

**PRAIRIE PROVINCES WATER BOARD**

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**FOURTEENTH**

**ANNUAL REPORT**

**1961**

**c/o P.F.R.A.  
Motherwell Building,  
Regina, Saskatchewan**

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P E R S O N N E L

The Prairie Provinces Water Board is composed of five members. Three provincial members represent the Provinces of Alberta, Saskatchewan, and Manitoba, and two Federal members represent the Departments of Agriculture, and Northern Affairs & National Resources. The Engineering Secretary for the Board is provided by the P.F.R.A. (Canada Department of Agriculture).

- G.L. MacKenzie - Chairman of the Board  
Director of P.F.R.A.  
Canada Department of Agriculture
- R.H. Clark - Chief Hydraulic Engineer  
Water Resources Branch  
Canada Department of Northern Affairs  
& National Resources  
Ottawa
- F.L. Grindley - Director  
Water Resources Branch  
Edmonton, Alberta
- J.A. Griffiths - Director  
Water Control and Conservation Branch  
Winnipeg, Manitoba
- B.W. Boyson - Chief Engineer  
Water Rights Division  
Regina, Saskatchewan
- E.F. Durrant - Engineering Secretary to the Board  
Chief, Hydrology Division  
P.F.R.A.  
Regina, Saskatchewan

WARRANT AND FUNCTION OF BOARD

On July 28th, 1948, the Prairie Provinces Water Board was established by the Governments of Canada, Manitoba, Saskatchewan, and Alberta; consisting of two members appointed by Canada and one from each of the three provinces.

The Board's function is to recommend the best use to be made of interprovincial waters in relation to associated resources in Manitoba, Saskatchewan, and Alberta and to recommend the allocation of water as between each province of streams flowing from one province into another province.

The Board's duties are: To collate and analyze the data now available relating to the water and associated resources of interprovincial streams; to determine what other data are required from time to time and to make recommendations to the appropriate governmental organizations concerned for the carrying out of such surveys and studies which the Board considers necessary to supply information required for the performance of its duties; upon request of any one of the three provinces or Canada, to recommend the allocation of the water of any interprovincial stream among the respective Provinces; and to report on any questions relating to specific projects for the utilization or control of common river or lake systems at the request of one or more of the Ministers or authorities charged with the administration of such river or lake systems.

## REVIEW OF ACTIVITIES

Since the Board was formed in 1948, many studies and recommendations have been made. Definite allocations for water have been recommended and concurred in by the governments concerned. A summary of these transactions may be found in Appendix A. A list of the various maps and reports prepared for the use of the Board may be obtained from the Engineering Secretary.

### THE SASKATCHEWAN-NELSON STUDY

In 1960 the Board adopted a Resolution requesting that the Governments of Alberta, Saskatchewan, Manitoba, and Canada undertake jointly to implement a study which would lead to the formulation of an integrated development plan for the water resources of the Nelson River Basin. This proposal is still under consideration by the governments concerned. During 1961 the Board has held this subject in abeyance pending the result of these inter-governmental negotiations.

### WILLIAM PEARCE PROJECT

In December 1960 the Board renewed a 2-year reservation of 700,000 acre-feet annually for the proposed William Pearce Project. During 1961 the Project was discussed by the Board, and the Saskatchewan member suggested that at an appropriate time the Board might request P.F.R.A. to conduct engineering surveys to assess the feasibility of extending the Project into west-central Saskatchewan. For the time being, the Board has left this matter with the Alberta and Saskatchewan members.

### RESERVATION FOR SMALL PROJECTS

In December 1961 the Board renewed the Reservation of 1,000,000 acre-feet annually for small projects in the Saskatchewan River Basin. Ultimately water will be allocated for small projects, however, there is insufficient information available at present to determine the annual diversion requirements and the annual consumptive use of these projects. To overcome this difficulty the Board is continuing with its efforts to prepare an inventory of small projects in the Saskatchewan River Basin. To this end the Secretariat has prepared for the Board a map of the Basin showing the contributing and non-contributing areas. Projects which are located in non-contributing areas will be excluded from the inventory, since, in the Board's opinion, they have no effect upon the flow of the Saskatchewan River system. The source of information for the inventory will be the Provincial Water Rights' records which do not distinguish between projects in contributing and non-contributing areas. For this reason the tabulation of those projects which are in the contributing area will require a special effort by the provincial members and will take some time to complete.

### DIVERSION TO THE QU'APPELLE RIVER FROM THE SOUTH SASKATCHEWAN RIVER PROJECT

In 1960 the Board members for Manitoba and Saskatchewan agreed to make a joint study of future water requirements in the Assiniboine and Qu'Appelle Basins which might be supplied from the South Saskatchewan Reservoir. During 1961 Saskatchewan (through the South Saskatchewan River Development Commission) made a study of the flows required through the Qu'Appelle Valley Dam to meet

future water needs in Saskatchewan. Manitoba presented the Board with a report outlining Manitoba's future water requirements.

Since the future requirement for Manitoba and Saskatchewan could be in excess of the amount allocated to the South Saskatchewan River Project in 1953, the Board considered the possibility of a new allocation being made for these purposes. The Secretary was instructed to prepare an outline of a report which would be necessary to support a request by Manitoba or Saskatchewan, or both, for an allocation or a reservation. The outline has been prepared and will be discussed by the Board at its first meeting in 1962.

#### METEOROLOGICAL SERVICES FOR HYDROLOGY

At the request of the Meteorological Branch the Board examined possible requirements for hydrometeorological services for flood warning and flood forecasting on the Prairies. The Secretary received and co-ordinated information from the members concerning the role of meteorology in flood forecasting activities. The report submitted to the Meteorological Branch mentioned the benefits to be obtained from quantitative precipitation forecasts, extended warm-up forecasts, water equivalent of snow instead of snowfall in inches, and daily reports of 24-hour precipitation for selected Prairie points. For the last-mentioned item, the report included a map showing specifically the points from which daily reports of precipitation would be appreciated.

#### AMENDMENT TO WATER POWER REGULATIONS

In 1959 the Board recommended to the Governments of Alberta, Saskatchewan, Manitoba, and Canada that Water Power Regulations be amended so that each hydro-plant license is made subject to streamflow depletions which may ultimately result from previous allocations made by the Board and ratified by Orders-in-Council. This recommendation was in keeping with Section 11 of the Water Board Agreement which states "Each of the parties hereto (Alberta, Saskatchewan, Manitoba, and Canada) agrees that it will not within the limits of its jurisdiction construct or permit the construction of any project that will interfere with the allocation of waters resulting from a recommendation of the Board....."

In 1960 the Governments of Manitoba and Saskatchewan passed Orders-in-Council approving this amendment. During 1961 the Government of Canada also approved the amendment by Order-in-Council.

#### RESERVOIR WATER-LEVEL RECORDERS

The members of the Board have agreed to give special attention to the possible need for water-level recorders in connection with proposed projects. In many cases the installation of such gauges is more economical if adequate provision for recording equipment is made in the original designs. When such a need arises the procedure will be to inform the appropriate district engineer of the Water Resources Branch so that arrangements can be made to incorporate proper facilities into the design of the project.

CURRENT DEPLETIONS

For the information of the Board, a record is being maintained by the Secretary of current streamflow depletions in the Saskatchewan River Watershed. The chart on the next page shows depletions in comparison with the recorded flow of the Saskatchewan River at The Pas.

MEETINGS

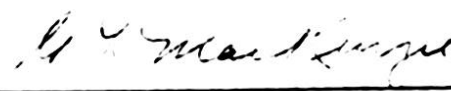
During 1961 the Board held two meetings -

in Winnipeg ... June 14, 1961

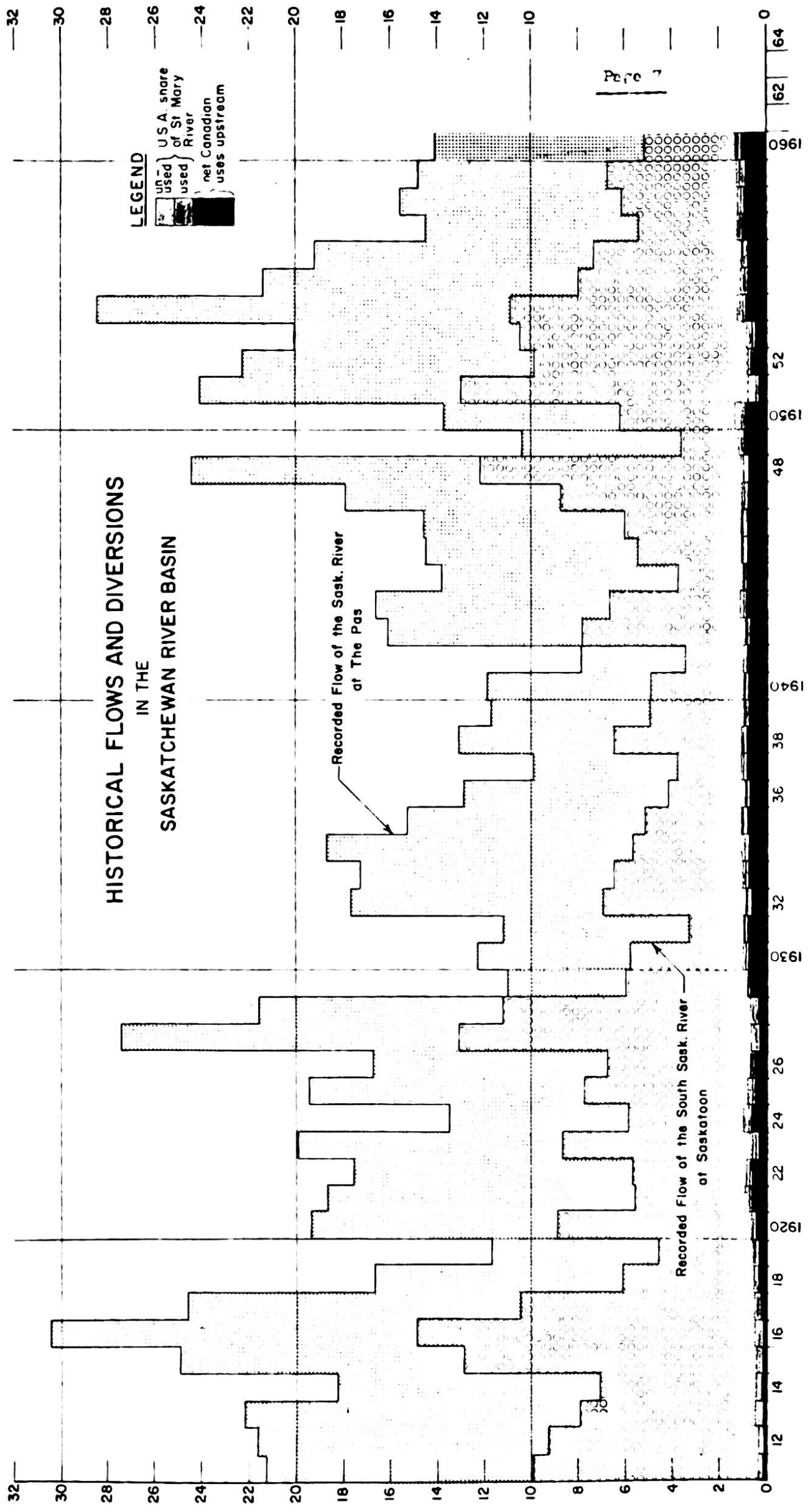
and in Winnipeg ... Dec. 6, 1961



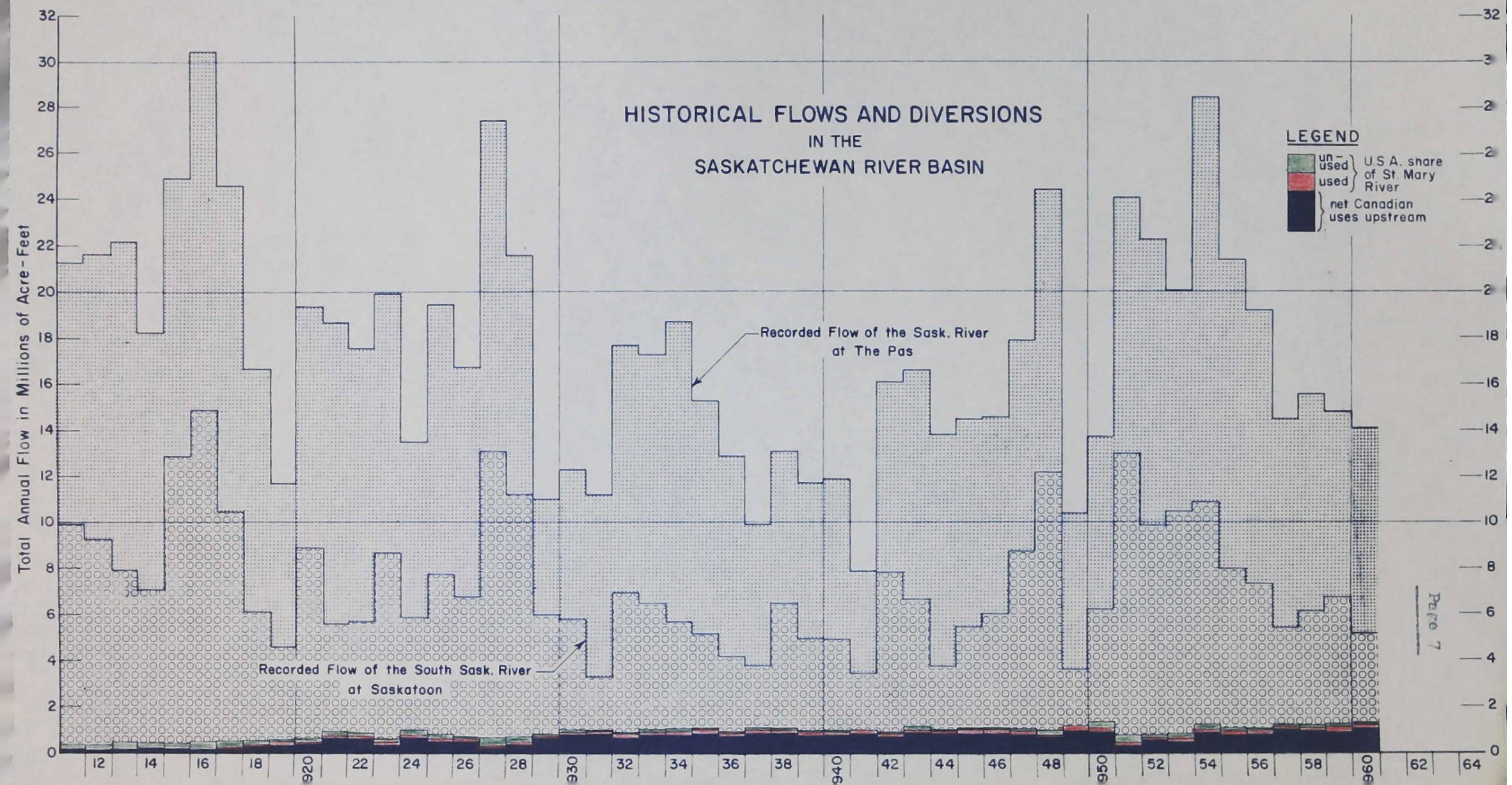
E.F. Durrant  
Engineering Secretary



G.L. MacKenzie  
Chairman







## APPENDIX A

Definitions of Final Allocation, Tentative Allocation, and Reservation as agreed to January 26, 1950:

### FINAL ALLOCATION

Procedure under which the Board may be requested to recommend to the governments represented in the Agreement a final allocation of water for a specific project.

### TENTATIVE ALLOCATION

Procedure under which the Board may be requested to recommend to the governments represented in the Agreement a tentative allocation of water for a specific project; such an allocation to be subject to review and possible subsequent modification or cancellation, either in whole or in part, prior to final allocation.

### RESERVATION

Procedure under which the Board may make a "reservation" of probable water requirements of specific projects. This will not comprise an allocation but shall represent an undertaking by the Board to the effect that, while the reservation is in good standing, no subsequent action will be taken by the Board which will have a detrimental effect upon the stipulated water without first thoroughly reviewing the status and requirements of the project for which the reservation was made and without affording to the representatives of the interested jurisdictions ample opportunity to make representations and to be heard. The Board shall, in making such a reservation, fix a period of time during which sufficiently complete plans and reports are to be prepared to enable the Board to consider further the allocation of water for this purpose: provided first, that if further information is not forthcoming in the stipulated period of time the reservation will lapse, and second, that the Board may, in its discretion, from time to time extend any period fixed for the production of such further information.

APPENDIX A (Cont'd)

<u>SUMMARY OF FINAL ALLOCATIONS</u>						
<u>in the SASKATCHEWAN RIVER BASIN</u>						
PROJECT	Province	Irrig- able Acreage Acres	Alloca- tion Ac.Ft.	Recom- mended by Water Board	Recommen- dation approved by O.I.C. from all Govern- ments	
St. Mary-Milk River Project	Alberta	465,000	796,000	6-5-49	4-7-51	
Western Irrig. District ...	"	50,000	85,700	"	"	
Eastern Irrig. District ...	"	281,000	562,000	"	"	
Bow River Irrig. District..	"	240,000	478,534	"	"	
United Irrig. District ...	"	34,000	51,000	"	"	
Leth. Northern Irr.District	"	96,135	150,000	"	"	
Mountain View Irr. District	"	3,600	6,000	"	"	
Leavitt Irrig. District ...	"	4,400	7,000	"	"	
Aetna Irrig. District ....	"	7,300	13,000	"	"	
MacLeod Irrig. District ..	"	5,000	8,000	"	"	
Private Projects .....	"	70,000	80,000	"	"	
Saskatoon - Municipal ....	Sask.		11,426	18-12-50	8-8-51	
- Steam Plant ...	"		31,260	"	"	
Caron - Moose Jaw Div. ...	"		12,600	"	"	
Swift Current Irr. Project	"	21,000	55,000	"	"	
<u>Small Projects</u>						
- Main Stem .....			1,500	"	"	
- Swift Current Basin			5,600	"	"	
- Other Tributaries..			4,500	"	"	
<u>SUMMARY OF TENTATIVE ALLOCATIONS</u>						
<u>in the SASKATCHEWAN RIVER BASIN</u>						
Regina-Moose Jaw Div. ....	Sask.		29,000	18-12-50	8-8-51	
French Flats-Valley Park..	"	6,502	11,140	"	"	
South Sask. River Project	"	470,000	960,000	15-5-53	-53	
<u>SUMMARY OF RESERVATIONS IN GOOD STANDING</u>						
<u>in the SASKATCHEWAN RIVER BASIN</u>						
Red Deer (Wm. Pearce) ....	Alberta	250,000	700,000	18-12-58	(Original Reservation)	EXPIRED Dec.1960
				1-12-60	(Renewed)	EXPIRES Dec.1962
Small Projects .....	(Alberta & Sask.)		1,000,000	2-12-59	(Original Reservation)	EXPIRED Dec.1960
				1-12-60	(Renewed)	EXPIRES Dec.1961
				6-12-61	(Renewed)	EXPIRES Dec.1962

APPENDIX A (Cont'd)BATTLE CREEK BASIN

PROJECT	Province	Irrigable Acres	Allocation A.c.Ft.	Recommended by Water Board	Recommendation approved
<u>FINAL ALLOCATIONS</u>					
Small Projects	Sask.	-	10,946	18-12-50	8-8-51
Richardson-MacKinnon Project	Sask.	-	3054	18-12-50	8-8-51
<u>TENTATIVE ALLOCATIONS</u>					
Small Projects	Sask.	-	2000	18-12-50	8-8-51
Vidora Project	Sask.	2136	3360	18-12-50	8-8-51
Consul Project	Sask.	1500	2400	18-12-50	8-8-51

MIDDLE CREEK BASIN

PROJECT	Province	Irrigable Acres	Allocation A.c.Ft.	Recommended by Water Board	Recommendation approved
<u>FINAL ALLOCATIONS</u>					
Small Projects	Sask.	-	1027	18-12-50	8-8-51
Middle Cr. Reservoir Losses	Sask.	-	2335	18-12-50	8-8-51

LODGE CREEK BASIN

PROJECT	Province	Irrigable Acres	Allocation A.c.Ft.	Recommended by Water Board	Recommendation approved
<u>FINAL ALLOCATIONS</u>					
Small Projects	Sask.	-	600	18-12-50	8-8-51
Spangler Project	Sask.	1322	2970	18-12-50	8-8-51

QU'APPÉLLE RIVER BASIN

PROJECT	Province	Irrigable Acres	Allocation A.c.Ft.	Recommended by Water Board	Recommendation approved
<u>FINAL ALLOCATIONS</u>					
Small Projects	Sask.	-	20,000	18-12-50	8-8-51