

88

ANNUAL REPORT

FOR THE YEAR ENDING MARCH 31, 1989



PRAIRIE PROVINCES WATER BOARD

CANADA ALBERTA SASKATCHEWAN MANITOBA

1988-89

ANNUAL REPORT

FOR THE YEAR ENDING MARCH 31, 1989



PRAIRIE PROVINCES WATER BOARD

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CANADA . ALBERTA . SASKATCHEWAN . MANITOBA

ISSN 0704-8726

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INTRODUCTION

On October 30, 1969 Canada and the Provinces of Manitoba, Saskatchewan and Alberta entered into an agreement to share the flow and to consider the quality of eastward flowing interprovincial streams. Under Schedule C of that Master Agreement on Apportionment, the Prairie Provinces Water Board was reconstituted and was given the responsibility to administer the Agreement.

The Board met three times during the 1988-89 fiscal year; April 19, 1988 in Winnipeg, Manitoba; August 9, 1988 in Regina, Saskatchewan; and February 21, 1989 in Regina, Saskatchewan.

In the last fiscal year; the Committee on Hydrology met twice, the Committee on Water Quality met once and held one conference call, the Committee on Groundwater met twice, and the Committee on Water Quality Policy met four times; a total of ten committee meetings.

This report summarizes the activities and the progress of the Prairie Provinces Water Board, its Committees, and the Secretariat for the period April 1, 1988 to March 31, 1989.

RECONSTITUTION OF BOARD ADMINISTRATION

The original Prairie Provinces Water Board was formed on July 28, 1948. During the next 22 years (1948 to 1969 inclusive), the Engineering Secretary to the Board was a Federal Government PFRA employee who served in this capacity as part of his regular duties. The support staff for studies and office accommodation during these 22 years were provided by the PFRA in Regina at no charge.

The Master Agreement on Apportionment was signed on October 30, 1969. Schedule C of that Agreement reconstituted the Prairie Provinces Water Board and provided for the necessary Board staff, accommodation and supplies to be jointly financed by the four governments party to the Agreement. Following the reconstitution of the PPWB the members also agreed to the establishment of a semi-autonomous Board Secretariat.

The Board's change in administration policy was implemented when an Executive Director was appointed on July 1, 1972. The Board, as shown in the organization chart on page 1-10, now operates through an Executive Director and his staff, supported by three standing committees. With the appointment of a permanent staff, the By-Laws, Rules, and Procedures also became effective on July 1, 1972. The 1969 Master Agreement on Apportionment (as amended on July 5, 1984), the By-Laws, and the Rules and Procedures are appended to this Annual Report.

The employees of the Secretariat, for administrative purposes, are classified as Federal Public Servants but receive their direction entirely from the Board. The Board directly controls the operation of the Secretariat through approval of an Annual Budget. It currently has Federal spending authority up to an annual maximum expenditure of \$625 000 from funds provided under the Canada Water Act. The Provincial Governments' share of current expenditures are recovered after the current financial year is completed.

ADMINISTRATION PROCEDURES

Water Quality Indicators

The Board hired a contractor to prepare supporting documentation for the Proposed Water Quality Indicators at five interprovincial sites; Red Deer (Saskatchewan-Manitoba), Qu'Appelle, Assiniboine, Churchill, and Carrot Rivers. At the end of the fiscal year, two drafts of each of these documents had been prepared and reviewed by the Committee on Water Quality.

Water Quantity and Quality Monitoring Programs

At PPWB Meeting No. 42, the Board approved the Proposed Hydrometric Monitoring Program and Meteorological Station Lists for 1989-90, recommended by the Committee on Hydrology.

The Board approved the 1989-90 PPWB Water Quality Monitoring Program proposed by the Committee on Water Quality.

The Board directed the COWQ to revise its water quality monitoring program for 1990/91, and encouraged the agencies to conduct joint special studies to assist in developing a more effective and efficient monitoring program.

Assessing the Comparability of PPWB Data

The Board accepted a report entitled "Initial Report on Assessing the Comparability of Water Quality Data Generated by the Federal (IWD) and Provincial Laboratories on the Prairies" prepared by the Analytical Methods Task Force. The report made several recommendations to ensure data compatibility of provincial and federal laboratories on the prairies.

PPWB Water Quality Report

The Board agreed with the Committee on Water Quality's recommendation to prepare a final water quality data report covering 15 years of historical PPWB data. The report will be prepared in 1989/90.

Beaver River Water Quality Monitoring Site

The Board reviewed the Committee on Water Quality's recommendation on the Beaver River monitoring location regarding concerns about the Cold Lake/Grand Centre discharge to Beaver River at the interprovincial boundary. The Board agreed with the Committee's recommendation to maintain the monitoring site at its present location.

Committee on Water Quality Policy

In recognition of the growing importance of water quality issues and the lack of specific direction of the Board's water quality mandate in the Master Agreement on Apportionment, the Board established a fixed-term Committee on Water Quality Policy. The Committee will make recommendations on what the role of the Board should be with respect to water quality and what approaches are required to carry out that role. The Committee is to complete its report to the Board by the Fall of 1989.

By-Laws Amendment

The Board amended the By-Laws so as to clarify who chairs Board meetings in the absence of the regular Chairman.

Secretariat Relocation

The Board approved the Secretariat's move to 201 - 2050 Cornwall Street, Regina, Saskatchewan.

Water Demand Update

The Board agreed that the Secretariat should, in co-operation with its Member Agencies continue to update the water use tables included in the 1982 PPWB report entitled "Water Demand Study: Historical and Current Water Uses in the Saskatchewan-Nelson Basin". The Secretariat will present to the Board a summary on water use trends and the Board will review the information and decide on the nature and format of possible subsequent reports. The Secretariat will also assess the water demand data base.

PPWB Brochure

The Board approved an update of the PPWB color brochure. The brochure was distributed to Member Agencies.

Qu'Appelle River SSARR Model Modification

The Board approved a proposal to conduct a study to modify the existing Qu'Appelle River natural flow SSARR model. The model is used to estimate natural flows

on the Qu'Appelle River. The Study will be carried out in 1989/90 by the Saskatchewan Water Corporation.

Pipestone Creek Natural Flow Study

The Board approved a proposal to carry out a natural flow study in 1989/90 on Pipestone Creek. The study will be carried out by the Saskatchewan Water Corporation.

BOARD STUDIES

The Secretariat, under the direction of the Board and with the cooperation of Board committees, is involved in several ongoing studies. The progress made on these studies in the fiscal year 1988-89 is described in this section.

Provincial Legislation Dealing With Groundwater Allocation and Contamination

The Committee on Groundwater initiated a review of existing groundwater legislation and related policies to determine how they deal with potential interprovincial groundwater problems related to allocation and contamination. The study is expected to be completed at the end of the next fiscal year.

Design Wind Study

The Board, at its October 20, 1987 Meeting, agreed that Component A of Phase II of the Design Wind Study be contracted out to Atmospheric Environment Service (AES) in fiscal year 1988/89. This involved modification of software to produce wind frequency diagrams for data assembled in Phase I. The AES, Regina office, completed Component A, Phase II of the Design Wind Study in December 1988. The Secretariat circulated copies of the computer program to Member Agencies for their use.

Strategy for Apportionment Monitoring on Small Interprovincial Basins

The Board, at its October 20, 1987 Meeting, agreed that COH will develop a plan of action to categorize streams according to their potential for apportionment problems and provide a strategy for the Board to deal with these problems. The strategy will include the following:

- a) a categorization of streams for potential apportionment problems;
- b) a cost effective strategy for improving the existing data base;

- c) a procedure for keeping informed of potential apportionment problems and for notification to the Board when monitoring of apportionment is required.

The strategy is expected to be completed in fiscal year 1989/90.

Natural Flow Studies on Small Interprovincial Basins

During 1988/89, the Board accepted reports on Red Deer River (Saskatchewan), Overflowing River and Elm Creek. Studies which have been completed prior to 1988/89 include Pipestone Creek, Antler Creek, Assiniboine River, Boxelder Creek, Mackay Creek, Graham Creek, Battle River, Gainsborough Creek, Eyehill Creek, Big Gully Creek, Beaver River, Swan River, Wood River, Birch River, Gopher Creek, Bosshill Creek, Jackson Creek and Stony Creek.

In response to a concern, raised by the Pipestone Creek Task Force about the accuracy of the existing Pipestone Creek natural flow data, the COH suggested that a study be conducted to provide a more accurate estimate of historical natural flow.

The Board, at its February 21, 1989 Meeting, agreed a natural flow study for the Pipestone Creek basin should be conducted by Saskatchewan Water Corporation in the fiscal year 1989/90.

Irrigation Return Flow Studies

Since 1986, a field program has been conducted by the Calgary office of Canada Water Resources Branch to gather irrigation return flow data in the Eastern Irrigation District, Western Irrigation District and Bow River Irrigation District for use in developing new return flow equations. The Committee on Hydrology completed a review of a report on the results of that study prepared by the Canada Water Resources Branch, Calgary. This report and the report entitled "Return Flow From Irrigation - Southern Alberta", published in October 1985, will be combined into a handbook.

Qu'Appelle River SSARR Modification

Because of the inaccuracies in the current Qu'Appelle River natural flow SSARR model, the COH recommended that the existing SSARR model be modified to improve its accuracy and make it operational on a personal computer. The Board agreed to contract out to Saskatchewan Water Corporation in fiscal year 1989/90, a study to recalibrate the existing SSARR Model.

Supporting Documents for Proposed Site Specific Water Quality Indicators

A contractor was hired to prepare two drafts of the Water Quality Supporting Documents for five interprovincial sites; Red Deer (Sask.-Man.), Qu'Appelle, Assiniboine, Churchill, and Carrot Rivers. Draft documents have now been completed for all 11 PPWB water quality monitoring sites. These documents contain background information and the rationale used to develop the proposed Water Quality Indicators at each site.

Task Force on Water Quality Analytical Methods

Test samples have been circulated to PPWB participating laboratories on a monthly basis by Inland Waters Directorate, Environment Canada, since September 1982. Based on the results of this program, the Water Quality Analytical Methods Task Force completed a report entitled "Initial Report on Assessing the Comparability of Water Quality Data generated by the Federal (IWD) and Provincial Laboratories on the Prairies". The Board, at its March 31, 1989 Meeting, accepted the report along with its recommendations.

The committees of the Board are responsible for providing technical advice on various subjects of interprovincial interest to the Board. The Board Secretariat works with each of these committees to provide the Board with the technical information needed to make decisions related to interprovincial water management. This section describes the work of the four Board committees in fiscal year 1988-89.

Committee on Hydrology

The Committee on Hydrology met twice in the fiscal year; on September 20/21, 1988 in Saskatoon, Saskatchewan, and on March 7-8, 1989 in Winnipeg, Manitoba. At the September 1988 Meeting, the Committee discussed with representatives of the National Hydrology Research Centre (NHRC) a proposal for an open-water evaporation study. The need for such a study had been suggested by the Committee. The Committee recommended that the NHRC do a cost-benefit analysis to identify who are the users of evaporation data and what benefits would result in improving that data.

The Committee noted problems with the existing natural flow data for Pipestone Creek, and recommended that a natural flow study for the Pipestone Creek basin be undertaken. At the March 1989 Committee meeting, the COH reviewed a study proposal, prepared by the Saskatchewan Water Corporation and recommended that this study proposal be accepted.

With respect to the monitoring of interprovincial drainage activities, the Committee reviewed a list of interprovincial drainage projects licensed since 1984. The Committee noted that the effect of these projects on flow at the interprovincial boundary is minimal. The Committee agreed that, in order to more accurately assess the accumulated drainage impact, there is a need to review drainage projects prior to January 1, 1984. Pre-1984 drainage project information will be gathered for future study purposes. The provincial COH Members reported nineteen drainage projects with potential interprovincial implications that were licensed in 1988. All of these projects were located in Saskatchewan.

The Atmospheric Environment Service, Regina office, completed work on a contract with the PPWB to develop computer software to produce wind rose frequency diagrams at numerous locations throughout the prairie provinces. The data required for this program had been assembled in an earlier phase of the study. Information produced from this program can be used for such activities as calculating wind setup and wave levels on lakes and reservoirs required to design water front sub-divisions.

The Committee held its third Prairie Hydrology Workshop on October 18/19, 1988 in Saskatoon, Saskatchewan. The Workshop focused on hydrologic, hydraulic and water management models used by the Board's Member Agencies. A copy of the workshop proceedings was circulated in February 1989 to all workshop participants.

The Committee discussed the apportionment deficit problem which occurred on the Lodge Creek in 1988. They noted that "it is important to follow the agreement, but consideration should also be given to the spirit of cooperation between governments".

Regarding natural flow studies for small interprovincial basins, the Committee reviewed and approved the two natural flow study reports: Overflowing River, and Red Deer (Saskatchewan) River, prepared by the PFRA Hydrology Division, and the Elm Creek natural flow study report, prepared by the PPWB Secretariat.

Committee on Water Quality

The Committee on Water Quality held two meetings during the fiscal year. A meeting was held on December 13-14, 1988 in Winnipeg, Manitoba and a conference call meeting was held on February 6, 1989. The Committee reviewed Beaver River at Beaver Crossing monitoring location in response to concerns regarding the possible impact of Cold Lake/Grand Centre discharges on the Beaver River at the interprovincial boundary. The Committee agreed that the monitoring site should remain at its present location as the Cold Lake/Grand Centre discharge is not anticipated to have any significant effect on the quality of water at the interprovincial boundary. The Committee also reviewed various spills and unusual water quality conditions on interprovincial streams that had developed since last fiscal year.

The Committee reviewed the PPWB water quality monitoring program for 1989-90 and agreed to recommend, to the Board, a program identical to the 1988-89 monitoring program with the exception of sulphide monitoring. Some joint water quality monitoring studies will also be conducted by the Member Agencies. The Committee further agreed to revise the PPWB monitoring program for 1990-91 in order to make it more effective and efficient. Details of the 1990-91 PPWB monitoring program are to be completed by December 1989.

The Committee Members reviewed the short-term excursions to the Proposed Water Quality Indicators for the first eight months of 1988 and agreed to conduct a final review when the remaining four months of short-term excursions and the long-term excursion reports are available early in 1989-90.

The Committee reviewed the Analytical Methods Task Force report entitled "Initial Report on Assessing the Comparability of Water Quality Data Generated by the Federal (IWD) and Provincial Laboratories on the Prairies", made minor modifications and agreed the report will be presented to the Board at its February 21, 1989 Meeting.

The Committee reviewed several draft versions of the Water Quality Indicator Supporting Documents and agreed that the final reports will not be completed until comments have been received on all eleven support documents.

Committee on Water Quality Policy

The Committee on Water Quality Policy (COWQP) met four times in the fiscal year. The meetings were held on August 10, 1988 in Regina, Saskatchewan; on October 20/21, 1988 in Winnipeg, Manitoba; on November 30-December 1, 1988 in Edmonton, Alberta and on March 2-3, 1989 in Regina, Saskatchewan.

The COWQP reviewed many existing documents dealing with transboundary water quality matters including Agreements, Federal and Provincial water quality legislation and policy statements. It also reviewed various approaches used to develop water quality objectives.

The Committee will be submitting a report to the Board in 1989/90 with recommendations pertaining to the Board's role in the area of water quality and how that role can be achieved.

Committee on Groundwater

The Committee on Groundwater met twice in this fiscal year; on September 6-7, 1988 in Regina, Saskatchewan and on January 31-February 1, 1989 in Winnipeg, Manitoba. At the September 1988 meeting, the Committee discussed groundwater concerns related to the Prairie Evaporation Study that is currently being considered by the NHRC.

The Committee reviewed a proposal to develop two production wells in the Bronson Lake Valley Aquifer. The Committee noted that the wells are approximately 10 kilometres from the Alberta-Saskatchewan boundary, and a cone of influence could cross the interprovincial boundary. The Committee agreed with the action taken by Alberta Environment to add a condition to the approval requiring a monitoring well to be developed near the Alberta-Saskatchewan boundary.

The Committee discussed the status of WATDOC with respect to the bibliography of groundwater reports in the prairie provinces. Saskatchewan groundwater reports are now all entered into WATDOC while Alberta and Manitoba entries are still in progress.

The Committee finalized the evaluation matrix to be used in the groundwater legislation review. The results from this review will assist the COG in evaluating the effectiveness of existing groundwater related legislation in the three prairie provinces.

SECRETARIAT

Accommodation and Staff

The PPWB Secretariat relocated to Room 201, 2050 Cornwall Street, Regina, Saskatchewan. Financial, Administrative and Personnel services are provided through the staff of the Inland Waters Directorate, Conservation and Protection, Environment Canada.

The Secretariat hired, under contract, Mr. K.F. Born to do drafting, Water Demand Study updating, preparing water quality graphs and tables for the PPWB Water Quality Indicators Supporting Documents and other reports required for Board purposes.

Reports

The following reports were prepared either by the Secretariat or under the direction of Board Committees.

- PPWB Report No. 89 - "Elm Creek at Saskatchewan-Manitoba Boundary - Natural Flow". September 1988. Prepared by the PPWB Secretariat.
- PPWB Report No. 102 - "Red Deer River at Saskatchewan-Manitoba Boundary - Natural Flow". July 1988. Prepared by the PFRA Hydrology Division.
- PPWB Report No. 103 "Overflowing River at Saskatchewan-Manitoba Boundary - Natural Flow". July 1988. Prepared by the PFRA Hydrology Division.
- PPWB Report No. 104 - "Initial Report on Assessing the Comparability of Water Quality Data Generated by the Federal (IWD) and Provincial Laboratories on the Prairies". January 1989. Prepared for the COWQ by the Water Quality Analytical Methods Task Force.
- PPWB Report No. 105 - "Prairie Hydrology Workshop No. 3, October 18/19, 1988, Saskatoon, Saskatchewan". December 1988. Prepared by the PPWB Secretariat.

Information

The Secretariat updated, in April 1988, the PPWB Interprovincial Water Quality Contingency Plan used to report spills or unusual water quality conditions. Several spills or unusual water quality conditions occurred on the North and South Saskatchewan rivers and their tributaries in 1988-89. Member Agencies were kept informed of these conditions through the PPWB Interprovincial Water Quality Contingency Plan.

The Secretariat, with the assistance of a consultant, in 1988-89 completed the five remaining draft supporting documents for the Proposed PPWB Site Specific Water Quality Indicators. In addition to preparing several chapters of the reports as well as the Appendices, the Secretariat, with the assistance of the contractor (K.F. Born) prepared all the necessary tables and graphs for the documents.

The Water Quality Specialist assisted the Committee on Water Quality Policy in the initial preparation of several chapters of the report to the Board as well as acting as Secretary to the new Committee. He also prepared drafts of the Analytical Methods Task Force report entitled "Initial Report on Assessing the Comparability of Water Quality Data Generated by the Federal (IWD) and Provincial Laboratories on the Prairies".

The Secretariat prepared water quality excursion reports for 1986 and 1987 to assist the Board in testing the proposed PPWB Water Quality Indicators.

The staff made several presentations regarding the work of the Board during the year.

Access to AES Meteorologic Data

As agreed at COH Meeting No. 47, held on September 18-19, 1984, the Secretariat purchased, from the AES, tapes containing historical meteorologic records of the prairie provinces. The Secretariat obtains updates of these tapes annually. As of March 1989, the tapes contain information to 1987. PFRA Hydrology Division maintains these tapes for the PPWB. Meteorological data is provided to Member Agencies upon request.

Updating of PPWB Monthly Natural Streamflow Estimates

The Secretariat is responsible for maintaining monthly natural flow estimates for selected hydrometric sites in the Saskatchewan-Nelson basin. Work on bringing the monthly streamflow files up to date was treated as a high priority in 1988-89 fiscal year, including the assignment of a significant amount of the Operations Engineer's time and the hiring of a temporary employee for nearly three months. This work was facilitated by using the recently completed Alberta Environment monthly natural flow updates for selected stations in the Alberta portion of the North and South Saskatchewan River basins.

As of March 31, 1989, approximately 93% of the 620 files were updated to 1986. Of the remaining work to be completed, priority will be given to updating the monthly natural flow at the interprovincial boundary for 17 small interprovincial basins. A lower priority will be given to the natural flow estimates for selected stations in both the Red River and Winnipeg River basins.

The Secretariat received a micro computer version of the "data adjustment tool" used in updating natural flows from Alberta Environment. This should simplify future updates, reduce dependency on the main frame computer service and enable a quicker response to requests.

Financial

Final claim for the fiscal years 1988-89 is shown on page 22. During the fiscal year 1988-89 expenditures totalled \$442 975 of which \$247 450 was for salaries.

An audit of expenditures was also carried out for the three-year period April 1, 1985 to March 31, 1988. Expenditures for that period were verified to be correct.

STATEMENT OF EXPENDITURES

PRAIRIE PROVINCES WATER BOARD FINAL CLAIM

For expenditures in accordance with the Prairie Provinces Water Board Agreement dated October 30, 1969 (see Section 10, Schedule C and Section 15 of the By-Laws).

FINANCIAL YEAR 1988-89

ITEMS	<u>BUDGET FOR</u> <u>1988-89</u>	<u>EXPENDITURES</u>
Salaries:		
Permanent Staff	\$238 500	\$ 229 788
Temporary Staff	<u>6 500</u>	<u>17 662</u>
TOTAL SALARIES	<u>\$245 000</u>	<u>\$ 247 450</u>
O & M:		
Travel	\$ 12 400	\$ 11 937
Postage	500	521
Telecommunications	5 600	5 340
Advertising	100	26
Printing	13 000	7 917
Professional Services	67 440	49 613
Training	5 500	220
Temporary Help Services	4 000	1 010
Personal Services	32 000	29 140
Other Services	12 800	13 950
Rentals	30 000	26 907
Equipment Repair	4 500	1 906
Purchased Materials	5 300	6 197
Parts and Consumable Tools	1 000	9 045
Equipment Acquisition	<u>7 000</u>	<u>11 115</u>
TOTAL O & M	<u>\$201 140</u>	<u>\$ 174 844</u>
Total Salaries and O & M	\$446 140	\$ 422 294
Fringe Benefits (9% of Permanent Salaries)	<u>21 500</u>	<u>20 681</u>
TOTAL EXPENDITURES	<u>\$467 640</u>	<u>\$ 442 975</u>
Less Credits:		
Revenue from Sale of Publications		(300)
Misc. Revenue		<u>(30)</u>
TOTAL		<u>\$ 442 405</u>

Each Province's share (one-sixth of the total amount of \$442 405) is \$ 73 734

FINAL CLAIM \$ 73 734

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 keeping with this, and with previous Board decisions, the following continuing actions have been taken to monitor the quantity and quality of water at interprovincial boundaries.

Natural Flow Determination

The Water Resources Branch of Environment Canada continued to monitor streamflow at all hydrometric sites used to determine natural flow for apportionment purposes. Similarly, the Committee on Hydrology reviewed the list of hydrometric stations needed to determine natural flow for Board purposes. As of March 31, 1989, there were 113 stations classified by the Board as PPWB hydrometric monitoring stations. These stations are plotted on the map at the end of this report.

The Committee on Hydrology has identified seventeen AES meteorological monitoring stations in the three prairie provinces which provide information used by the Board for computing natural flow at the interprovincial boundaries for apportionment purposes.

The Board, at its February 1989 Meeting, approved the 1989-90 list of PPWB Hydrometric and Meteorological Monitoring Stations as recommended by the COH.

Quarterly reports on natural flows, consumptive uses, and storage changes for the South Saskatchewan River basin in Alberta were prepared and distributed. Total annual recorded flow of 3 146 000 cubic decametres in the South Saskatchewan River below its junction with the Red Deer River is 58% of the total annual natural flow of 5 427 000 cubic decametres. A summary of recorded and natural flow volumes for 1988 at this apportionment point is shown on pages 30 and 31.

During the apportionment period of January 1 to December 31, 1988 daily recorded discharges of the South Saskatchewan River at the apportionment point were $42.5 \text{ m}^3/\text{s}$ ($1\,500 \text{ ft}^3/\text{s}$) or more so there was no violation to the 1969 Master Agreement on Apportionment.

The natural flow of the Qu'Appelle River at the Saskatchewan-Manitoba boundary for the period April 1, 1988 to March 31, 1989 was 5 091 cubic decametres. Recorded flow, augmented by releases of 135 290 cubic decametres from Lake Diefenbaker, was 20 280 cubic decametres, 398% of natural flow. Recorded and natural flows covering the apportionment period of April 1988 to March 1989 are shown on page 32.

Natural flows on the South Saskatchewan River basin were calculated using the project depletion method and natural flows for the Qu'Appelle River basin were calculated using the Streamflow Synthesis and Reservoir Regulation (SSARR) model. Both procedures have been approved by the Board to calculate natural flow in these two basins.

Natural flows (or apportionment flows) were also calculated for the North Saskatchewan River, Battle Creek, Lodge Creek, Middle Creek, Saskatchewan River and the Churchill River at interprovincial boundaries. Monthly recorded and natural flows for the apportionment period at these six sites are shown on pages 32 and 33. Recorded flows for five additional boundary sites are also listed on the same two pages.

No apportionment deficit occurred on these interprovincial streams, except on Middle and Lodge Creeks. When considering the interim reported deficit of 43 cubic decametres for Lodge Creek, it was felt that while it is important to meet the flow requirements set out in the Apportionment Agreement, it is also important to manage the water resources of this water scarce area with discretion and in the spirit of cooperation. It was agreed by the Saskatchewan and Alberta COH Members, that given the circumstances this minor deficit would not have to be made up. The final apportionment report showed a deficit of 202 and 21 cubic decametres for Lodge and Middle Creeks, respectively. Efforts will be made in the next fiscal year to improve interim reporting information.

Annual Water Use Report - Boxelder Creek Basin

The Board, at its June 5-6, 1984 Meeting (PPWB Meeting No. 32) agreed that Alberta and Saskatchewan would annually collect sufficient water use data to provide an accurate estimate of total water use in the Boxelder Creek basin. These data are recorded by the agencies and jointly reported to the Board. The total irrigation and municipal water use in the Alberta portion of the basin for 1988 was 261 cubic decametres. During the same period Alberta released 824 cubic decametres of water from four provincial storage projects to the Boxelder Creek system. Based on the responses of the 1988 water use survey, conducted by the Saskatchewan Water Corporation, a total of 68.7 cubic decametres was diverted for irrigation purposes in the Saskatchewan portion of the Boxelder Creek basin.

Annual Report on Drainage Projects

The Board, at its November 8, 1983 Meeting (PPWB Meeting No. 31), accepted a COH brief report entitled "A Recommended Procedure to Deal With the Impact

of Artificial Drainage on Downstream Flows" and agreed that the COH should: "... provide reports on drainage activities at future Board Meetings". In 1988, there were nineteen new drainage projects licensed by Saskatchewan while Manitoba and Alberta both reported no drainage projects were undertaken in 1988 that had the potential to affect streams crossing interprovincial boundaries.

PPWB Water Quality Monitoring Program

The Water Quality Branch of Environment Canada continued to monitor monthly and quarterly data collected at eleven PPWB monitoring stations for the 92 parameters listed on page 27. These stations correspond with the eleven interprovincial hydrometric locations shown on a map at the back of this report. The monitoring program for 1988-89 has been reviewed by the COWQ and approved by the Board.

This monitoring program was initiated in April 1974 and has continued since that time. All data obtained at the eleven PPWB monitoring stations from April 1974 to December 31, 1988 has been evaluated and will be published in the 1989 PPWB Water Quality Report. Fifteen years of historical data will be covered in this report.

PPWB Interprovincial Water Quality Monitoring data is collected to define water quality characteristics of rivers crossing the interprovincial boundaries and to establish compliance with the "1973 PPWB Water Quality Objectives", and the "Interim PPWB Water Quality Requirements for the Beaver River at the Alberta-Saskatchewan Boundary" for the parameters marked with an asterisk on page 27. The Board through its Secretariat continually reviews the water quality data for all PPWB Monitoring stations to identify present and potential water quality concerns at the boundary. If the Proposed Site Specific Water Quality Indicators are approved by the Board, they will be used in this review process. Until that time, annual evaluations will be based on the "1973 PPWB Water Quality Objectives" and the "Interim PPWB Water Quality Requirements for the Beaver River at the Alberta-Saskatchewan Boundary", although the Board realizes that some of these general objectives may not be appropriate for prairie streams.

A review of the 1988 water quality data for PPWB monitoring stations indicates that most Water Quality Objectives were generally adhered to at all sites for all parameters. The 1973 Water Quality Objectives were adhered to 92% of the time. The PPWB station with the most adherence to the 1973 Objectives was the Churchill River (100%), followed by the Saskatchewan River at the Saskatchewan-Manitoba boundary (97%) and the Red Deer River at the Saskatchewan-Manitoba boundary station (96%).

The minimum dissolved oxygen level of 5.0 mg/litre was maintained at most PPWB sites. The Beaver River, the Battle River, and the Carrot River at the interprovincial boundaries showed dissolved oxygen drop below this minimum level (5.0 mg/L) during the winter periods. Relatively high nutrient levels are generally typical of prairie streams and the Churchill River at the outlet of Wasawakasik Lake was the only river that experienced low nutrient levels, as it is a relatively undeveloped basin with a precambrian shield drainage. Adherence to the total nitrogen and total phosphorus objectives was as

high as 100% on the Churchill River below Wasawakasik Lake but fell as low as 0% on the Assiniboine River below Kamsack and 4% on the Qu'Appelle River below Welby.

At most sites, dissolved manganese was adhered to 100% of the time. Two notable exceptions are the Carrot River at Turnberry and the Assiniboine River at Kamsack where the manganese dissolved objective was adhered to about 23% of the time.

Major ions were adhered to 100% of the time at all sites with the exception of Beaver River at Beaver Crossing. At the Beaver River site total major ions were adhered to approximately 96% of the time.

Persistent insecticides such as DDT, Aldrin, Dieldrin, Endrin and Heptachlor were seldom present, if at all, in any waters at PPWB stations in 1988. MCPA was detected periodically at some PPWB sites in 1988.

Several herbicides were detected at PPWB water quality monitoring stations in 1988. The herbicide 2,4-D was detected at most PPWB sites with the exception of the Churchill River site. Alpha BHC and Gamma BHC were present in many of the samples collected at the interprovincial boundaries. Picloram and atrazine were seldom detected at any of the PPWB monitoring stations in 1988.

Other Reports Dealing With Monitoring

The Board has accepted three reports that deal with water quantity monitoring responsibilities. They are entitled "Report on the Administration of Apportionment Agreement", "Guidelines For Negotiating Equitable Apportionment", and "Procedures For Interprovincial Apportionment of the Waters of Battle, Lodge, and Middle Creeks". Additional reports have been prepared to enable Canada Water Resources Branch to make better estimates of natural flow. The procedures described in these reports have been approved by the Committee on Hydrology and are being used to monitor streamflow on the South Saskatchewan and Qu'Appelle Rivers and on the three tributaries to the Missouri River basin. Similar documents are being prepared to establish more precise water quality procedures and water quality indicators that can be used to more equitably monitor the quality of water passing from upstream to downstream provinces. These studies have been reported on in the section entitled "Board Studies".

PPWB WATER QUALITY MONITORING
1988 PARAMETER LIST

- * Aldrin
- Alkalinity, phenol.
- Alkalinity, total
- Aluminum, extractable
- N-Alkanes
- * Arsenic, diss.
- * Barium, total
- BHC-alpha
- BHC-gamma (Lindane)
- Bicarbonate, calc.
- * Boron, diss.
- * Cadmium, total
- * Calcium, diss.
- Carbon, diss., organic
- Carbon, organic, particulate
- Carbonate, calc.
- Chlordane-alpha
- Chlordane-gamma
- o Chloride, diss.
- Chlorophyll A
- o* Chromium, total
- Cobalt, total
- Coliforms, fecal
- Coliforms, total
- * Color, true
- o* Copper, total
- * Cyanide, total
- * P,P-DDD
- * P,P-DDE
- * O,P-DDT
- * P,P-DDT
- ** Dicamba
- ** Diclofopmethyl
- * Dieldrin
- Endosulfan-alpha
- Endosulfan-beta
- * Endrin
- * Fluoride, diss.
- Free CO₂
- Hardness, non carbonate
- o Hardness, total, CaCO₃
- * Heptachlor
- * Heptachlor, expoxide
- Hexachloro-benzene
- Hydroxide, calc.
- o* Iron, diss.
- * Lead, total
- Manganese, diss.
- o Magnesium, diss.
- MCPA
- * Mercury, total
- P,P-methoxychlor
- Mirex
- Nickel, total
- Nitrogen, diss., NO₃+NO₂
- Nitrogen, particulate
- Nitrogen, total Ammonia as N
- o* Nitrogen, total, calc.
- Nitrogen, total, diss.
- * Oxygen, diss., DO
- PCB, Arochlor 1242
- PCB, Arochlor 1254
- PCB, Arochlor 1260
- PCB, Arochlor total
- o* pH
- o* Phenolics
- Phosphorus Ortho as P
- Phosphorus, part. calc.
- * Phosphorus, total, diss.
- * Phosphorus, total, as P
- # Picloram (Tordon)
- o Potassium, diss.
- Residue, fixed, nonfilterable
- o* Residue, nonfilterable
- * Selenium, diss.
- o Silica, reactive
- Silvex
- o* Sodium, diss.
- o Solids, total diss., calc.
- Specific Conductance
- o Sulfide
- o Sulphate, diss.
- * Temperature
- ** Triallate
- ** Trifluralin
- * Turbidity
- Vanadium, total
- * Zinc, total
- 2,4-D
- 2,4-DB
- 2,4-DP
- 2,4,5-T

Collected at 5 sites only

* 1973 PPWB Objectives

o 1979 Interim PPWB Requirements for the Beaver River

** Report only if detected

+ Collected at 8 sites only during open water period

1988 FLOW DATA



**RECORDED AND NATURAL FLOWS,
CONSUMPTIVE USE, DIVERSION, AND STORAGE
(In Cubic Decametres)
FOR THE 1988 APPORTIONMENT PERIOD**

SOUTH SASKATCHEWAN RIVER – ALBERTA-SASKATCHEWAN BOUNDARY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	136 000	135 000	225 000	189 000	187 000	358 000	179 000	146 000	125 000	121 000	219 000	136 000	2 116 000
CONSUMPTIVE USE	-30	570	3 080	229 580	539 980	518 770	487 740	314 020	238 150	111 330	1 470	870	2 441 530
CHANGE IN STORAGE	-79 270	-56 380	-54 800	-59 080	70 890	205 850	-80 590	-17 440	-89 530	26 960	-10 600	-36 950	-191 140
DIVERSION FROM BASIN	0	0	0	0	17 670	30 570	31 590	41 280	20 350	13 940	0	0	155 400
NATURAL FLOW ALTA. BDY.	55 480	73 990	173 140	250 190	720 680	1 184 280	621 180	490 800	290 370	316 390	188 550	151 700	4 516 710

RED DEER RIVER – ALBERTA-SASKATCHEWAN BOUNDARY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	29 400	24 100	55 700	103 000	59 200	106 000	162 000	205 000	104 000	98 000	44 900	39 400	1 030 700
CONSUMPTIVE USE	0	0	0	2 800	5 420	4 790	4 770	2 280	3 210	3 540	0	0	26 810
CHANGE IN STORAGE	-30 900	-23 720	-13 450	12 580	23 490	35 440	770	2 510	30 390	1 210	-9 510	-22 490	6 320
DIVERSION FROM BASIN	0	0	0	0	-17 670	-30 570	-31 590	-41 280	-20 350	-13 940	0	0	-155 400
NATURAL FLOW ALTA. BDY.	0	0	37 230	118 290	65 230	125 350	194 120	168 000	112 300	91 820	38 780	20 480	911 580

SOUTH SASKATCHEWAN RIVER – BELOW JUNCTION WITH RED DEER RIVER

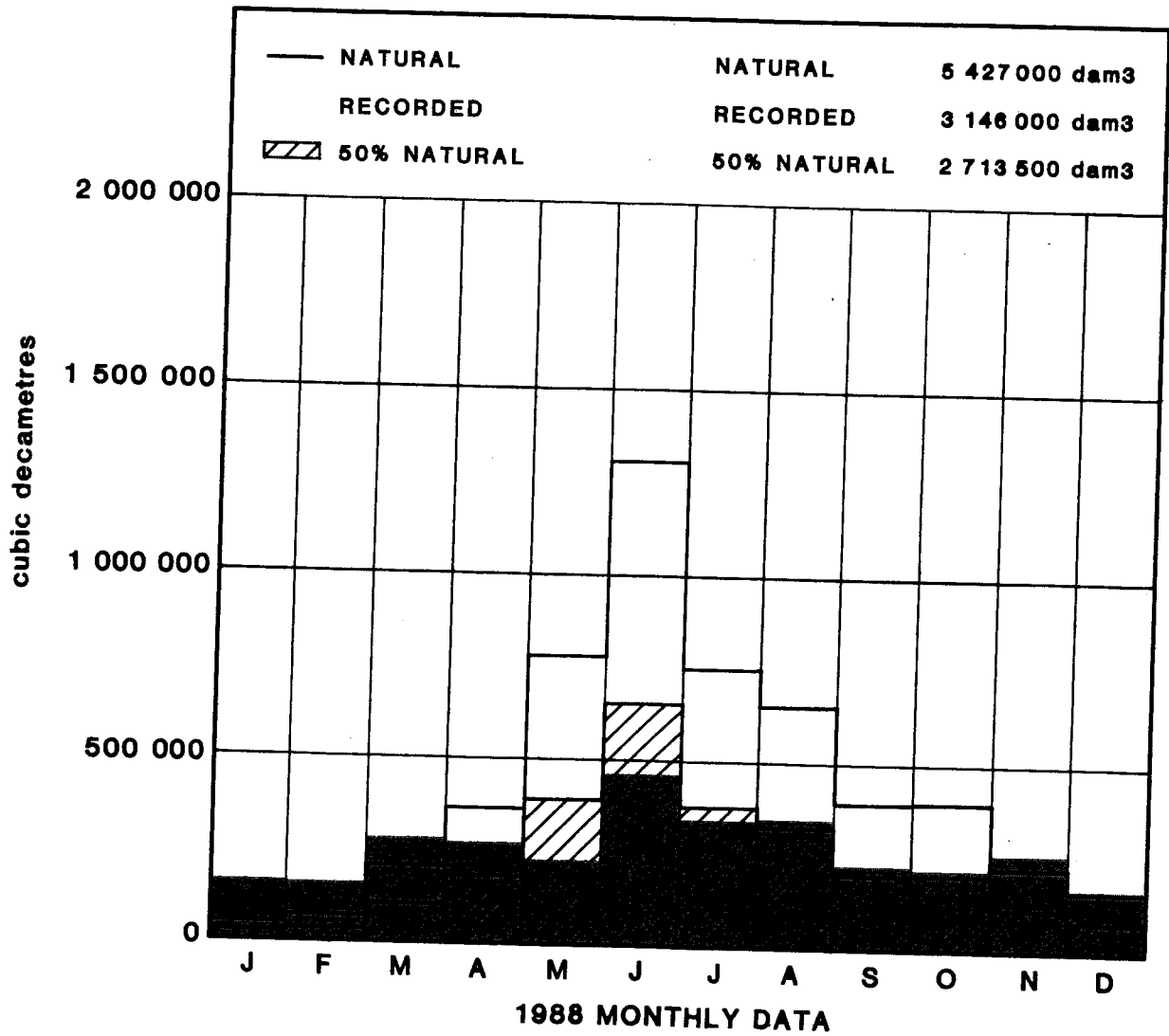
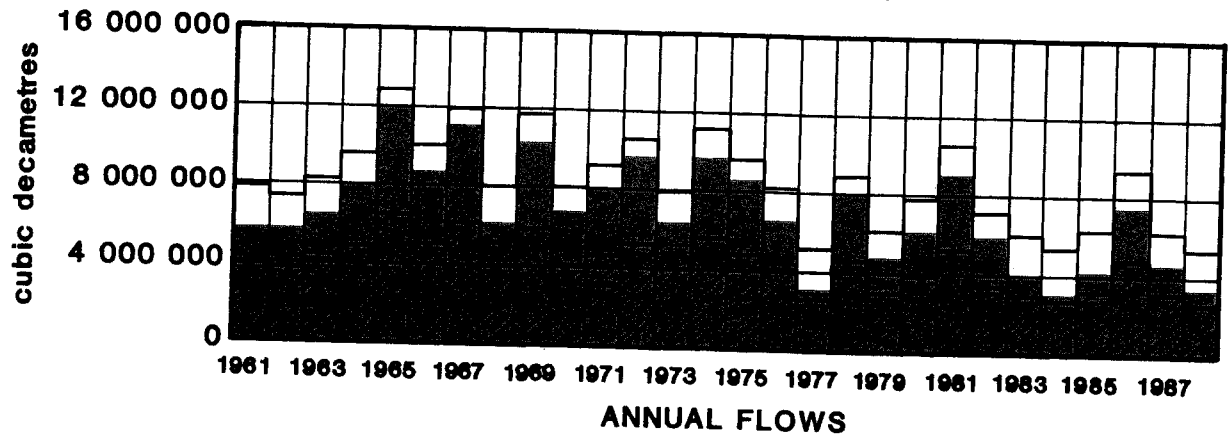
	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
RECORDED FLOW	165 000	159 000	281 000	272 000	228 000	464 000	341 000	351 000	229 000	219 000	264 000	175 000	3 146 000
NATURAL FLOW	55 000	74 000	210 000	368 000	786 000	1 310 000	755 000	659 000	403 000	408 000	227 000	172 000	5 427 000

Recorded flows for the years 1970 to 1978 inclusive are based on WSC's preliminary data.

Natural flows for the South Saskatchewan and Red Deer Rivers have been calculated using WSC's preliminary data and using the methodology described in "Natural Flow Report, South Saskatchewan River Below Red Deer River" March 1974 (PPWB Report No. 45).

Quantities shown in table have been routed to Alberta boundary.

**SOUTH SASKATCHEWAN RIVER NEAR ALBERTA-SASKATCHEWAN BOUNDARY
(INCLUDES RED DEER RIVER)**



RECORDED AND NATURAL FLOWS - SUMMARY
SELECTED INTERPROVINCIAL STREAMS CROSSING ALBERTA-SASKATCHEWAN BOUNDARY
(In Cubic Decametres)
FOR THE 1988 APPORTIONMENT PERIOD

JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. TOTALS

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

RECORDED FLOW	215 000	208 000	319 000	461 000	367 000	513 000	616 000	512 000	454 000	498 000	342 000	273 000	4 779 000
NATURAL FLOW	26 800	46 000	75 800	328 000	351 000	887 000	947 000	914 000	544 000	376 000	160 000	53 400	4 709 000

BATTLE CREEK - ALBERTA-SASKATCHEWAN BOUNDARY

RECORDED FLOW	--	140	962	1 641	921	139	119	159	251	203	--	--	4 535
NATURAL FLOW	--	140	964	1 694	988	174	141	192	297	225	--	--	4 815

LODGE CREEK - ALBERTA-SASKATCHEWAN BOUNDARY

RECORDED FLOW	--	--	511	1 153	54	0	0	0	0	0	--	--	1 718
NATURAL FLOW	--	17	811	1 400	235	128	31	25	1	2	--	--	2 648

MIDDLE CREEK - ALBERTA-SASKATCHEWAN BOUNDARY

RECORDED FLOW	--	5	122	418	44	23	11	8	6	8	--	--	643
NATURAL FLOW	--	9	198	528	79	26	12	15	6	7	--	--	880

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

RECORDED FLOW	3 010	2 200	4 150	25 600	18 500	20 300	71 200	36 200	26 400	13 800	8 040	6 550	236 000
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BATTLE RIVER - ALBERTA-SASKATCHEWAN BOUNDARY

RECORDED FLOW	829	711	4 060	22 100	8 100	4 720	7 030	3 620	3 340	3 740	2 810	1 840	63 700
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RECORDED AND NATURAL FLOWS - SUMMARY
 SELECTED STREAMS CROSSING THE SASKATCHEWAN-MANITOBA BOUNDARY
 (In Cubic Decametres)

FOR THE 1988-89 APPORTIONMENT PERIOD

APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. TOTALS

CHURCHILL RIVER - SASKATCHEWAN-MANITOBA BOUNDARY (AT SANDY BAY)

RECORDED FLOW	1 600 000	1 820 000	1 640 000	1 350 000	1 810 000	1 820 000	1 830 000	1 520 000	1 560 000	1 610 000	1 570 000	1 710 000	19 640 000
NATURAL FLOW	1 170 000	1 480 000	1 480 000	1 650 000	1 720 000	1 730 000	1 580 000	1 390 000	1 400 000	1 280 000	834 000000	1 010 000	16 780 000

SASKATCHEWAN RIVER - SASKATCHEWAN-MANITOBA BOUNDARY

ESTIMATED FLOW	1 190 000	1 300 000	713 000	808 000	702 000	741 000	707 000	448 000	485 000	442 000	699 000	654 000	8 887 000
APPORTIONMENT FLOW	1 440 000	1 080 000	1 050 000	918 000	868 000	804 000	413 000	281 000	169 000	388 000	519 000	9 440 000	1 500 000

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

RECORDED FLOW	5 170	4 830	2 390	2 150	213	0	8	787	357	374	621	3 380	20 280
NATURAL FLOW	1 001	2 987	1 103	0	0	0	0	0	0	0	0	0	5 091

CARROT RIVER - SASKATCHEWAN-MANITOBA BOUNDARY (NEAR TURNBERRY)

RECORDED FLOW	134 000	208 000	26 600	7 280	6 680	11 600	8 280	4 450	3 350	2 170	1 600	1 490	415 500
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RED DEER RIVER - SASKATCHEWAN BOUNDARY (NEAR ERWOOD)

RECORDED FLOW	178 000	120 000	12 300	6 280	5 250	7 330	6 730	4 900	2 680	1 270	296	165	348 200
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ASSINBOINE RIVER - SASKATCHEWAN-MANITOBA BOUNDARY (AT KAMSACK)

RECORDED FLOW	118 000	71 700	10 200	911	197	72	129	523	621	459	231	537	203 600
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APPENDIX INDEX

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1950

The following information was obtained from the records of the
 Department of the Interior, Bureau of Land Management, on the
 subject of the above-captioned land.
 The land in question is situated in the County of [County Name],
 State of [State Name]. It is a [Type of Land] of [Area]
 acres, more or less, and is located in [Location].
 The land is owned by [Owner Name], who is the [Relationship]
 of [Parent Name]. The land was acquired by [Owner Name]
 on [Date] and is currently being used for [Use].
 The land is subject to the following conditions:
 1. [Condition 1]
 2. [Condition 2]
 3. [Condition 3]
 4. [Condition 4]
 5. [Condition 5]

APPENDIX 1

BOARD MEMBERSHIP



PPWB MEMBERS

Chairman	L. Goulet	Assistant Deputy Minister Conservation and Protection Environment Canada
	H.M. Hill	Director General Prairie Farm Rehabilitation Administration Agriculture Canada
	P.G. Melnychuk	Assistant Deputy Minister Water Resources Management Service Alberta Environment
	D.L. MacLeod	Vice President Resource Management Saskatchewan Water Corporation
	D.V. Doyle	Assistant Deputy Minister Manitoba Department of Natural Resources

Secretary	G.W. Dunn	Water Quality Specialist Prairie Provinces Water Board

ALTERNATE MEMBERS

D.A. Davis	Director General Inland Waters Directorate Environment Canada
A.F. Lukey	Director Engineering Branch Prairie Farm Rehabilitation Administration Agriculture Canada
K.R. Smith	Assistant Deputy Minister Environmental Protection Services Alberta Environment
W. Dybvig	Chief Planner Saskatchewan Water Corporation
L.J. Whitney	Chief, Water Management Water Resources Branch Manitoba Department of Natural Resources
Observer: R.A. Halliday	Director Western and Northern Region Inland Waters Directorate Conservation and Protection Environment Canada

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.

Approved: October 17, 1972
PPWB Minute 7-11

Members

Chairman	R.L. Kellow	Executive Director Prairie Provinces Water Board
	G.H. Morton	Water Resources Branch Environment Canada
	F.R.J. Martin	Prairie Farm Rehabilitation Administration Agriculture Canada
	R.K. Deeprise (May '67 - Mar '89)	Water Resources Management Services Alberta Environment
	A.M. Mustapha (Mar'89)	Water Resources Management Services Alberta Environment
	V.M. Austford	Water Resources Branch Manitoba Department of Natural Resources
	A.B. Banga	Resource Management Saskatchewan Water Corporation
	R.F. Hopkinson	Atmospheric Environment Service Environment Canada
Secretary	A.J. Chen	Operations Engineer Prairie Provinces Water Board

COMMITTEE ON WATER QUALITY

Terms of Reference

At the request of and under the direction of the Prairie Provinces Water Board, the Committee on Water Quality shall investigate, oversee, review, report and recommend on matters pertaining to water quality of interprovincial and interjurisdictional basins.

Carrying out the above responsibilities may include such things as natural quality assessment; quality forecasting; network design; processing and dissemination of data; determination of implications of proposed projects that may significantly alter the water quality of interprovincial streams; consideration of special problems; establishment of procedures for emergency situations; and other items of interprovincial interest involving water quality.

Approved: October 17, 1972
PPWB Minute 7-33

Members

Chairman	R.L. Kellow	Executive Director Prairie Provinces Water Board
	W.D. Gummer	Water Quality Branch Environment Canada
	M. Morelli	Environmental Management Division Manitoba Department of Environment and Workplace Safety and Health
	R.G. Ruggles	Water Pollution Control Branch Saskatchewan Environment and Public Safety
	J.B. Kemper	Environmental Quality Monitoring Alberta Environment
	E.W. Allison	Prairie Farm Rehabilitation Administration Agriculture Canada
Secretary	G.W. Dunn	Water Quality Specialist Prairie Provinces Water Board

COMMITTEE ON WATER QUALITY POLICY

Terms of Reference

While the Master Agreement on Apportionment identifies water quality matters within the mandate of the Board, it does not provide the degree of specificity accorded to water quantity apportionment.

In order to rationalize its water quality responsibilities, the Board at its April 19, 1988 Meeting agreed to establish a fixed term advisory committee with the objective of articulating a water quality strategy for the Board.

The Committee will make recommendations to the Board with respect to water quality matters including:

- a) the mandate of the Board with respect to water quality matters and the specific roles and responsibilities which are appropriate under that mandate.
- b) policies the Board should consider to carry out the proposed mandate for water quality management.
- c) approaches (strategies) to implement the recommended policies within the context of the Master Agreement and present and future water issues within the watercourses under the jurisdiction of the PPWB.

Members

Chairman	R.L. Kellow	Executive Director Prairie Provinces Water Board
	F.J. Schulte	Environmental Assessment Division Alberta Environment
	N.B. Brandson	Environmental Management Services Manitoba Environment and Workplace Safety and Health
	B.T. Abrahamson	Planning Engineering Service Prairie Farm Rehabilitation Administration Agriculture Canada
	D.A. Fast	Water Quality Branch Saskatchewan Environment and Public Safety
	V.E. Niemela	Water Quality Branch Environment Canada
Secretary	G.W. Dunn	----- Water Quality Specialist Prairie Provinces Water Board

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 interprovincial 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.

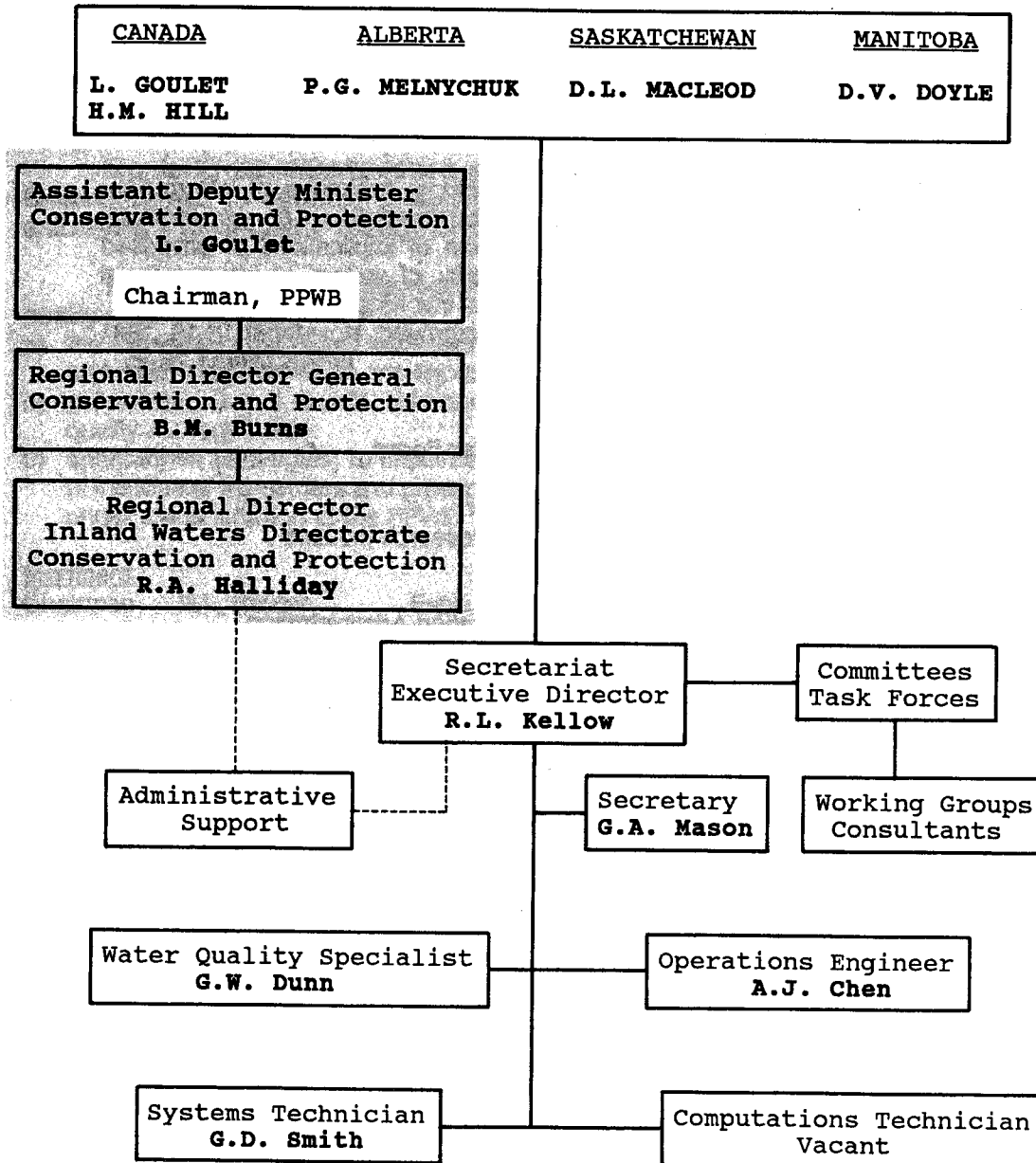
Approved: November 18-19, 1981
PPWB Minute 26-25

Members

Chairman	R.L. Kellow	Executive Director Prairie Provinces Water Board
	D. McNaughton	Ground Water Division National Hydrology Research Institute Environment Canada
	D.H. Pollock (May'80 - Feb'89)	Prairie Farm Rehabilitation Administration Agriculture Canada
	J. Lebedin (Feb'89)	Geology and Air Surveys Division Prairie Farm Rehabilitation Administration Agriculture Canada
	H.A. Kerr	Ground Water Protection Branch Alberta Environment
	U. Roeper (July'85-Feb'89)	Resource Management Saskatchewan Water Corporation
	L. Gray	Water Resources Branch Manitoba Department of Natural Resources
Secretary	A.J. Chen	Operations Engineer Prairie Provinces Water Board

ORGANIZATIONAL CHART

PRAIRIE PROVINCES WATER BOARD



MARCH 1989

APPENDIX 2

MASTER AGREEMENT AND BY-LAWS

MASTER AGREEMENT ON APPORTIONMENT

THIS AGREEMENT is made in quadruplicate this THIRTIETH day of OCTOBER, 1969, A.D.

BETWEEN:

HER Majesty, the Queen, in right of Canada, represented herein by the Minister of Energy, Mines and Resources

(Hereinafter called "Canada")

- and -

HER Majesty, the Queen, in right of Alberta, represented herein by the Minister in charge of Water Resources for Alberta

(Hereinafter called "Alberta")

- and -

HER Majesty, the Queen, in right of Saskatchewan, represented herein by the Minister in charge of The Water Resources Commission Act of the said Province

(Hereinafter called "Saskatchewan")

- and -

HER Majesty, the Queen, in right of Manitoba, represented herein by the Minister in charge of The Water Control and Conservation Branch Act of the said Province

(Hereinafter called "Manitoba")

WHEREAS under natural conditions the waters of the watercourses hereinafter referred to arising in or flowing through the Province of Alberta would flow into the Province of Saskatchewan and under the said conditions the waters of some of the said watercourses arising in or flowing through the Province of Saskatchewan would flow into the Province of Manitoba;

AND WHEREAS the Governor-in-Council has authorized Canada to enter into this agreement by Order-in-Council P.C. 1969-8/2051 dated October 29, 1969, and the Lieutenant Governors-in-Council for Alberta, Manitoba and Saskatchewan, respectively, have authorized them to enter into this agreement by the following Orders-in-Council:

- Alberta - O.C. 2053/69
- Manitoba - O.C. 1359/69
- Saskatchewan - O.C. 1612/69

AND WHEREAS the parties hereto deem it to be in their mutual interest that an agreement be reached among the four parties as to the apportionment as described in the schedules attached hereto of such interprovincial waters among the three Provinces;

AND WHEREAS Alberta and Saskatchewan have entered into an agreement, which agreement is attached to this agreement as Schedule A, that permits the Province of Alberta to make a net depletion of one-half the natural flow of water arising in or flowing through the Province of Alberta and that permits the remaining one-half of the natural flow of each such watercourse to flow into the Province of Saskatchewan, subject to certain exceptions as are set forth in the said agreement;

AND WHEREAS Saskatchewan and Manitoba have entered into an agreement, which agreement is attached to this agreement as Schedule B, that permits the Province of Saskatchewan to make a net depletion of one-half the natural flow of water arising in, and one-half of the water flowing into the Province of Saskatchewan, and that permits the remaining one-half of the flow of each such watercourse to flow into the Province of Manitoba, subject to such conditions and agreements as therein contained;

AND WHEREAS the parties are desirous that the Prairie Provinces Water Board (referred to herein as the Board), reconstituted by this agreement will be responsible for the administration of this agreement;

AND WHEREAS the parties hereto recognize the continuing need for consultation and co-operation as between themselves with respect to the matters herein referred to so that the interests of all the parties are best served;

NOW THEREFORE, THIS AGREEMENT (hereinafter known as the Master Agreement) witnesseth that each party agrees as follows:

Interprovincial Agreements

1. Alberta and Saskatchewan agree that the agreement between them (hereinafter called the First Agreement), a copy of which is set out in Schedule A to the Master Agreement, will become binding upon them upon the date that the Master Agreement is executed.
2. Saskatchewan and Manitoba agree that the agreement between them (hereinafter called the Second Agreement), a copy of which is set out in Schedule B to the Master Agreement, will become binding upon them upon the date that the Master Agreement is executed.
3. The parties agree to the apportionment of water between Alberta and Saskatchewan and Manitoba as provided in the First and Second Agreements and each party agrees to be bound by the said agreements as they relate to apportionment as if it were a party thereto.
4. The parties agree that the First or Second Agreement, or both, may be altered by an agreement in writing among the four parties to the Master Agreement, but not otherwise.
5. The parties agree that the First and Second Agreements will continue in force and effect until cancelled by an agreement in writing among the four parties to the Master Agreement.

Water Quality

6. The parties mutually agree to consider water quality problems; to refer such problems to the Board; and to consider recommendations of the Board thereon.

Monitoring

7. The parties agree that the monitoring of the quantity and quality of waters as specified in the First and Second Agreements, the collection, compilation and publication of water quantity and quality data required for the implementation and maintenance of the provisions of this agreement shall be conducted by Canada, subject to provision of funds being voted by the Parliament of Canada.

Administration

8. The parties agree, subject to Clause 9 of this agreement that if at any time, any dispute, difference or question arises between the parties with respect to this agreement or the construction, meaning and effect thereof, or anything therein, or the rights and liabilities of the parties thereunder or otherwise in respect thereto, then every such dispute, difference or question will be referred for determination to the Exchequer Court under the provisions of the Exchequer Court Act of Canada and each of the parties hereto agrees to maintain or enact the necessary legislation to provide the Exchequer Court with jurisdiction to determine any such dispute, difference, or question in the manner provided under the Exchequer Court Act.
9. The parties also agree that the Board, with the consent of the parties in dispute, may cause to be prepared, a factual report of the dispute for consideration by the parties hereto prior to the referral of the dispute to the Exchequer Court.
10. The parties agree that the Prairie Provinces Water Board shall monitor and report on the apportionment of waters as set out in the provisions of the First and Second Agreements and ratified by this Master Agreement.
11. The parties agree to revoke the agreement dated July 28, 1948, establishing the Prairie Provinces Water Board and to reconstitute the

Prairie Provinces Water Board in the form of Schedule C hereto and the said Schedule shall form and become part of this Master Agreement.

12. Because the Orders-in-Council referred to in Schedule D hereto will become redundant upon the execution of this Master Agreement, the parties agree to take steps to have them revoked.
13. The parties agree for the future application of the provisions of the Master Agreement (and the First and Second Agreements thereunder), to work together and to cooperate to the fullest extent each with the other for the integrated development and use of water and related resources to support economic growth according to selected social goals and priorities and to participate in the formulation and implementation of comprehensive planning and development programs according to their national, regional and provincial interest and importance.
14. No Member of the Parliament of Canada or Member of the Legislative Assemblies of the Provinces party to this agreement shall hold, enjoy, or be admitted to any share or part of any contract, agreement, commission or benefit arising out of this agreement.

IN WITNESS HEREOF Canada has caused its presents to be executed by its Minister of Energy, Mines and Resources, and Alberta has caused its presents to be executed by its Minister in charge of Water Resources, and Saskatchewan has caused its presents to be executed by its Minister in charge of The Water Resources Commission Act, and Manitoba has caused its presents to be executed by its Minister in charge of The Water Control and Conservation Branch Act on the day and year first mentioned above.

"A. Davidson"

 Witness to the signature of the Minister
 (Energy, Mines and Resources) for Canada

"J.J. Greene"

 Minister (Energy, Mines and Resources) for
 Canada

October 30, 1969

 Date

"R. E. Bailey"

 Witness to the signature of the Minister in
 charge of Water Resources for Alberta

"Henry A. Ruste"

 Minister in charge of Water Resources for
 Alberta

October 30, 1969

 Date

"Harold W. Pope"

 Witness to the signature of the Minister in
 charge of The Water Resources Commission
 Act for Saskatchewan

"Allan R. Guy"

 Minister in charge of The Water Resources
 Commission Act for Saskatchewan

October 30, 1969

 Date

"Thomas E. Weber"

 Witness to the signature of the Minister in
 charge of The Water Control and Conserva-
 tion Branch Act for Manitoba

"Lenard S. Evans"

 Minister in charge of The Water Control
 and Conservation Branch Act for Manitoba

October 30, 1969

 Date

SCHEDULE A

THIS AGREEMENT is made in quadruplicate this THIRTIETH day of OCTOBER, 1969, A.D.

BETWEEN:

HER Majesty, the Queen, in right of Alberta, represented herein by the Minister in charge of Water Resources for Alberta

(Hereinafter called "Alberta")

- and -

HER Majesty, the Queen, in right of Saskatchewan, represented herein by the Minister in charge of The Water Resources Commission Act of the said Province

(Hereinafter called "Saskatchewan")

WHEREAS under natural conditions the waters of the watercourses hereinafter referred to arising in or flowing through the Province of Alberta would flow into the Province of Saskatchewan and under the said conditions the waters of some of the said watercourses arising in or flowing through the Province of Saskatchewan would flow into the Province of Manitoba;

AND WHEREAS the parties hereto deem it to be in their mutual interest and in the interest of Manitoba that an agreement in principle be reached among the said three Provinces as to the apportionment of such interprovincial waters among them;

AND WHEREAS the parties hereto are of the opinion that an equitable apportionment of such waters as between the adjoining Provinces of Alberta and Saskatchewan would be to permit the Province of Alberta to make a net depletion of one-half the natural flow of water arising in or flowing through the Province of Alberta and to permit the remaining one-half of the natural flow of water of each such watercourse to flow into the Province of Saskatchewan, subject to certain

prior rights as are hereinafter set forth or may hereafter be mutually agreed upon in writing;

AND WHEREAS on the basis of the foregoing apportionment as between the Provinces of Alberta and Saskatchewan the parties hereto are of the opinion that in a similar manner, an equitable apportionment of the remainder of the natural flow of the said watercourses that flow into the Province of Manitoba after permitting the Province of Alberta to make its depletion of one-half thereof would be to permit the Province of Saskatchewan to make a net depletion of one-half of the said remainder and to permit the other one-half thereof to flow into the Province of Manitoba; and that the natural flow of any tributaries to the said watercourses which tributaries join the said watercourses in the Province of Saskatchewan without arising in or first flowing through the Province of Alberta could be apportioned one-half to the Province of Saskatchewan and one-half to the Province of Manitoba in a manner similar to the apportionment of waters as between the Provinces of Alberta and Saskatchewan, in all cases subject to such prior rights as may be mutually acknowledged by the said Provinces of Manitoba and Saskatchewan;

AND WHEREAS the parties hereto recognize the continuing need for consultation and cooperation as between themselves and with Manitoba with respect to the matters herein referred to so that the best and most beneficial use of the said waters may be made and the interests of all said provinces best served:

NOW THIS AGREEMENT witnesseth as follows:

1. IN THIS AGREEMENT:

- (a) "Natural flow" means the quantity of water which would naturally flow in any watercourse had the flow not been affected by human interference or human intervention, excluding any water which is part of the natural flow in Alberta but is not available for the use of Alberta because of the provisions of any international treaty which is binding on Alberta.

- (b) "Watercourse" means any river, stream, creek, or other natural channel which from time to time carries a flowing body of water from the Province of Alberta to the Province of Saskatchewan and includes all tributaries of each such river, stream, creek or natural channel which do not themselves cross the common boundary between the Provinces of Alberta and Saskatchewan. Such tributaries as do themselves cross the said common boundary between the Provinces of Alberta and Saskatchewan shall be deemed to be "watercourses" for the purpose of this agreement.
2. (a) The parties hereto shall mutually establish a method by which to determine the natural flow of each watercourse flowing across their said common boundary.
- (b) For the purpose of this agreement, the said natural flow shall be determined at a point as near as reasonably may be to their said common boundary.
- (c) Notwithstanding sub-paragraph (b) the point at which the natural flow of the watercourses known as the South Saskatchewan and Red Deer Rivers is to be determined may be, at the option of Alberta, a point at or as near as reasonably may be below the confluence of the said two rivers.
3. Alberta shall permit a quantity of water equal to one-half the natural flow of each watercourse to flow into the Province of Saskatchewan, and the actual flow shall be adjusted from time to time on an equitable basis during each calendar year, but this shall not restrict or prohibit Alberta from diverting or consuming any quantity of water from any watercourse provided that Alberta diverts water to which it is entitled of comparable quality from other streams or rivers into such watercourse to meet its commitments to Saskatchewan with respect to each watercourse.
4. Notwithstanding paragraph 3 hereof, the following special provisions shall apply as between the parties hereto with respect to the watercourse known as the South Saskatchewan River.
- (a) Alberta shall be entitled in each year to consume, or to divert or store for its consumptive use a minimum of 2,100,000 acre-feet net depletion out of the flow of the watercourse known as the South Saskatchewan River even though its share for the said year, as calculated under paragraph 3 hereof, would be less than 2,100,000 acre-feet net depletion, provided however Alberta shall not be entitled to so consume or divert, or store for its consumptive use, more than one-half the natural flow of the said South Saskatchewan watercourse if the effect thereof at any time would be to reduce the actual flow of the said watercourse at the common boundary of the said Provinces of Saskatchewan and Alberta to less than 1,500 cubic feet per second.
- (b) The consumption or diversion by Alberta provided for under the preceding subparagraph shall be made equitably during each year, depending on the actual flow of water in the said watercourse and the requirements of each Province, from time to time.
5. The parties hereto shall work together and co-operate to the fullest extent, each with the other, for the most effective, economical and beneficial use of waters flowing from the Province of Alberta into the Province of Saskatchewan, including the construction and operation of approved projects of mutual advantage to our Provinces on a cost-share basis proportionate to the benefits derived therefrom by each Province, (the approval of which projects shall not be unreasonably withheld by either of the parties hereto) and shall enter into such other arrangements, agreements or accords with each other, and with the Governments of Canada and other Provinces to best achieve the principles herein agreed upon.

6. Notwithstanding paragraph 3 hereof, with respect to each of the three watercourses known as Battle Creek, Lodge Creek, and Middle Creek, the annual flow shall be apportioned such that, in each of the said watercourses, Alberta permits a quantity of water equal to 75 percent of the natural flow to pass the interprovincial boundary from Alberta to Saskatchewan.

7. If at any time any dispute, difference or question shall arise between the parties or their representatives touching this agreement or the construction, meaning and effect thereof, or anything therein, or the rights or liabilities, of the parties or their representatives thereunder or otherwise in respect thereto then every such dispute, difference or question shall be referred for determination to the Exchequer Court under the provisions of The Exchequer Court Act of Canada, and each of the parties hereto agrees to enact the necessary legislation to provide the Exchequer Court with jurisdiction to determine any such dispute, difference or question in the manner provided under Section 30 of The Exchequer Court Act.

8. This agreement shall become effective upon the execution of an agreement by Canada, Alberta, Manitoba and Saskatchewan relative to the apportionment of waters referred to in this agreement.

IN WITNESS WHEREOF Alberta has caused these presents to be executed on its behalf by its Minister in charge of Water Resources, and Saskatchewan has caused these presents to be executed by its Minister in charge of The Water Resources Commission Act, both on the day and year first above mentioned.

"R. E. Bailey"

Witness to the signature of the Minister
in charge of Water Resources for Alberta

"Henry A. Ruste"

Minister in charge of Water Resources
for Alberta

"Harold W. Pope"

Witness to the signature of the Minister
in charge of The Water Resources Com-
mission Act

"Allan R. Guy"

Minister in charge of The Water Re-
sources Commission Act

Section 6 amended on July 5, 1984.

SCHEDULE B

THIS AGREEMENT is made in quadruplicate this THIRTIETH day of OCTOBER, 1969, A.D.

BETWEEN:

HER Majesty, the Queen, in right of Saskatchewan, represented herein by the Minister in charge of The Water Resources Commission Act of the said Province

(Hereinafter called "Saskatchewan")

- and -

HER Majesty, the Queen, in right of Manitoba, represented herein by the Minister in charge of The Water Control and Conservation Branch Act of the said Province

(Hereinafter called "Manitoba")

WHEREAS under natural conditions the waters of the watercourses hereinafter referred to arising in or flowing through the Province of Saskatchewan would flow into the Province of Manitoba;

AND WHEREAS the parties hereto deem it to be in their mutual interest and in the interest of Alberta that an agreement in principle be reached among the said three Provinces as to the apportionment of interprovincial waters among them;

AND WHEREAS the parties hereto are of the opinion that an equitable apportionment of such waters as between the adjoining Provinces of Saskatchewan and Manitoba would be to permit the Province of Saskatchewan to make a net depletion of one-half the natural flow of water arising in, and one-half the flow of water flowing into, the Province of Saskatchewan, and to permit the remaining one-half of the flow of water of each such watercourse to flow into the Province of Manitoba, subject to certain rights as may hereafter be mutually agreed upon in writing;

AND WHEREAS on the basis of the foregoing apportionment as between the Provinces of Saskatchewan and Manitoba, the parties hereto are of the opinion that in a similar manner, an equitable apportionment of the natural flow of the said watercourses arising in or flowing through the Province of Alberta would be to permit the Province of Alberta to make a net depletion of one-half thereof, subject to such prior rights as may be mutually acknowledged by the said Provinces of Alberta, Saskatchewan and Manitoba;

AND WHEREAS the parties hereto recognize the continuing need for consultation and co-operation as between themselves and with Alberta with respect to the matters herein referred to so that the interests of all said Provinces are best served;

NOW THIS AGREEMENT witnesseth as follows:

1. IN THIS AGREEMENT:

- (a) "Natural flow" means the quantity of water which would naturally flow in any watercourse had the flow not been affected by human interference or human intervention.
- (b) "Watercourse" means any river, stream, creek, or other natural channel which from time to time carries a flowing body of water from the Province of Saskatchewan to the Province of Manitoba and includes all tributaries of each such river, stream, creek or natural channel which do not themselves cross the common boundary between the Provinces of Saskatchewan and Manitoba. Such tributaries as do themselves cross the said common boundary between the Provinces of Saskatchewan and Manitoba shall be deemed to be "watercourses" for the purpose of this agreement.

2. (a) The parties hereto shall mutually establish a method by which to determine the natural flow of each watercourse flowing across their said common boundary.
- (b) For the purpose of this agreement, the said natural flow shall be determined at a point as near as reasonably may be to their said common boundary.
3. Saskatchewan shall permit in each watercourse the following quantity of water to flow into Manitoba during the period from April 1 of each year to March 31 of the year following: A quantity of water equal to the natural flow for that period determined at the point referred to in paragraph 2(b) hereof, less
 - (a) one-half the water flowing into Saskatchewan in that watercourse from Alberta, and
 - (b) any water which would form part of the natural flow in that watercourse but does not flow into Saskatchewan because of the implementation of any provision of any subsisting water apportionment agreement made between Alberta and Saskatchewan and approved by Manitoba, and
 - (c) one-half the natural flow arising in Saskatchewan.
4. Saskatchewan shall be entitled during such period to consume or to divert or store for its consumptive use the water it is not required to permit to flow into Manitoba in each watercourse under paragraph 3 hereof, but such consumption or diversion shall be made equitably depending on the actual flow of water in each watercourse and the requirements of each Province from time to time, but Saskatchewan shall permit sufficient water to flow into Manitoba to meet its commitments during such period under paragraph 3 hereof.
5. The parties hereto shall work together and co-operate to the fullest extent, each with the other, for the use of waters flowing from the Province of Saskatchewan into the Province of Manitoba, including the construction and operation of approved projects of mutual advantage to the said Provinces on a cost-share basis proportionate to the benefits derived therefrom by each Province (the approval of which projects shall not be unreasonably withheld by either of the parties hereto) and shall enter into such other arrangements, agreements or accords with each other, and with the Governments of Canada and other Provinces to best achieve the principles herein agreed upon.
6. If at any time any dispute, difference or question shall arise between the parties or their representatives touching this agreement or the construction, meaning and effect thereof, or anything therein, or the rights or liabilities of the parties or their representatives thereunder or otherwise in respect thereto then every such dispute, difference or question shall be referred for determination to the Exchequer Court under the provisions of The Exchequer Court Act of Canada, and each of the parties hereto agrees to maintain or enact the necessary legislation to provide the Exchequer Court with jurisdiction to determine any such dispute, difference or question in the manner provided under The Exchequer Court Act.

The actual flow shall be adjusted from time to time by mutual agreement on an equitable basis during such period but this shall not restrict or prohibit Saskatchewan from diverting, storing or consuming any quantity of water from any watercourse provided that Saskatchewan diverts water to which it is entitled of comparable quality from other streams or rivers into such watercourse to meet its commitments to Manitoba with respect to each watercourse.

7. This agreement shall become effective upon the execution of an agreement by Canada, Alberta, Manitoba and Saskatchewan relative to the apportionment of waters referred to in this agreement.

IN WITNESS WHEREOF Saskatchewan has caused these presents to be executed by its Minister in charge of The Water Resources Commission Act, and Manitoba has caused these presents to be executed by its Minister in charge of The Water Control and Conservation Branch Act on the day and year first above mentioned.

"Harold W. Pope"

Witness to the signature of the Minister in charge of The Water Resources Commission Act

"Allan R. Guy"

Minister in charge of The Water Resources Commission Act

"Thomas E. Weber"

Witness to the signature of the Minister in charge of The Water Control and Conservation Branch Act

"Leonard S. Evans"

Minister in charge of The Water Control and Conservation Branch Act.

SCHEDULE C

PRAIRIE PROVINCES WATER BOARD AGREEMENT

THIS AGREEMENT made this THIRTIETH day of OCTOBER, 1969, A.D.

BETWEEN:

THE GOVERNMENT OF CANADA,
hereinafter called "Canada"

- and -

THE GOVERNMENT OF MANITOBA,
hereinafter called "Manitoba"

- and -

THE GOVERNMENT OF SASKATCHEWAN,
hereinafter called "Saskatchewan"

- and -

THE GOVERNMENT OF ALBERTA,
hereinafter called "Alberta"

1. 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.

2. Functions

The Board shall oversee and report on the Master Agreement (including the First and

Second Agreements thereunder) executed by Canada, Alberta, Manitoba and Saskatchewan for the apportionment of waters flowing from one Province into another Province; shall take under consideration, comprehensive planning, water quality management and other questions pertaining to water resource management referred to it by the parties hereto; shall recommend appropriate action to investigate such matters and shall submit recommendations for their resolution to the parties hereto.

3. Composition of Board

The members of the Board shall be chosen from those engaged in the administration of water resources or related duties for Manitoba, Saskatchewan, Alberta or Canada, as the case may be, and shall serve as members of the Board in addition to their other duties.

4. Duties of the Board

In accordance with its functions, the duties of the Board shall be as follows:

- (a) to review, collate, and analyze stream-flow data and prepare reports and recommendations on the apportionment of water,
- (b) to review water quality problems, particularly such problems located at the interprovincial boundaries, and to recommend to the parties hereto, appropriate management approaches for their resolution including the establishment of new institutional arrangements,
- (c) to develop recommendations on other water matters, in addition to problems on water quality, referred to the Board by any party hereto including the review and analysis of existing information and the requesting of additional studies and assistance by appropriate governmental agencies to provide information for formulating its recommendations,

- (d) to promote through consultation and the exchange of information the integrated development of water resources of inter-provincial streams,
- (e) to cause to be prepared with the consent of the parties involved factual reports on disputes arising out of the water apportionment for consideration by the parties hereto,
- (f) to ensure the co-ordination of such technical programs as water quantity and quality monitoring and streamflow forecasting required for the effective apportionment of water.

5. Confirmation of the Board's Recommendations

A recommendation of the Board with respect to any matters referred to it under Section 2 shall, subject to the Master Agreement for the apportionment of water, become effective when adopted by Orders-in-Council passed by Canada and each of the Provinces.

6. Authority of Board

The Board shall have authority to correspond with all Governmental organizations and other sources of information in Canada or abroad concerned with the administration of water resources, and such other authority as may be conferred on the Board from time to time by agreement between the parties hereto; all agencies of the four governments having to do with the water and associated resources in the area covered by the Agreement shall be required to supply the Board with all data in their possession requested by the Board.

7. Records

The records relating to the water resources of the three provinces collected and compiled by the P.F.R.A. organization at Regina shall be made available to the Board.

8. Meetings of the Board

The Board shall meet at the call of the Chairman and meetings shall be called at least twice annually; the expenses of the members shall be borne by their respective governments.

9. Reports

The Board shall submit an annual progress report outlining work done and work contemplated in the agreed program to each of the responsible Ministers of the parties hereto and such other reports as may be requested by any one of such Ministers.

10. Operation of the Board

The Secretary for the Board and such other technical and clerical staff as may be required, with a headquarters at Regina, shall be Federal or Provincial public servants. The cost of administration, excluding the cost of monitoring as described in Section 7 of the Master Agreement, but including staff, accommodation, supplies and incidental expenses of the Board, shall be borne by the parties hereto on the basis of one-half by Canada and one-sixth by each of the Provinces. The Board shall prepare for approval of the parties hereto, work program, staff requirements, annual budgets and five-year forecasts and such other reports as may be required in the operation of the Board.

11. Any water development project already constructed or to be constructed by any one of the parties shall be so operated as to maintain the apportionment of water as set out in the Master Agreement (and the First and Second Agreements thereunder) for the apportionment of waters of interprovincial streams.

SCHEDULE D

PREVIOUS ALLOCATIONS OF INTERPROVINCIAL WATERS
 APPROVED BY ORDERS-IN-COUNCIL BY THE GOVERNMENTS OF
 CANADA, ALBERTA, MANITOBA, AND SASKATCHEWAN

<u>Item</u>	<u>Order-in-Council</u>			
	<u>Canada</u>	<u>Alberta</u>	<u>Saskatchewan</u>	<u>Manitoba</u>
Allocation of water for specific projects in Alberta	4030/49	857/49	1307/51	1121/49
Allocation of water for specific projects in Saskatchewan	1874/51	1091/51	1310/51	1264/51
Allocation of water for South Saskatchewan River Project in Sask- atchewan	973/53	991/53	1271/53	924/53

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BY-LAWS

PART I

1. In these By-Laws:

- (a) "Agreement" means the Prairie Provinces Water Board Master Agreement (including the First and Second Agreements thereunder) executed the Thirtieth day of October, 1969, A.D. by Canada, Alberta, Saskatchewan and Manitoba.
- (b) "Alternate" means Alternate Member of the Prairie Provinces Water Board.
- (c) "Board" means the Prairie Provinces Water Board.
- (d) "By-Laws" means the ordinances adopted by the Board for the regulation of the Board's internal affairs.
- (e) "Chairman" means Chairman of the Prairie Provinces Water Board.
- (f) "Executive Director" means the senior officer of the Secretariat.
- (g) "Member" means Member of the Prairie Provinces Water Board.
- (h) "Ministers" means the responsible ministers of the governments which are party to the Agreement.
- (i) "Secretariat" means the operational unit established by the Board to carry out the day-to-day affairs of the Board.
- (j) "Schedule C" means the Prairie Provinces Water Board Agreement under the Master agreement (1969) executed by Canada, Alberta, Saskatchewan and Manitoba establishing the Prairie Provinces Water Board.

PART II

The following shall be the By-Laws of the Prairie Provinces Water Board.

1. Objectives

The objectives of the Board shall be to promote the integrated development and use of water and related resources to support economical growth according to selected social goals and priorities, and to participate in the formulation and implementation of comprehensive planning and development programs according to their national, regional and provincial interest and importance.

In general, the Board will provide coordination and liaison between water resource agencies and will advise governments on the planning, development and management of interprovincial waters.

In particular, the Board will ensure the equitable apportionment of water flowing from one province into another province in accordance with the Agreement and will promote effective water quality management of interprovincial streams relative to standards and procedures adopted by the Board from time to time.

2. Membership

In accordance with Section 1 of Schedule "C", the Prairie Provinces Water Board shall 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;
- (b) one Member to be appointed by the Lieutenant Governor in Council of each of the Provinces of Manitoba, Saskatchewan and Alberta.

3. Alternate Members

Each Member, including the Chairman, shall arrange for the appointment of an Alternate Member to act on his behalf during his absence, in which case the Alternate shall enjoy all the rights and privileges conferred on the Member.

4. Meeting and Notice

The Board shall meet at least twice a year by the call of the Chairman. Any Member may request a meeting of the Board at any time, in which case the Chairman must call the meeting within one month (30 days).

Meetings of the Board shall be called with at least 14 days notice unless every Member agrees otherwise.

5. Quorum

Meetings of the Board shall be official when all Members or their appointed Alternates are present.

6. Chairmanship

In the absence of the Chairman, meetings shall be chaired by the other Federal Member. If both Federal Members are absent then the Alternate Member for the Chairman shall chair the meeting.

7. Voting

All recommendations to government, all By-Laws and budgets-in-total shall require unanimous approval. The majority of votes determines a question on any other matter. In the event of a tie, the Chairman shall cast the deciding vote.

8. Powers

In accordance with the duties, functions and operations of the Board, as contained in Schedule "C", the Board shall have the power to authorize expenditures within the limits of approved budgets for the operations of the Secretariat, for the employment of staff, or for any other purposes necessary for administering the Agreement and furthering the objectives of the Board.

9. Authority

Within the general responsibilities given to it, the Board shall determine its technical and administrative functions from time to time and shall decide all matters regarding the authority of the Board and the delegation thereof.

10. Financial Year

The financial year shall end on the 31st day of March in each year.

11. Budgets

The Chairman shall submit fiscal year program and budget estimates to the Board and to the parties to the Agreement for their approval. Such estimates shall be submitted not later than the first day of August preceding the financial year to which they pertain.

12. Secretariat

- (a) There shall be a permanent Secretariat with offices at Regina, Saskatchewan.
- (b) The Secretariat shall be the "operational arm" of the Board, charged with the responsibility of conducting programs approved by the Board for collating and analyzing data and reporting the apportionment and water quality of interprovincial streams; for conducting approved studies, and for furthering the policies and objectives of the Board.
- (c) Except as otherwise provided for under sub-section (f) herein, employees of the Secretariat shall be federal civil servants, subject to federal public service regulations and classification and collective agreements.
- (d) The chief officer of the Secretariat shall be the Executive Director whose actions

shall at all times be subject to the approval of the Board.

- (e) The Board shall approve the establishment of salaried positions within the Secretariat and shall approve job descriptions prior to submission to the appropriate federal authority. The Board shall be consulted on the appointment of employees to the Secretariat which role may be delegated to the Executive Director.

- (f) The Board may arrange by agreement for secondment to the Secretariat, the employees of the agencies of those party to the Agreement, at cost, whenever in the opinion of the party concerned the services of such employees are available. Such employees shall remain under the administrative control and public service regulations of the appropriate party.

13. Assignments to Associated Agencies and Consultants

- (a) The Board shall have the authority to engage agencies of those party to the Agreement, at cost, to undertake assignments from the Board, whenever in the opinion of the party concerned, the services of such agencies are available.

- (b) Agencies may enter into sub-contracts with consultants for purposes of professional interpretation subject to the approval of the Executive Director. Sub-contracts for the collection of basic data shall not require the approval of the Executive Director.

- (c) The Board may engage consultants to undertake assignments from the Board where such services are deemed necessary.

- (d) The services of consultants and of agencies of those party to the Agreement shall be engaged under a contractual arrangement. Contracts shall be entered into by the Chairman and/or the Executive Director subject to delegated authorities under the federal government contract regulations. Contracts for services shall also be subject to budgetary appropriations and any other controls imposed by the Board for the conduct of the work.

14. Terms of Payment for Services Provided by Associated Agencies

- (a) Canada, through the Board, shall reimburse the Provinces of Alberta, Saskatchewan and Manitoba on a monthly basis, for expenditures made pursuant to the Agreement and approved by the Board. Payment for such expenditures will be made by Canada upon the submission of a claim in a mutually agreed manner and form.

(b) Canada, and the Provinces of Alberta, Saskatchewan and Manitoba shall keep complete records of all expenditures made severally pursuant to the Agreement and shall support such expenditures with proper documentation. Canada and the Provinces of Alberta, Saskatchewan and Manitoba shall make these records and documents available to auditors appointed by the other.

15. Cost of Administration of the Board

(a) In Accordance with Section 10 of Schedule "C", all budgeted expenditures, which shall not include the cost of monitoring, as described in Section 7 of the Master Agreement, but including staff, accommodation, supplies and incidental expenses of the Board, shall be borne by the parties to the Agreement on the basis of one-half by Canada and one sixth by each of the Provinces.

16. Financing the Operations of the Board

(a) Canada shall assume responsibility for financing the operations of the Board.

(b) Subject to the cost sharing provisions of the Agreement, the Provinces of Alberta, Saskatchewan and Manitoba shall pay to Canada their shares of approved expenditures made by Canada for the operations of the Board.

(c) On or before July 1st of each year, Canada shall prepare and submit to each of the provinces party to the Agreement, statements of claim respecting provincial shares of monies due Canada for financing the operations of the Board during the previous financial year. Statements of claim shall be certified by a senior official of Canada. Once every three years, commencing with fiscal 1981-82, these claims shall be audited and shall bear a Canada audit certificate (Amended 1980).

(d) Within sixty (60) days after receipt of a claim by Canada, submitted as prescribed in Article 15(c), the Provinces of Alberta, Saskatchewan and Manitoba shall reimburse Canada for their shares of expenditures incurred during the previous financial year for the operations of the Board.

17. Annual Report

Within six (6) months after the end of the financial year, the Chairman shall submit to the Ministers the Annual Report of the Board (Amended 1980).

18. Amendment of By-Laws

By-Laws may be enacted, amended or repealed by unanimous approval of the Board. "Notice of Motion" to enact, amend or repeal By-Laws must be served on Members at least sixty (60) days prior to a vote on such issue.

19. Rules and Procedures

The Board shall formulate and adopt "Rules and Procedures" governing the day-to-day affairs of the Board and the operations of the Secretariat. These "Rules and Procedures" may be amended, adopted or repealed in accordance with Article 6 of these By-Laws.

PART III

EXECUTIVE DIRECTOR

1. Functions

(a) The Executive Director shall be the senior employee of the Secretariat; subject to the Board's direction, he shall be responsible for the technical and administrative activities of the Secretariat and the day-to-day management of the Board.

(b) He shall record or cause to be recorded all votes and minutes of all proceedings in books to be kept for that purpose.

(c) He shall give or cause to be given notice of all meetings of the Board.

(d) He shall keep the Board informed at all times of matters pertinent or relevant to the programs and operations of the Board.

(e) He shall have charge of all records of the Board, together with copies of all reports made by the Board and such other books or papers as the Board may direct.

(f) He shall implement all orders and resolutions of the Board and perform any other duties that the Board may prescribe.

Approved at PPWB Meeting No. 5
- November 2, 1971

Section 16(c) amended at PPWB Meeting No. 23
- May 5, 1980.

Section 17 amended at PPWB Meeting No. 24
- November 3, 1980.

Section 6 approved at PPWB meeting No. 42
- February 21, 1989

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RULES AND PROCEDURES

SECRETARIAT

The Prairie Provinces Water Board hereby adopts the following Rules and Procedures governing the operations of the Prairie Provinces Water Board Secretariat.

Financial Administration

1. The Executive Director is authorized to make disbursements of funds in conformity with the main items of expenditure allotted in the budget estimates approved by the Board, subject to those restrictions specified elsewhere in these Rules and Procedures.
2. The Executive Director shall prepare the annual program and budget estimates for the operations of the Prairie Provinces Water Board. Such estimates shall be submitted to the Chairman not later than the first day of July preceding the financial year to which they pertain.
3. Contracts with private consultant firms and individuals shall conform to accepted practices and procedures of the Federal Treasury Board.
4. A contract for services with a person or persons may be undertaken by the Executive Director providing that no such contract is made with a single person, a single firm of persons, or government agency exceeding \$5,000 without the approval of the Board.
5. Contracts not exceeding \$5,000 shall be executed on behalf of the Board under the signature of the Executive Director. Contracts exceeding \$5,000 shall be executed under the signature of the Chairman of the Board.
6. Payment of accounts will be made only after they have been approved by the Executive Director.

Establishment of Salaried Positions, Appointments and Administration of Salaries

7. The establishment of salaried positions in the Secretariat shall be approved by the Board.
8. The Board shall approve the duties of all positions in the Secretariat including those of Executor Director.
9. The classification and remuneration of salaried positions within the Secretariat shall be governed by the appropriate federal authority.
10. The financial and personnel administration of the Secretariat shall be carried out in accordance with federal government practices.
11. To facilitate the operations of the Secretariat, personnel and financial administrative support services shall be provided, at cost, by the Federal Department of the Environment.

Board Offices

12. The Executive Director is authorized to lease and maintain property within which to conduct Board affairs providing that terms of such leasing shall be sanctioned by the Board.
13. Costs for the operation of the Board offices shall include, but shall not necessarily be limited to, expenditures for the following items:
 - (a) Salaries and wages and related benefits of Board employees or personnel seconded to the Board offices, including removal expenses, both at the commencement and termination of the appointment, where applicable, and living expenses for seconded personnel where approved by the Board.

- (b) Field surveys and investigations including travel and living expenses when applicable, by personnel engaged in conducting studies or field investigations.
- (c) Rentals for office space and equipment and charges for utilities and related services for the operation of Board offices.
- (d) Purchases of furniture, and equipment not available on a rental basis.
- (e) Operating, maintenance and transportation expenses for equipment.
- (f) Contracts awarded by the Board including, where applicable, arbitration, settlements, legal fees and other matters, made in accordance with the provisions of the contract.
- (g) Settlement and legal fees arising out of property damaged or public liability made or incurred by an employee of the Secretariat or a party to the Agreement working for the Secretariat and engaged in the activities of the Board offices.
- (h) Other items required for conducting the work and for operations of the Board offices which have been approved by the Board.
- (c) Normal operating maintenance and transportation expenses for equipment where such expenses are not included in the rental rate.
- (d) All contracts as provided under the provisions of Article 12(b) of the By-Laws.
- (e) Other items required for conducting the work of the Board and approved by the Executive Director.

Board Members, Alternates and Advisory Committees

15. The costs incurred by Board Members and their Alternates in representing their respective governments at Board functions shall be paid for by the appropriate government. The salaries and travelling expenses of government officials appointed to represent those party to the Agreement on Committees established to advise the Board and/or the Executive Director shall be paid by the appropriate party.

Approved at PPWB Meeting No. 5
- November 2nd, 1971

Payment for Services Provided by Participating Government Agencies

14. Costs of participating government agencies for services, field investigations, planning studies, etc., specifically requested by the Board shall include the following items:
- (a) Salaries, wages, travel and living expenses for employees engaged in providing the service.
 - (b) Rental charges for equipment and operators.

APPENDIX 3

MAP



