PRAIRIE PROVINCES WATER BOARD REPORT NO. 1-A

SUMMARY REPORT OF NATURAL YEARLY FIOWS AT CERTAIN POINTS ON THE SASKATCHEWAN RIVER SYSTEM, BY CALENDAR YEAR, FOR THE PERIOD 1912--1963 INCLUSIVE.

TABLE OF CONTENTS

	Pag	e I	No	•
FOREWORD AND ASSUMPTIONS	l,	2 4	<u>ዩ</u>	3
NATURAL FLOWS SOUTH SASKATCHEWAN RIVER AT ALBERTA-SASKATCHEWAN BOUNDARY	4			
NATURAL FLOWS NORTH SASKATCHEWAN RIVER AT ALBERTA-SASKATCHEWAN BOUNDARY	4			
NATURAL FLOWS SOUTH SASKATCHEWAN RIVER AT SASKATOON	<u>Į</u>			
NATURAL FLOWS NORTH SASKATCHEWAN RIVER AT PRINCE ALBERT	4			
NATURAL FLOWS SASKATCHEWAN RIVER AT THE FORKS	1,			
NATURAL FLOWS SASKATCHEWAN RIVER AT THE PAS	14			
COMPUTATION SUMMARY FOR NATURAL FLOW OF SOUTH SASKATCHEWAN RIVER AT ALBERTA-SASKATCHEWAN BOUNDARY, FOR 1948-1963	5			
SUMMARY OF IRRIGATED ACREAGES IN ALBERTA FOR 1911-1963 INCLUSIVE	6			

In Prairie Provinces Water Board Report No. 1, dated November 1950, computed natural flows were given for the period 1911--1948, on a "water-year" basis, for the main stations in the Saskatchewan River Drainage Basin.

This report brings up-to-date the information in Report No. 1, and converts it to a calendar-year basis.

The assumptions made in the calculations are briefly summarized below:

Natural Flow of South Saskatchewan River at the Alberta-Saskatchewan Boundary

- 1. As in Report No. 1, the point for which the natural flow was calculated is actually just below the Red Deer Forks, a few miles downstream from the Alberta-Saskatchewan boundary.
- 2. Assumptions as to inflow and losses between Medicine Hat and the Red Deer Forks are the same as in Report No. 1.
- 3. Figures for the natural flow of the Bow River at Calgary were supplied by Calgary Power Company. By subtracting from this the recorded flow of the Bow River at Calgary, the change in flow due to Calgary Power Co. operations was arrived at. This was combined with the estimated water use by the City of Calgary (estimated at 8000 ac. ft. per year, since actual use figures were not available to us at present) to give the figures in Column 5 "Calgary Power operations and Calgary net use". (This format was retained because it had been used in Report No. 1.)

- 14. There are only partial records for Bow River at Calgary for 1950, 1951, 1952 and 1953. Correlated figures for these years were taken from the "Compilation of Runoff Records for the Canadian Prairies", prepared for the Prairie Provinces Water Board in June, 1961.
- 5. Calculations for <u>W.I.I.</u>, <u>E.I.D.</u>, <u>L.N.I.D.</u>, <u>L, A & M.V.I.D.</u> were done as in Report No. 1.
- 6. In regard to the Bow River Development (Canada Land & Irrigation Co. in Report No. 1), diversions and return flows from 1957 to 1963 were taken from "Report on Return Flows from Alberta Irrigation Districts, 1964", by the Water Resources Branch, Dept. of Northern Affairs and National Resources.
- 7. In calculations for the <u>S.M.M.R.D.</u>, the procedure used was the same as in Report No. 1 except that from 1951-1963 figures for "St. Mary Canal near Spring Coulee" were used. (This canal was first put into use in 1951)
- 8. The figure of 39,000 acre-feet per year for private irrigation schemes is the same as in Report No. 1.
- 9. Figures for the U.S. share of the St. Mary River were supplied by the Water Resources Branch of the Dept. of Northern Affairs and National Resources.

Natural flows for South Sask. River at Saskatoon. Sask. River at the Forks, and Sask. River at The Pas were calculated as in Report No. 1.

For natural flows of the North Saskatchewan River, figures for recorded flows were used, as in Report No. 1, as it was considered that useage on this stream is still negligible in comparison to the flow.

				INDAMA ICT AIRI			4
Name		S. Sask. R.	N. Sask. R	. S. Sask. R	. N. Saski R	Sask River	Sagle Pares
Delta Boundary Boundary Saskatoon Fr. Albert Forks The Pas		AltaSask.	AltaSask	, at	at	below the	
1912	Year	Boundary	Boundary	Saskatoon	Pr. Albert		
1913	1912	8,682,200	8.139 000	0.778.250	8 730 000		
1911							
1915						10,119,930	
1916						22 803 1.80	1 1, 302,420
1917 10, 203, 11.0 1, 181, 800 10, 381, 330 7, 965, 100 18, 681, 1010 24, 575, 575, 1918 1918 6, 605, 1890 5, 200, 600 6, 255, 216 5, 170, 900 11, 763, 660 16, 612, 120 1920 8, 627, 780 7, 058, 000 8, 911, 720 7, 892, 700 17, 7018, 610 19, 622, 010 1921 6, 055, 820 14, 850, 700 5, 797, 310 5, 776, 800 12, 229, 800 1922 5, 611, 620 5, 071, 200 6, 038, 210 5, 009, 300 11, 568, 170 17, 951, 720 1923 9, 119, 250 6, 834, 000 8, 853, 180 6, 981, 800 12, 229, 800 12, 229, 800 1923 9, 119, 250 6, 834, 000 8, 853, 180 6, 981, 800 12, 299, 800 12, 299, 800 1923 7, 893, 110 7, 360, 000 8, 111, 580 7, 537, 500 15, 911, 600 19, 738, 100 1925 7, 893, 110 7, 360, 000 8, 111, 580 7, 537, 500 15, 911, 600 19, 738, 100 1925 7, 893, 110 7, 363, 300 12, 995, 750 8, 122, 160 21, 711, 730 27, 309, 500 1928 10, 863, 110 7, 331, 300 11, 299, 080 1, 10, 10, 100 13, 991, 170 17, 276, 310 1928 10, 863, 110 7, 313, 100 12, 995, 750 8, 122, 160 21, 711, 730 27, 309, 500 1928 10, 863, 110 7, 313, 1800 11, 299, 080 11, 286, 510 11, 285, 510 11, 285, 510 1928 10, 863, 110 7, 651, 700 65, 313, 200 11, 785, 500 11, 285, 510 11, 185, 510 1930 6, 058, 310 1, 651, 700 6, 318, 200 4, 176, 200 10, 717, 767 11, 185, 180 11, 210, 700 11, 185, 180 11, 210, 700 11, 185, 180 11, 210, 700 11, 185, 180 11, 210, 700 11, 185, 180 11, 210, 700 11, 185, 180 11, 210, 700 11, 185, 180 11, 210, 180 11, 21		13,389,740		14,593,330			
1916 5,089,990 5,200,000 6,255,210 5,170,900 11,769,660 12,816,122 1919 5,085,270 1,083,800 1,938,650 1,211,600 9,219,630 12,080,280 1921 6,655,820 1,850,700 5,979,310 5,776,800 12,229,800 19,059,210 1922 5,611,620 5,071,200 6,38,210 5,766,800 12,229,800 19,059,210 1923 9,119,250 6,831,000 8,853,180 6,981,800 16,122,190 20,227,890 1924 6,167,610 5,117,600 6,391,260 5,201,100 11,767,180 11,011,710 1925 7,893,110 7,360,000 8,111,580 7,537,500 15,911,600 19,738,100 1926 7,396,300 6,263,900 7,330,550 6,137,100 13,991,170 17,263,10 1927 11,719,320 7,831,100 12,995,750 8,122,100 21,711,730 27,309,500 1928 10,863,110 7,313,800 11,299,081 7,162,000 18,957,380 21,635,580 1930 6,058,310 1,651,700 6,381,290 1,768,200 10,717,770 11,189,180 1931 1,125,777 1,816,200 4,112,760 5,011,900 7,337,280 11,951,200 1932 7,881,390 6,268,800 7,180,980 6,530,300 11,292,390 11,292,390 1933 6,108,300 7,366,600 7,180,980 6,530,300 11,292,390 19,295,110 1934 6,567,250 1,180,200 6,277,800 5,303,300 11,292,390 17,817,810 1935 5,761,810 6,277,800 5,935,300 11,292,390 17,295,110 1936 4,720,330 5,492,200 4,887,330 5,887,100 12,971,160 17,311,310 1937 5,761,810 6,277,800 5,735,300 6,500,900 12,653,360 17,285,910 1938 6,901,850 5,707,900 7,203,670 5,882,100 12,971,160 17,313,310 1938 6,901,850 5,707,900 7,203,670 5,882,100 13,925,700 15,283,910 1939 5,333,070 4,662,900 5,683,160 4,532,200 10,171,550 11,293,910 1940 5,421,610 4,569,300 5,737,300 4,197,300 13,995,160 13,995,160 1941 7,932,600 5,778,800 5,737,300 4,197,500 10,197,500 10,176,500 1942 9,070,100 5,332,300 1,723,800 5,737,300 1,653,300 1,653,300 1948 12,195,170 3,686,300 3,686,300 3,686,300 3,897,300		10,203,110	7,184,800	10,384,330			
1919		6,069,890		6,255,210		11,769,660	
1921		5,085,270				9,249,630	
1922 5,611,620 5,071,200 6,038,210 5,009,300 11,558,170 17,951,720 1923 9,119,250 6,634,000 8,853,180 6,984,800 16,122,490 20,227,890 1925 7,893,110 7,360,000 8,111,580 5,537,500 15,511,600 19,738,100 1925 7,039,630 6,263,900 7,330,550 6,137,500 15,911,600 19,738,100 1926 7,039,630 6,263,900 7,330,550 6,137,100 13,991,170 17,276,310 1927 11,719,320 7,831,100 12,905,750 8,122,400 21,711,730 27,309,550 1929 10,183,110 7,343,800 11,299,084 7,162,400 12,711,730 21,538,580 1929 6,070,360 4,070,300 6,519,530 4,178,200 10,747,870 11,189,180 1939 6,070,360 4,070,300 6,519,530 4,178,200 10,747,870 11,189,180 1932 7,088,580 4,668,170 6,580,200 4,112,760 5,014,900 9,337,280 1,957,880 1932 6,083,300 4,668,600 7,044,933 5,591,400 12,977,880 1933 6,868,320 5,366,600 7,044,933 5,591,400 12,973,480 1,958,400 1,988,500 6,266,800 7,044,933 5,591,400 12,973,480 19,295,110 19,355 5,764,800 6,277,800 5,270,305 4,662,000 11,168,940 12,295,110 19,356 4,720,330 5,492,200 4,897,380 5,887,100 10,965,380 10,188,513,310 19,357,630 19,358 5,866,600 7,044,933 5,587,100 10,965,640 13,573,630 19,358 6,904,350 5,107,900 7,203,7700 4,337,700 8,929,050 10,766,630 19,358 6,904,350 5,107,900 7,203,7700 4,337,700 8,929,050 10,766,630 19,358 6,904,350 5,707,900 7,203,7700 6,387,200 12,533,550 10,1353,550 19,328,500 19,428,500 5,837,300 4,602,900 5,837,300 4,563,300						17,018,610	
1922 3,111,250 5,310,000 8,331,210 5,009,300 11,588,170 17,951,720 1921 6,167,510 5,117,600 6,391,260 5,201,100 11,757,180 11,017,710 1926 7,039,630 5,263,900 7,330,550 6,137,100 13,991,170 17,276,310 1927 11,719,320 7,831,110 12,905,750 8,122,100 21,711,730 27,309,500 1928 10,863,110 7,313,800 11,299,011 7,161,000 12,711,730 27,309,500 1929 6,070,360 1,070,300 6,519,530 1,178,200 10,711,787 11,189,180 13,930 13,930 11,299,011 7,161,000 10,711,787 11,189,180 13,930 5,088,340 4,6514,700 6,381,290 11,789,800 11,286,540 12,975,800 1931 4,126,770 4,866,200 4,112,760 5,501,390 5,337,280 11,297,800 13,330 6,808,320 5,366,600 7,186,990 6,530,300 11,286,540 12,975,800 13,33 6,808,320 5,366,600 7,041,933 5,551,400 12,971,160 17,813,110 1331 6,567,250 4,136,200 4,270,955 1,662,000 11,168,910 17,951,120 1935 5,764,810 6,277,800 5,935,330 6,501,900 12,633,560 16,013,790 1936 4,720,930 5,492,200 4,863,170 4,137,700 8,929,000 11,285,340 1,786,000 1,786,000 1,786,300 1				5,979,310	5,776,800		19,059,240
1925 7,142,729 3,034,000 6,95,160 6,984,800 16,122,190 20,227,890 1925 7,893,110 7,300,000 8,111,580 7,537,500 15,911,600 11,757,180 11,011,710 1926 7,639,630 6,263,900 7,336,550 6,137,100 13,791,170 17,276,310 1927 11,719,320 7,831,100 12,905,750 8,1422,100 21,711,730 27,309,500 1928 10,863,110 7,343,800 11,299,084 7,161,000 18,957,380 21,535,580 1929 6,070,360 4,070,300 6,519,530 4,178,200 11,285,510 12,975,880 1929 6,070,360 4,070,300 6,519,530 4,178,200 11,285,510 12,975,880 1932 7,089,590 6,246,800 7,348,290 4,178,200 11,285,510 12,975,880 1932 7,089,590 6,246,800 7,486,980 6,530,300 11,285,510 12,975,880 1933 6,868,320 5,366,600 7,646,930 6,550,300 11,289,510 12,977,480 17,913 1931 6,567,250 4,186,200 6,276,305 4,662,000 11,168,910 12,977,480 17,913,410 17,913,200 1933 6,868,320 5,366,600 7,044,933 5,591,400 12,977,480 17,981,410 17,981				6,038,210		11,568,470	
1925						16,122,490	
1926				0,394,260	5,201,100	11,757,480	14,041,710
1927 11,719,320						15,911,600	19,738,100
1928 10,863,140		11.719.320			0,437,100	13,991,170	
1929		10.863.140			7 161 000	21,711,730	27,309,500
1930	1929	6,070,360	4,070,300		1, 178, 200	10,957,300	21,638,580
1931 1,126,770 1,816,200 1,112,760 5,011,900 9,337,280 11,751,220 1932 7,089,590 6,216,800 7,186,980 6,530,300 11,292,390 18,218,130 1934 6,567,250 1,136,200 6,270,805 1,662,000 11,168,910 17,813,110 1935 5,761,810 6,277,800 5,935,330 6,501,900 12,633,550 16,013,790 1936 1,729,930 5,192,200 1,897,380 5,887,100 10,965,610 13,573,630 1937 1,786,020 1,221,300 1,663,170 1,137,700 8,929,656 10,766,630 1938 6,901,850 5,707,900 7,203,670 5,882,100 13,253,790 15,282,310 1949 5,121,610 1,569,300 5,737,830 1,767,600 10,653,800 1,910 5,121,610 1,569,300 5,737,830 1,767,600 10,653,800 1,911 1,211,990 3,639,800 1,129,110 3,193,800 7,980,530 8,855,830 1912 9,070,100 5,832,300 8,701,110 5,936,000 11,799,210 16,911,060 1914 1,358,670 7,316,3300 1,613,820 7,362,100 12,189,720 16,591,060 1915 6,720,010 1,603,800 6,273,080 1,177,100 13,898,160 17,325,050 1916 7,067,210 5,193,100 6,817,380 5,320,100 12,361,600 15,360,500 1918 12,195,170 6,767,180 12,960,610 6,197,950 11,063,500 15,261,650 1919 1,193,660 3,507,160 1,138,620 3,705,140 8,513,350 11,221,150 1950 6,003,660 1,571,890 7,031,610 1,831,010 12,180,950 14,193,380 1952 9,572,240 7,004,020 10,266,810 7,380,130 17,597,960 20,363,510 1955 7,561,810 5,931,510 12,960,610 6,197,180 13,095,100 12,197,110 1959 7,551,130 6,18,850 10,712,710 6,819,010 17,879,960 20,363,510 1956 8,036,810 5,560,880 8,351,130 6,5680 15,731,120 21,717,030 1957 6,159,500 4,773,560 6,398,620 4,923,490 11,820,600 15,171,720 1958 7,551,130 6,118,550 7,005,100 6,381,100 13,756,110 16,111,800 1959 7,136,580 5,669,710 7,761,710 5,205,520 13,303,770 15,771,710 1959 7,136,580 5,669,710 7,761,710 5,205,520 13,303,770 15,771,710	1930	6,058,340	4,654,700	6,384,290		11 286 510	12 025 990
1932 7,089,590 6,246,800 7,486,980 6,530,300 11,292,390 18,218,130 1934 6,567,250 1,436,200 6,277,805 1,662,000 12,671,460 17,813,110 1935 5,764,840 6,277,800 5,935,830 6,501,900 12,633,560 16,043,790 1937 14,786,020 4,224,300 4,663,170 4,137,700 8,992,050 10,766,630 1938 6,904,850 5,707,900 7,203,670 5,882,400 13,253,790 15,282,340 1,940 5,421,610 4,569,300 5,737,830 4,786,020 4,263,300 4,663,170 4,137,700 8,992,050 10,766,630 1938 6,904,850 5,707,900 7,203,670 5,882,400 13,253,790 15,282,340 1,940 5,421,610 4,569,300 5,737,830 4,767,600 10,659,380 12,835,810 1942 9,070,100 5,832,300 8,701,110 5,936,000 14,799,240 16,941,060 1944 4,558,670 7,346,300 4,613,820 7,362,100 11,897,20 14,653,920 1945 6,720,640 4,663,800 6,273,880 7,362,100 12,364,660 17,325,050 1946 7,067,210 5,493,400 6,847,380 5,320,100 12,364,660 15,360,500 1947 9,326,000 5,778,200 6,847,380 5,717,300 15,185,700 11,653,500 15,260,650 1949 4,493,660 3,507,160 4,438,620 3,705,480 8,513,350 11,423,380 1949,500 5,778,200 5,477,280 5,717,300 15,184,390 18,614,760 1949 4,493,660 3,507,160 4,438,620 3,705,480 8,513,350 11,221,150 1950 6,803,660 4,574,890 7,031,610 4,834,010 12,180,950 14,493,380 1952 13,054,840 5,934,540 12,960,640 6,495,260 20,010,210 24,075,140 1955 8,106,350 5,592,960 8,354,350 6,497,380 15,733,120 21,713,380 1952 9,572,240 7,004,020 10,266,840 7,380,430 18,248,860 22,660,340 1955 8,063,360 5,500,480 5,300,480 5,300,480 5,300,480 6,497,380 13,000	1931	4,126,770		4,112,760		9,337,280	11 051 220
1934	1932			7,486,980		14,292,390	18,218,130
1936	1933	6,808,320		7,044,933	5,591,400	12,971,460	17.843.410
1936		5 721 910			4,662,000	11,468,940	19,295,110
1937		2, 104, 040			6,501,900		16,043,790
1938 6,901,850 5,707,900 7,203,670 5,882,100 13,253,790 15,282,340 1939 5,333,070 1,602,900 5,683,160 1,532,200 10,171,550 11,229,510 1940 5,421,610 1,569,300 5,737,830 1,767,600 10,659,380 12,835,810 1942 9,070,100 5,832,300 8,701,110 5,936,000 11,799,240 15,911,000 1942 9,070,100 5,832,300 8,701,110 5,936,000 11,799,240 15,911,000 1943 7,335,880 5,644,000 7,185,402 7,362,100 12,189,720 11,653,920 1944 1,558,670 7,346,300 1,613,820 7,362,100 12,189,720 11,653,920 1945 6,720,640 1,603,800 6,273,080 11,499,500 11,063,500 15,264,650 1946 7,067,210 5,493,400 6,817,380 5,320,100 12,189,720 11,653,920 1946 7,067,210 5,493,400 6,817,380 5,320,100 12,189,720 11,653,650 1948 12,195,170 3,767,180 12,560,540 9,595,500 22,485,630 24,902,640 1949 14,493,660 3,507,160 11,138,620 3,705,480 8,513,350 11,221,150 1949 14,493,660 3,507,160 11,438,620 3,705,480 8,513,350 11,221,150 1950 6,803,660 1,574,890 7,031,610 12,80,950 14,80,950 14,193,380 1952 9,572,240 7,004,020 10,266,840 7,380,430 18,248,860 22,660,540 1955 8,106,350 5,622,960 8,354,430 6,556,880 15,731,120 24,975,140 1955 8,106,350 5,662,960 8,354,430 6,556,880 15,731,120 21,713,030 1954 11,474,000 10,293,300 11,747,870 10,500,830 23,104,610 29,381,270 1955 8,106,350 5,662,960 8,354,430 6,556,880 15,731,120 21,713,030 1955 6,459,500 10,266,840 7,380,430 18,248,860 22,660,540 1955 8,106,350 5,662,960 8,354,430 6,556,880 15,731,120 21,713,030 1955 6,459,500 10,266,840 7,380,430 18,248,860 22,660,540 1955 8,106,350 5,662,960 8,354,430 6,556,880 15,731,120 21,713,030 1957 6,459,500 4,773,560 6,396,620 4,923,490 11,820,060 15,171,720 1956 8,036,810 5,560,940 7,000,540 6,384,780 11,820,060 15,171,720 1950 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1960 6,271,680 4,567,820 6,547,530 5,669,400 11,765,470 12,441,900 1960 6,271,680 4,567,820 6,547,530 5,669,400			200 200 July 200				13,573,630
1939						8,929,050	10,766,630
1940			1, 602, 900			13,253,790	
1941			1,560 300			10,474,550	14,229,540
1942	2941				3 103 800	10,659,380	12,835,810
19\(\frac{1}{3}\) \(\frac{7}{3}\) 35,880 \(\frac{5}{6}\) 6\(\frac{1}{1}\),000 \(\frac{7}{1}\),186,400 \(\frac{6}{6}\),177,100 \(\frac{1}{3}\),898,160 \(\frac{1}{1}\),915,325,050 \\ 19\(\frac{1}{1}\) \(\frac{1}{6}\),720,0\(\frac{1}{10}\) \(\frac{1}{6}\),63,800 \(\frac{6}{6}\),273,080 \(\frac{1}{6}\),499,500 \(\frac{1}{1}\),063,500 \(\frac{1}{6}\),261,650 \\ 19\(\frac{1}{6}\) \(\frac{7}{6}\),210 \(\frac{5}{6}\),493,400 \(\frac{6}{6}\),817,380 \(\frac{5}{6}\),320,100 \(\frac{12}{12}\),364,600 \(\frac{15}{6}\),360,500 \\ 19\(\frac{1}{4}\) \(\frac{7}{9}\),326,000 \(\frac{5}{6}\),778,200 \(\frac{9}{6}\),477,280 \(\frac{5}{6}\),717,300 \(\frac{15}{6}\),414,390 \(\frac{18}{6}\),611,760 \\ 19\(\frac{19}{4}\) \(\frac{1}{4}\),493,660 \(\frac{3}{6}\),707,160 \(\frac{1}{6}\),438,620 \(\frac{3}{6}\),705,480 \(\frac{8}{6}\),513,350 \(\frac{11}{2}\),1950 \\ 6,803,660 \(\frac{1}{6}\),574,890 \(\frac{7}{6}\),031,610 \(\frac{1}{6}\),438,010 \(\frac{12}{6}\),180,950 \(\frac{11}{6}\),146,950 \\ 1951 \(\frac{13}{3}\),054,840 \(\frac{5}{6}\),934,540 \(\frac{12}{6}\),960,640 \(\frac{6}{6}\),495,260 \(\frac{20}{6}\),010,210 \(\frac{21}{6}\),075,140 \\ 1952 \(\frac{9}{6}\),572,240 \(\frac{7}{6}\),040,020 \(\frac{10}{6}\),266,840 \(\frac{7}{6}\),380,430 \(\frac{18}{6}\),248,860 \(\frac{22}{6}\),660,540 \\ 1953 \(\frac{10}{6}\),891,540 \(\frac{6}{6}\),885 \(\frac{10}{6}\),742,710 \(\frac{6}{6}\),819,040 \(\frac{1}{7}\),897,960 \(\frac{20}{6}\),350,510 \\ 1954 \(\frac{11}{4}\),474,000 \(\frac{10}{6}\),293,300 \(\frac{11}{1}\),747,870 \(\frac{10}{6}\),500,830 \(\frac{23}{3}\),104,610 \(\frac{29}{3}\),381,270 \\ 1955 \(\frac{8}{10}\),350,350 \(\frac{5}{6}\),850,480 \(\frac{8}{3}\),550,480 \(\frac{8}{3}\),550,580 \(\frac{8}{3}\),550,480 \(\frac{8}{3}\),550,480 \(\frac{8}{3}\),550,480 \(\frac{8}{3}\),550,580 \(\frac{8}{3}\),550,580	1942	9,070,100				11, 700,530 i	
19th 4,558,670 7,346,300 4,613,820 7,362,100 12,189,720 11,653,920 19th 6,720,640 4,603,800 6,273,080 4,499,500 11,063,500 15,264,650 19th 7,067,210 5,493,400 6,847,380 5,320,100 12,364,600 15,360,500 19th 9,326,000 5,778,200 9,477,280 5,717,300 15,414,390 18,614,760 19th 12,495,170 3,767,180 12,560,540 9,595,500 22,485,630 24,902,640 19th 4,493,660 3,507,160 4,438,620 3,705,480 8,513,350 11,221,150 1950 6,803,660 4,574,890 7,031,610 4,834,010 12,180,950 14,493,380 1951 13,054,840 5,934,540 12,960,640 6,495,260 20,010,210 24,075,140 1952 9,572,240 7,004,020 10,266,840 7,380,430 18,248,860 22,660,540 1953 10,891,540 6,618,850 10,742,710 6,819,040 17,897,960 20,363,510 1955 8,106,350 5,692,960 8,354,430 6,556,880 15,731,120 21,743,030 1956 8,036,810 5,500,480 8,037,280 6,491,430 15,178,520 19,943,780 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,418,560 7,005,400 6,384,480 13,756,110 16,441,800 1952 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,320 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,060,920 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1963 6,664,030 4,616,510 5,975,870 5,697,400 11,765,470 12,441,970	1943	7,335,880	5,644,000			13,808 160	
1946	1944	4,558,670	7,346,300			12.189.720	11, 653, 020
1947 9,326,000 5,778,200 9,477,280 5,717,300 15,414,390 18,614,760 1948 12,495,170 8,767,180 12,560,540 9,595,500 22,485,630 24,902,640 1949 4,493,660 3,507,160 4,438,620 3,705,480 8,513,350 11,221,150 1950 6,803,660 4,574,890 7,031,610 4,834,010 12,180,950 14,493,380 1951 13,054,840 5,934,540 12,960,640 6,495,260 20,010,210 24,075,140 1952 9,572,240 7,004,020 10,266,840 7,380,430 18,248,860 22,660,540 1953 10,891,540 6,618,850 10,742,710 6,819,040 17,897,960 20,363,510 1955 8,106,350 5,692,960 8,354,430 6,556,880 15,731,120 21,743,030 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,148,560 7,005,400 6,384,480 13,756,110 16,441,800 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,180 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970	1945		4,603,800		4,499,500	11,063,500	15,261,650
1947 9,326,000 5,778,200 9,477,280 5,717,300 15,414,399 18,614,760 1948 12,495,170 8,767,180 12,560,540 9,595,500 22,485,630 24,902,640 1949 4,493,660 3,507,160 4,438,620 3,705,480 8,513,350 11,221,150 1950 6,803,660 4,574,890 7,031,610 4,834,010 12,180,950 14,493,380 1951 13,054,840 5,934,540 12,960,640 6,495,260 20,010,210 24,075,140 1952 9,572,240 7,004,020 10,266,840 7,380,430 18,248,860 22,660,540 1953 10,891,540 6,618,850 10,742,710 6,819,040 17,897,960 20,363,510 1954 11,474,000 10,293,300 11,747,870 10,500,830 23,104,610 29,381,270 1955 8,106,350 5,692,960 8,354,430 6,556,880 15,731,120 21,743,030 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,148,560 7,005,400 6,384,480 13,756,110 16,441,800 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970					5,320,100	12,364,600	15, 360, 500
1949		9,326,000			5,717,300	15,414,390	18.61h.760
1950 6,803,660 4,57h,890 7,031,610 4,83h,010 12,180,950 1h,493,380 1951 13,05h,8h0 5,93h,5h0 12,960,6h0 6,495,260 20,010,210 2h,075,1h0 1952 9,572,2h0 7,00h,020 10,266,8h0 7,380,430 18,248,860 22,660,5h0 1951 11,47h,000 10,293,300 11,747,870 10,500,830 23,10h,610 29,381,270 1955 8,106,350 5,692,960 8,35h,430 6,556,880 15,731,120 21,743,030 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,1h8,560 7,005,h00 6,384,480 13,756,110 16,4h1,800 1959 7,436,580 5,069,7h0 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 1h,786,530 1962 5,800,280 5,310,610 5,975,870 5,697,400 11,765,470 12,4h1,970 1963			0,767,180		9.595.500	22,485,630	24,902,640
1951 13,05h,8h0 5,93h,5h0 12,960,6h0 6,495,260 20,010,210 24,075,1h0 1952 9,572,2h0 7,004,020 10,266,8h0 7,380,430 18,2h8,860 22,660,5h0 1953 10,891,5h0 6,618,850 10,7h2,7h0 6,819,0h0 17,897,960 20,363,510 195h 11,47h,000 10,293,300 11,7h7,870 10,500,830 23,10h,610 29,381,270 1955 8,106,350 5,692,960 8,35h,430 6,556,880 15,731,120 21,7h3,030 1956 8,036,810 5,500,480 8,037,280 6,491,430 15,178,520 19,943,780 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,1h8,560 7,005,400 6,38h,480 13,756,110 16,441,800 1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 1h,786,530 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970			3,507,160	4,438,620	480, 705 ر <u>3</u>	8,513,350	11,221,150
1952 9,572,240 7,004,020 10,266,840 7,380,430 18,248,860 22,660,540 1953 10,891,540 6,618,850 10,742,710 6,819,040 17,897,960 20,363,510 1954 11,474,000 10,293,300 11,747,870 10,500,830 23,104,610 29,381,270 1955 8,106,350 5,692,960 8,354,430 6,556,880 15,731,120 21,743,030 1956 8,036,810 5,500,480 8,037,280 6,491,430 15,178,520 19,943,780 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,320 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970					4,834,010	12,180,950	14,493,380
1953 10,891,540 6,618,850 10,742,710 6,819,040 17,897,960 20,363,510 1954 11,474,000 10,293,300 11,747,870 10,500,830 23,104,610 29,381,270 1955 8,106,350 5,692,960 8,354,430 6,556,880 15,731,120 21,743,030 1956 8,036,810 5,500,480 8,037,280 6,491,430 15,178,520 19,943,780 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,148,560 7,005,400 6,384,480 13,756,110 16,441,800 1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970						20,010,210	
1954 11,474,000 10,293,300 11,747,870 10,500,830 23,104,610 29,381,270 8,106,350 5,692,960 8,354,430 6,556,880 15,731,120 21,743,030 1956 8,036,810 5,500,480 8,037,280 6,491,430 15,178,520 19,943,780 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,148,560 7,005,400 6,384,480 13,756,110 16,441,800 1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,920 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970				10,266,840		18,248,860	22,660,540
1955 8,106,350 5,692,960 8,354,430 6,556,880 15,731,120 21,743,030 1956 8,036,810 5,500,480 8,037,280 6,491,430 15,178,520 19,943,780 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,148,560 7,005,400 6,384,480 13,756,110 16,441,800 1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970							
1956 8,036,810 5,500,480 8,037,280 6,491,430 15,178,520 19,943,780 1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,148,560 7,005,400 6,384,480 13,756,110 16,441,800 1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,320 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970			5 602 040				29,381,270
1957 6,459,500 4,773,560 6,398,620 4,923,490 11,820,060 15,471,720 1958 7,551,130 6,148,560 7,005,400 6,384,480 13,756,110 16,441,800 1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970			5,500 1.80		0,550,880		21,743,030
1958 7,551,130 6,148,560 7,005,400 6,384,480 13,756,110 16,441,800 1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,920 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970							19,943,780
1959 7,436,580 5,069,740 7,761,710 5,205,520 13,303,770 15,771,710 1960 6,271,680 4,567,320 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970			6.118 560				15,471,720
1960 6,271,680 4,567,820 6,547,530 5,268,000 12,172,030 14,786,530 1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970						±3,756,110	16,441,800
1961 6,016,090 4,616,510 5,848,780 4,728,300 10,724,360 11,804,480 1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970							
1962 5,800,280 5,310,670 5,975,870 5,697,400 11,765,470 12,441,970				5 81.8 780			14,786,530
1963 6 666 330 1 6 335 300 7 3,070 11,785,470 12,441,970			5, 310, 670				11,804,480
7,752,000 12,840,060 14,121,520							
		-1,2,5,5,5	-,047,100	١٢٥١ و١٤١ و٧	7,772,000	12,840,060	14,121,520

Papier Pronge = 7,560,000

138 1% 화 [중] 경 [경] 3 | 3 | 3 | 3 | 353 358 £ ų 1,320,000 2,017,100 2,196,300 1,182,690 2,312,500 1,224,250 1,762,800 س 1,018,390 903,860 326,420 541,860 ,506,800 ,622,800 943,700 ,208,400 807,100 Empress 10,674,700 4,047,000 3,603,800 3,878,900 3,952,600 5,289,400 5, 143,000 4,200,400 5, 559, 900 5,621,100 8,345,700 €,387,300 7,114,900 2,856,900 5,075,300 Recorded ,009,400 Medicine Hat Flow 177,840 26,140 56,970 97,460 21,080 93,140 13,060 Estimated inflo 3,600 038,21 75,020 9, 180 2,260 5,660 0 below Medicine 360 96 Hat 48,000 48,000 48,000 48,000 48,000 48,000 48,000 48,000 48,000 48,000 48,000 48,000 48,000 48,000 48,000 Loss - Medicine Hat to Empress 8 -144,380 -143,260 -21,850 226,050 -17,640 -68,210 196,570 -85,050 76,100 69,816 56,330 128,020 -99, 020 2,960 11,160 3 Galgary Power operations and Calgary net use 76,600 85,600 50,300 39,200 26,025 49,700 48,800 42,200 34,100 89,300 73,800 32,700 30,575 26,450 70,700 49,460 W. I.D. 432,500 340,100 326,800 344,500 399, 900 449,300 395,100 303,400 397,500 369,500 433,900 237,400 380, 130 424,400 449,400 415,600 E.1.0. 179,010 245,170 113,900 257,050 157,360 204,500 145,216 177,640 146,070 55, 700 83,260 70,080 72,160 ŝ 2,850 2,400 (Bow) No.+ 480 C.L. & 1. Uses 117,500 145,830 107,290 129,500 -80 -116,650 61,350 84,130 106,860 60,930 80,640 62,160 30,160 54,780 77,680 55,200 4 L-N. I.D. ,720 er igation 412,020 424,970 344,220 289,240 227,240 241,680 117,250 235,300 152, 100 195,700 203,485 105,800 181,750 158,980 51,400 S_M.M.R.Q. Interests 24,980 15,520 32,480 23,250 22,340 34,770 31,030 14,220 29,320 15,580 14, 100 13,720 12,510 8,540 2,620 U. 1.0. 15,870 15,050 080 00 5,230 6,750 5,810 5, 700 4,400 4,320 4,430 5,300 5,220 7,280 5,830 L.F. & M.V. 360 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 39,000 Private 1,245,490 1,068,220 1,134,680 1,353,080 1,329,910 1,102,666 1,145,110 1,066,615 586,000 567, 795 Total Alberta Vose 848,410 568,205 369,940 965,600 904,310 204,090 205,020 205,970 112,650 209,910 174,550 184,440 121,860 108,830 193,830 141,650 100,420 73,910 79,500 175,790 92,380 Dive Diversion 11,842,520 11,259,065 3,481,780 6,269,690 6,493,510 6,710,195 8,338,020 8,386,310 .Tatal 6,892,010 7,771,800 7,796,080 9,808,155 7, 184, 925 4,698,350 ,027,730 ,996,340 Natural Flow 250,695 235,683 227,446 253,599 221,828 335,225 244,946 368,519 301,210 279,959 367,540 426,937 235,915 381,265 204,688 U.S. Share ,890 St. Mary's 10,891,5 13,054, 6,459, 6,016,09 6,271,68 7,551, 6,803, 4,493, 12,669,4 7,436,57 8, 106, 35 9,572,2 Total Canadian share Natural Flow

SOUTH SASK. NATURAL FLOW AT ALBERTA-SASK. BOUNDARY IN ACRE

Year

ACREAGE ACTUALLY IRRIGATED IN ALBERTA 1911 - 1963

YEAR	ST. MARY	1.0.	EASTERN I.D.	BOW RIV. DEVELOP	L. N. I.D.	U, t.D.	M, V. 1.0.	L.I.D.	A. I. D.	MACLEOD I.D.	ROSS CR.	TOTAL
1911	47,000	500										47,500
12 13	76,200 76,200	500		ì				1	/			76,700
14	76,200	2,600	7,806		ĺ			i i	ĺ			78,800
15	76,200	8,448 512	7,800				Ĺ			[[92,454
16	71,281		1,497	 	ļ	 -		ł				84,512
17	91,780	859 3,657	9,005			ļ		•				73,637
16	102,900	25,191	24,440	ļ								104,442
19	1 '									!		152,531
1920	112,569	31,906	43,460							j :]	187,937
21	62,893 65,902	4,083 33,619	60,762 88,299	4,240	ŀ .	ļ . <u> </u>		<u> </u>				131,978
55	1 '	,	93,375	9,400								217,220
23	88,680 75,968	49,752 3,074		9,509		İ						241,316
24	84,751	•	42,928	11,249 8,770	6,963					.		140,182
25		24,297	84,200	9,720	29,991	5,264					- 1	238,223
	94,582	5,384	72,994	13,252	43,628	10,000				ii	1	239,840
26 27	92,782	19,561	74,40	13 ,467	56,395	10,026						266,632
	22,176	1,273	7,921	810	10,012	41						42 .233
28	31,924	3,892	45,677	19,361	33,436	2,576				i i		135,866
29 1930	46,441	37,395	78,610	29,260	61,231	3,102				¦ !	ļ	256,039
	98,483	41,570	89,913	27,102	70,007	5,847				L i	i	332,922
31	100,403	47,593	90,724	29,803	70,408	12,983	300			1		352,214
32	99,788	6,680	90,651	26,379	41,842	11,500	800					279,640
33	104,854	40,812	96,019	21,917	62,416	10,500	1,168					337,686
34	105,490	31,131	101,566	22,208	54,200	10,000	1,950					326,545
35	93,471	19, 109	143,997	22,694	73,022	000, \$1	3,000	_				367 293
36	111,397	44,614	111,781	26,660	62,790	18,000	5'800					378,142
37	113,546	50,866	124,645	30,107	70,020	17,500	3,500			[410,184
38	112,629	35,755	133,928	33,326	73,297	10,000	3,500			!		402,435
39	110,677	11,647	141,568	34,984	56,712	10,000	3,200					368,906
1940	115,030	20,134	138,462	37,906	76,492	10,500	3,000					401,524
41	109,148	21,144	156,501	35,312	63,575	11,000	3,300					399,980
42	103,183	9,194	166,453	32,946	31,102	12,000	3,400					358,278
43	112,142	7,666	168,496	35,143	67,777	14,000	3,254			į		408,478
44	112,550	20,000	167,094	37,266	75,927	13,000	3,400	526			1	429,763
45	112,464	20,000	167,100	38,836	57,126	0000,EI	3,300			ţ		412,848
46	112,734	19,000	166,326	42,457	64,894	7,453	3,300	1,300				417,464
47	110,848	20,000	168,580	43,594	57,434	7,453	3,300	1,300			ļ	412,509
46	109,571	12,000	172,200	44,160	55,374	2,970	3,700	1,500				401,475
49	107,150	26,197	180,000	44,050	72,807	21,000	3,300	1,500	į		ŀ	456,004
1950	111,513	23,079	180,000	36,508	78,721	9,758	3,500	2,500				445,579
51	104,571	၂,၀၀ရွိ	153,804	24,2B3	21,979	1,869	(100)	200		0	0	307,806
52	117,261	700	149,289	40,416	35,314	6,072	3,350	940		1,600	850	355,792
53	112,779	500	114,776	(40,000)	37,409	8,894	3,380	980	j	1,800	1,100	321,618
54	152,489	၂,900	156,884	(40,00၌)	58,745	10,033	3,392	254		2,600	2,100	428,397
55	123,679	2,500	148,692 190,976 189,928 189,845 163,993 167,597	(40,000)	31,753	10,115	3,132	423		-,	1.500	361,994
56	142,156	6,000 4, 50 0	190,976	109,400	31,588 51,809 51,916 25,459	11,082	2,773	852			1,800 1,800 1,685	496,627
57	161,29款	4,500	189,92	65,000	51,809	15 886 (2)	2,112.	2.779	0 (5)	0	(2)	495,652
58	168,794.	9,870	189,845	65,000 60,185	51,916	11.5052 1	2,759.	1,542	_ (2)	ŏ	(1,500) (1,500)	497,443
59	241,090 179,477	9,330 12,000	63,993	54,5(4	70,709,	17,76 2)	2,789	1,542	360 360 440 1,800	-	(1,400) (2)	539,238
1960	179,47美	12,000	167,597	71,392	71,006	16,536	2,789	1.542	440	a		523,184
61	208,547	23 2d6 l	70,4	54,514 71,392 78,260	71,006	23.095	2,760	1,542	,800°	-	200(2)	583,454
62	217,025	30,000 25,000	170,413 176,695 170,776	63,9 (0 78,695	73.319	28,465 27,012	2,789 2,789 2,760 2,760 2,760	1,542 1,542 1,542 1,542 4,18(2) 4,18(2) 4,511	2,178	ŏ	500 5) 500 (5) 500 (5)	618,741
63	229,652	25,000	170,776	78,695	54,510	27,0121	2,789	4,5112)	2,178 2,315	ŏ	200(5)	605,460
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NOTE Acreage figures from early Irrigation Company annual reports, except as noted below.

- (1) From "Report on Return Flows from Irrigation Districts in Alberta, 1951 to 1962." by Water Resources Branch, Department of Northern Affairs and National Resources, Calgary, March 7, 1963.
- (2) Information by letter from Alberta Water Resources Office, Edmonton.
- E No records estimated -