staff of Environment Canada, Prairie and Northern Region.

A total of three Board and eight Committee meetings were held throughout the year.

PPWB

- June 14, 2005 - Banff
- October 31-November 1, 2005 - Winnipeg (jointly with COWQ)
- March 28-29, 2006 - Regina

COH

- May 24, 2005 - conference call
- September 28-29, 2005 - Winnipeg
- March 1-2, 2006 - Calgary

COG

- October 24, 2005 - Edmonton
- February 7, 2006 - conference call

COWQ

- September 26-27, 2005 - Saskatoon
- October 31-November 1, 2005 - Winnipeg
- March 21, 2006 - conference call

During 2005-2006, the PPWB Secretariat completed and distributed the audit and final apportionment balance reports for the South Saskatchewan River, Lodge, Middle, and Battle Creeks at the Alberta-Saskatchewan boundary.

To ensure the terms of the 1969 Master Agreement on Apportionment were met, the staff computed the natural flow or apportionment flow (i.e., flow volume that is subject to apportionment) at the interprovincial boundary for the North Saskatchewan, Churchill, Qu'Appelle, and Saskatchewan Rivers. The apportionment balance of Cold Lake was also computed for 2005 using a computer program developed by Alberta Environment.

The Board determines the annual budget. The approved budget for 2005-2006 was \$350,000; final expenditures were \$263,362. The Statement of Final Expenditures for 2005-2006 is shown in Appendix IX. Final expenditures were below the approved budget due to contracts not being completed. Contract work will continue in 2006-2007.

The position of Executive Director for PPWB was assumed from Richard Kellow by Wayne Dybvig in June 2005. The staffing process was initiated for the position of Secretary to the Board.

Further information on the history and administration of the PPWB can be found in Appendix X.

APPENDIX I

PPWB CHARTER AND STRATEGIC PLAN

PPWB CHARTER

Approved October 31, 2005

VISION

Effective interprovincial water management on the Prairies.

MISSION

1. To ensure that interprovincial waters are protected and equitably apportioned in accordance with the Master Agreement on Apportionment;
2. To provide a forum for exchange of information in order to prevent and resolve conflicts; and
3. To promote cooperation in interprovincial water management.

BACKGROUND

Recognizing that water use within one province may impact another province and because federal and provincial governments have shared responsibility for water, the provinces of Alberta, Saskatchewan and Manitoba and the federal government signed the Master Agreement on Apportionment (MAA) in October 1969. The purpose of this Agreement is to apportion water between the provinces and to protect interprovincial aquifers and water quality. The Master Agreement includes six components or schedules, including two bilateral apportionment agreements between the provinces and a water quality agreement.

ELEMENTS OF THE AGREEMENT

The Master Agreement on Apportionment provides for an equitable sharing of available waters for all eastward flowing streams, including interprovincial lakes, crossing provincial boundaries. The Schedules to the Agreement describe the role of the Board and stipulate the amount and quality of water that shall pass from Alberta to Saskatchewan and from Saskatchewan to Manitoba. Under the MAA and its Schedules, the PPWB will:

- foster and facilitate interprovincial surface water management and use that encourages the protection and restoration of the aquatic environment;

- facilitate co-operative management and use of interprovincial aquifers to ensure their protection and sustainable use and consider groundwater matters that have transboundary implications; and
- promote and facilitate a cooperative and consensus-based approach to prevent, and where necessary, resolve concerns related to interprovincial water issues.

ACCOUNTABILITY

The Master Agreement on Apportionment and its Schedules were signed by Ministers representing the provinces and the federal government.

The PPWB is accountable for the administration of the Agreement and reporting achievement to the jurisdictions.

The jurisdictions are accountable for meeting the terms of the Agreement.

RESPONSIBILITIES OF BOARD MEMBERS

Board members are senior officials engaged in the administration of water resources in each province of Alberta, Saskatchewan, and Manitoba and senior officials from Environment Canada and Agriculture and Agri-Food Canada-PFRA (AAFC-PFRA).

Within the framework of the Agreement, Board members will:

- work cooperatively with one another to achieve the best management of the water resource in the prairies while representing their own jurisdictional interests;
- ensure that the Board is informed of any potential projects or policies that could impact other jurisdictions and, when requested, provide the Board with an analysis of those implications;
- share with one another policies, programs, and practices of mutual interest;
- inform appropriate senior officials and, when necessary, Ministers, about significant issues being considered by the Board;
- provide direction to the PPWB Executive Director and all Board committees;
- transmit the PPWB annual report to the appropriate Ministers; and,

- appoint, as required, representatives for Board committees.

BOARD OPERATIONS

The Board is supported by a Secretariat and three Standing Committees (Committee on Hydrology, Committee on Water Quality, and Committee on Groundwater).

The federal government is primarily responsible for conducting water quality and quantity monitoring required by the PPWB to fulfill obligations under the MAA.

JURISDICTIONAL ROLES

Provincial governments perform the primary role of water management, including control and regulation of major water control infrastructure, flood forecasting, regulation of drinking water, management of water quality, enforcement of laws for the protection of source water, and licensing of water uses.

The provinces have the responsibility to ensure that apportionment and water quality requirements, as stipulated in the Agreement, are met at the interprovincial boundaries.

Each province provides one sixth (1/6) of the funding for the approved annual budget.

The Government of Canada has authority for protection of fish habitat and prevention of pollution detrimental to fish, regulation of toxic substances, navigation and shipping, shared Canada-U.S. waters, federal property, and First Nations and lands reserved for them, including responsibility with First Nations governments, for provision of drinking water and wastewater services on Reserves.

The federal members of the PPWB represent Environment Canada and AAFC-PFRA.

The federal government provides one-half (1/2) of the funds for the approved annual budget.

Environment Canada is responsible for the full cost of providing water quantity and quality monitoring as defined by the Board, the management of historical data, and contributes to scientific evaluations required to fulfill the PPWB mission.

The PPWB Secretariat consists of an Executive Director who, while a federal employee, is accountable to the Board through its Chairman. Support staff are employees of Environment Canada and are accountable to the PPWB Executive Director. Environment Canada is responsible for overhead costs for office space.

KEY DELIVERABLES

The overarching deliverable for the PPWB is to report on the achievement of the terms of the Master Agreement on Apportionment. This is accomplished by ensuring that:

- Agreed interprovincial apportionment of water is achieved:
 - o Streamflows are monitored;
 - o Natural flows are calculated; and
 - o Apportionment is determined.
- Interprovincial groundwater aquifers are protected and used in a sustainable manner.
- Agreed interprovincial water quality objectives are achieved:
 - o Water quality parameters are monitored;
 - o Actual water quality conditions are compared to agreed objectives;
 - o When objectives are exceeded, causes and implications are identified and, if required, mitigation measures implemented;
 - o Agreed water quality objectives are reviewed and revised as required; and
 - o Water quality trends are monitored and reported.
- Jurisdictions are informed about emergency and unusual water quality conditions:
 - o Jurisdictions will notify one another, in accordance with the Spill Contingency Plan, of emergency water quality events.
- Conflicts and disagreements over interjurisdictional water issues are avoided:
 - o Jurisdictions are informed of planned or actual actions which may affect interprovincial waters;
 - o Interprovincial water issues are investigated; and
 - o Recommendations, developed through Board consensus on interprovincial water issues, are provided to jurisdictions.

- Ministers, senior managers and appropriate staff of jurisdictions are informed about PPWB activities:
 - o Annual reports, reports on issues, topic briefings, and compliance reports are provided to jurisdictions.
- Information, knowledge and research are shared among jurisdictions:
 - o Science investigations and research activities of mutual interest are shared among jurisdictions.

COMMUNICATIONS

The PPWB has a responsibility for making information available to interested parties. This responsibility includes:

1. Providing timely reports to PPWB agencies about the status of apportionment and water quality requirements established under the Master Agreement;
2. Providing an annual report to governments on the administration of the Agreement;
3. Providing reports and, where necessary, recommendations to governments on matters related to interprovincial water issues;
4. Communicating among Board members to prevent and resolve issues;
5. Presenting information about the Master Agreement and the PPWB at governmental and non-governmental meetings; and
6. Distributing, upon request, reports produced for and by the PPWB to interested parties.

PPWB STRATEGIC PLAN

PREAMBLE

The Master Agreement on Apportionment was signed by the governments of Alberta, Saskatchewan, Manitoba and Canada in 1969 in order to ensure the equitable apportionment and protection of eastward flowing interprovincial streams. The Agreement defines the apportionment of these streams and provides water quality objectives at the provincial boundaries. The Agreement also provides for the cooperation of the parties in interprovincial water management.

The Agreement established the Prairie Provinces Water Board (PPWB) to administer the Agreement. The Board, which works by consensus, has over the years established a culture of information sharing and cooperativeness. While the Agreement provides a core foundation for the sharing and protection of interprovincial waters, the Board understands the need to ensure the Agreement is current. Consequently, over the years the Board has recommended amendments to the Agreement and revised its work program to respond to new challenges. This is exemplified by the addition in 1992 of both the Agreement on Water Quality (Schedule E) to the Master Agreement and the inclusion of a groundwater mandate.

The purpose of the Strategic Plan is to identify the current priorities and how these priorities will be achieved.

The strategic plan will be implemented by the Board through its secretariat and committees and by the affiliated jurisdictions.

CHALLENGES

- Authorities over water are shared amongst jurisdictions;
- Actions in one jurisdiction may affect other jurisdictions;
- The volume and timing of flows in streams that originate in the Prairies are highly variable throughout the year and from year to year;
- Water use and consumption in southern Alberta and south-western Saskatchewan is a large percentage of available supply;
- Population and economic activity are increasing;
- Climate variability will affect timing and volume of available water;

- Monitoring must be rationalized within existing budgets;
- Threats to surface water and groundwater quality are increasing; and,
- Need for knowledge related to transboundary aquifers.

MASTER AGREEMENT ON APPORTIONMENT

- Established the Prairie Provinces Water Board of senior water resource officials;
- Defines apportionment and methods to calculate apportionment at the boundaries;
- Sets out agreed-to water quality objectives for river reaches at the boundaries and a method to review and revise objectives;
- Considers interprovincial groundwater quantity and quality;
- Encourages co-operation in the development and use of water and related resources to support economic growth; and
- Fosters interprovincial water quality management that promotes the protection and restoration of the aquatic environment.

VISION

Effective interprovincial water management on the Prairies.

MISSION

1. To ensure that interprovincial waters are equitably apportioned and protected in accordance with the Master Agreement on Apportionment;
2. To provide a forum for the exchange of information to prevent and resolve conflicts; and,
3. To promote cooperation in interprovincial water management.

GUIDING PRINCIPLES

- Equitable sharing of water in interprovincial streams, lakes, and aquifers;
- Acceptable levels of water quality at interprovincial boundaries;
- Consensus approach to resolving differences and making recommendations;
- Science-based approach used to assess compliance with the Agreement; and
- Co-operation in the effective, economical, and beneficial use of waters flowing from one province to another.

GOALS

1. Agreed interprovincial apportionment of water is achieved.
2. Interprovincial groundwater aquifers are protected and used in a sustainable manner.
3. Agreed interprovincial water quality objectives are achieved.
4. Jurisdictions are informed about emergency and unusual water quality conditions.
5. Conflicts and disagreements over interjurisdictional water issues are avoided.
6. Ministers, senior managers and appropriate staff of jurisdictions are informed about PPWB activities.
7. Information, knowledge, and research are shared among jurisdictions.

STRATEGIES

- Goal 1. Agreed interprovincial apportionment of water is achieved.
- 1-a Apply agreed-to methodology for determining natural flows.
 - 1-b Measure surface water flows.
 - 1-c Calculate natural flows.
 - 1-d Compare recorded and natural flows at boundaries to determine apportionment.
 - 1-e Report to jurisdictions and governments on apportionment.
 - 1-f Provinces consult and cooperate to ensure the terms of apportionment are met.
 - 1-g Assess the adequacy of monitoring for PPWB purposes.
- Goal 2. Interprovincial groundwater aquifers are protected and used in a sustainable manner.
- 2-a Define and quantify aquifers along the boundaries.
 - 2-b Develop a method to apportion the water within transboundary aquifers.
- Goal 3. Agreed interprovincial water quality objectives are achieved.
- 3-a Develop and regularly review water quality objectives for boundary reaches.
 - 3-b Collect and analyse water quality samples.
 - 3-c Compare water quality samples to objectives, including assessing trends.
 - 3-d Report to jurisdictions and governments on the effectiveness in meeting water quality objectives and on trends.
 - 3-e Undertake measures to protect and

restore the quality of interprovincial streams if objectives are not met.

- 3-f Assess the adequacy of monitoring for PPWB purposes.

- Goal 4. Jurisdictions are informed about emergency and unusual water quality conditions.
- 4-a Agencies report emergency and unusual water conditions expeditiously to the Board and affected jurisdictions.
 - 4-b Monitor water at boundary reaches to identify impacts of unusual events.
 - 4-c Jurisdiction in which the event occurred prepares an evaluation report.

- Goal 5. Conflicts and disagreements over interjurisdictional water issues are avoided.
- 5-a Encourage and facilitate consultation and the exchange of information on interprovincial water issues.
 - 5-b Inform jurisdictions about water projects being planned.
 - 5-c Develop consensus on recommendations to governments.

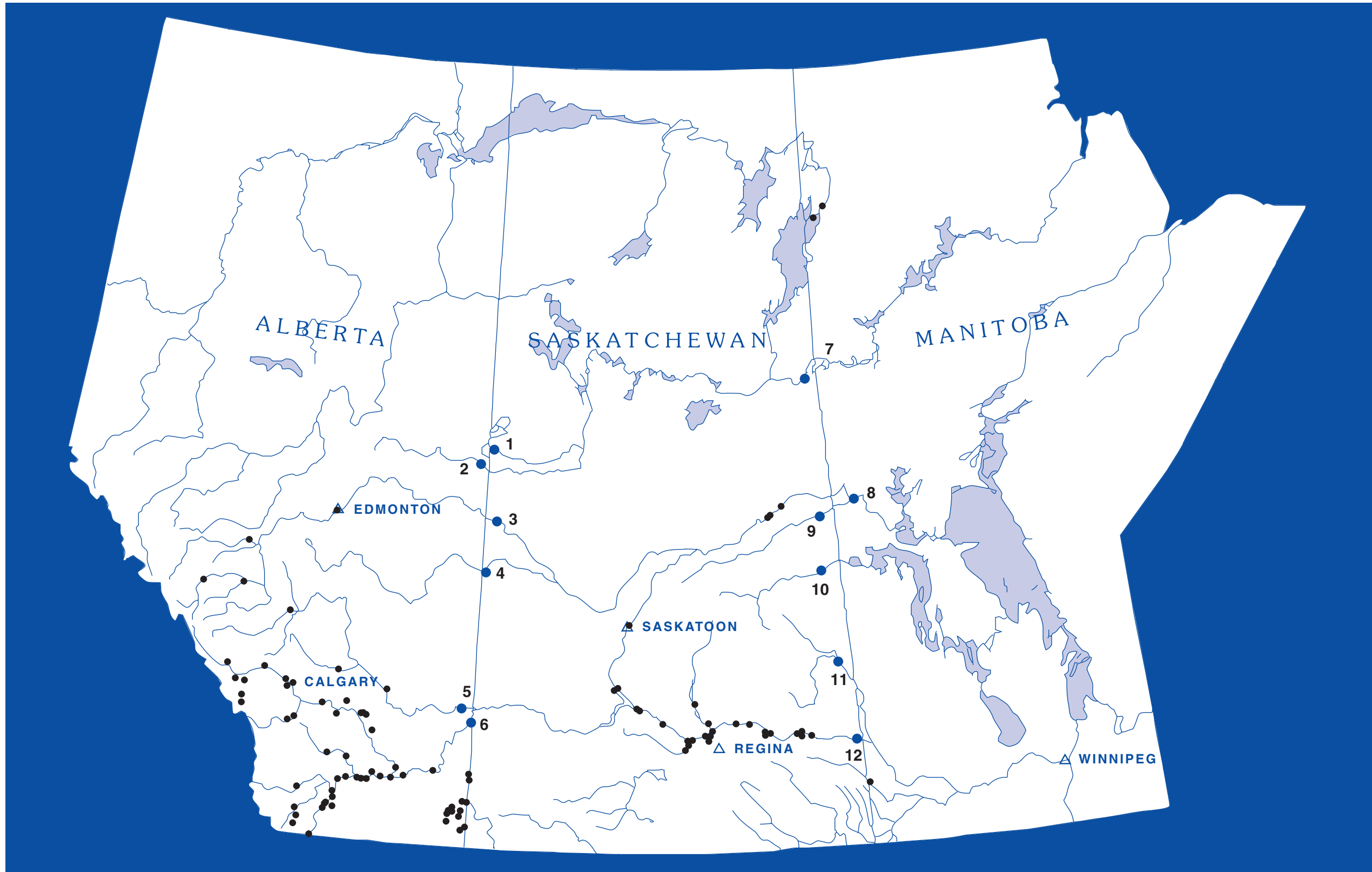
- Goal 6. Ministers, senior managers and appropriate staff of jurisdictions are informed about PPWB activities.
- 6-a Develop a PPWB Charter.
 - 6-b Prepare Vision statement and update communication strategy.
 - 6-c Use Charter to inform Ministers and officials of PPWB role.
 - 6-d Board members brief their governments on PPWB.
 - 6-e Promote scientific research and transfer scientific knowledge and information through workshops and fora.
 - 6-f Publish and share annual reports.

- Goal 7. Information, knowledge, and research are shared among jurisdictions.
- 7-a Science investigations and research activities of mutual interest are shared among jurisdictions.
 - 7-b Promote scientific research and transfer scientific information through workshops and fora.
 - 7-c Continue to enhance the PPWB water-use database.
 - 7-d Provide information to the public where an inter-jurisdictional approach is appropriate.

APPENDIX II

PPWB MONITORING LOCATION MAP

PPWB MONITORING LOCATIONS MAP



- PPWB Water Quantity and Quality Monitoring Locations
- 1. Cold River
- 2. Beaver River
- 3. North Saskatchewan River
- 4. Battle River
- 5. Red Deer River (Alta./Sask.)
- 6. South Sask. River
- 7. Churchill River
- 8. Saskatchewan River
- 9. Carrot River
- 10. Red Deer River (Sask./Man.)
- 11. Assiniboine River
- 12. Qu'Appelle River
- Hydrometric Sites used for apportionment monitoring

APPENDIX III
2005 FLOW DATA

**RECORDED AND NATURAL FLOWS, CONSUMPTIVE USE, DIVERSION, AND STORAGE
(in Cubic Decametres) FOR THE 2005 APPORTIONMENT PERIOD**

SOUTH SASKATCHEWAN RIVER - ALBERTA-SASKATCHEWAN BOUNDARY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED DISCHARGE	251 040	307 070	316 720	223 810	219 730	2 836 820	1 464 310	444 270	848 660	888 220	618 560	369 270	8 788 480
CONSUMPTIVE USE	860	420	280	72 080	470 770	-120	226 970	209 310	-46 000	-79 120	-2 860	-2 940	849 650
CHANGE IN RESERVOIR STORAGE	-38 210	-88 840	-65 160	-28 400	87 870	168 730	65 200	-11 530	39 980	-12 850	-111 700	-69 710	-64 620
DIVERSION FROM BASIN	0	0	0	750	8 470	38 430	17 870	33 500	38 420	22 080	0	0	159 520
NATURAL FLOW ALTA. - SASK. BOUNDARY	215 300	231 880	246 730	226 260	711 060	3 159 700	1 725 660	691 840	903 780	820 410	519 900	283 610	9 736 130

RED DEER RIVER - ALBERTA-SASKATCHEWAN BOUNDARY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED DISCHARGE	35 312	36 253	99 611	273 577	119 716	837 812	468 124	228 433	498 848	260 833	111 499	55 650	3 025 668
CONSUMPTIVE USE	0	0	0	-3 460	3 320	1 850	4 970	5 680	2 380	-280	0	0	14 460
CHANGE IN RESERVOIR STORAGE	-22 720	-18 860	-1 130	-12 640	15 390	14 310	30 810	12 500	490	1 430	-390	-3 800	15 390
DIVERSION INTO BASIN	0	0	0	-750	-8 470	-38 430	-17 870	-33 500	-38 420	-22 080	0	0	-159 520
NATURAL FLOW ALTA. - SASK. BOUNDARY	15 482	19 513	92 561	260 767	126 396	827 042	471 444	211 733	468 338	239 433	112 489	50 580	2 895 778

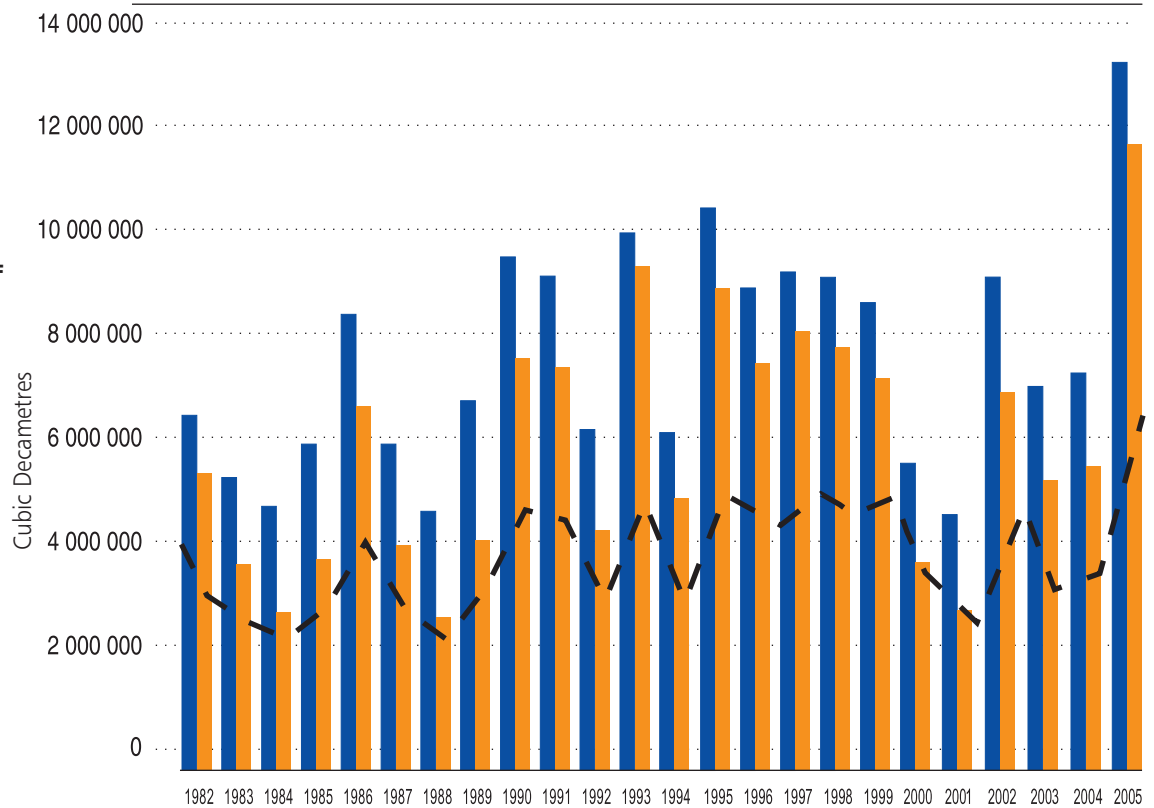
SOUTH SASKATCHEWAN RIVER - BELOW JUNCTION WITH RED DEER RIVER

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED DISCHARGE	286 000	343 000	416 000	497 000	339 000	3 675 000	1 932 000	673 000	1 348 000	1 149 000	730 000	425 000	11 813 000
NATURAL FLOW	231 000	251 000	339 000	487 000	837 000	3 987 000	2 197 000	904 000	1 372 000	1 060 000	632 000	334 000	12 631 000

Natural flows for the South Saskatchewan and Red Deer Rivers have been calculated using preliminary data and the methodology described in a report entitled "South Saskatchewan River Below Red Deer River — Natural Flow", April 1985 (PPWB Report No. 45).

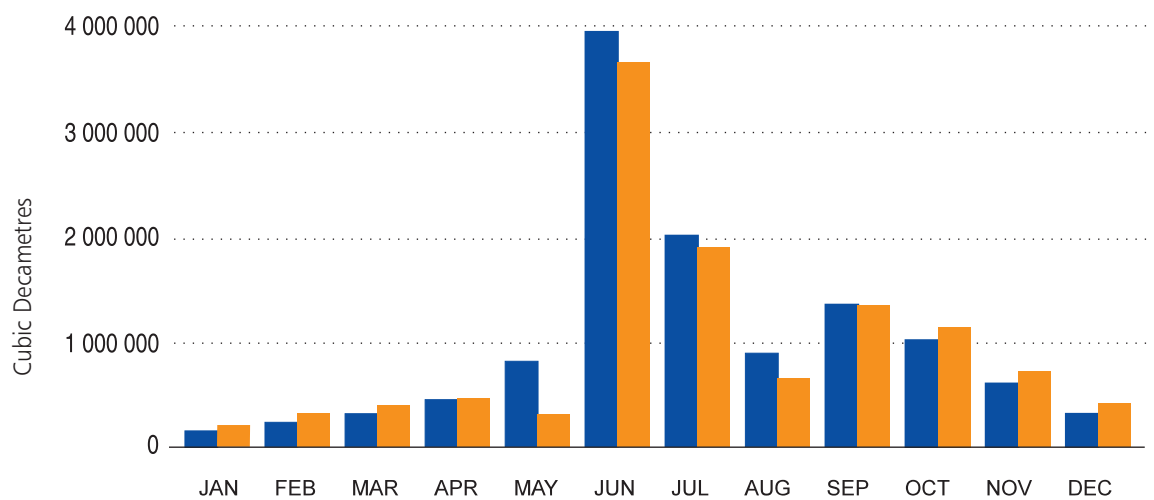
ANNUAL FLOWS OF THE SOUTH SASKATCHEWAN RIVER NEAR ALBERTA — SASKATCHEWAN BOUNDARY (INCLUDES RED DEER RIVER)

- NATURAL
- 50% NAT.
- RECORDED



2005 MONTHLY FLOWS OF THE SOUTH SASKATCHEWAN RIVER NEAR ALBERTA — SASKATCHEWAN BOUNDARY (INCLUDES RED DEER RIVER)

- NATURAL
- RECORDED



RECORDED AND NATURAL FLOWS - SUMMARY OF SELECTED STREAMS CROSSING THE SASKATCHEWAN-MANITOBA BOUNDARY (in Cubic Decametres) FOR THE 2005 APPORTIONMENT PERIOD

CHURCHILL RIVER - SASKATCHEWAN-MANITOBA BOUNDARY (At SANDY BAY)*

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	1 660 000	1 670 000	1 890 000	1 880 000	1 880 000	2 450 000	2 530 000	3 940 000	5 670 000	4 190 000	3 090 000	2 880 000	33 730 000
NATURAL FLOW	1 754 000	1 467 000	1 649 000	2 089 000	2 540 000	3 342 000	3 570 000	3 709 000	4 788 000	4 550 000	3 685 000	3 360 000	36 503 000

SASKATCHEWAN RIVER - SASKATCHEWAN-MANITOBA BOUNDARY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
ESTIMATED ** FLOW	830 000	774 000	1 262 000	2 873 000	2 222 000	2 919 000	4 926 000	2 414 000	2 830 000	3 263 000	2 435 000	1 828 000	28 576 000
APPORTIONMENT FLOW	527 000	520 000	1 155 000	3 047 000	2 3290 000	3 697 000	5 486 000	2 496 000	2 905 000	3 406 000	2 264 000	1 643 000	29 475 000

QU'APPELLE RIVER - SASKATCHEWAN-MANITOBA BOUNDARY (NEAR WELBY)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	14 000	10 300	9 680	118 000	90 300	59 800	43 600	22 600	17 800	19 700	21 000	16 500	443 280
NATURAL FLOW	—	—	—	—	—	—	—	—	—	—	—	—	333 133

CARROT RIVER - SASKATCHEWAN-MANITOBA BOUNDARY (NEAR TURNBERRY)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	8 040	7 250	9 380	8 630	164 000	186 000	144 000	6 480	194 000	208 000	90 200	37 300	1 121 600

RED DEER RIVER - SASKATCHEWAN-MANITOBA BOUNDARY (NEAR ERWOOD)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	4 160	3 680	6 260	197 000	71 600	186 000	38 200	40 300	320 000	69 500	40 200	14 400	991 000

ASSINIBOINE RIVER - SASKATCHEWAN-MANITOBA BOUNDARY (At KAMSACK)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	881	918	867	62 900	13 900	44 100	22 700	1 650	8 180	3 830	5 320	3 810	169 000

*Apportionment period for streams crossing the Saskatchewan-Manitoba boundary was changed from water year to calendar year.

** For the Saskatchewan River, estimated flow at the Saskatchewan/Manitoba boundary is computed using recorded flow of the Saskatchewan River at The Pas minus 1.31 times of recorded flow of Carrot River near Turnberry.

Apportionment flow is the volume of flow subject to apportionment.

RECORDED AND NATURAL FLOWS - SUMMARY OF SELECTED STREAMS AND LAKE CROSSING THE ALBERTA-SASKATCHEWAN BOUNDARY (in Cubic Decametres) FOR THE 2005 APPORTIONMENT PERIOD

NORTH SASKATCHEWAN RIVER - ALBERTA-SASKATCHEWAN BOUNDARY (NEAR DEER CREEK)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	301 000	289 000	575 000	989 000	793 000	1 800 000	1 310 000	744 000	1 040 000	669 000	522 000	450 000	9 482 000
NATURAL FLOW	48 000	112 000	359 000	847 000	849 000	2 194 000	1 638 000	1 061 000	1 191 000	647 000	358 000	213 000	9 517 000

BATTLE CREEK - ALBERTA-SASKATCHEWAN BOUNDARY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	0	97	618	1 933	890	2 144	647	612	664	518	0	0	8 123
NATURAL FLOW	0	97	618	1 933	890	2 232	644	627	666	518	0	0	8 225

LODGE CREEK - ALBERTA-SASKATCHEWAN BOUNDARY**

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	0	13	449	1 748	295	3 828	57	0	2	17	0	0	6 409
NATURAL FLOW	0	19	747	2 082	323	4 057	58	0	2	17	0	0	7 305

MIDDLE CREEK - ALBERTA-SASKATCHEWAN BOUNDARY**

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	0	8	158	414	25	77	10	4	4	4	0	0	704
NATURAL FLOW	0	8	183	505	21	77	8	4	4	3	0	0	813

BEAVER RIVER - ALBERTA-SASKATCHEWAN BOUNDARY (AT COLD LAKE RESERVE)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	16 100	13 400	36 100	96 100	127 000	200 000	123 000	72 300	37 700	35 500	24 200	10 000	790 000

BATTLE RIVER - ALBERTA-SASKATCHEWAN BOUNDARY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	1 460	1 350	57 600	160 000	52 100	17 400	13 600	15 800	21 600	14 300	9 360	4 310	369 000

COLD LAKE - ALBERTA-SASKATCHEWAN BOUNDARY (AT OUTLET OF COLD LAKE)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	57 344	47 131	47 425	54 726	83 601	106 419	120 372	108 017	90 409	75 367	59 244	46 578	896 633
NATURAL FLOW	60 164	47 396	47 660	54 996	83 854	106 692	120 687	108 317	90 680	75 649	59 504	46 844	902 443

APPENDIX IV

INTERPROVINCIAL AQUIFERS IN THE PRAIRIE PROVINCES

INTERPROVINCIAL AQUIFERS IN THE PRAIRIE PROVINCES

Alberta - Saskatchewan Boundary	Townships
Wiau Buried Valley	72
Helena-Hatfield Buried Valley	63-64
Vermilion/Big Meadow-Bronson Buried Valley System	59-62
Rex Buried Valley	52
Lloydminster Buried Valley	50-51
Wainwright/Battleford Buried Valley	42
Sibbald-Eyre Buried Valley	27
Calgary and Lethbridge-Tyner Buried Valley System	22-23
Johnsborough Buried Valley	13-14
Jaydot Buried Valley	3
Belly River-Judith River Formations	1-53
Eastend-Ravenscrag Formations	7-8
Bearpaw Formation sandstone members	6-8
Saskatchewan-Manitoba Boundary	
Hatfield Buried Valley System	22-23
Rocanville Buried Valley	15-16
Carbonate Aquifer	53-63
Swan River Formation	33-46
Welby Sand Plain	17-18
Odanah Shales	1-14

Source: PPWB Report No. 155, "A Review of Transboundary Groundwater Apportionment" (September 2000) by Krista Plaster and Gary Grove, National Water Research Institute, Environment Canada.

APPENDIX V

PPWB WATER QUALITY MONITORING 2005 PARAMETER LIST

PPWB WATER QUALITY MONITORING 2005 PARAMETER LIST

Water is collected monthly at all sites with the exception of; Red Deer (S/M) (6x/yr), Churchill, and Cold rivers (4x/yr)

ALKALINITY, phenol & total
 ALUMINUM, diss. & total[⊖]
 AMMONIA, diss.[⊖]
 ANTIMONY, diss. & total
 ARSENIC, diss. [⊖] & total
 BARIUM, diss. & total[⊖]
 BERYLLIUM, [⊖] diss. & total
 BICARBONATE, calc.
 BISMUTH, diss. & total
 BORON, diss. [⊖] & total
 CADMIUM, diss. & total[⊖]
 CALCIUM, diss.
 CARBON, diss organic
 CARBON, part. organic
 CARBON, total organic, calcd.
 CARBONATE, calcd.
 CHLORIDE, diss.[⊖]
 CHROMIUM, diss. & total[⊖]
 COBALT, diss. & total[⊖]
 COLIFORMS FECAL[⊖] ◆
 COLOUR TRUE
 COPPER, diss. & total[⊖]
 E. COLI ◆
 FLUORIDE, diss.[⊖]
 FREE CO₂, calcd.
 GALLIUM, diss. & total
 HARDNESS NON-CARB. (CALCD.)
 HARDNESS TOTAL (CALCD.) CaCO₃
 IRON, diss. [⊖] & total
 LANTHANUM, diss. & total
 LEAD, diss. & total[⊖]
 LITHIUM, diss. & total
 MAGNESIUM, diss.

MANGANESE, diss. [⊖] & total
 MOLYBDENUM, diss. & total
 NICKEL diss. & total[⊖]
 NITROGEN NO₃ & NO₂, diss.[⊖]
 NITROGEN. part.
 NITROGEN, total calcd.
 NITROGEN, diss.
 OXYGEN, diss. [⊖]
 Ph[⊖]
 PHOSPHOROUS ortho, diss
 PHOSPHOROUS, part. calcd.
 PHOSPHOROUS, total[⊖]
 PHOSPHOROUS, diss.
 POTASSIUM, diss.
 RESIDUE FIXED NONFILTRABLE
 RESIDUE NONFILTRABLE
 RUBIDIUM, diss. & total
 SELENIUM, diss. [⊖] & total
 SILVER, diss. & total
 SILICA,
 SODIUM ADSORPTION RATIO, calcd. [⊖]
 SODIUM, diss. [⊖]
 SODIUM PERCENTAGE, calcd.
 SPECIFIC CONDUCTANCE
 STRONTIUM, diss. & total
 SULPHATE, diss. [⊖]
 TEMPERATURE WATER
 THALLIUM, diss. & total
 TOTAL DISSOLVED SOLIDS, calcd. [⊖]
 TURBIDITY
 URANIUM, diss. & total [⊖]
 VANADIUM, diss. & total [⊖]
 ZINC diss. & total [⊖]

 ACID HERBICIDES* [⊖]
 NEUTRAL HERBICIDES*
 ORGANOCHLORINE INSECTICIDES*

[⊖] Parameters with PPWB site-specific objectives

* Collected from the North and South Saskatchewan, Assiniboine, and Carrot Rivers in 2005

◆ Collected between 6 -12 X/year at all sites but the Churchill and Cold Rivers

APPENDIX VI

COWQ EXCURSION REPORT TO THE BOARD

Table 1: Summary PPWB Objectives with protective uses indicated

PPWB SITE SPECIFIC OBJECTIVES: MASTER AGREEMENT SCHEDULE E

1 of 2

LOCATION SITE PPWB REPORT SITE NUMBER		ALBERTA / SASKATCHEWAN BORDER				
		BEAVER RIVER	NORTH SASK. RIVER	BATTLE RIVER	RED DEER RIVER A/S	SOUTH SASK. RIVER
		2	3	4	5	6
METALS						
	UNITS					
ALUMINUM (total)	mg/L	---	5	5	---	---
ARSENIC (diss)	mg/L	0.05	0.05	0.05	0.05	0.05
BARIUM (total)	mg/L	1	1	1	1	1
BORON (diss)	mg/L	5	5	5	5	5
CADMIUM (total)	mg/L	0.001	0.001	0.001	0.001	0.001
CHROMIUM (total)	mg/L	0.011	0.011	0.011	0.011	0.011
COBALT	mg/L	---	0.05	0.05	1	1
COPPER (total)	mg/L	0.004	0.004	0.004	0.004	0.01
CYANIDE (free)	mg/L	0.005	0.005	0.005	0.005	0.005
IRON (diss)	mg/L	1	0.3	0.3	0.3	1
LEAD (total)	mg/L	0.007	0.007	0.007	0.007	0.02
MANGANESE (diss)	mg/L	0.2	0.05	0.05	0.05	0.05
MERCURY (total)	ug/L	---	---	---	---	---
NICKEL (total)	mg/L	0.1	0.1	0.1	0.025	0.025
SELENIUM (diss)	mg/L	0.001	0.001	0.001	0.001	0.002
URANIUM	mg/L	0.02	0.02	0.02	---	---
VANADIUM (TOTAL)	mg/L	---	0.1	0.1	0.1	0.1
ZINC (total)	mg/L	0.03	0.03	0.03	0.03	0.05
NUTRIENTS						
AMMONIA (total)	mg/L	APPENDIX 3	APPENDIX 3	APPENDIX 3	APPENDIX 3	APPENDIX 3
NO2+NO3 (as N)	mg/L	10	10	10	10	10
PHOSPHORUS (total)	mg/L	---	---	---	---	---
MAJOR IONS						
CHLORIDE (diss.)	mg/L	100	100	100	---	---
FLUORIDE (diss)	mg/L	1.5	1.5	1.5	1.5	1.5
SODIUM (diss)	mg/L	100	100	100	---	---
SULPHATE (diss)	mg/L	500	500	500	500	500
TOTAL DISS. SOLIDS	mg/L	---	500	500	500	500
BIOTA						
FECAL COLIFORM	NO/dL	100/100ml	100/100ml	100/100ml	100/100ml	100/100ml
PHYSICALS						
pH	pH Units	6.5-9.0	6.5-9.0	6.5-9.0	---	---
OXYGEN (diss)	mg/L	OW 6.0	6.5	OW 6.0	---	---
SAR	mg/L	---	---	---	3	3
PESTICIDES/CONTAMINANTS						
LINDANE	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001
2,4-D	mg/L	0.004	0.004	0.004	0.004	0.004
2,4,5-TP	mg/L	0.01	0.01	0.01	0.01	0.01
CHLORINE	mg/L	0.002	0.002	0.002	---	---
CHLOROPHENOLS (total)	mg/L	0.001	0.001	0.001	0.001	0.001
PCP	mg/L	0.0005	0.0005	0.0005	---	---
MERCURY IN FISH	ug/g TISSUE	0.5	0.5	0.5	0.5	0.5
PCB IN FISH	ug/g TISSUE	2	2	2	2	2
RADIOACTIVE						
CESIUM-137	Bq/L	---	---	---	---	---
IODINE-131	Bq/L	---	---	---	---	---
RADIUM-226	Bq/L	---	---	---	---	---
STRONTIUM-90	Bq/L	---	---	---	---	---
TRITIUM	Bq/L	---	---	---	---	---

Fisheries
Drinking
Irrigation/Livestock
Recreation
Fish Consumption

Table 1: Summary PPWB Objectives with protective uses indicated (con't)

PPWB SITE SPECIFIC OBJECTIVES: MASTER AGREEMENT SCHEDULE E

2 of 2

LOCATION		SASKATCHEWAN / MANITOBA BORDER					
		CHURCHILL RIVER	SASK. RIVER	CARROT RIVER	RED DEER RIVER S/M	ASSINIBOINE RIVER	QU'APPELLE RIVER
SITE		7	8	9	10	11	12
PPWB REPORT SITE NUMBER							
METALS	UNITS						
ALUMINUM (total)	mg/L	---	---	---	---	---	---
ARSENIC (diss)	mg/L	0.05	0.05	0.05	0.05	0.05	0.05
BARIUM (total)	mg/L	1	1	1	1	1	1
BORON (diss)	mg/L	5	0.5	2	5	2	2
CADMIUM (total)	mg/L	0.00058	0.001	0.001	0.00058	0.001	0.001
CHROMIUM (total)	mg/L	0.011	0.011	0.011	0.011	0.011	0.011
COBALT	mg/L	---	---	---	---	---	---
COPPER (total)	mg/L	0.0057	0.01	0.01	0.01	0.01	0.01
CYANIDE (free)	mg/L	0.005	0.005	0.005	0.005	0.005	0.005
IRON (diss)	mg/L	0.3	0.3	0.3	0.3	0.3	0.3
LEAD (total)	mg/L	0.011	0.0061	0.015	0.0118	0.02	0.02
MANGANESE (diss)	mg/L	0.05	0.05	0.05	0.05	0.05	0.05
MERCURY (total)	ug/L	---	---	---	---	---	0.006
NICKEL (total)	mg/L	0.025	0.1	0.1	0.1	0.1	0.1
SELENIUM (diss)	mg/L	0.01	0.01	0.01	0.01	0.01	0.01
URANIUM	mg/L	0.02	0.02	0.02	0.02	0.02	0.02
VANADIUM (TOTAL)	mg/L	---	---	---	---	---	---
ZINC (total)	mg/L	0.047	0.047	0.047	0.047	0.047	0.047
NUTRIENTS							
AMMONIA (total)	mg/L	APPENDIX 3	APPENDIX 3	APPENDIX 3	APPENDIX 3	APPENDIX 3	APPENDIX 3
NO2+NO3 (as N)	mg/L	10	10	10	10	10	10
PHOSPHORUS (total)	mg/L	0.05	0.05	0.05	0.05	0.05	---
MAJOR IONS							
CHLORIDE (diss.)	mg/L	250	68	100	100	100	100
FLUORIDE (diss)	mg/L	1.5	1	1	1	1	1
SODIUM (diss)	mg/L	300	100	100	100	100	100
SULPHATE (diss)	mg/L	500	250	500	500	500	500
TOTAL DISS. SOLIDS	mg/L	---	---	---	---	---	---
BIOTA							
FECAL COLIFORM	NO/dL	200/100ml	200/100ml	200/100ml	200/100ml	200/100ml	100/100ml
PHYSICALS							
pH	pH Units	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0
OXYGEN (diss)	mg/L	6.5	6.5	OW 6.5	6	6	6
SAR	mg/L	---	---	---	---	---	---
PESTICIDES/CONTAMINANTS							
LINDANE	mg/L	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
2,4-D	mg/L	0.004	0.004	0.004	0.004	0.004	0.004
2,4,5-TP	mg/L	0.01	0.01	0.01	0.01	0.01	0.01
CHLORINE	mg/L	0.002	0.002	0.002	0.002	0.002	0.002
CHLOROPHENOLS (total)	mg/L	0.001	0.001	0.001	0.001	0.001	0.001
PCP	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
MERCURY IN FISH	ug/g TISSUE	0.2	0.2	0.5	0.5	0.5	0.5
PCB IN FISH	ug/g TISSUE	2	2	2	2	2	2
RADIOACTIVE							
CESIUM-137	Bq/L	50	50	50	50	50	50
IODINE-131	Bq/L	10	10	10	10	10	10
RADIUM-226	Bq/L	1	1	1	1	1	1
STRONTIUM-90	Bq/L	10	10	10	10	10	10
TRITIUM	Bq/L	40000	40000	40000	40000	40000	40000

- Fisheries
- Drinking
- Irrigation/Livestock
- Recreation
- Fish Consumption

Table 2: PPWB Excursions 2005

PPWB EXCURSION SUMMARY 2005

1 of 2

LOCATION SITE PPWB REPORT SITE NUMBER		ALBERTA / SASKATCHEWAN BORDER				
		BEAVER RIVER	NORTH SASK. RIVER	BATTLE RIVER	RED DEER RIVER A/S	SOUTH SASK. RIVER
		2	3	4	5	6
		number excursions (number of tests)				
METALS						
ALUMINIUM (total)	mg/L	---	2 (12)	1 (12)	---	---
ARSENIC (diss)	mg/L	0	0	0	0	0
BARIUM (total)	mg/L	0	0	0	1 (12)	0
BORON (diss)	mg/L	0	0	0	0	0
CADMIUM (total)	mg/L	0	0	0	1 (12)	0
CHROMIUM (total)	mg/L	0	1 (12)	1 (12)	3 (12)	1 (12)
COBALT	mg/L	---	0	0	0	0
COPPER (total)	mg/L	0	2 (12)	5 (12)	5 (12)	1 (12)
CYANIDE (free)	mg/L	ND	ND	ND	ND	ND
IRON (diss)	mg/L	0	0	2 (12)	0	0
LEAD (total)	mg/L	0	1 (12)	1 (12)	3 (12)	0
MANGANESE (diss)	mg/L	0	0	3 (12)	0	0
MERCURY (total)	ug/L	0	---	---	---	---
NICKEL (total)	mg/L	0	0	0	2 (12)	1 (12)
SELENIUM (diss)	mg/L	0	0	0	0	0
SILVER (total)	mg/L	0	---	---	---	---
URANIUM	mg/L	0	0	0	---	---
VANADIUM (TOTAL)	mg/L	---	0	0	1 (12)	0
ZINC (total)	mg/L	0	2 (12)	1 (12)	3 (12)	1 (12)
NUTRIENTS						
AMMONIA (total)	mg/L	0	0	3 (12)	1 (12)	0
NO2+NO3 (as N)	mg/L	0	0	0	0	0
PHOSPHORUS (total)	mg/L	---	---	---	---	---
MAJOR IONS						
CHLORIDE (diss.)	mg/L	0	0	0	---	---
FLUORIDE (diss)	mg/L	0	0	0	0	0
SODIUM (diss)	mg/L	0	0	7 (12)	---	---
SULPHATE (diss)	mg/L	0	0	0	0	0
TOTAL DISS. SOLIDS	mg/L	---	0	8 (12)	0	0
BIOTA						
FECAL COLIFORM	NO/dL	0	1 (12)	4 (12)	2 (7)	2 (7)
PHYSICALS						
pH	pH Units	0	0	0	---	---
OXYGEN (diss)	mg/L	0	0	0	---	---
SAR	mg/L	---	---	---	0	0
PESTICIDES/CONTAMINANTS						
LINDANE	mg/L	ND	ND	ND	ND	ND
2,4-D	mg/L	ND	ND	ND	ND	ND
2,4,5-TP	mg/L	ND	ND	ND	ND	ND
CHLORINE	mg/L	ND	ND	ND	---	---
CHLOROPHENOLS (total)	mg/L	ND	ND	ND	ND	ND
PCP	mg/L	ND	ND	ND	---	---
MERCURY IN FISH	ug/g MUSCLE TISSUE	ND	ND	ND	ND	ND
PCB IN FISH	ug/g MUSCLE TISSUE	ND	ND	ND	ND	ND
RADIOACTIVE						
CESIUM-137	Bq/L	---	---	---	---	---
IODINE-131	Bq/L	---	---	---	---	---
RADIUM-226	Bq/L	---	---	---	---	---
STRONTIUM-90	Bq/L	---	---	---	---	---
TRITIUM	Bq/L	---	---	---	---	---
No. Excursion Comparisons		200	282	307	215	215
Total No. Excursions Observed		0	9	36	22	6
Overall Adherence Rate		100	96.8	88.3	89.8	97.2

"---" = no objective

ND = no data to compare to objective; PPWB approved monitoring plan for 2005 did not include these parameters

Table 2: PPWB Excursions 2005 (con't)

PPWB EXCURSION SUMMARY 2005

2 of 2

LOCATION SITE PPWB REPORT SITE NUMBER	SASKATCHEWAN / MANITOBA BORDER					
	CHURCHILL RIVER	SASK. RIVER	CARROT RIVER	RED DEER RIVER S/M	ASSINIBOINE RIVER	QU'APPELLE RIVER
	7	8	9	10	11	12
number excursions (number of tests)						
METALS						
ALUMINUM (total) mg/L	---	---	---	---	---	---
ARSENIC (diss) mg/L	0	0	0	0	0	0
BARIUM (total) mg/L	0	0	0	0	0	0
BORON (diss) mg/L	0	0	0	0	0	0
CADMIUM (total) mg/L	0	0	0	0	0	0
CHROMIUM (total) mg/L	0	0	0	0	0	0
COBALT mg/L	---	---	---	---	---	---
COPPER (total) mg/L	0	0	0	0	0	0
CYANIDE (free) mg/L	ND	ND	ND	ND	ND	ND
IRON (diss) mg/L	0	0	2 (6)	1 (4)	0	0
LEAD (total) mg/L	0	0	0	0	0	0
MANGANESE (diss) mg/L	0	0	5 (6)	1 (4)	7 (12)	1 (5)
MERCURY (total) ug/L	---	---	---	---	---	ND
NICKEL (total) mg/L	0	0	0	0	0	0
SELENIUM (diss) mg/L	0	0	0	0	0	0
SILVER (total) mg/L	---	---	---	---	---	---
URANIUM mg/L	0	0	0	0	0	0
VANADIUM (TOTAL) mg/L	---	---	---	---	---	---
ZINC (total) mg/L	0	0	0	0	0	0
NUTRIENTS						
AMMONIA (total) mg/L	0	0	0	0	0	0
NO2+NO3 (as N) mg/L	0	0	0	0	0	0
PHOSPHORUS (total) mg/L	0	6 (9)	12 (12)	2 (4)	12 (12)	12 (12)
MAJOR IONS						
CHLORIDE (diss.) mg/L	0	0	1 (9)	0	0	0
FLUORIDE (diss) mg/L	0	0	0	0	0	0
SODIUM (diss) mg/L	0	0	1 (9)	0	0	9 (10)
SULPHATE (diss) mg/L	0	0	0	0	0	0
TOTAL DISS. SOLIDS mg/L	---	---	---	---	---	---
BIOTA						
FECAL COLIFORM <i>NO/dL</i>	ND	0	0	ND	0	0
PHYSICALS						
pH <i>pH Units</i>	0	0	0	0	0	0
OXYGEN (diss) mg/L	0	1 (9)	6 (7)	1 (3)	4 (12)	2 (12)
SAR mg/L	---	---	---	---	---	---
PESTICIDES/CONTAMINANTS						
LINDANE mg/L	ND	ND	0	ND	0	ND
2,4-D mg/L	ND	ND	0	ND	0	ND
2,4,5-TP mg/L	ND	ND	0	ND	0	ND
CHLORINE mg/L	ND	ND	ND	ND	ND	ND
CHLOROPHENOLS (total) mg/L	ND	ND	ND	ND	ND	ND
PCP mg/L	ND	ND	ND	ND	ND	ND
MERCURY IN FISH <i>ug/g TISSUE</i>	ND	ND	ND	ND	ND	ND
PCB IN FISH <i>ug/g TISSUE</i>	ND	ND	ND	ND	ND	ND
RADIOACTIVE						
CESIUM-137 <i>Bq/L</i>	ND	ND	ND	ND	ND	ND
IODINE-131 <i>Bq/L</i>	ND	ND	ND	ND	ND	ND
RADIUM-226 <i>Bq/L</i>	ND	ND	ND	ND	ND	ND
STRONTIUM-90 <i>Bq/L</i>	ND	ND	ND	ND	ND	ND
TRITIUM <i>Bq/L</i>	ND	ND	ND	ND	ND	ND
No. Excursion Comparisons	66	207	201	87	309	168
Total No Excursions Observed	0	7	27	5	23	24
Overall Adherence Rate	100	96.6	86.6	94.3	92.6	85.7

"---" = no objective
 ND = no data to compare to objective; PPWB approved monitoring plan for 2005 did not include these parameters

APPENDIX VII

BOARD/COMMITTEE MEMBERSHIP 2005 - 2006

Manitoba, Saskatchewan, Alberta and Canada agree to establish and there is hereby established a Board to be known as the Prairie Provinces Water Board to consist of five members to be appointed as follows:

- (a) two members to be appointed by the Governor General in Council, one of whom shall be Chairman of the Board, on the recommendation of the Minister of Energy, Mines and Resources,
- (b) one member to be appointed by the Lieutenant Governor in Council of each of the Provinces of Manitoba, Saskatchewan and Alberta.

Schedule C, Section 1
Master Agreement on Apportionment

PPWB MEMBERS

CHAIR	J. Vollmershausen	Regional Director General Prairie and Northern Region Environment Canada
	C. Neggers	Director General Prairie Farm Rehabilitation Administration Agriculture and Agri-Food Canada
	W.S. Macdonald	Director Science and Standards Division Environmental Assurance Branch Alberta Environment
	W.L. Dybvig (Apr - June '05)	Vice President Operations Division Saskatchewan Watershed Authority
	S.D. Topping	Executive Director Infrastructure and Operations Manitoba Water Stewardship
EXECUTIVE DIRECTOR	R.L. Kellow (Apr - June '05)	Transboundary Waters Unit Environment Canada
	W.L. Dybvig (June '05 - Mar '06)	Transboundary Waters Unit Environment Canada
A/SECRETARY	R. Herrington	Transboundary Waters Unit Environment Canada

PPWB ALTERNATE MEMBERS

	Vacant	Environment Canada
	F. Kraft	A/Ag Water Director Prairie Farm Rehabilitation Administration Agriculture and Agri-Food Canada
	R.P. Harrison	Manager, Partnerships and Strategies Section Alberta Environment
	R. Wiebe	A/Director, Regional Operations Saskatchewan Watershed Authority
	Vacant	Manitoba Water Stewardship

COMMITTEE ON HYDROLOGY

TERMS OF REFERENCE

At the request of, and under the direction of the PPWB, the Committee on Hydrology shall investigate, oversee, review, report and recommend on matters pertaining to hydrology of interprovincial or interjurisdictional basins.

The committee may consider such things as natural flow; forecasting; network design; collection, processing and transmission of data; basin studies and other items of interprovincial interest involving hydrology.

PPWB Minute 7-11 (Oct. 17, 1972)

Secretary: J. Chen

MEMBERS

CHAIR	R.L. Kellow	Executive Director (Apr - June '05) Prairie Provinces Water Board
	W.L. Dybvig (June '05 - Mar '06)	Executive Director Prairie Provinces Water Board
	R.G. Boals	Water Survey Division Environment Canada
	F.R.J. Martin	Hydrology Unit Prairie Farm Rehabilitation Administration Agriculture and Agri-Food Canada
	S. Figliuzzi	Water Evaluations and Reporting Environmental Monitoring and Evaluation Branch Alberta Environment
	R.J. Bowering (Apr - Aug '05)	Surface Water Management Manitoba Water Stewardship
	R.W. Harrison (Aug '05 - Mar '06)	Water Branch Manitoba Water Stewardship
	D. Johnson	Basin Operations Saskatchewan Watershed Authority
	R.L. Raddatz (Apr - Sept '05)	Atmospheric and Hydrologic Sciences Division Environment Canada
	N. Taylor (Sept '05 - Mar '06)	Atmospheric and Hydrologic Sciences Division Environment Canada
SECRETARY	A.J. Chen	Operations Engineer Transboundary Waters Unit

COMMITTEE ON WATER QUALITY

TERMS OF REFERENCE

Under the direction of the Prairie Provinces Water Board, the Committee on Water Quality shall investigate, oversee, review, report, recommend and advise the Board on matters pertaining to the water quality of interprovincial waters.

The responsibilities of the committee shall include directing, planning, and coordinating a water quality monitoring and trend assessment program by identifying monitoring requirements and overseeing trans-boundary monitoring and synoptic surveys. The committee shall promote an ecosystem approach to water quality management and the protection and enhancement of interprovincial waters by ensuring the compatibility of water quality guidelines, objectives, sampling and analytical protocols, monitoring approaches, quality assurance and data bases. It shall interpret data and identify, investigate and define existing and potential interprovincial water quality problems through the application of PPWB Water Quality Objectives, trend assessment and other approaches. The committee shall inform the Board and member agencies, through the PPWB contingency plan, of any spills or unusual water quality conditions that have the potential to adversely affect interprovincial streams. It shall assess the implications of these problems and recommend remedial or preventative measures for avoiding and resolving water quality issues.

The committee shall foster awareness and understanding of the importance of effective water quality management, encourage the use of "state of the art" procedures for evaluating water quality, and identify research needs pertinent to water quality management on the prairies. The committee shall facilitate effective water quality management practices through integration of agency initiatives and the promotion of joint planning on interprovincial streams.

The committee shall also assist the Committee on Groundwater in the development of interprovincial groundwater programs by identifying water quality monitoring needs for interprovincial groundwater aquifers.

PPWB Minute 47-54 (Oct. 17, 1991)
Recording Secretary:
N. Glozier

MEMBERS

CHAIR	R.L. Kellow (Apr - June '05)	Executive Director Prairie Provinces Water Board
	W.L. Dybvig (June '05 - Mar '06)	Executive Director Prairie Provinces Water Board
	D.B. Donald	Ecological Science Division Environment Canada
	D. Williamson	Water Sciences and Management Branch Manitoba Water Stewardship
	T. Hanley	Watershed Monitoring and Assessment Saskatchewan Watershed Authority
	R. Casey	Water Section. Science and Standards Branch Alberta Environment
	B. Schutzman	Water Quality Unit Prairie Farm Rehabilitation Administration Agriculture and Agri-Food Canada
SECRETARY	N.E. Glozier	Ecological Science Division, Environment Canada

COMMITTEE ON GROUNDWATER

TERMS OF REFERENCE

Recognizing the inter-relationship between surface and groundwater, the Committee on Groundwater shall, at the request of, and under the direction of the Prairie Provinces Water Board, investigate, oversee, review, report, and recommend on matters pertaining to quantity and quality of groundwater at or near inter-provincial boundaries.

Responsibilities of the committee will include: exchange of information; compilation and interpretation of existing data; recommendations on groundwater information and monitoring requirements; determination of implications of proposed projects which may impact the quantity and/or quality of waters at interprovincial boundaries; and other items of interjurisdictional interest involving groundwater.

PPWB Minute 26-25(Nov. 18-19, 1981)
Secretary: J. Chen

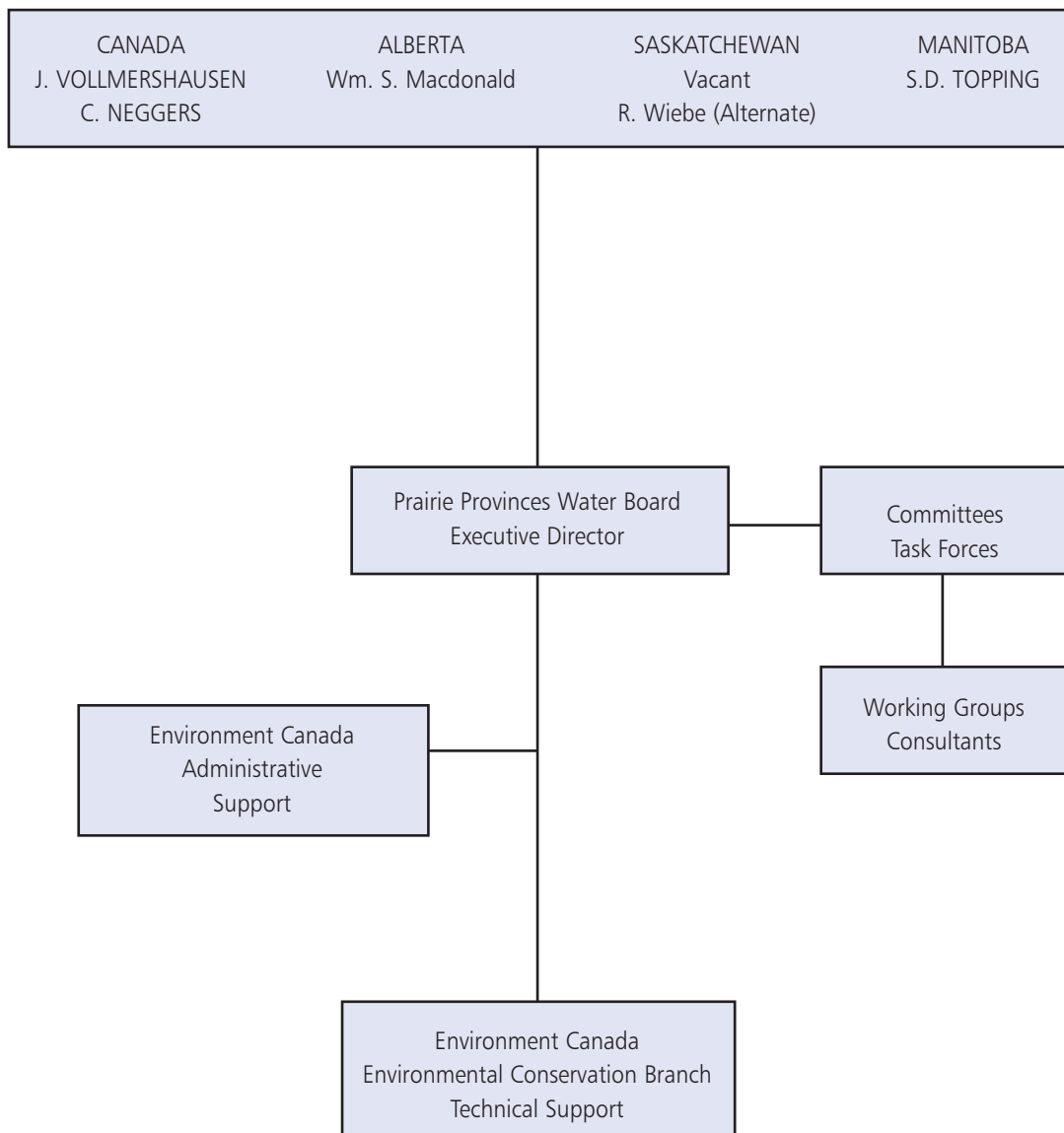
MEMBERS

CHAIR	R.L. Kellow (Apr - June '05)	Executive Director Prairie Provinces Water Board
	W.L. Dybvig (June '05 - Mar '06)	Executive Director Prairie Provinces Water Board
	G. van der Kamp	National Water Research Institute Environment Canada
	J. Lebedin (Apr - June '05)	Earth Sciences Division Prairie Farm Rehabilitation Administration Agriculture and Agri-Food Canada
	T. Cowen (June '05 - Mar '06)	Prairie Farm Rehabilitation Administration Agriculture and Agri-Food Canada
	Nga de la Cruz	Science and Standards Division Alberta Environment
	N. Shaheen	Operations Division Saskatchewan Watershed Authority
R. Betcher	Groundwater Management Section Water Sciences and Management Branch Manitoba Water Stewardship	
SECRETARY	A.J. Chen	Operations Engineer Transboundary Waters Unit Environment Canada

APPENDIX VIII
ORGANIZATIONAL CHART

ORGANIZATIONAL CHART

PRAIRIE PROVINCES WATER BOARD



APPENDIX IX

STATEMENT OF FINAL EXPENDITURES 2005-2006

**PRAIRIE PROVINCES WATER BOARD
STATEMENT OF FINAL EXPENDITURES**

**FINANCIAL YEAR
2005/2006**

For expenditures in accordance with the Master Agreement on Apportionment dated October 30, 1969 (see Section 10, Schedule C and Section 15 of the By-Laws).

FOR THE YEAR ENDING MARCH 31, 2006

ITEMS	2005-2006 APPROVED BUDGET	FINAL EXPENDITURES March 31, 2006
Salaries:		
Salaries (1)	\$ 201 250	\$ 201 250
Overtime/Other	0	0
TOTAL SALARIES	<u><u>\$ 201 250</u></u>	<u><u>\$ 201 250</u></u>
Operating Expenses:		
Travel	\$ 13 037	\$ 11 770
Postage	600	149
Telecommunications	4 400	3 269
Printing	6 000	5 560
Professional Services	100 000	15 454
Training	500	0
Temporary Help	200	0
Other Services	2 500	4 915
Rentals (1)	200	1 682
Equipment Repair	200	0
Supplies	3 000	791
Equipment Purchases	0	409
TOTAL Operating Expenses	<u><u>\$ 130 637</u></u>	<u><u>\$ 43 999</u></u>
TOTAL SALARIES AND O & M	\$ 331 887	\$ 245 249
FRINGE BENEFITS (9% of salaries)	\$ 18 113	\$ 18 113
TOTAL BUDGET	<u><u>\$ 350 000</u></u>	<u><u>\$ 263 362</u></u>

PPWB Approved Budget \$350,000

Final expenditures below approved budget due to contracts not being completed.
Work to proceed in 2006-2007

APPENDIX X
HISTORY OF THE PPWB

The Prairie Provinces Water Board was formed on July 28, 1948 when Canada and the provinces of Alberta, Saskatchewan, and Manitoba signed the Prairie Provinces Water Board Agreement. This Agreement established a Board to recommend the best use of interprovincial waters, and to recommend allocations between provinces.

From 1948 to 1969, the Engineering Secretary to the Board was a Prairie Farm Rehabilitation Administration employee. The support staff for studies and office accommodation during these years was provided by the PFRA in Regina at no charge.

After some twenty years, changes in regional water management philosophies resulted in a need to modify the role of the Board. Consequently, the four governments entered into the Master Agreement on Apportionment on October 30, 1969. This Agreement provided an apportionment formula for eastward flowing interprovincial streams, gave recognition to the problem of water quality, and reconstituted the Prairie Provinces Water Board.

The Master Agreement on Apportionment has five schedules which form part of the Agreement. These Schedules are:

1. Schedule A. An apportionment agreement between Alberta and Saskatchewan.
2. Schedule B. An apportionment agreement between Saskatchewan and Manitoba.
3. Schedule C. the Prairie Provinces Water Board Agreement describing the composition, functions and duties of the Board.
4. Schedule D. A listing of Orders-in-Council for allocations of interprovincial waters made before 1969.
5. Schedule E. A Water Quality Agreement describing the role of the PPWB in interprovincial water quality management and establishing PPWB Water Quality Objectives for 11 interprovincial

river reaches. This Schedule became part of the Master Agreement in 1992.

Under Schedule C, the Prairie Provinces Water Board was reconstituted and was given the responsibility of administering the agreement. Schedule C also provided for the necessary board staff, accommodation, and supplies to be jointly financed by the four participating governments. Following the reconstitution of the PPWB, the members also agreed to the establishment of a semi-autonomous Board Secretariat.

The PPWB's change in administration policy was implemented when an Executive Director was appointed on July 1, 1972. The by-laws, rules, and procedures also became effective on this date.

On April 2, 1992, the Master Agreement on Apportionment was amended to include a water quality agreement that became Schedule E to the Master Agreement. The agreement sets water quality objectives at 11 interprovincial river reaches and commits each of the Parties to take reasonable and practical measures to maintain or improve existing water quality.

At the Board's March 1995 meeting, the Board agreed that full time secretariat staff was no longer necessary and that functional support would be provided by staff of Environment Canada. The process of disbanding the PPWB Secretariat and integrating its functions into Environment Canada was completed during 1995-1996. The portion of time each Environment Canada staff person spends on PPWB activities is charged to the PPWB and cost-shared by the members. The Board now operates through its Executive Director, supported by three standing committees - the Committee on Hydrology, the Committee on Groundwater, and the Committee on Water Quality.

The Board approves an annual budget with one-half the budget being provided by Canada (Environment Canada) and one-sixth by each of the three provinces.



Prairie Provinces Water Board
2365 Albert Street, Room 300
Regina, Saskatchewan
S4P 4K1

PPWB Web Site address:
<http://www.pnr-rpn.ec.gc.ca/water/fa01/index.en.html>