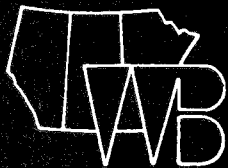


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ANNUAL REPORT

FOR THE YEAR ENDING MARCH 31, 1980



PRAIRIE PROVINCES WATER BOARD

CANADA ALBERTA SASKATCHEWAN MANITOBA

ANNUAL REPORT

FOR THE YEAR ENDING MARCH 31, 1980



PRAIRIE PROVINCES WATER BOARD

306 - 1901 VICTORIA AVENUE REGINA, SASKATCHEWAN S4P 3R4

CANADA

ALBERTA

SASKATCHEWAN

MANITOBA

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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 last financial year. The first meeting was held on May 23 and 24, 1979 in Regina. The second meeting was held on September 25, 1979 in Regina and the third meeting was held in Edmonton on November 21, 1979. There were no changes in Board membership in the past financial year.

The Committee on Hydrology met five times, the Committee on Water Quality four times and the Committee on Water Demand four times in the past year.

This report summarizes the activities and the progress of the Prairie Provinces Water Board, its committees, and the Secretariat for the period April 1, 1979 to March 31, 1980.

RECONSTITUTION OF BOARD ADMINISTRATION

During the 22 year history of the original Prairie Provinces Water Board (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.

Schedule C of the Master Agreement on Apportionment 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 now operates through an Executive Director and his staff, supported by committees as shown in the organization chart on page 40. With the appointment of a permanent staff, the By-laws, and Rules and Procedures also became effective on July 1, 1972. The 1969 Master Agreement on Apportionment, 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 and have no working connection with any part of the Federal Government. 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 of \$625,000. The Provincial Governments' shares of current expenditures are recovered after the current financial year is completed.

ADMINISTRATIVE DECISIONS

Natural Flow Determination

Quarterly reports on natural flows, consumptive use, and storage changes in the South Saskatchewan River basin in Alberta and for the Qu'Appelle River in Saskatchewan were prepared on a regular basis and distributed. The pattern of below normal flows and below normal levels in storage reservoirs is a matter of ongoing concern to the Secretariat and to water managers in the three prairie provinces and was closely monitored in the past financial year.

The accumulated total annual recorded flow of 4,950,000 cubic decametres in the South Saskatchewan River below its junction with the Red Deer River is 79% of the total annual natural flow of 6,230,000 cubic decametres. Discharge of the South Saskatchewan River below the junction fell below the discharge criteria of 42.5 cubic metres per second on November 28 and, except for a ten day period in early December, remained under 42.5 cubic metres per second until the end of the year. The lowest recorded discharge was 34 cubic metres per second on December 29. Natural discharge on that date was less than that amount so the terms of the Master Agreement for both the volumetric and discharge criteria for the South Saskatchewan River at the Alberta-Saskatchewan boundary were met in 1979.

Total recorded and natural flows for the Qu'Appelle River from April 1, 1979 to March 31, 1980 were estimated to be 381,000 cubic decametres and 304,000 cubic decametres indicating that recorded flow was 125 percent of the natural flow based on tentative runoff estimates. Thus the conditions of the 1969 Agreement for the twelve month period ending March 31, 1980 were met for the Qu'Appelle River basin.

Apportionment conditions were also met for the Saskatchewan, Churchill and North Saskatchewan River basins at their respective boundaries.

Final recorded flows and estimated natural flows for the calendar year 1979 are on the following page.

| <u>Apportionment Point</u> | <u>Accumulated Runoff for 1979 in cubic decametres</u> | | <u>Recorded Flow as a Percentage of Natural Flow</u> |
|------------------------------------|--|---------------------|--|
| | <u>Recorded Flow</u> | <u>Natural Flow</u> | |
| North Saskatchewan to A-S boundary | 5 500 000 | 5 300 000 | 104% |
| South Saskatchewan to A-S boundary | 4 950 000 | 6 230 000 | 79% |
| Saskatchewan to S-M boundary | 16 600 000 | *16 500 000 | 101% |
| Qu'Appelle to S-M boundary | 361 000 | 299 000 | 121% |
| Churchill River at S-M boundary | 26 200 000 | 27 600 000 | 95% |

* Apportionment Flow (one half of inflow from Alberta plus natural inflow in Saskatchewan).

PPWB Monitoring Stations

The Board has designated eleven locations for the establishment of common water quantity and water quality monitoring stations to carry out the responsibilities of the Board. The Inland Waters Directorate of Environment Canada maintains continuous monitoring of the quantity of flow and monthly monitoring of the quality of flow at each of these locations. The map on page 63 of this annual report show the location of the eleven monitoring stations.

In the summer of 1979 the hydrometric station on the Battle River in the vicinity of Unwin was moved upstream to the Alberta-Saskatchewan boundary. This change in location enables Water Survey of Canada to more accurately monitor streamflow at the boundary. Water quality observations are still taken at the original station location near Unwin.

Revision of the 1973 PPWB Water Quality Objectives

The methodology to be used in revising the 1973 PPWB Water Quality Objectives was discussed at the 20th Board meeting on May 23, 24, 1979. It was agreed that the Committee on Water Quality would formulate draft criteria illustrating how the proposed apportionment concept would be applied to the Beaver River, North Saskatchewan River and Assiniboine River boundary stations. The Board will rule on the overall acceptability of the proposed methodology after a report on how the criteria is applied to these three basins has been presented and considered by member agencies.

Implementation of the First Order Long Term Water Quality Network

The systematic implementation of a permanent network of water quality stations is a matter of continuing concern to the Board. They have asked the Committee on Water Quality to monitor the implementation process and to report regularly to the Board.

The Impact of Drainage on Downstream Watersheds

A need was identified to develop better procedures to deal with the downstream impact of drainage. The Committee on Hydrology was directed to conduct a literature search, to review the present status of study methods and to make recommendations on further action to be taken.

Interprovincial Implications of Proposed Projects

The Board agreed that a statement of the impact that proposed projects would have on the quantity and quality of water crossing interprovincial boundaries should be submitted through the appropriate provincial member and that the report would be reviewed by the Secretariat in consultation with Board committees. The Secretariat would then report to the Board. The Board, in the last financial year, has been asked to evaluate the interprovincial impacts of four such projects:

The Proposed Cold Lake Oil Sands Project

At the 20th meeting of the Board on May 23, 1979 the Board directed the Committee on Water Quality to prepare a report identifying interim Prairie Provinces Water Board water quality criteria for the Beaver River for all parameters known to be present in effluent of the proposed Cold Lake Oil Sands Project. This report was reviewed at a special meeting of the Board on September 25, 1979. The Board prepared two documents entitled respectively "Interim PPWB Water Quality Requirements for the Beaver River at the Alberta-Saskatchewan Boundary" and "The Impact of the Proposed Cold Lake Oil Sands Project on the Beaver River at the Alberta-Saskatchewan Boundary." These two reports, with a copy of Mr. R.E. Jackson's report "On the Probable Impact of the Cold Lake Project on Interprovincial Aquifers", were sent to the Minister of Board Member agencies for their consideration. Confirmation was given by all Ministers that the reports had been received and would be considered.

The Proposed Dickson Dam

The proposed project on the Upper Red Deer River some 35 kilometres southwest of Red Deer, Alberta has been submitted to the Committee on Hydrology and Committee on Water Quality for review. Their reports will be dealt with at the May 1980 meeting of the Board.

The Proposed Nipawin Dam

The proposed project, located on the Saskatchewan River some three miles upstream from Nipawin, Saskatchewan was submitted to the COH and COWQ. They reported that the initial report from the Saskatchewan Power Company did not adequately deal with the effect that the project would have on streamflow at the Saskatchewan-Manitoba boundary. Saskatchewan Environment has asked the Saskatchewan Power Company to prepare a more detailed report for submission to the Prairie Provinces Water Board.

The Proposed Qu'Appelle River Conveyance Channel

A decision on the proposed plans submitted to the committees has been delayed until Saskatchewan and Manitoba complete their evaluation of this project.

Ducks Unlimited Cumberland Marsh Project

The Board, in the interest of good interprovincial water management, has a continuing interest in the Ducks Unlimited Project recently constructed in the Cumberland Marsh area and the effect it might have on downstream water quantity and quality. Reports on the project's operation are prepared annually by Water Survey of Canada in consultation with Ducks Unlimited, and Saskatchewan Environment. The first report, describing the operation of this project during 1978, was submitted to the Board in May 1979 and is available on request.

Small Interprovincial Basin Natural Flow Studies

The Board has commissioned natural flow studies on five small interprovincial basins: Antler River, Pipestone Creek, Assinibine River, McKay Creek and Boxelder Creek. The studies for Antler River and Pipestone Creek were completed in the last financial year and were reported to the Board in May 1979. It is anticipated that reports on the other three basins will be completed in 1980-81 financial year.

The Board at its 22nd meeting on November 21, 1979 instructed the Secretariat to obtain cost estimates for natural flow studies on five additional drainage basins: Battle River, Big Gully Creek, Eyehill Creek, Gainsborough Creek and Graham Creek.

Board Involvement in Interprovincial Groundwater Problems

The Board agreed to form an ad hoc Committee on Groundwater composed of representatives from each member agency to report to the Board within one year on the advisability of the Board becoming involved in interprovincial groundwater management.

PPWB Budget for 1980-81

The Board approved a total budget of \$536,800 for the fiscal year 1980-81 composed of \$304,800 for the Water Demand Study and \$232,000 for regular Board operations.

BOARD STUDIES

Water Demand Study

The Prairie Provinces Water Board, in 1970, established a task force to examine the need for and to develop terms of reference for a Water Demand (or Water Use) Study. In January 1972 that Task Force submitted a report to the Board outlining the need for such a Study in the Prairie Region. Subsequently, at a meeting of the SNBB Committee of Ministers, it was agreed that the Study should be undertaken, but that it should be divided into two parts. The first part would document historical and current water uses; the second would forecast future water demands. An updated study plan was accepted by the Board in May 1976 but implementation of the Part I study was postponed until May 18, 1977 when all members of the Board reaffirmed their desire to proceed with Part I of the proposed Study at a total estimated cost of \$880,000. The final report of the Water Demand Study Part I: HISTORICAL AND CURRENT WATER USES, including all Sub-committee/sector reports, is scheduled for completion by March 31, 1982.

The Water Demand Study has been divided into six sectors, each managed by a Sub-committee chaired by the Study Director and under the overall direction of the Committee on Water Demand.

Each Sub-committee is responsible for collecting and analyzing data pertinent to their sector, determining factors affecting historical and current water use, identifying weaknesses in the data base and preparing a report to the Committee.

The Regional Economic Base Sub-committee met twice during the past financial year. The collection of population, industrial and agricultural data was completed with Statistics Canada being the source of most of the data. That data was assembled on the basis of fifteen selected sub-basins within the Saskatchewan-Nelson Basin, and was analyzed accordingly. The first draft of the sector report summarizing this information was approximately three-quarters complete at the end of the fiscal year.

The Municipal and Industrial Sub-committee met three times last year. Collection of industrial and municipal water use data was largely completed, using primarily secondary data sources. An outline for the provincial agency reports was prepared and approved.

The Agriculture Sub-committee met three times last year. Data

collection was largely completed and analysis was begun. An outline for the provincial agency reports was prepared and approved.

The Power Generation Sub-committee met four times last year. Data collection was largely completed and analysis begun. An outline for the provincial agency reports was prepared and approved and a draft outline for the Sub-committee's report was prepared.

The Environmental Considerations Sub-committee met four times, had one conference call and met once with the Committee on Water Demand last year. Data collection and analysis proceeded well. Much of the wildlife habitat data was collected and mapped on the basis of corridors along rivers and around lakes. Collection of water quality data and economic data related to fur production was begun. Acceptable instream flow figures were generated according to the Tennant ("Montana") Method. An outline for agency and sector reports was prepared and approved.

The Recreation Sub-committee met four times and had one conference call last year. Data collection was largely completed. An outline for the provincial agency reports was prepared and approved and a draft outline for the Sub-committee's report was prepared.

The Study Office prepared an outline for the Main Report and this outline was approved by the Committee on Water Demand. Working maps for each of the fifteen sub-basins will be completed in 1980. The preparation of background material for the Main Report is underway and investigations into the implementation of a PPWB data storage and retrieval system to store study data at the conclusion of the study was begun.

Natural Flow of Small Interprovincial Basins

At the June 10, 1975 meeting of the Board, the Members recommended that a continuing study be made by the Secretariat to define natural flow on small interprovincial river basins. An initial list of streams that fell into this category and an order of their priority was prepared. The Board, in 1976, agreed that the speed with which the studies might be completed would depend both on the availability of Secretariat personnel and the availability of personnel from the participating agencies.

The Secretariat prepared Memoranda of Understanding between the Board and PFRA to undertake natural flow studies on the Pipestone Creek, the Antler River and the Assiniboine River and between the Board and Water Survey of Canada to undertake natural flow studies on Boxelder Creek and MacKay Creek.

The Antler River Study and the Pipestone Creek Study were completed in the last fiscal year, and submitted to the Board in May 1979. The two reports are:

1. Antler River at Saskatchewan-Manitoba Boundary - Natural Flow - December 1978.
2. Pipestone Creek at Saskatchewan-Manitoba Boundary - Natural Flow - March 1979.

It is anticipated that reports on the other three basins will be completed in the coming financial year.

Water Quality Objectives Study

This study is being conducted by the Committee on Water Quality and the Secretariat to update the current (1973) PPWB Water Quality Objectives.

The Committee has reviewed water quality data collected at the eleven PPWB monitoring stations and has recommended a methodology to the Board for updating objectives. The Board has directed the Committee on Water Quality to prepare water quality requirements for the Beaver River at the Alberta-Saskatchewan boundary, the North Saskatchewan River at the Alberta-Saskatchewan boundary and the Assiniboine River at the Saskatchewan-Manitoba boundary. Based on the reports prepared for these three sites, the Board proposes to establish a working procedure to establish site specific water quality requirements at each of the eleven PPWB monitoring stations.

Administration of Apportionment Study

At the November 5, 1974 meeting of the Prairie Provinces Water Board, the members discussed the type of problems that might be encountered in administering the Apportionment Agreement as water use increases to the point where apportionment becomes critical. The Committee on Hydrology, at the request of the Board, prepared Terms of Reference for a study of these problems. The Board subsequently approved these Terms and agreed that the Committee on Hydrology should be responsible for the study.

The Committee on Hydrology in the past financial year has prepared a report on this subject based on the study Terms of Reference. This report will be submitted to the Board in the spring of 1980. The report, while not a handbook on operation of Administration of Apportionment of water quantities, discusses the subject and recommends on procedures to use in apportioning water in accordance with the terms of the 1969 Master Agreement.

Westward Flowing Streams

The Board recognizes that streams which cross interprovincial boundaries in an east to west direction may not be covered by the Apportionment Agreement. At the November 1973 meeting of the Board, the members observed that, although no problems have arisen, the situation should be considered in view of the probable time involved to develop a satisfactory solution.

The Committee on Hydrology in analyzing this problem has sub-divided the study of Westward Flowing Streams into two parts; the streams that are westward flowing tributaries of eastward flowing streams and the streams that are westward flowing streams that are not subsequently tributary

to eastward flowing streams.

It is proposed to prepare two separate reports dealing with these two separate types of streams. These reports will comment on the number and size of streams involved, will consider possible apportionment problems, and will speculate on possible solutions taking into account relevant precedence.

Forest Management for Increased Water Yields

There has been considerable interest for several years in the Province of Alberta on the possibility of managing the eastern slopes of the Rockies to benefit water production and to control other uses of the forest area. Alberta Environment and the Alberta Forest Service in co-operation with Federal Agencies, have the management responsibilities for this green zone. They will continue to keep the Board informed of the conduct and results of these studies.

Allocation of Water in the Battle and Lodge Creek Basins

The Secretariat has met informally with each member of the Committee on Interjurisdictional Agreements Administration, the group assigned to this study. The Secretariat, working with Water Rights staff in Alberta and Saskatchewan has compiled a list of currently active water rights in each basin that is acceptable to both provinces. Meetings will be held in the coming financial year to reach agreement on an allocation procedure that is mutually acceptable.

Battle Creek Study

At the May 18, 1977 meeting, the Board discussed the need for a study to resolve the water supply problem in Battle Creek. The members agreed that a comprehensive approach was needed and recommended that the Executive Director call a meeting of representatives from Environment Canada, Saskatchewan Environment, Alberta Environment and PFRA to develop detailed Terms of Reference for a coordinated study of the basin. Initial meetings were held to draft Terms of Reference and to prepare cost estimates for the study. Further action on the study has been deferred until a recommendation is made on the allocation of water in Battle Creek basin.

Updating of PPWB Monthly Natural Streamflow Estimates

The Board has agreed that the Prairie Provinces Water Board Secretariat should assume continuing responsibility for updating the Saskatchewan-Nelson basin monthly natural streamflow estimates. They have instructed the Executive Director to bring the monthly streamflow files up to date as soon as practical and to ensure that they are updated annually.

This activity coincides with a study presently under way in Southern Alberta to update monthly natural streamflow records for the South Saskatchewan River basin including the Red Deer River basin. The actions of the Secretariat are being co-ordinated with the activities of Alberta Environment to ensure that the estimates produced by Alberta Environment will be acceptable for Board purposes as well as for planning purposes of the Alberta Government. These records, when completed, will be used to update monthly natural streamflow estimates for that sub-basin and, in conjunction with updated estimates being prepared by the Secretariat for the remainder of the basin, will be used to provide a current catalogue of monthly streamflow estimates.

BOARD COMMITTEES

Committee on Hydrology

The Committee on Hydrology met five times in the last financial year. The meetings were held on April 9, 10, 1979 in Regina, October 10, 11, 12 in Calgary, December 12 in Regina, February 6, 7 in Winnipeg, and March 18, 19 in Regina.

The primary topic of all five meetings was preparation of a final report for the Administration of Apportionment Study. A final draft of the report was completed after the March 18 and 19 meeting in Regina for consideration of the Board at their spring 1980 meeting.

Several other items were dealt with during the year. The Committee formed an ad hoc sub-committee to update the use of SSARR programs used to calculate natural flow in the Qu'Appelle River system and to oversee the conversion of the SSARR programs to metric units.

The Committee also completed a review on the current minimum flow objectives for major interprovincial rivers in the three provinces and forwarded the results to the COWD for study purposes. Monitoring requirements for the 19 small interprovincial study basins to be studied by the PPWB were reviewed by the Committee and it was concluded that there was no immediate need to establish additional hydrometric stations for natural flow study purposes. A report to this effect was submitted to the Board.

The advisability of relocating the Battle River near Unwin hydrometric station to a point closer to the Alberta-Saskatchewan border was discussed. The Committee concluded that because of the technical impracticability of continuing to measure streamflow at the present site, the hydrometric station should be relocated. It was recommended that Water Survey of Canada also operate a station on Blackfoot Creek for a "limited number of years" to determine whether there is sufficient local runoff to effect flow characteristics between the new and the old Battle River stations.

At the March 18-19 meeting, Mr. R.S. Pentland presented a discussion paper entitled "The Agricultural Drainage Impacts in Saskatchewan". Considerable discussion followed and the Committee agreed that further discussion was needed before recommendations on the effect that upstream drainage would have on downstream flow could be made to the Board.

The Committee also reviewed reports dealing with the interprovincial impacts of: the proposed Dickson Dam on the Red Deer River, the proposed Nipawin Dam on the Saskatchewan River, the proposed Qu'Appelle Conveyance Channel and the proposed Cold Lake Oil Sands Project.

Committee on Water Quality

The Committee on Water Quality met three times in the 1979-80 financial year. The meetings were held in Regina on April 11 and 12, 1979, in Edmonton on July 10 and 11, 1979 and in Winnipeg on February 26 and 27, 1980. They also held a conference call on September 14, 1979 and met with the Board on May 23, 1979 in Regina.

At the July 10, 1979 meeting, the Committee met with Mr. W.K. Ross of Esso Resources, Heavy Oil Department, to obtain information on the quality of effluent discharge to the Beaver River from the proposed Cold Lake Oil Sands Project. The Committee identified downstream water uses that must be protected on the Beaver River and drafted interim PPWB Water Quality Requirements. Calculations estimating the impact of that effluent on water quality at the boundary were compared with the interim PPWB Water Quality Requirements for the boundary. This information, and its accompanying rationale, was documented in a report to the Board entitled "The Proposed Cold Lake Oil Sands Project and Beaver River PPWB Water Quality Requirements." On September 14 the Committee held a conference call to review a final draft of the report and it was forwarded to the Board members on September 17, 1979.

At the meeting on February 26 and 27, 1980 the Committee reviewed the 1980-81 PPWB Water Quality monitoring program. They agreed to publish the 1979 PPWB Annual Water Quality Report in the same format as last year. They agreed to recommend that PPWB Water Quality monitoring be continued on the Battle River near Unwin, although hydrometric monitoring will now be conducted in another site. The Committee also discussed data compatibility, terms of reference for a proposed task force of laboratory staff and the implementation of the first order long term network recommended by the Board.

The Committee completed its assignment to review and to comment on the Alberta Environment Report entitled "Red Deer River Project - Effects on Quality of Interprovincial Waters". The Committee agreed that a covering letter and a copy of a report prepared by the Secretariat entitled "The Probable Impact of the Dickson Dam on the Quality of Water Crossing the Alberta-Saskatchewan Boundary" should be sent to Board members. The Committee also suggested that the report prepared by the Secretariat is an example of the type of report needed to evaluate the effect that a proposed project would have on the quality of water at interprovincial stations.

Committee on Water Demand

The Committee on Water Demand met four times during the 1979-80 financial year: in Regina on May 17, 1979, in Edmonton on September 5-6, 1979, in Regina on October 25, 1979, and in Winnipeg on January 24-25, 1980. The members of the Environmental Considerations Sub-committee attended the Committee meeting on January 24. The primary task of this committee at all four meetings was to provide technical guidance to the Water Demand Study - Part I. This included financial management and advice on the overall conduct of the study and on matters pertaining to the six sub-committees formed to gather information on the study sub-sectors.

During the last year, it was decided that instream water uses should be more clearly identified as being distinct from withdrawal uses. The greatest impact of this decision was felt within the Environmental Considerations sector. Consultations between the Committee and this Sub-committee led to a resolution of the way that this shift in emphasis could be incorporated.

Progress of the sub-committees was reviewed and guidance provided where necessary. Outlines for the provincial agency reports to the various sub-committees were reviewed. Staff changes in the participating agencies resulted in membership changes on four of the six sub-committees. New members had been appointed for all but one position by March 31, 1980.

An outline for the Main Report was approved by the Committee and forwarded to the Board for their consideration and some preliminary background material prepared for the Main Report was reviewed.

A budget of \$274,300 was approved for the Study in the 1980-81 financial year and a total of \$301,380.63 was spent during 1979-80.

Committee on Interjurisdictional Agreements Administration

The Committee did not meet formally in the financial year 1979-80 but the Executive Director met individually with each of the three members in May 1979 for discussions. The Secretariat has now documented existing water rights to a common base for both Alberta and Saskatchewan and has prepared a draft report for the Committee.

Battle Creek Steering Committee

The Battle Creek Steering Committee did not meet in the financial year 1979-80. It is not proposed to reactivate this committee until the Board has agreed on a method of apportioning the flow of water in the Battle Creek basin between Alberta and Saskatchewan.

SECRETARIAT

Accommodation and Staff

The PPWB Secretariat is located in Room 306, of the Motherwell Building in Regina, Saskatchewan. This office is in the same building as the Western Regional office of the Environmental Management Service of Environment Canada. Personnel and financial administrative services are provided through Environment Canada staff.

There were several staff changes in the past year. Ms. J.S. (Jill) Vaisey assumed the duties of Assistant Study Director on the Water Demand Study on May 7, 1979. Mr. D.A. Schoenfeld was a successful candidate for the position of Computations Technician ESS-3 and started work on June 11, 1979. On June 15, 1979 Ms. J.C. (Joan) Heisler resigned as Secretary to the Study Director and was replaced on June 18, 1979 by Ms. J.M. (June) Rumpel. Mr. A. James Chen was appointed to the position of Operations Engineer (EG-ENG-4) effective July 3, 1979. Lastly, Ms. Doreen Sinclair resigned from her position as Secretary to the Executive Director on December 7, 1979. For the remainder of the financial year the duties of Secretary were filled by Personnel from Manpower Services, Regina. The position of Secretary to the Executive Director has been advertised and will be filled in April 1980.

Reports

The Secretariat published and distributed to member agencies the fourth annual report containing water data collected at eleven Prairie Provinces Water Board monitoring stations. Because of the large size of this report, distribution was limited to people directly connected with the Board's quality of water activities.

Seven limited distribution reports have been produced by, and for, the Board in the past financial year. They are listed below:

- PPWB Report No. 52 - Antler River at Saskatchewan-Manitoba Boundary - Natural Flow - December 1978. (Prepared for the PPWB by PFRA).
- PPWB Report No. 53 - Interim Water Quality Requirements for the Beaver River at the Alberta-Saskatchewan Boundary - October 5, 1979.
- PPWB Report. No. 54 - The Impact of the Proposed Cold Lake Oil Sands Project on the Water Quality of the Beaver River at the Alberta-Saskatchewan Boundary - October 5, 1979.

Natural flows on the South Saskatchewan River Basin were calculated using the project depletion method and natural flows of 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 on these two specific basins.

Water Survey of Canada, Inland Waters Directorate, provided the Board with quarterly reports on the natural flow of the South Saskatchewan River below the junction with the Red Deer River and the Qu'Appelle River at the Saskatchewan-Manitoba boundary at a cost of \$4,000 and \$2,000 respectively.

Natural Flow Reports

Secretariat expenditures for the fiscal year 1979-80 as checked by a Senior Official of Canada are shown on page 4. They indicate a total expenditure of \$500,387.35 composed of \$199,006.72 directly spent on Board activities and \$301,380.63 on Water Demand Study expenditures.

Financial

The work of the Secretariat in the past year has been primarily connected with Committee activities. These activities have already been discussed. The Secretariat acquired an AES-Plus 4 word processor in February 1980 and the machine is being used jointly by the Secretariat and Water Demand Secretaries to expedite draft reports, committee minutes and general correspondence.

The activities of the Secretariat have been reported under the sections titled Board Committees and Board Studies. On April 5, 1979 the Executive Director presented a talk on Interprovincial River Flow Regulations to the Saskatchewan Conservation and Development Association in Saskatoon. A talk on the same subject was given to the Central Lions Club in Regina on May 29, 1979.

Information

- PPWB Report #55 - Pipestone Creek at Saskatchewan-Manitoba Boundary - Natural Flow - March 1979. (Prepared for the PPWB by PFR).
- Interprovincial River Water Quality Data at PPWB Monitoring Stations April 1974 to December 31, 1978 - May 1979.
- Water Quantity/Quality Monitoring Program - Cumberland Marshes Project - 1978 Annual Report - May 1979. (Prepared for the PPWB by MSC).
- PPWB Report #59 The Probable Impact of the Proposed Dickson Dam on the Quality of Water Crossing the Alberta-Saskatchewan Boundary - March 19, 1980.

1979 FLOW DATA

RECORDED DISCHARGE - SUMMARY
SELECTED INTERPROVINCIAL STREAMS
(CUBIC DECAMETRES ROUNDED TO THREE SIGNIFICANT FIGURES)

FOR THE YEAR 1979

SOUTH SASKATCHEWAN RIVER -- ALBERTA-SASKATCHEWAN BOUNDARY

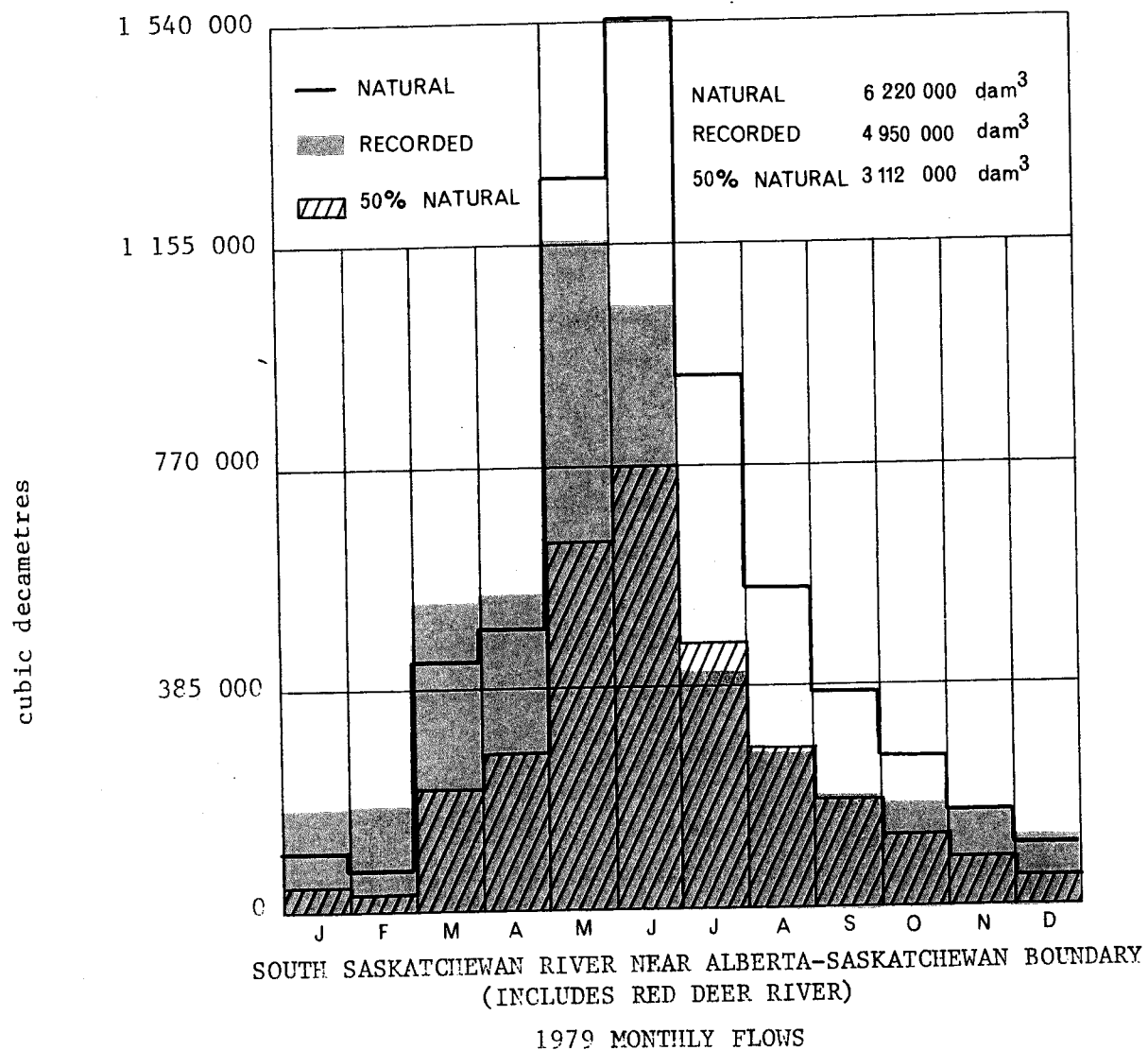
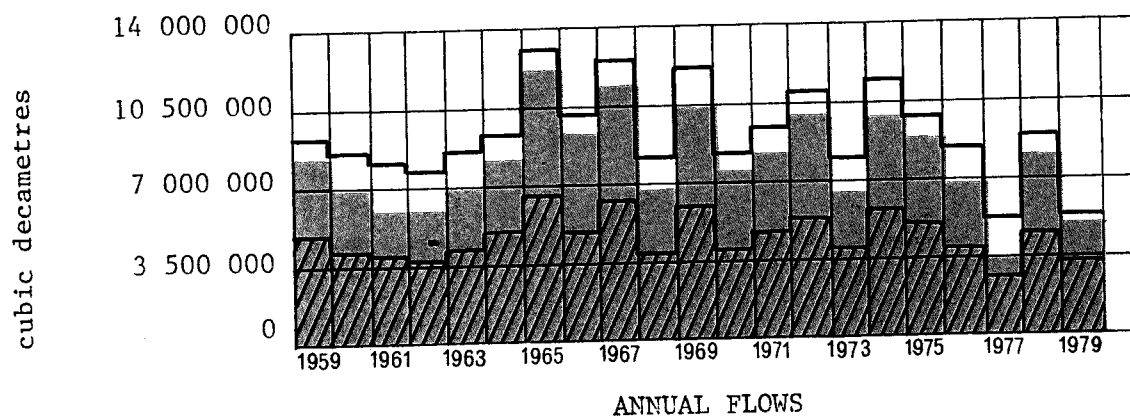
| | JAN. | FEB. | MAR. | APR. | MAY | JUNE | JULY | AUG. | SEPT. | OCT. | NOV. | DEC. | TOTALS |
|-------------------------|----------|----------|---------|---------|-----------|-----------|---------|---------|---------|----------|---------|---------|-----------|
| RECORDED DISCHARGE | 161 000 | 166 000 | 474 000 | 428 000 | 999 000 | 865 000 | 252 000 | 146 000 | 106 000 | 120 000 | 141 000 | 103 000 | 3 960 000 |
| CONSUMPTIVE USE | -1 110 | -1 208 | 6 130 | 9 560 | 119 000 | 344 000 | 411 000 | 259 000 | 193 000 | 173 000 | -16 000 | -38.2 | 1 500 000 |
| CHANGE IN RESERVOIRS | -110 000 | -115 000 | -89 800 | -61 700 | 42 000 | 212 000 | 86 200 | . 666 | -28 300 | -124 000 | -22 000 | -24 400 | -234 000 |
| DIVERSION FROM BASIN | 0 | 0 | 0 | 0 | 4 480 | 27 900 | 35 300 | 36 300 | 21 600 | 13 900 | 2 970 | 0 | 142 000 |
| NATURAL FLOW ALTA. BDY. | 81 400 | 55 700 | 374 000 | 362 000 | 1 110 000 | 1 390 000 | 799 000 | 472 000 | 309 000 | 213 000 | 134 000 | 77 300 | 5 380 000 |

RED DEER RIVER -- ALBERTA-SASKATCHEWAN BOUNDARY

| | JAN. | FEB. | MAR. | APR. | MAY | JUNE | JULY | AUG. | SEPT. | OCT. | NOV. | DEC. | TOTALS |
|-------------------------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|
| RECORDED DISCHARGE | 13 300 | 10 100 | 55 300 | 119 000 | 160 000 | 174 000 | 157 000 | 115 000 | 83 400 | 56 100 | 30 500 | 16 000 | 990 000 |
| CONSUMPTIVE USE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DIVERSION FROM BASIN | 0 | 0 | 0 | 0 | -4 480 | -27 900 | -35 300 | -36 300 | -21 600 | -13 900 | -2 970 | 0 | 142 000 |
| NATURAL FLOW ALTA. BDY. | 13 300 | 10 100 | 55 300 | 119 000 | 157 000 | 148 000 | 122 000 | 79 000 | 60 500 | 40 900 | 26 700 | 16 000 | 848 000 |

SOUTH SASKATCHEWAN RIVER -- BELOW JUNCTION WITH RED DEER

| | JAN. | FEB. | MAR. | APR. | MAY | JUNE | JULY | AUG. | SEPT. | OCT. | NOV. | DEC. | TOTALS |
|--------------------|---------|---------|---------|---------|-----------|-----------|---------|---------|---------|---------|---------|---------|-----------|
| RECORDED DISCHARGE | 174 000 | 176 000 | 529 000 | 547 000 | 1 160 000 | 1 040 000 | 409 000 | 261 000 | 189 000 | 176 000 | 171 000 | 119 000 | 4 950 000 |
| NATURAL FLOW | 94 700 | 65 800 | 429 000 | 481 000 | 1 270 000 | 1 540 000 | 921 000 | 551 000 | 369 000 | 254 000 | 161 000 | 93 300 | 6 230 000 |



RECORDED AND NATURAL FLOWS - SUMMARY
 SELECTED INTERPROVINCIAL STREAMS
 (CUBIC DECAMETRES ROUNDED TO THREE SIGNIFICANT FIGURES)

SUMMARY FOR THE YEAR 1979

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

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

| | | | | | | | | | | | | | |
|---------------|---------|---------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|-----------|
| RECORDED FLOW | 298 000 | 307 000 | 532 000 | 564 000 | 931 000 | 585 000 | 634 000 | 501 000 | 363 000 | 298 000 | 252 000 | 239 000 | 5 500 000 |
| NATURAL FLOW | 34 700 | 37 200 | 292 000 | 364 000 | 926 000 | 895 000 | 1 040 000 | 860 000 | 522 000 | 150 000 | 111 000 | 67 700 | 5 300 000 |

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

| | | | | | | | | | | | | | |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| RECORDED FLOW | 2 390 000 | 2 240 000 | 2 380 000 | 2 160 000 | 2 320 000 | 2 330 000 | 2 010 000 | 1 750 000 | 1 770 000 | 2 270 000 | 2 260 000 | 2 320 000 | 26 200 000 |
| NATURAL FLOW | 2 500 000 | 2 120 000 | 2 160 000 | 1 880 000 | 2 350 000 | 2 370 000 | 2 420 000 | 2 310 000 | 2 300 000 | 2 570 000 | 2 350 000 | 2 270 000 | 27 600 000 |

SASKATCHEWAN RIVER --- SASKATCHEWAN-MANITOBA BOUNDARY

| | | | | | | | | | | | | | |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|------------|
| RECORDED FLOW | 1 200 000 | 1 240 000 | 1 510 000 | 1 380 000 | 3 650 000 | 2 310 000 | 1 240 000 | 1 010 000 | 873 000 | 822 000 | 710 000 | 608 000 | 16 600 000 |
| APPORTIONMENT* FLOW | 543 000 | 438 000 | 1 080 000 | 1 980 000 | 4 080 000 | 3 090 000 | 1 720 000 | 1 080 000 | 959 000 | 794 000 | 505 000 | 255 000 | 16 500 000 |

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

| | | | | | | | | | | | | | |
|---------------|-------|-------|-------|--------|---------|--------|--------|-------|--------|-------|--------|--------|---------|
| RECORDED FLOW | 3 230 | 3 210 | 4 030 | 56 700 | 147 000 | 69 700 | 19 500 | 8 930 | 6 210 | 9 350 | 15 100 | 17 600 | 361 000 |
| NATURAL FLOW | 0 | 0 | 66 | 95 100 | 147 000 | 30 900 | 1 180 | 9 130 | 13 400 | 2 200 | 100 | 0 | 299 000 |

* Recorded flow from Alberta + natural inflow from Saskatchewan.
 Recorded flows for the years 1970 to 1978 inclusive are based on WSC's preliminary data.

RECORDED AND NATURAL FLOWS,
CONSUMPTIVE USE, DIVERSION, AND STORAGE
(CUBIC DECAMETRES ROUNDED TO THREE SIGNIFICANT FIGURES)

FOR THE YEAR 1979

| JAN. | FEB. | MAR. | APR. | MAY | JUNE | JULY | AUG. | SEPT. | OCT. | NOV. | DEC. | TOTALS |
|---|--------|--------|---------|---------|---------|---------|--------|--------|--------|--------|--------|-----------|
| <u>BEAVER RIVER -- ALBERTA-SASKATCHEWAN BOUNDARY (AT COLD LAKE)</u> | | | | | | | | | | | | |
| 15 600 | 12 400 | 21 900 | 105 000 | 218 000 | 177 000 | 111 000 | 52 500 | 47 500 | 36 800 | 21 100 | 12 100 | 831 000 |
| <u>BATTLE RIVER -- ALBERTA-SASKATCHEWAN BOUNDARY (NEAR UNWIN)</u> | | | | | | | | | | | | |
| 1 340 | 1 020 | 5 220 | 64 600 | 51 500 | 24 500 | 16 000 | 11 500 | 5 280 | 3 090 | 2 380 | 1 570 | 188 000 |
| <u>CARROT RIVER -- SASKATCHEWAN-MANITOBA BOUNDARY (NEAR TURNBERRY)</u> | | | | | | | | | | | | |
| 6 240 | 3 580 | 3 680 | 54 200 | 606 000 | 356 000 | 90 700 | 17 300 | 16 600 | 22 200 | 17 700 | 5 680 | 1 200 000 |
| <u>RED DEER RIVER -- SASKATCHEWAN-MANITOBA BOUNDARY (NEAR ERWOOD)</u> | | | | | | | | | | | | |
| 2 460 | 901 | 1 230 | 195 000 | 474 000 | 203 000 | 28 200 | 5 220 | 2 190 | 3 570 | 6 540 | 4 200 | 927 000 |
| <u>ASSINIBOINE RIVER -- SASKATCHEWAN-MANITOBA BOUNDARY (AT KAMSACK)</u> | | | | | | | | | | | | |
| 1 110 | 753 | 614 | 106 000 | 250 000 | 36 300 | 4 950 | 1 290 | 1 320 | 883 | 1 050 | 1 230 | 406 000 |

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

WATER QUALITY MONITORING

PPWB Water Quality Monitoring Program

At the request of the Prairie Provinces Water Board, the Water Quality Branch of Environment Canada continued reporting monthly or quarterly data collected at the 11 PPWB monitoring stations for the 90 water quality parameters listed on page 29.

This data has been collected to establish the range of existing parameter concentrations and estimate compliance with the 1973 PPWB Water Quality Objectives for the parameters marked with an asterisk. (*)

This program started in April 1974 and has been carried out continuously since that time. All data obtained at these 11 stations from April 1, 1974 to December 31, 1979 have been validated, published in the PPWB Annual Water Quality Reports, and distributed to member agencies.

*Aldrin
 Alkalinity, phenol.
 Alkalinity, total
 N-Alkanes
 Aluminum, extract.
 Aromatic Hydrocarbons
 *Arsenic, diss.
 Barban
 *Barium, extract.
 BHC-alpha
 BHC-gamma (Lindane)
 *Boron
 *Cadmium, extract
 Calcium, diss.
 Carbon, diss., inorganic
 Carbon, diss., organic
 Carbon, organic, particulate
 Carbon, total, inorganic
 Carbon, total, organic
 Chlordane-alpha
 Chlordane-gamma
 Chloride, diss.
 Chlorophyll A
 *Chromium, extract.
 Cobalt
 Coliforms, fecal
 Coliforms, total
 *Color, apparent
 *Copper, extract. and diss.
 *Cyanide, total
 *P,P-DDD
 *P,P-DDE
 *O,P-DDT
 *P,P-DDT
 *Dieldrin
 Endosulfan-alpha
 Endosulfan-beta
 *Endrin
 *Fluoride, diss.
 Hardness, total, CaCO₃
 *Heptachlor
 *Heptachlor, expoxide
 Hexachloro-benzene
 *Iron, extract. and diss.
 *Lead, extract.
 Magnesium, diss.
 *Manganese, extract. and diss.
 MCPA
 *Mercury, extract. and total
 P,P-methoxychlor
 Mirex
 Nickel, extract
 NTA (Nitrilotriacetic Acid)
 Nitrogen, diss., NO₃+NO₂²
 Nitrogen, particulate
 *Nitrogen, total, calc.
 Nitrogen, total, diss.
 Nitrogen, TKN
 *Odour, TON
 *Oil and Grease
 *Oxygen, demand, BOD
 *Oxygen, diss., DO
 PCB, Arochlor 1248
 PCB, Arochlor 1254
 PCB, Arochlor 1260
 *pH
 *Phenolics
 *Phosphorous, total, diss.
 *Phosphorous, total, phosphate
 Picloram (Tordon)
 Potassium, diss.
 Residue, fixed, nonfilterable
 *Residue, nonfilterable
 *Selenium, diss.
 Silica, reactive
 *Silver, extract.
 Silvex
 *Sodium, diss.
 Specific Conductance
 Sulphate, diss.
 Surfactants (MBAS)
 *Temperature
 Trifluralin
 *Turbidity
 Vanadium, extract.
 *Zinc, extract.
 2,4-D
 2,4-DB
 2,4-DP
 2,4,5-T

* Objectives exist

APPENDIX

APPENDIX INDEX

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PPWB MEMBERS

| | | |
|-----------|--------------------|---|
| Chairman | Mr. J.P. Bruce | Assistant Deputy Minister Environmental Management Service Environment Canada |
| | Dr. H.M. Hill | Director General Prairie Farm Rehabilitation Administration Department of Regional Economic Expansion |
| | Mr. R.E. Bailey | Special Projects Director Alberta Environment |
| | Mr. S.R. Blackwell | Chief Water Management Service Saskatchewan Environment |
| | Mr. T.E. Weber | Senior Assistant Deputy Minister Manitoba Department of Mines, Natural Resources and the Environment |
| Secretary | Mr. E.W. Allison | Water Quality Analyst PPWB Secretariat |

ALTERNATE MEMBERS

Mr. D.A. Davis

Regional Director
Western and Northern Region
Inland Waters Directorate
Environmental Management Service
Environment Canada

Mr. G.S. Brown

Deputy Director General
Prairie Farm Rehabilitation Administration
Department of Regional Economic Expansion

Mr. P.G. Melnychuk

Assistant Deputy Minister
Environmental Engineering Support Services
Alberta Environment

Mr. D.L. MacLeod

Director
Hydrology Branch
Water Management Service
Saskatchewan Environment

Mr. N. Mudry

Director of Planning
Water Resources Branch
Manitoba Department of Mines, Natural
Resources and the Environment

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.

Current Members

| | |
|--|--|
| R.B. Godwin <small>Chairman</small> | Executive Director Prairie Provinces Water Board |
| G.H. Morton | Water Survey of Canada Environment Canada |
| D.W. Lawson | Prairie Farm Rehabilitation Administration Department of Regional Economic Expansion |
| R.K. Deeprise | Environmental Engineering Support Services Alberta Environment |
| V.M. Austford | Water Resources Division Manitoba Department of Mines, Natural Resources and Environment |
| D.L. MacLeod | Hydrology Branch Saskatchewan Environment |
| R.F. Hopkinson | Atmospheric Environment Service Environment Canada |
| A.J. Chen <small>Secretary</small> | Operations Engineer PPWB Secretariat |

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.

Members

R.B. Godwin
Chairman

Executive Director
Prairie Provinces Water Board

K.W. Reid

Water Quality Branch
Environment Canada

D.W. Lawson

Prairie Farm Rehabilitation Administration
Department of Regional Economic Expansion

J.N. Warrener

Environmental Protection Branch
Manitoba Department of Mines, Natural
Resources and the Environment

R.A. McDonald

Water Pollution Control Branch
Saskatchewan Environment

P.G. Shewchuk

Standards and Approvals Division
Alberta Environment

E.W. Allison
Secretary

Water Quality Analyst
PPWB Secretariat

COMMITTEE ON INTERJURISDICTIONAL AGREEMENTS ADMINISTRATION

It was agreed that a committee consisting of the Executive Director, one member from Saskatchewan, one member from Alberta, and Mr. E.F. Durant be struck to handle the problem of developing a methodology for the efficient administration of interjurisdictional agreements, particularly as regards Battle and Lodge Creek Basins.

(8:35: March 20, 1973)

Members

| | |
|--|---|
| R.B. Godwin <small>Chairman</small> | Executive Director Prairie Provinces Water Board |
| B.N. Johnson | Inland Waters Directorate Environment Canada |
| A.L. Jones | Water Rights Branch Saskatchewan Environment |
| B.W. Boyson | Water Resources Branch Alberta Environment |
| <hr/> | |
| A.J. Chen <small>Secretary</small> | Operations Engineer PPWB Secretariat |

COMMITTEE ON WATER DEMAND

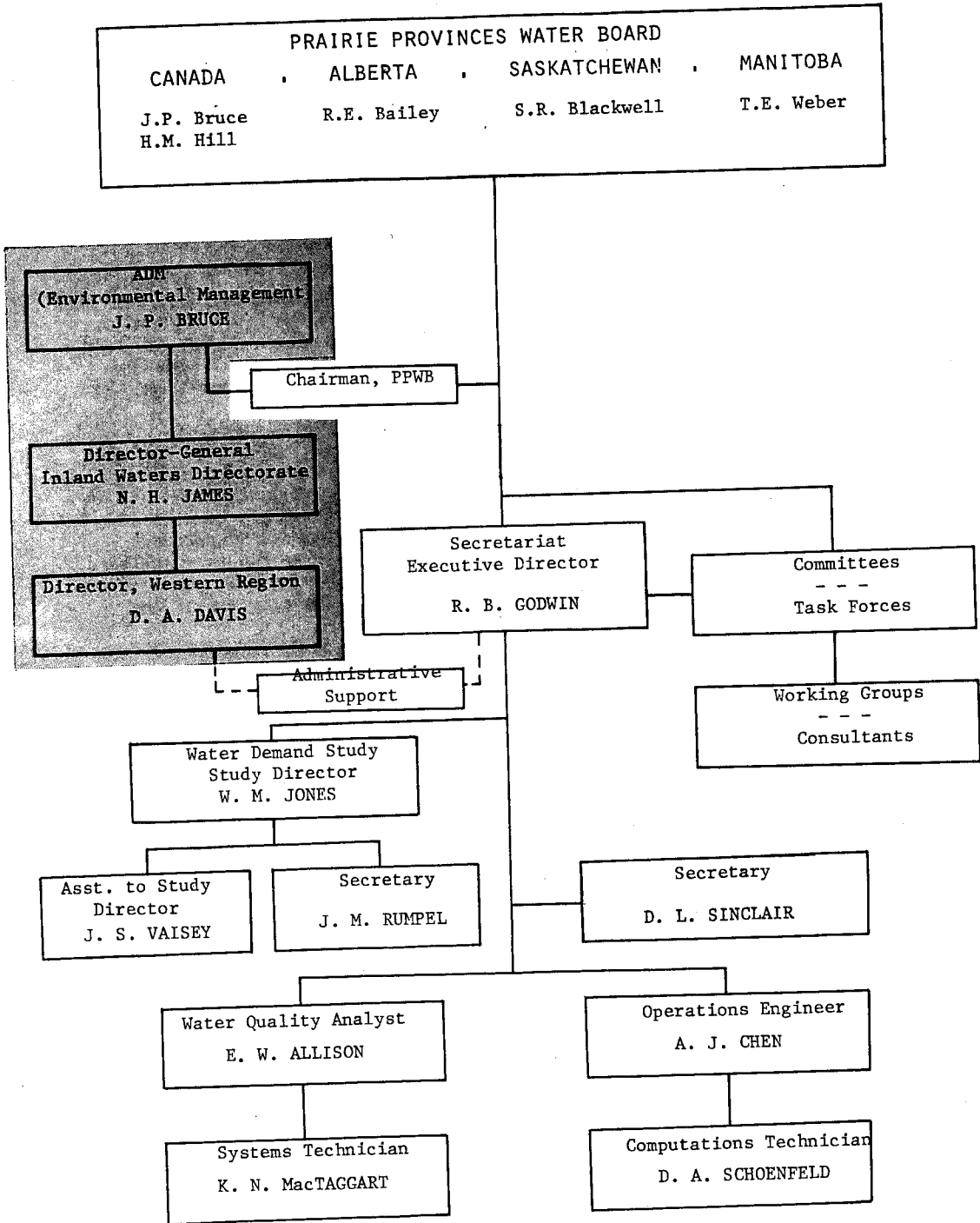
Terms of Reference

The Committee on Water Demand shall be composed of one member representing each of the Provinces of Alberta, Saskatchewan and Manitoba, two members representing Canada, and the Executive Director of the Prairie Provinces Water Board who shall be Chairman. The Committee shall function during the life of the Water Demand Study in the Saskatchewan-Nelson Basin and shall have the responsibility of providing technical guidance and financial management for the Water Demand Study on behalf of the Board.

The Water Demand Study shall be divided into two parts. Part One shall be done under the auspices of the Prairie Provinces Water Board and consist of a study of water demand based on current needs and historical uses in accordance with the Terms of Reference for Part One. Part Two may be done at a later date and would provide estimates for future water demands. Throughout Part One of the study the Committee shall: monitor and oversee the technical and financial aspects of the study as directed by the Board; ensure that there is no duplication of studies; report regularly to the Board on the progress of the study.

Members

| | |
|--|--|
| R.B. Godwin <small>Chairman</small> | Executive Director Prairie Provinces Water Board |
| H. Foerstel | Environment Management Service Environment Canada |
| V.M. Austford | Water Resources Branch Manitoba Department of Mines, Natural Resources and the Environment |
| R.L. Kellow | Policy, Planning and Research Branch Saskatchewan Environment |
| C. Primus | Planning Division Alberta Environment |
| G.T. Forsyth | Prairie Farm Rehabilitation Administration Department of Regional Economic Expansion |
| <hr/> | |
| E.W. Allison <small>Secretary</small> | Water Quality Analyst PPWB Secretariat |



STATEMENT OF EXPENDITURES

| | <u>Final Claim</u> | | |
|--|--------------------|------------------|------------------|
| | <u>1977-78</u> | <u>1978-79</u> | <u>1979-80</u> |
| Salaries | 118,891 | 99,307 | 185,691 |
| Travel and Transportation | 5,055 | 20,344 | 24,421 |
| Postage, Freight and Express | 258 | 195 | 361 |
| Telephone and Telegraph | 3,392 | 3,733 | 5,084 |
| Professional and Special Studies | 3,026 | 59,656 | 246,348 |
| Computing Services | 10,187 | 7,744 | 6,153 |
| Stenographic and Typing Services | 2,920 | 6,818 | 6,444 |
| Miscellaneous Special Services | 74 | 712 | 4,361 |
| Accommodation Rental | 11,292 | 11,867 | 12,000 |
| Computer Equipment Rentals | 1,128 | 1,282 | 1,332 |
| Photocopying and Office Equipment Rentals | 1,829 | 2,141 | 2,451 |
| Furniture and Fixtures | 1,165 | 3,837 | 1,132 |
| Stationery, Printed Matter & Office Supplies | 3,616 | 6,472 | 4,509 |
| Miscellaneous | 175 | 369 | 100 |
| | <u>\$163,008</u> | <u>\$224,477</u> | <u>\$500,387</u> |

Final Claim includes Water Demand Study expenditures.

Shares:

| | | | | |
|--------------|-------------|--------|---------|---------|
| Canada | : one half | 81,504 | 112,238 | 250,194 |
| Alberta | : one sixth | 27,168 | 37,413 | 83,398 |
| Manitoba | : one sixth | 27,168 | 37,413 | 83,398 |
| Saskatchewan | : one sixth | 27,168 | 37,413 | 83,398 |

Previous Board Expenditures

| | |
|----------------|---------|
| Fiscal 1970-71 | 0 |
| Fiscal 1971-72 | 105,174 |
| Fiscal 1972-73 | 136,816 |
| Fiscal 1973-74 | 158,274 |
| Fiscal 1974-75 | 109,547 |
| Fiscal 1975-76 | 143,805 |
| Fiscal 1976-77 | 139,381 |

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 1979-80

| | <u>PPWB Secretariat</u> | <u>Water Demand Study</u> |
|--|-------------------------|---------------------------|
| 1. Salaries | 124,097.73 | 61,593.38 |
| 2. Travel and Transportation | 10,388.60 | 14,032.19 |
| 3. Postage, Freight and Express | 243.45 | 117.80 |
| 4. Telephone and Telegraph | 2,501.82 | 2,582.17 |
| 5. Professional and Special Services | 27,462.25 | 218,885.83 |
| 6. Computing Services | 6,118.35 | 35.04 |
| 7. Stenographic Services | 5,601.85 | 841.76 |
| 8. Miscellaneous Special Services | 4,348.16 | 12.60 |
| 9. Accommodation Rental | 12,000.00 | ----- |
| 10. Computer Equipment Rentals | 1,332.00 | ----- |
| 11. Photocopying and Other Equipment Rentals | 1,476.51 | 974.84 |
| 12. Furniture and Fixtures | 232.00 | 900.19 |
| 13. Stationery, Printed Matter and Supplies | 3,196.60 | 1,312.09 |
| 14. Miscellaneous | 7.40 | 92.74 |
| | <hr/> | <hr/> |
| TOTALS | 199,006.72 | 301,380.63 |
| | | |
| TOTAL EXPENDITURE | | 500,387.35 |

Each Province's Share of Expenditures (one-sixth) = 83,397.89

**MASTER AGREEMENT
ON APPORTIONMENT**

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 prior rights 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. This agreement shall not adversely affect any right to water in Battle or Lodge Creeks which has been given by the Government of Canada prior to the transfer of the natural resources to the Provinces and is still subsisting, or any right to such water given by either Province heretofore which has been recognized and approved by both Provinces.
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.

"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

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.

"Allan R. Guy"

Minister in charge of The Water Re-
sources Commission Act

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.

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.
 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.

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 streamflow 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 |

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 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.

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. Meetings 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. 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.

7. 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.

8. 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.

9. Financial Year

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

10. 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.

11. 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 subsection (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.

12. 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.

13. 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.

14. 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.

15. 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 and bear a Canada audit certificate.
- (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.

16. Annual Report

Within three (3) months after the end of the financial year, the Chairman shall submit to the Ministers the Annual Report of the Board.

17. 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.

18. 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 2nd, 1971

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.

MAP

