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THIRD  
ANNUAL REPORT OF  
PRAIRIE PROVINCES WATER BOARD

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Regina, Saskatchewan,  
413 Post Office Building,  
January 15, 1951.

## PRAIRIE PROVINCES WATER BOARD

### Third Annual Report - December, 1950

#### Warrant and Function of the Board

Under date of July 28, 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 has the functions of recommending the best use to be made of interprovincial waters in relation to associated resources in Manitoba, Saskatchewan and Alberta; upon the request of any one of the three provinces or Canada, to recommend the allocation of water as between each such province of streams flowing from one province into another province; 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.

#### Membership of the Board

The membership of the Board remained unchanged throughout the year, and is as follows:

Dr. L. B. Thomson, Chairman of the Board: Director of Prairie Farm Rehabilitation Administration, Regina.

Mr. N. Marr: Chief, Water Resources Division, Ottawa.

Mr. D. M. Stephens: Deputy Minister, Manitoba Department of Mines and Natural Resources, Winnipeg.

Mr. B. Russell: Director, Alberta Department of Water Resources, Edmonton.

Mr. E. J. Scammell: Chief Engineer, Saskatchewan Water Rights Office, Regina.

Meeting of January 26, 1950, Winnipeg

At this fourth meeting of the Board the preparation of the base map was further discussed, a motion recommending the establishment of certain additional stream gauging stations was passed and preliminary arrangements were made for obtaining information on return flows from existing irrigation projects. The important question of methods of allocating water for power was introduced but was left for further discussion at later meetings.

The Board recognized that many complex and important questions will arise in the distribution and best use of interprovincial waters, that most of the basic information required to resolve these questions would be provided by existing services of Canada and the Provinces, but that the efficient co-ordination, appraisal and interpretation of such information for the use of the Board could only be accomplished by a small technical staff working on a full time basis under the direction of the Board. The Board accordingly agreed to take the necessary steps to obtain such a staff.

Meeting of April 25, 1950, Ottawa

It was at this meeting that the Board approved the base map and completed arrangements respecting its reproduction. Arrangements were also made to request the Department of Public Works (Canada) for guidance as to the probable navigation developments on both the North and South Saskatchewan Rivers in the light of present and contemplated works on these rivers. Preliminary discussions were also held on methods of allocating water for power, on measures of controlling or rationing water in periods of flow deficiencies, on the question of having

the Agreement amended and on the desirability of having a joint meeting with the Eastern Rockies Forest Conservation Board. The Board also recommended that Mr. Wm. M. Berry, P.F.R.A. Engineer, Regina, be appointed as Engineering Secretary of the Board.

Officials of the Department of Agriculture (Canada) and the Department of Resources and Development (Canada) were present during a portion of this meeting. As a result of this discussion the work of the Board's staff was clarified--this staff will not gather basic data, will not conduct any field surveys nor duplicate the work of existing services; it will co-ordinate, appraise and interpret such information for the use of the Board.

Meeting of December 18, 1950, Winnipeg

Final arrangements were made at this meeting for printing the base map. The Board also recommended that additional gauging stations be established on certain irrigation districts' spillway channels for the purpose of arriving at some estimate of return flows from irrigation projects. Further discussions then took place on methods of allocating water for power, on the probable necessity of having the Agreement amended and on the subject of meteorology.

The Board then considered a request from the Province of Saskatchewan for a recommendation of an allocation for sufficient water to serve certain existing, partially developed and proposed projects in that province. The Board decided that the matter of the South Saskatchewan River Project be referred to a later meeting of the Board so as to obtain further water supply and use studies and to consider alternative methods by which water could be allocated for power. The Board also decided to recommend to the appropriate governments the allocation of water to the Province of Saskat-

FINAL ALLOCATION

<u>Project</u>	<u>Classifi- cation</u>	<u>Acre-feet (annually)</u>
<u>South Sask. Drainage Basin</u>		
Small projects		
- main stem	1 & 2	1,500
- tributaries	1 & 2	4,500
City of Saskatoon		
- municipal	1	11,426
- steam plant	1	31,260
Caron-Moose Jaw Diversion	2	12,600
Swift Current Irr. Project	3	55,000
Swift Current small projects	1 & 2	5,600
<u>Qu'Appelle Drainage Basin</u>		
Small projects	1 & 2	20,000
<u>Battle Creek Drainage Basin</u>		
Small projects		
- main stem	1 & 2	7,536
- tributaries	1 & 2	3,410
Richardson-McKinnon Project	1	3,054
<u>Middle Creek Drainage Basin</u>		
Small projects	1 & 2	1,027
Middle Creek Reservoir losses	2	2,335
<u>Lodge Creek Drainage Basin</u>		
Small projects	1 & 2	600
Spangler Project	1 & 2	2,970

TENTATIVE ALLOCATION

<u>Project</u>	<u>Acre-feet (annually)</u>
<u>South Sask. Drainage Basin</u>	
Regina-Moose Jaw Diversion	29,000
French Flats-Valley Park Projects	11,140
<u>Battle Creek Drainage Basin</u>	
Small irrigation development	
- main stem	1,000
- tributaries	1,000
Vidora Irrigation Project	3,360
Consul Irr. Project extension	2,400

The Board also decided to 'reserve' or 'record' (as indicated) sufficient water to serve the following projects in Saskatchewan:

RESERVATION

Project	Acre-feet (annually)
<u>Middle Creek Drainage Basin</u>	
Small Irrigation Development	
- main stem	2,500
- tributaries	1,000
<u>Lodge Creek Drainage Basin</u>	
Small Irrigation Development	
- main stem	2,000
- tributaries	2,000

RECORDING

Project	Acres	Acre-feet
<u>Qu'Appelle River Drainage Basin</u>		
Irrigation of Valley lands	34,100	41,000

Work in Progress

The 'Water Board' map, being a drainage map of the three prairie provinces, is now being printed and should be available for distribution early in 1951. The printing order consists of:

- 500 copies on paper - five colors
- 2500 copies on paper - four colors
- 50 copies on paper - two colors (black & blue)
- 50 copies on tracing linen - black.

After the Engineering Secretary's appointment was confirmed, an engineer, an assistant-technician, a draftsman and a stenographer were loaned by the P.F.R.A. to

assist the Secretary in his studies. The secretariat is now installed in offices in Room 413, Post Office Building, Regina.

A study of the natural flow in the Saskatchewan Drainage System for the period 1911-48 was immediately instituted and is now complete. A study of the downstream effect of the allocation to Alberta, recommended by the Board on May 6, 1949, has been completed. Now underway is an analysis of the changed regimen of river flow that would result from proposed projects in Alberta and Saskatchewan, with special emphasis on the proposed Red Deer Project, South Saskatchewan River Project, Fort a la Corne Power Project and Manitoba's proposed Dauphin River Power Project.

Two technical water supply reports have been assembled and distributed to Board members. These reports are not available for public distribution. The reports are:

Report #1 - Summary Report of Recorded and Natural Monthly Flows at Certain Points on the Saskatchewan River System.

Report #2 - Stream Flow at Three Selected Points on the South and Main Saskatchewan Rivers after Alberta's 1949 Request.

#### Work Contemplated

Early in 1951 a recommendation will go forward to the appropriate governments recommending the allocation of certain waters to Saskatchewan as approved by the Board at its last meeting.

Studies will continue on the interprovincial effects of proposed projects on the Saskatchewan River and its tribu-

taries. In addition, a complete study of the Qu'Appelle River system has been requested by the Board and this will be undertaken in the near future.

As the method of allocating water for power on the Saskatchewan River system presents one of the most serious problems of the Board, additional thought and study will be given to this question.

The important, but unknown factor of the quantity of water available from return flows of irrigation projects continually hampers the work of the Board. It is hoped that the information obtained from the additional gauging stations recommended by the Board at their last meeting will help to clarify this question.

With encouragement from the Board and the P.F.R.A., the Experimental Farms Service are setting up a hydrologic research station on a six square mile area near Davin, Sask. It is hoped that important information on rainfall-runoff relationships will be forthcoming from this project.



Chairman



Engineering Secretary