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# Alberta irrigation information 2020



## Irrigation Districts

AID – Aetna Irrigation District  
BRID – Bow River Irrigation District  
EID – Eastern Irrigation District  
LID – Leavitt Irrigation District  
LNID – Lethbridge Northern Irrigation District  
MID – Magrath Irrigation District  
MVID – Mountain View Irrigation District  
RID – Raymond Irrigation District  
RCID – Ross Creek Irrigation District  
SMRID – St. Mary River Irrigation District  
TID – Taber Irrigation District  
UID – United Irrigation District  
WID – Western Irrigation District

## Unit Conversion

### Imperial to Metric

1 acre = 0.405 ha  
1 ac-ft = 1233.480 m<sup>3</sup>  
1 ac-ft = 1.233 dam<sup>3</sup>  
1 inch = 25.4 mm  
1 mile = 1.609 km

### Metric to Imperial

1 ha = 2.471 acres  
1 m<sup>3</sup> = 0.00081 ac-ft<sup>3</sup>  
1 dam<sup>3</sup> = 0.8107 ac-ft<sup>3</sup>  
1 mm = 0.0394 inches  
1 km = 0.6214 miles

### Other

1 m<sup>3</sup> = 1000 L<sup>3</sup>  
1 dam<sup>3</sup> = 1000 m<sup>3</sup>  
1 dam<sup>3</sup> = 1 megalitre<sup>3</sup>  
1 km = 1000 m

Alberta Agriculture and Forestry, Government of Alberta

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Alberta Irrigation Information 2020

The purpose of this booklet is to provide a statistical overview of irrigation information and data relating primarily to the irrigation districts situated in Alberta, but also includes information about irrigation across the whole province. The majority of the annual data is provided by the irrigation districts.

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**Table 1. Details of Crops Grown within the Irrigation Districts**

CROP TYPE		AID		BRID		EID		LID		LNID	
		Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year
CEREALS	Barley	475	991	13,594	1,566	14,284	256	150	16	18,559	
	CPS Wheat			2,739	493	956				505	
	Durum Wheat			25,090	1,040	3,917				8,116	
	Grain Corn			5,339	54	6,412	64			185	
	Hard Spring Wheat			52,039	5,074	56,495	1,783			3,708	
	Malt Barley			941	11					149	
	Miscellaneous Cereals					58	66				
	Oats			1,685	537	2,864		30		553	
	Rye			1,686		629				874	
	Soft Wheat			5,010	711	1,180				10,724	
	Triticale			453	151	5,612	191	60		1,328	
Winter Wheat			585	451	1,843	75			2,014		
FORAGES	Alfalfa - Two cuts					31,139	666			6,969	
	Alfalfa - Three cuts					5,984				4,930	105
	Alfalfa Hay	1,345	550	11,998	1,122	4,663	113	663	75	11,522	
	Alfalfa Silage			142	138	796				6,492	
	Barley Silage			2,419	753	4,007				32,217	133
	Barley Silage (underseeded)					1,981				805	
	Brome Hay									400	
	Corn Silage			5,331	143	17,621	154			26,941	
	Custom Variety Forage/Misc.			132		69				139	
	Grass Hay		6	8,445	1,195	14,894	179	466	330	5,152	
	Green Feed	202	89	1,088	154	6,844	208	69		76	
	Native Pasture	14		120	82	578	531	100		244	
	Oats Silage			109							
	Sorghum/Sudan Grass			178		344					
	Tame Pasture	388	428	6,801	1,265	32,554	2,791	1,393	30	4,062	
Timothy Hay					6,093	56	705		5,707		
Other Silage (Triticale, Wheat)											
OIL SEEDS	Canola		107	11,333	1,027	20,601	1,401			23,101	
	Flax			2,576	693	5,702	80			858	
	Mustard			211		287					
SPECIALTY CROPS	Alfalfa Seed			2,865	158	13,884	411				
	Canary Seed				51						
	Canola Seed			16,155	1,294	11,934				3,375	
	Carrots					415					
	Catnip										
	Chick Peas			138							
	Dill					500				147	
	Dry Beans			17,782	961	5,136				132	
	Dry Peas			11,424	1,060	4,263	104			989	
	Faba Beans			261		1,510				150	
	Fresh Corn (sweet)			273		128					
	Fresh Peas			417	127	67				417	
	Grass Seed			351	169	288					
	Hemp			1,538	143	1,159				1,184	
	Lawn Turf (Turf Sod)									680	
	Lentils			305	8						
	Market Gardens					134				48	
	Mint			111		250					
	Nursery					9	399			7	
	Onions										
Potatoes			12,251	237	5,314				1,916		
Quinoa			1,150	10	214				300		
Seed Potatoes											
Soybeans					463						
Sugar Beets			13,381	142	986				2,177		
Sunflower			489	19	1,776				31		
Yellow Peas											
OTHER	Miscellaneous	44	65	280	640	657	68	228	717	609	
	Non Crop					120	31			241	
	Summer Fallow			216	43	216	211				
	Unknown									5,207	
<b>Total acres</b>		<b>2,468</b>	<b>2,236</b>	<b>239,431</b>	<b>21,722</b>	<b>297,830</b>	<b>9,838</b>	<b>3,863</b>	<b>1,168</b>	<b>193,936</b>	<b>238</b>
		<b>4,704</b>		<b>261,153</b>		<b>307,668</b>		<b>5,031</b>		<b>194,174</b>	

**Table 1. Details of Crops Grown within the Irrigation Districts**

CROP TYPE		MID		MVID		RCID		RID		SMRID	
		Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year
CEREALS	Barley	1,404	145	236				2,247	25	27,607	1,238
	CPS Wheat							1,800	194	3,792	498
	Durum Wheat	555						1,040	97	40,261	788
	Grain Corn									4,073	53
	Hard Spring Wheat	4,170	238					3,183	210	39,408	1,988
	Malt Barley							1,400		645	
	Miscellaneous Cereals							1,460			
	Oats			16				319		577	38
	Rye							1,151	389	2,938	17
	Soft Wheat									11,658	442
	Triticale									1,457	161
Winter Wheat	279	215					595	104	13,389	837	
FORAGES	Alfalfa - Two cuts							7,239	55	4,351	341
	Alfalfa - Three cuts							3,193	15	9,540	226
	Alfalfa Hay	6,498	374	1,630		781				18,113	2,124
	Alfalfa Silage							189		260	38
	Barley Silage	332						3,093	137	6,446	513
	Barley Silage (underseeded)									854	
	Brome Hay									517	
	Corn Silage			88				3,129		25,927	948
	Custom Variety Forage/Misc.							70			
	Grass Hay	328		357				30		7,493	1,804
	Green Feed	155	25	199				314	275	3,518	288
	Native Pasture							535		2,513	801
	Oats Silage									518	
	Sorghum/Sudan Grass									69	
	Tame Pasture	1,390	200	894				4,367	173	8,066	1,568
Timothy Hay			68				700		8,940	566	
Other Silage (Triticale, Wheat)									533	3	
OIL SEEDS	Canola	1,360	214	177		116		9,113	434	34,571	1,221
	Flax	129						43		3,965	207
	Mustard									250	16
SPECIALTY CROPS	Alfalfa Seed									2,096	42
	Canary Seed									402	
	Canola Seed									14,394	70
	Carrots									314	
	Catnip									193	
	Chick Peas									250	
	Dill									328	
	Dry Beans									29,069	380
	Dry Peas	40						405		6,317	401
	Faba Beans									1,674	44
	Fresh Corn (sweet)									631	
	Fresh Peas									1,580	
	Grass Seed	239								575	
	Hemp		20					251		5,603	41
	Lawn Turf (Turf Sod)									494	
	Lentils									4,285	272
	Market Gardens							88		687	26
	Mint									4,211	2
	Nursery							43		309	
	Onions									22	10
Potatoes									19,384	46	
Quinoa											
Seed Potatoes											
Soybeans									719		
Sugar Beets									10,497	300	
Sunflower									387		
Yellow Peas									1,160	44	
OTHER	Miscellaneous									1,776	312
	Non Crop									273	589
	Summer Fallow		20							289	1,310
	Unknown										
Total acres		16,879	1,451	3,664	0	897	0	45,989	2,108	390,165	20,610
		18,330		3,664		897		48,097		410,775	

**Table 1. Details of Crops Grown within the Irrigation Districts**

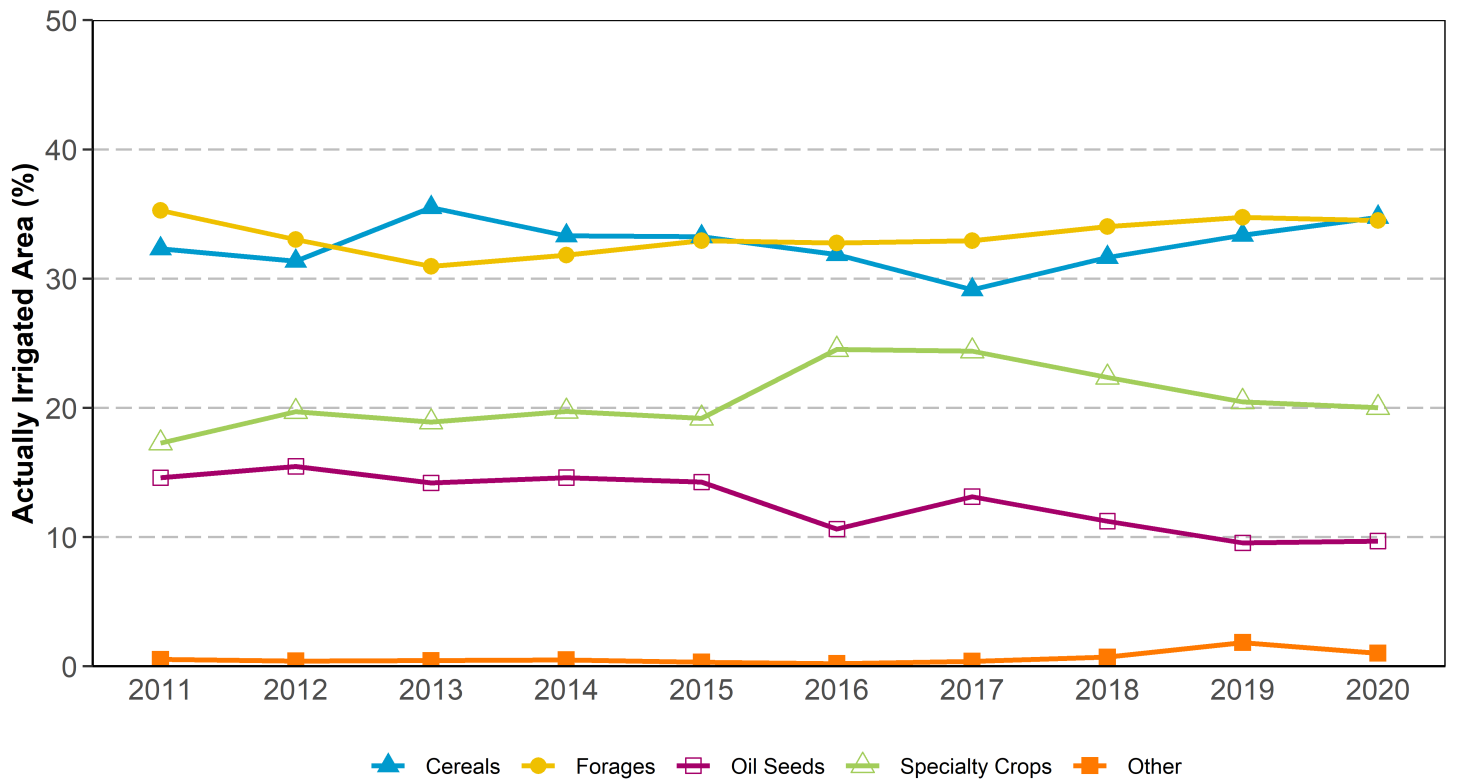
CROP TYPE	TID		UID		WID		ALL DISTRICTS		TOTAL ACRES (for all districts)	
	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year	Irrigated this year	Not irrigated this year		
CEREALS	Barley	5,604	9	7,241		5,001	3,392	96,402	7,638	104,039
	CPS Wheat					1,144	229	10,936	1,414	12,350
	Durum Wheat	2,761	99			625	50	82,365	2,074	84,439
	Grain Corn	2,235	10			130		18,374	181	18,554
	Hard Spring Wheat	12,898	125	8,584		10,096	1,111	190,580	10,529	201,110
	Malt Barley					628	195	3,762	206	3,968
	Miscellaneous Cereals							1,518	66	1,584
	Oats	266	70	55		707	203	7,072	848	7,920
	Rye	290				879	17	8,448	423	8,871
	Soft Wheat	499	40			1,444	919	30,514	2,112	32,627
	Triticale							8,909	503	9,412
Winter Wheat	1,540	152	1,044				21,290	1,934	23,224	
FORAGES	Alfalfa - Two cuts	577		3,331		11,566	2,053	65,172	3,115	68,286
	Alfalfa - Three cuts	2,541	132	1,749				28,042	373	28,415
	Alfalfa Hay	3,231	191	327		1617	596	62,388	5,145	67,532
	Alfalfa Silage	175		86		617		8,757	176	8,933
	Barley Silage	535		2,698		4,263	1,690	56,143	3,093	59,237
	Barley Silage (underseeded)	125				132		3,897	0	3,897
	Brome Hay					120	30	1,037	30	1,067
	Corn Silage	5,415	30	109		986		85,546	1,275	86,821
	Custom Variety Forage/Misc.							69	0	69
	Grass Hay	467	69	1,051		855	331	39,538	3,914	43,451
	Green Feed	1,745	127	140		567	602	14,916	1,768	16,685
	Native Pasture	18	379	2,547		550	885	7,219	2,678	9,897
	Oats Silage							626	0	626
	Sorghum/Sudan Grass	107						698	0	698
	Tame Pasture	2,633	754	2,080		2,882	2,093	67,509	9,302	76,811
Timothy Hay	4,246		1,539		936		28,934	622	29,556	
Other Silage (Triticale, Wheat)					1,532		2,065	3	2,068	
OIL SEEDS	Canola	2,788	74	1,904		13,685	2,792	118,749	7,270	126,018
	Flax	663				100		14,036	980	15,016
	Mustard	5						753	16	769
SPECIALTY CROPS	Alfalfa Seed	132						18,978	611	19,588
	Canary Seed							402	51	453
	Canola Seed	3,637						49,495	1,364	50,860
	Carrots					30		759	0	759
	Catnip							193	0	193
	Chick Peas							388	0	388
	Dill							975	0	975
	Dry Beans	5,656						57,775	1,341	59,115
	Dry Peas	336				1,901	722	25,675	2,287	27,962
	Faba Beans					558		4,152	44	4,196
	Fresh Corn (sweet)	2,537	119					3,569	119	3,688
	Fresh Peas	2,243						4,724	127	4,851
	Grass Seed					290	30	1,743	199	1,942
	Hemp	136						9,872	204	10,076
	Lawn Turf (Turf Sod)	54				1,778	376	3,006	376	3,382
	Lentils							4,590	280	4,870
	Market Gardens			9		100		1,058	26	1,084
	Mint							4,571	2	4,573
	Nursery	12				1,050	268	1,430	667	2,097
	Onions	1,171						1,193	10	1,203
	Potatoes	9,908	40	5		30	30	48,808	353	49,161
Quinoa							1,664	10	1,674	
Seed Potatoes	652				461		1,113	0	1,113	
Soybeans	152						1,334	0	1,334	
Sugar Beets	5,109						32,150	442	32,591	
Sunflower	402						3,084	19	3,103	
Yellow Peas							1,160	44	1,204	
OTHER	Miscellaneous	211	46	118		224	63	4,022	1,841	5,863
	Non Crop			2		235	98	871	718	1,588
	Summer Fallow	8						729	1,584	2,313
	Unknown							5,207	0	5,207
<b>Total acres</b>		<b>83,720</b>	<b>2,466</b>	<b>34,619</b>	<b>0</b>	<b>67,719</b>	<b>18,875</b>	<b>1,381,419</b>	<b>80,474</b>	<b>1,461,893</b>
		<b>86,186</b>		<b>34,619</b>		<b>86,594</b>		<b>1,461,893</b>		

Table 2. Crop Types Grown within the Irrigation Districts

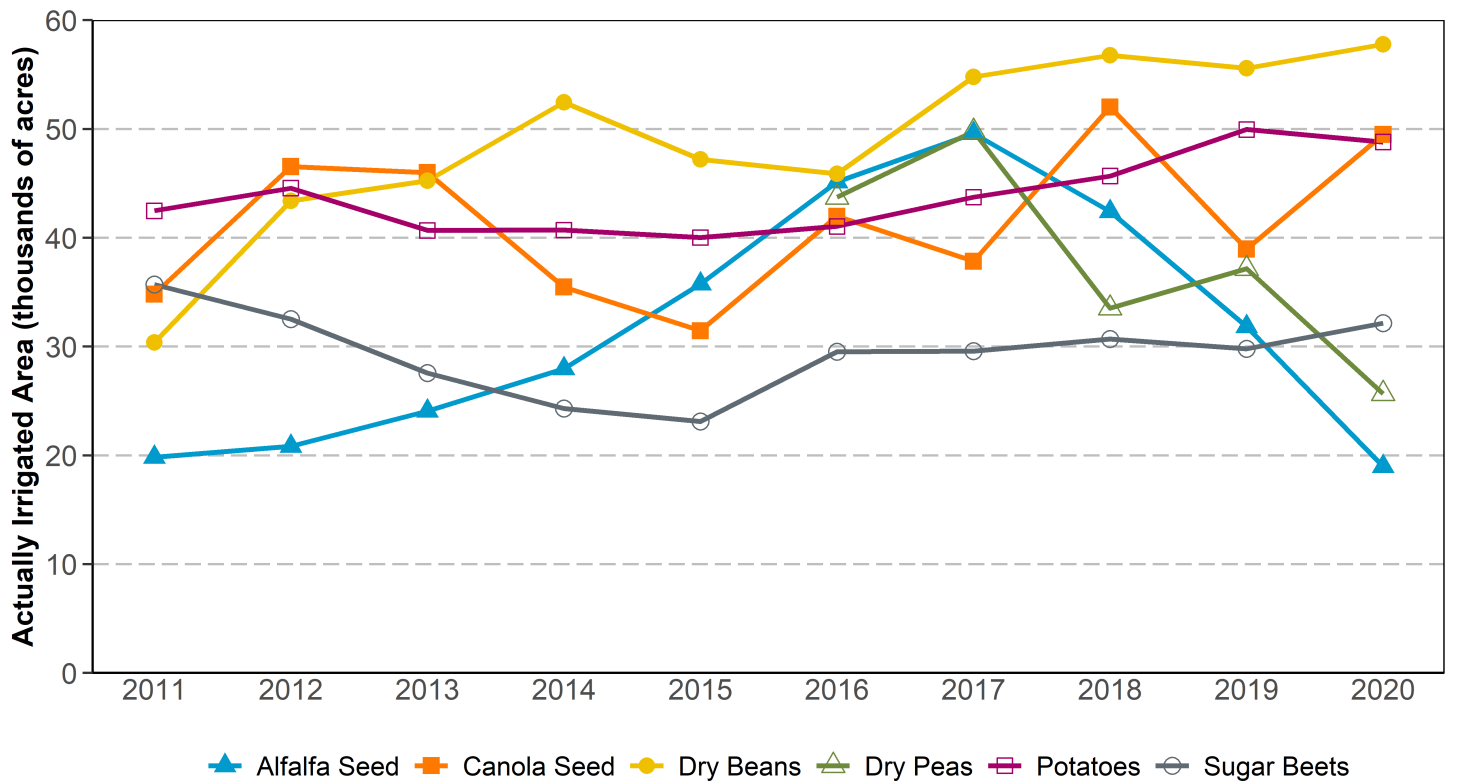
CROP TYPE	IRRIGATION DISTRICTS													TOTAL ACRES
	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	
<b>CEREALS</b>	1,466	119,250	96,685	256	46,713	7,006	251	0	14,214	151,865	26,598	16,924	26,870	<b>508,098</b>
	31.2%	45.7%	31.4%	5.1%	24.1%	38.2%	6.9%	0.0%	29.6%	37.0%	30.9%	48.9%	31.0%	34.8%
<b>FORAGES</b>	3,022	41,616	132,265	3,831	105,893	9,302	3,236	781	23,514	106,875	23,497	15,657	34,903	<b>504,392</b>
	64.2%	15.9%	43.0%	76.1%	54.5%	50.7%	88.3%	87.1%	48.9%	26.0%	27.3%	45.2%	40.3%	34.5%
<b>OIL SEEDS</b>	107	15,839	28,071	0	23,958	1,703	177	116	9,590	40,230	3,530	1,904	16,577	<b>141,803</b>
	2.3%	6.1%	9.1%	0.0%	12.3%	9.3%	4.8%	12.9%	19.9%	9.8%	4.1%	5.5%	19.1%	9.7%
<b>SPECIALTY CROPS</b>	0	83,270	49,344	0	11,552	299	0	0	779	107,286	32,403	14	7,684	<b>292,630</b>
	0.0%	31.9%	16.0%	0.0%	5.9%	1.6%	0.0%	0.0%	1.6%	26.1%	37.6%	0.0%	8.9%	20.0%
<b>OTHER *</b>	109	1,179	1,303	945	6,057	20	0	0	0	4,519	158	120	560	<b>14,971</b>
	2.3%	0.5%	0.4%	18.8%	3.1%	0.1%	0.0%	0.0%	0.0%	1.1%	0.2%	0.3%	0.6%	1.0%
<b>TOTAL</b>	<b>4,704</b>	<b>261,153</b>	<b>307,668</b>	<b>5,031</b>	<b>194,174</b>	<b>18,330</b>	<b>3,664</b>	<b>897</b>	<b>48,097</b>	<b>410,775</b>	<b>86,186</b>	<b>34,619</b>	<b>86,594</b>	<b>1,461,893</b>

Note: \*Other includes miscellaneous, non crop, summer fallow and unknown crops. AID and LID data is from 2016





**Figure 1. Irrigated Crop Types Within the Irrigation Districts**

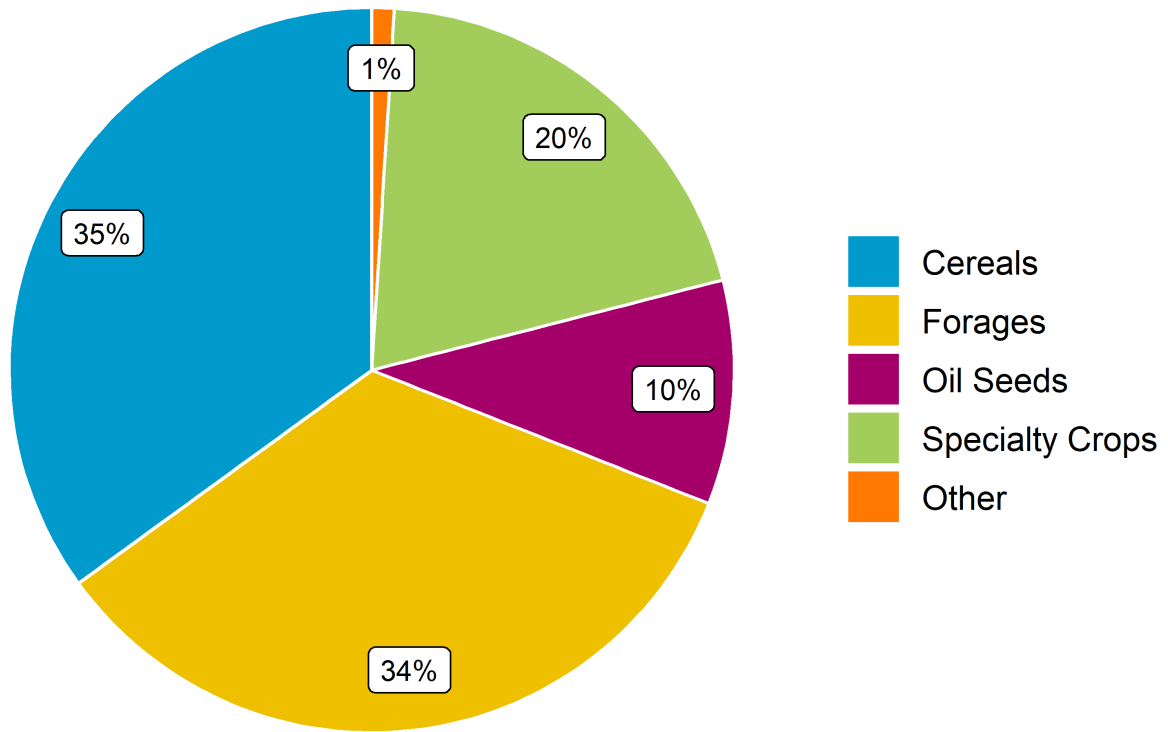


**Figure 2. Acres of Major Irrigation Specialty Crops within the Irrigation Districts**

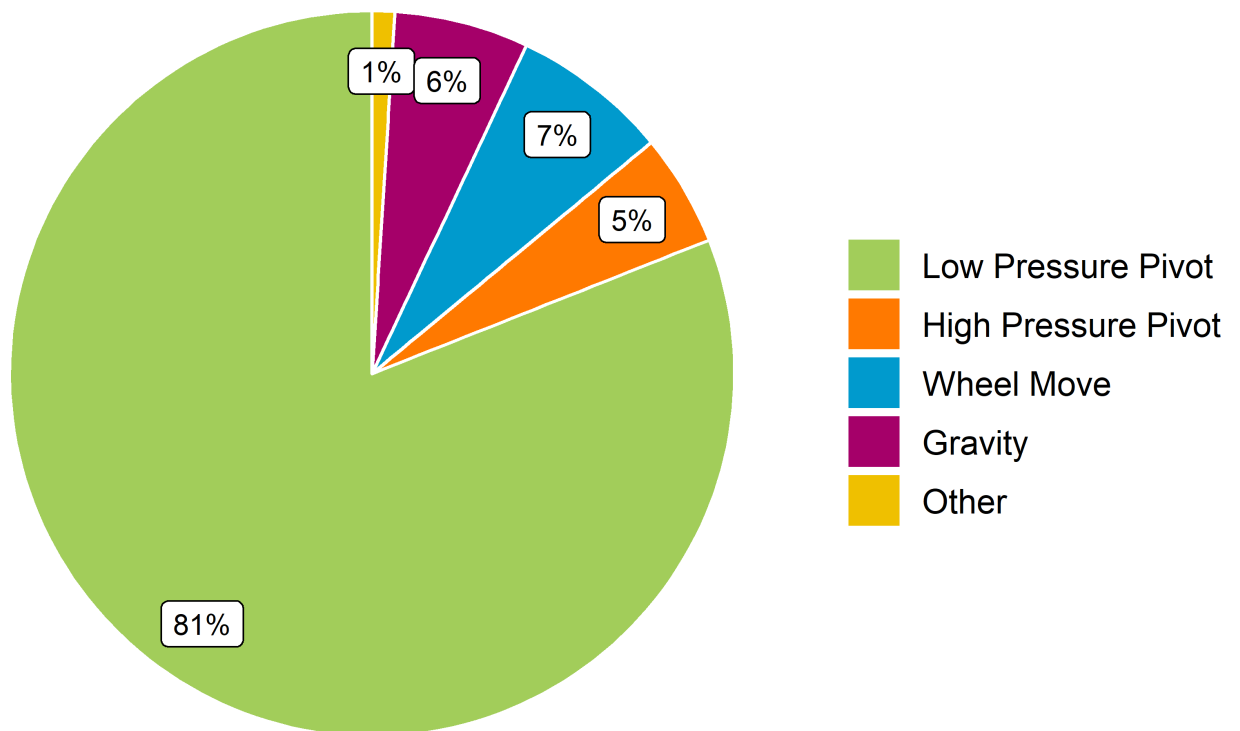
**Table 3. On-farm Irrigation Method Acres within the Irrigation Districts**

IRRIGATION METHOD		AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	Individual Method Total	Total Acres
LOW PRESSURE PIVOT	Pivot Low Pressure	1,099	156,354	201,016	411	74,402	8,343		604	27,485	297,017	44,979	19,197	61,515	892,423	1,173,944
	Pivot Low Pressure - Corner Arm		71,509	17,745		95,824	140			2,226	50,851	22,708	1,069	4,161	266,234	
	Linear - Low Pressure		56	2,230		375				392	1,247	232	70	610	5,212	
	Pivot Medium Pressure		731	4,219						681	3,245				8,876	
	Pivot Medium Pressure - Corner Arm		448	252							500				1,200	
Percent of total -----		23.4%	87.7%	73.3%	8.2%	88.0%	46.3%	0.0%	67.3%	67.8%	89.6%	78.8%	59.4%	76.5%		81.4%
HIGH PRESSURE PIVOT	Pivot High Pressure		15,521	24,625	761	155	2,186	832	67	1,196	7,484	8,321	330	3,194	64,672	72,868
	Pivot High Pressure - Corner arm		2,275	2,589							1,457	1,113			7,434	
	Linear - High Pressure			217						65		84		396	762	
Percent of total -----		0.0%	6.8%	8.9%	15.1%	0.1%	11.9%	22.7%	7.5%	2.8%	2.3%	11.0%	1.0%	4.1%		5.1%
WHEEL MOVE	Wheel Move - One and Two Laterals	1,822	3,585	11,002	1,323	9,598	4,537	264	226	7,978	21,669	6,426	1,241	7,766	77,437	98,668
	Wheel Move - Three and Four Laterals		1,407	2,696	198	10,342				1,460	2,488	472	167	2,002	21,232	
Percent of total -----		38.7%	1.9%	4.5%	30.2%	10.3%	24.8%	7.2%	25.2%	20.8%	6.1%	8.0%	4.1%	11.3%		6.8%
GRAVITY	Gravity - Developed		7,521	32,659		556	2,905			2,209	903	665	1,621	85	49,124	84,162
	Gravity - Undeveloped	277	1,346	7,735	1,747	564		2,568		1,491	5,048	994	10,170	3,098	35,037	
Percent of total -----		5.9%	3.4%	13.1%	34.7%	0.6%	15.8%	70.1%	0.0%	8.1%	1.5%	1.9%	34.4%	3.7%		5.8%
OTHER	Volume Gun - Stationary										152	37		74	263	11,806
	Volume Gun - Traveller		25	207		150					29	22		480	913	
	Solid Set (underground sprinkler)	140		8		691	25			30	254			602	1,750	
	Hand Move (sprinkler above ground)	1,366	117	468	591	834	174			166	960	51	167	344	5,238	
	Micro - Spray - Sprinkler		64			135				51	49	7	22	51	379	
	Micro - Drip - Trickle		194			309	20			7	264	75	157	2,110	3,137	
	Other Application Use												20	106	126	
Percent of total -----		32.0%	0.2%	0.2%	11.7%	1.1%	1.2%	0.0%	0.0%	0.6%	0.4%	0.2%	1.1%	4.4%		0.8%
<b>Total Acres with Irrigation System</b>		<b>4,704</b>	<b>261,153</b>	<b>307,668</b>	<b>5,031</b>	<b>193,936</b>	<b>18,330</b>	<b>3,664</b>	<b>897</b>	<b>45,436</b>	<b>393,617</b>	<b>86,186</b>	<b>34,231</b>	<b>86,594</b>	<b>1,441,448</b>	<b>1,441,448</b>
<b>No Irrigation System or Not Reported</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>238</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,661</b>	<b>17,158</b>	<b>0</b>	<b>388</b>	<b>0</b>	<b>20,444</b>	<b>20,444</b>
<b>Total Acres</b>		<b>4,704</b>	<b>261,153</b>	<b>307,668</b>	<b>5,031</b>	<b>194,174</b>	<b>18,330</b>	<b>3,664</b>	<b>897</b>	<b>48,097</b>	<b>410,775</b>	<b>86,186</b>	<b>34,619</b>	<b>86,594</b>	<b>1,461,893</b>	<b>1,461,893</b>

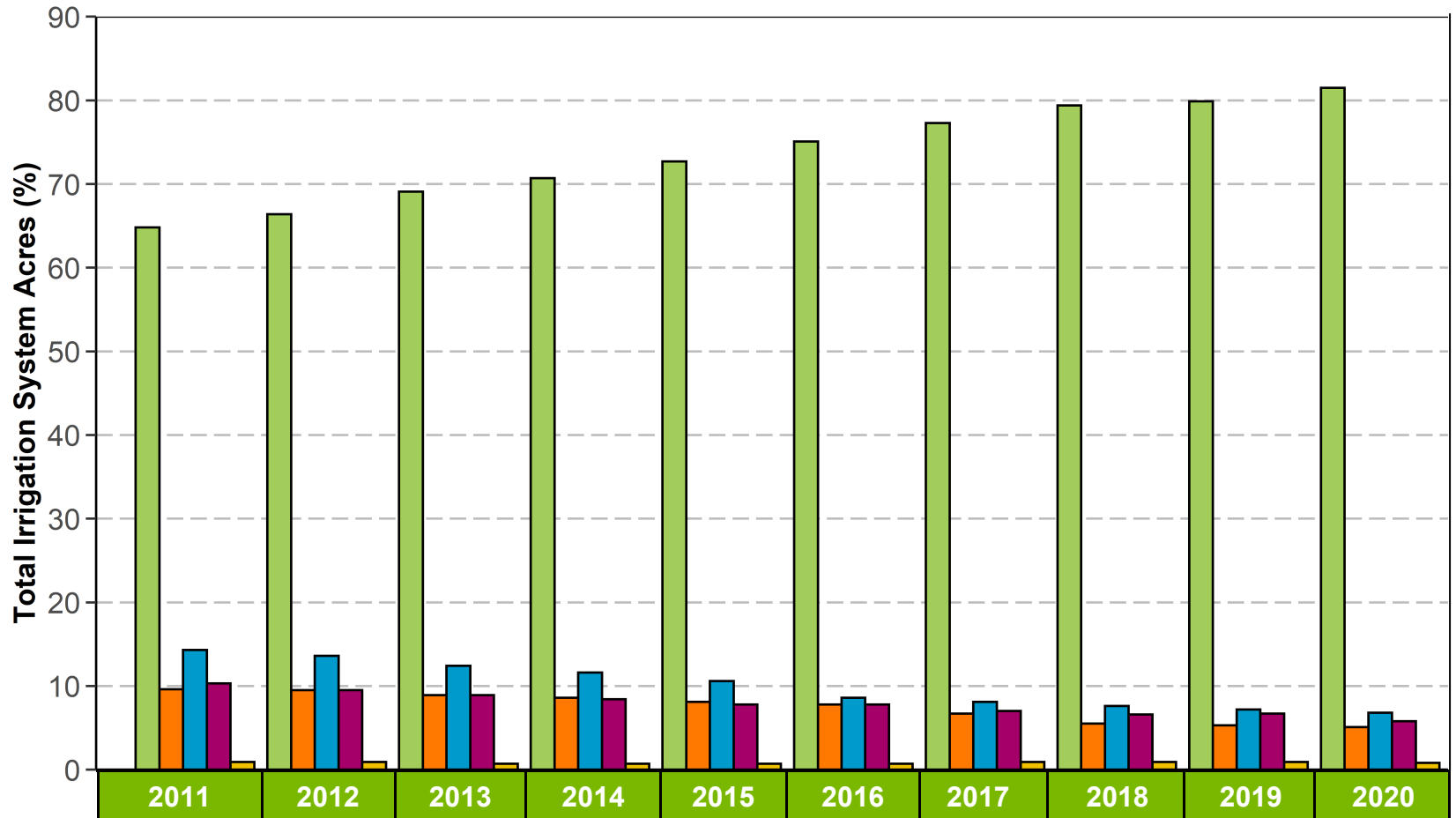
Note: Information for RCID is for 2014 irrigation season. Information for AID and LID is for 2016 irrigation season.



**Figure 3. Crop Types within the Irrigation Districts (% of area)**



**Figure 4. On-farm Irrigation Methods within the Irrigation Districts (% of area)**



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Low Pressure Pivot	856,707	879,651	923,391	957,117	991,859	1,038,024	1,072,113	1,115,693	1,139,291	1,173,944
High Pressure Pivot	126,864	126,430	119,449	116,436	110,733	107,761	93,052	77,393	76,115	72,868
Wheel move	189,410	179,837	165,561	157,056	145,124	118,962	112,091	107,193	102,824	98,668
Gravity	136,709	126,217	118,307	114,122	106,764	107,129	97,421	92,329	95,258	84,162
Other	11,626	12,444	8,785	8,941	9,698	9,731	12,807	13,067	12,399	11,806

**Figure 5. On-farm Irrigation Methods within the Irrigation Districts**

**Table 4. Acres on the Assessment Roll within the Irrigation Districts**

YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	TOTAL
1982	3,127	179,613	239,651	4,423	114,919	11,647	3,710	1,716	39,130	301,446	71,529	33,383	81,864	1,086,158
1983	2,916	181,174	244,099	4,440	116,745	12,357	3,710	1,776	39,148	313,728	72,623	33,448	81,480	1,107,644
1984	3,051	183,529	244,243	4,440	117,869	13,047	3,710	1,776	41,729	319,712	72,971	33,534	82,974	1,122,585
1985	3,399	185,034	246,658	4,460	118,883	14,218	3,710	1,319	44,990	328,063	73,063	33,854	84,245	1,141,896
1986	3,444	189,202	247,804	4,460	126,307	14,579	3,690	1,210	44,950	331,493	73,314	34,336	83,924	1,158,713
1987	3,444	190,263	249,372	4,479	128,867	14,885	3,690	1,210	44,407	334,285	73,654	34,450	85,405	1,168,411
1988	3,435	192,424	252,432	4,709	131,565	15,030	3,690	1,210	44,196	339,091	73,602	34,615	86,198	1,182,197
1989	3,500	194,977	256,353	4,729	133,620	15,569	3,700	1,210	44,144	342,451	74,898	34,818	87,242	1,197,211
1990	3,500	199,980	260,523	4,742	135,632	15,099	3,728	1,210	44,044	349,849	74,568	34,769	88,480	1,216,124
1991	3,527	201,070	263,889	4,762	137,719	16,665	3,728	1,210	44,305	350,108	77,740	34,687	88,112	1,227,522
1992	3,519	202,499	269,462	4,800	139,688	16,391	3,734	1,210	44,279	351,393	78,177	34,868	87,949	1,237,969
1993	3,519	204,466	270,008	4,780	138,095	16,775	3,737	1,210	44,229	353,039	78,412	34,772	87,453	1,240,495
1994	3,519	205,983	272,024	4,780	141,517	16,785	3,727	1,210	44,219	353,466	78,629	34,438	86,725	1,247,022
1995	3,519	207,652	273,848	4,780	143,608	17,908	3,727	1,210	43,678	356,618	78,676	34,428	86,942	1,256,594
1996	3,519	209,560	276,405	4,760	147,241	18,169	3,727	1,210	44,315	358,399	79,069	34,506	87,258	1,268,138
1997	3,519	209,686	279,966	4,760	150,843	18,300	3,713	1,210	44,810	360,659	79,788	34,353	86,284	1,277,891
1998	3,519	210,690	280,573	4,769	153,365	18,300	3,722	1,210	45,533	360,780	80,455	34,352	86,771	1,284,039
1999	3,609	211,152	281,107	4,769	154,886	18,300	3,722	1,210	45,751	367,161	81,984	34,352	88,131	1,296,134
2000	3,609	210,352	281,720	4,763	157,825	18,300	3,722	1,210	45,888	369,771	82,257	34,329	87,236	1,300,982
2001	3,611	209,927	281,710	4,763	163,878	18,300	3,712	1,210	46,235	370,925	82,261	34,329	87,924	1,308,785
2002	3,611	214,279	282,516	4,763	163,870	18,300	3,712	1,210	46,304	371,319	82,284	34,423	96,512	1,323,103
2003	3,611	214,585	282,961	4,763	164,288	18,320	3,712	1,210	46,304	372,114	82,562	34,423	96,646	1,325,499
2004	3,611	216,533	283,625	4,763	175,568	18,320	3,712	1,210	46,296	372,979	82,515	34,093	96,535	1,339,760
2005	3,608	219,733	283,706	4,763	175,628	18,320	3,561	1,210	46,296	372,619	82,533	34,081	96,415	1,342,473
2006	3,608	221,677	284,074	4,763	175,636	18,320	3,561	1,101	46,306	372,618	82,527	34,025	96,100	1,344,316
2007	3,699	231,713	284,419	5,205	175,913	18,300	3,654	1,101	46,306	372,996	82,804	34,044	96,091	1,356,245
2008	3,699	233,869	285,086	5,126	176,069	18,300	3,700	1,101	46,293	373,162	82,600	34,069	96,079	1,359,153
2009	3,699	233,438	294,612	4,706	176,201	18,300	3,700	1,101	46,303	373,092	82,569	34,325	96,045	1,368,091
2010	4,389	233,925	290,429	4,793	176,282	18,300	3,700	1,101	46,302	373,018	82,728	34,370	95,628	1,364,965
2011	4,390	234,014	294,373	4,848	176,187	18,300	3,617	1,101	46,302	374,408	82,773	34,382	95,754	1,370,449
2012	4,376	234,327	294,620	4,840	177,593	18,300	3,616	1,101	46,402	373,835	82,750	34,382	95,788	1,371,930
2013	4,376	241,604	296,619	4,853	179,014	18,300	3,698	1,101	46,500	380,371	82,822	34,393	95,776	1,389,427
2014	4,511	254,909	297,884	4,876	179,719	18,300	3,698	1,101	46,500	388,039	83,263	34,395	95,641	1,412,836
2015	4,607	258,114	298,763	4,898	180,007	18,300	3,711	1,101	46,500	390,497	83,584	34,391	95,516	1,419,989
2016	4,705	259,792	299,762	5,031	182,716	18,300	3,733	1,101	46,500	393,034	84,045	34,383	95,475	1,428,577
2017	4,705	260,008	301,428	5,031	184,831	18,300	3,647	1,091	46,500	395,991	84,431	34,386	95,320	1,435,669
2018	4,714	260,659	303,652	5,266	187,984	18,300	3,647	1,091	46,500	402,014	85,620	34,310	95,964	1,449,721
2019	4,699	270,823	305,477	5,360	191,546	18,300	3,647	1,091	48,095	408,147	88,385	34,654	96,082	1,476,306
2020	4,698	279,441	307,588	5,365	195,063	18,300	3,647	1,091	48,095	410,772	90,347	34,797	96,996	1,496,200

Notes: Assessment roll acres include "irrigation", "terminable" and "annual" acres. Only "irrigation" and "terminable" acres are considered in district expansion limits. In 2020, irrigation districts reported 14,844 annual acres.

**Table 5. Acres Actually Irrigated within the Irrigation Districts**

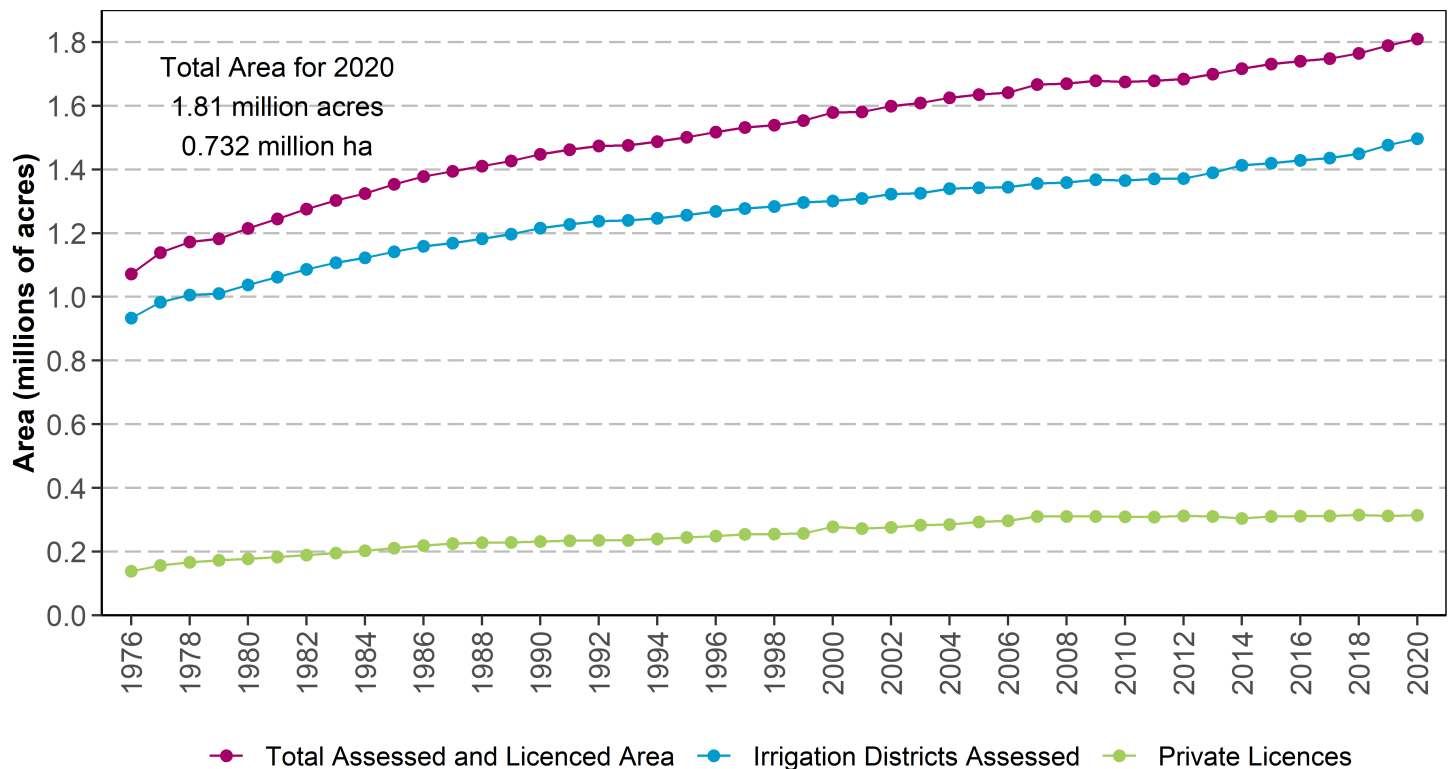
YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	TOTAL
1982	1,200	152,144	216,620	3,000	104,533	8,500	3,154	650	25,169	268,916	67,305	10,054	41,996	903,241
1983	1,200	168,461	231,125	3,000	108,141	9,000	3,154	650	28,055	288,969	68,474	12,734	46,638	969,601
1984	1,200	173,334	238,000	3,000	102,301	10,200	3,154	600	34,728	300,071	69,847	12,313	46,638	995,386
1985	2,933	174,087	244,763	3,664	114,635	13,000	3,184	700	36,286	305,560	70,133	12,620	49,666	1,031,231
1986	2,933	174,903	246,916	3,600	113,663	13,000	3,184	700	36,008	307,875	69,928	13,146	48,000	1,033,856
1987	2,200	178,482	245,514	4,076	119,562	12,400	3,321	700	36,008	305,964	69,413	12,526	46,984	1,037,150
1988	2,500	173,400	241,494	3,900	124,555	13,436	3,100	500	36,496	316,223	69,581	14,536	52,950	1,052,671
1989	1,962	181,106	249,623	3,900	127,330	13,555	2,000	0	35,766	323,400	70,278	11,693	52,153	1,072,766
1990	2,446	183,147	253,261	4,500	127,439	14,000	2,500	0	36,911	338,274	73,329	11,523	49,000	1,096,330
1991	2,473	182,932	246,083	4,200	130,989	15,000	2,880	650	32,847	319,745	73,169	11,548	48,300	1,070,816
1992	2,519	182,543	256,342	4,200	131,305	15,240	2,880	0	36,788	324,477	74,229	15,499	43,889	1,089,911
1993	0	184,463	259,778	0	67,565	0	0	0	0	262,718	66,158	0	40,007	880,689
1994	1,940	187,247	259,942	4,200	133,803	11,425	3,277	734	36,291	330,949	73,949	14,255	47,335	1,105,347
1995	765	192,328	263,576	1,000	100,589	3,250	3,300	643	16,473	289,173	72,108	5,035	39,130	987,370
1996	2,145	196,055	271,075	4,277	143,147	14,341	3,355	734	39,662	339,098	74,766	14,135	68,710	1,171,500
1997	2,476	197,904	274,880	4,600	145,061	13,479	3,600	794	39,484	342,234	76,083	19,205	62,448	1,182,248
1998	1,930	198,197	274,942	4,600	122,379	11,189	3,228	1,055	32,259	342,758	76,872	17,276	67,643	1,154,328
1999	1,870	198,060	277,723	4,735	145,782	14,723	3,510	1,210	38,966	355,988	79,166	17,407	51,032	1,190,172
2000	2,361	199,873	278,956	4,763	154,300	15,427	3,510	0	42,062	352,372	79,206	19,741	64,414	1,216,985
2001	3,155	201,859	279,354	4,763	160,657	17,520	3,510	0	39,326	339,666	76,653	21,708	71,158	1,219,329
2002	2,422	202,807	281,070	4,763	162,624	14,717	3,510	1,149	37,221	342,053	76,245	20,364	75,635	1,224,580
2003	2,386	202,974	280,624	4,763	162,779	15,579	3,510	1,194	42,210	351,257	76,884	22,660	67,540	1,234,360
2004	2,386	203,007	283,625	4,763	175,406	14,489	3,510	800	38,461	353,085	76,277	21,735	54,666	1,232,210
2005	2,361	192,899	282,267	4,763	175,206	13,044	3,510	800	36,611	346,596	77,522	20,780	56,186	1,212,544
2006	2,361	198,111	280,753	4,763	175,184	13,232	3,510	0	41,156	335,269	76,765	22,771	43,136	1,197,011
2007	2,361	201,286	284,419	4,763	174,673	14,676	3,509	600	42,573	345,935	77,068	22,021	40,716	1,214,600
2008	2,361	206,283	280,691	4,763	175,886	13,420	3,509	0	38,617	352,564	77,132	21,735	48,126	1,225,087
2009	2,361	211,577	285,191	4,706	174,487	14,866	3,500	800	40,174	352,104	77,571	23,383	64,196	1,254,915
2010	150	182,483	235,371	0	174,518	5,688	500	374	17,481	340,078	72,989	17,333	48,700	1,095,665
2011	2,961	202,478	294,569	4,714	175,683	12,774	500	770	37,163	346,079	75,048	21,003	42,270	1,216,012
2012	2,797	208,217	294,748	4,625	177,593	14,175	535	878	39,560	338,439	76,775	22,655	52,483	1,233,480
2013	3,285	217,417	295,923	1,736	178,697	14,386	608	770	39,839	338,588	76,002	22,708	49,791	1,239,750
2014	1,611	224,952	297,015	1,736	179,296	14,305	1,801	897	37,511	362,254	75,838	21,044	60,587	1,278,847
2015	1,611	228,480	297,930	1,736	179,625	16,182	1,746	897	43,378	370,590	77,123	34,391	67,800	1,321,489
2016	2,467	226,492	299,336	3,863	182,160	16,387	1,746	897	43,743	374,554	77,801	22,757	65,735	1,317,938
2017	2,467	242,150	301,309	3,863	184,565	16,423	2,089	897	45,183	377,047	77,996	34,099	68,131	1,356,219
2018	2,468	239,295	303,673	3,863	187,269	16,120	2,517	897	46,968	381,529	78,797	34,310	75,473	1,373,179
2019	2,468	251,750	304,773	3,863	190,758	16,879	2,600	897	45,530	388,136	81,608	34,618	83,703	1,407,583
2020	2,468	239,431	297,830	3,863	193,936	16,879	3,664	897	45,989	390,165	83,720	34,619	67,719	1,381,419

**Table 6. Private Water Licences for Irrigation**

There are 2,910 individual irrigation projects, outside of the 13 irrigation districts, irrigating approximately 313,737 acres in Alberta. These projects vary in size from 1 acre to over several thousand acres of agricultural or horticultural production. Each of these projects is licensed to an individual, a group of producers or to private or public lands (ie. golf courses or parks). The licencing is regulated by Alberta Environment and Parks.

RIVER BASIN	TOTAL ACRES IRRIGATED	NO. OF LICENCES 1 TO 100 AC.	NO. OF LICENCES 101 TO 300 AC.	NO. OF LICENCES OVER 300 AC.	TOTAL NO. OF LICENCES
ATHABASCA RIVER	1,985	43	6	0	49
MILK RIVER	18,874	98	43	14	155
NORTH SASKATCHEWAN RIVER	27,056	311	57	14	382
PEACE RIVER	5,043	65	10	3	78
SOUTH SASKATCHEWAN RIVER	260,779	1,612	496	138	2,246
Sub-Basin					
- Bow River	26,661	155	64	17	236
- Little Bow River	30,803	123	67	25	215
- Oldman River (Lower)	19,151	32	25	16	73
- Oldman River (Upper)	7,547	61	20	4	85
- Red Deer River	46,972	418	96	19	533
- South Saskatchewan River	46,687	529	83	22	634
- Waterton / Belly / St. Mary Rivers	49,006	134	66	16	216
- Willow Creek	33,952	160	75	19	254
<b>TOTAL</b>	<b>313,737</b>	<b>2,129</b>	<b>612</b>	<b>169</b>	<b>2,910</b>

Note: - Oldman (upper) reach is defined as upstream of the Belly River confluence  
 - Oldman (lower) reach is defined as downstream of the Belly River confluence  
 - 25,000 acres from the Waterton / Belly / St. Mary Rivers category is for the Blood Tribe Agricultural Project  
 - Does not include irrigation licences issued to irrigation districts in southern Alberta  
 - Licence authorization as of December 2020 obtained from Alberta Environment and Parks



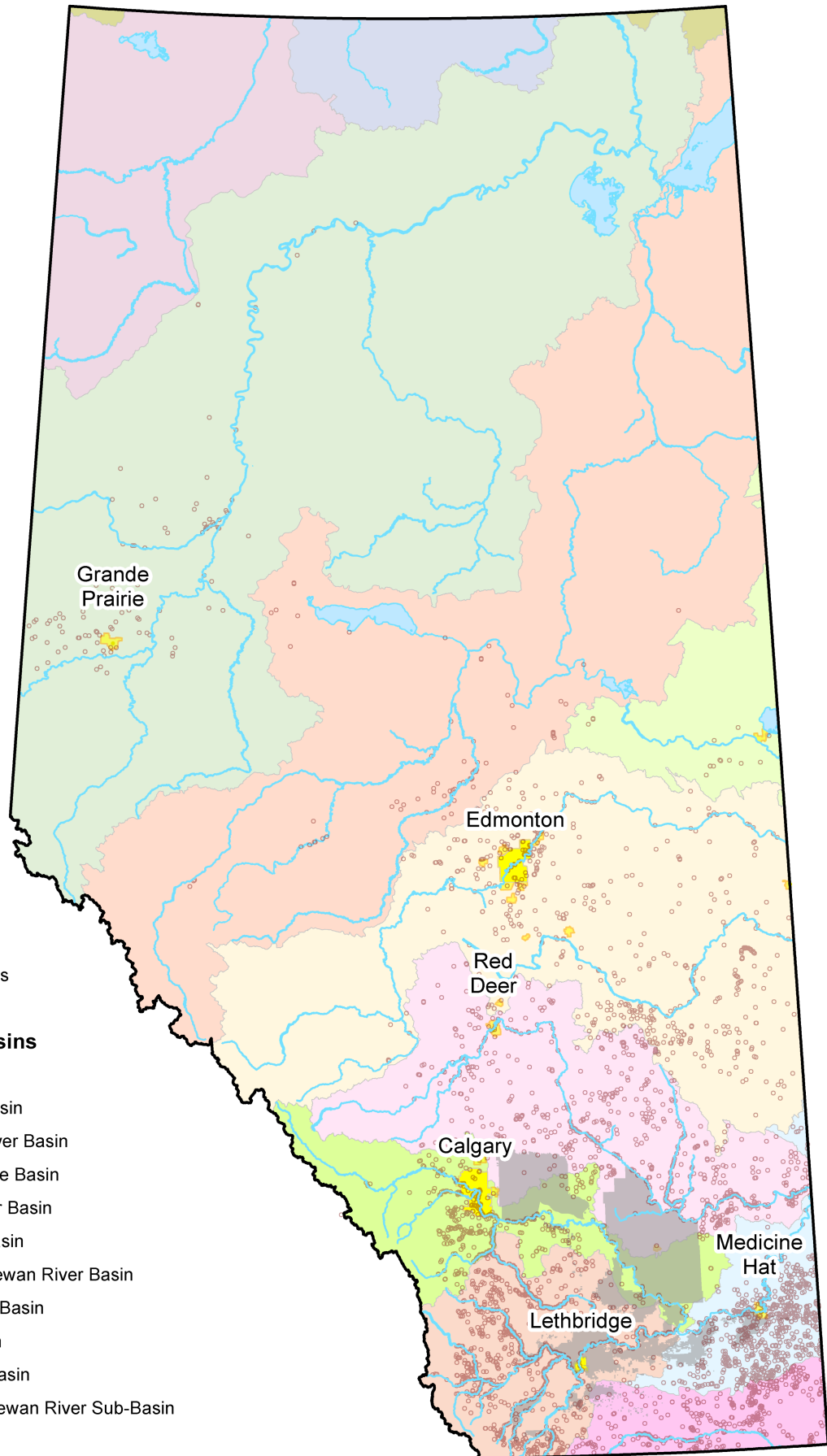
**Figure 6. Growth in Irrigation Area**

**LEGEND**

- Private Irrigation
- ~ Major Rivers
- Irrigation Districts
- Major Cities

**Alberta's River Basins**

- Hay River Basin
- Buffalo River Basin
- Peace/Slave River Basin
- Great Slave Lake Basin
- Athabasca River Basin
- Beaver River Basin
- North Saskatchewan River Basin
- Red Deer River Basin
- Bow River Basin
- Oldman River Basin
- South Saskatchewan River Sub-Basin
- Milk River Basin



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**Figure 7. Location of Irrigation from Private Water Licenses in Alberta's River Basins**



**Table 7. Irrigation Districts Irrigation Rates (\$ per irrigation acre per year)**

YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID
1983	\$5.00	\$9.00	\$6.75	\$8.00	\$12.50	\$6.00	\$5.20	\$3.00	\$6.50	\$12.00	\$11.00	\$3.25	\$6.50
1984	\$6.00	\$10.00	\$7.00	\$8.00	\$12.50	\$6.00	\$5.20	\$3.00	\$6.50	\$12.00	\$11.00	\$3.25	\$6.75
1985	\$6.00	\$10.00	\$7.00	\$7.50	\$12.50	\$6.00	\$5.20	\$4.00	\$6.50	\$12.00	\$11.00	\$3.25	\$7.25
1986	\$6.00	\$10.00	\$7.25	\$7.50	\$12.50	\$6.00	\$5.20	\$6.00	\$6.50	\$13.00	\$11.00	\$3.25	\$7.47
1987	\$6.00	\$10.00	\$7.50	\$7.50	\$12.50	\$6.00	\$5.20	\$6.00	\$6.50	\$13.00	\$11.00	\$3.25	\$7.47
1988	\$7.00	\$10.00	\$7.50	\$8.00	\$12.50	\$6.00	\$5.20	\$6.00	\$6.50	\$13.00	\$12.00	\$3.25	\$7.70
1989	\$7.00	\$10.00	\$8.00	\$8.00	\$13.50	\$6.00	\$6.20	\$6.00	\$6.50	\$13.25	\$12.00	\$3.50	\$8.00
1990	\$8.00	\$10.00	\$8.50	\$8.00	\$13.50	\$6.00	\$6.20	\$6.00	\$6.50	\$14.00	\$12.00	\$3.75	\$11.00
1991	\$8.00	\$10.00	\$8.50	\$7.00	\$13.50	\$6.00	\$6.20	\$6.00	\$6.50	\$14.00	\$12.00	\$4.00	\$13.00
1992	\$8.00	\$11.00	\$8.50	\$7.00	\$14.00	\$6.00	\$6.20	\$6.00	\$6.50	\$14.00	\$12.00	\$4.25	\$13.50
1993	\$8.00	\$11.00	\$8.50	\$7.00	\$14.00	\$6.00	\$6.20	\$6.00	\$6.50	\$14.25	\$12.00	\$4.50	\$13.50
1994	\$8.00	\$12.00	\$8.50	\$7.00	\$14.00	\$6.50	\$6.20	\$6.00	\$7.00	\$15.25	\$12.00	\$4.50	\$14.75
1995	\$8.00	\$13.00	\$8.50	\$8.00	\$14.00	\$7.00	\$8.00	\$8.50	\$7.00	\$16.15	\$12.00	\$4.50	\$14.75
1996	\$8.00	\$13.00	\$8.50	\$8.00	\$14.00	\$7.00	\$8.00	\$8.50	\$7.50	\$16.15	\$12.00	\$6.50	\$15.25
1997	\$8.00	\$13.00	\$7.50	\$8.00	\$14.00	\$7.00	\$8.00	\$8.50	\$7.50	\$16.15	\$12.00	\$6.75	\$15.25
1998	\$8.00	\$13.50	\$7.50	\$8.00	\$14.00	\$7.50	\$8.00	\$8.50	\$8.50	\$16.65	\$12.00	\$7.00	\$16.25
1999	\$8.00	\$14.50	\$7.50	\$8.00	\$14.00	\$7.50	\$8.00	\$8.50	\$8.50	\$17.00	\$12.00	\$7.25	\$16.25
2000	\$8.00	\$14.50	\$7.50	\$8.00	\$14.00	\$7.50	\$8.00	\$8.50	\$8.50	\$17.50	\$12.00	\$7.50	\$16.25
2001	\$8.00	\$14.50	\$7.50	\$8.00	\$14.00	\$7.50	\$8.00	\$8.50	\$8.50	\$17.90	\$11.00	\$7.50	\$16.25
2002	\$8.00	\$14.50	\$7.50	\$8.00	\$14.00	\$7.50	\$8.00	\$6.00	\$8.50	\$16.90	\$11.00	\$7.75	\$16.25
2003	\$9.00	\$15.00	\$0.00	\$10.00	\$14.00	\$8.00	\$8.00	\$13.58	\$8.50	\$17.90	\$11.00	\$8.25	\$16.25
2004	\$9.00	\$14.50	\$0.00	\$11.00	\$14.00	\$8.00	\$8.00	\$13.58	\$9.50	\$17.90	\$11.00	\$8.25	\$16.25
2005	\$9.00	\$14.50	\$0.00	\$11.00	\$14.00	\$8.50	\$10.00	\$13.58	\$9.50	\$17.90	\$11.00	\$8.25	\$16.25
2006	\$9.00	\$14.50	\$0.00	\$11.00	\$14.00	\$8.50	\$10.00	\$15.00	\$9.50	\$18.50	\$11.00	\$8.25	\$16.25
2007	\$9.00	\$14.50	\$0.00	\$11.00	\$14.00	\$9.00	\$10.00	\$18.00	\$9.50	\$18.75	\$8.00	\$8.25	\$16.25
2008	\$10.00	\$14.50	\$0.00	\$11.50	\$14.00	\$9.00	\$12.00	\$21.00	\$9.50	\$18.75	\$8.00	\$8.50	\$16.25
2009	\$10.00	\$15.00	\$0.00	\$11.50	\$14.00	\$9.00	\$12.00	\$22.50	\$9.50	\$19.00	\$8.00	\$8.50	\$16.25
2010	\$10.00	\$15.00	\$0.00	\$11.50	\$14.00	\$9.50	\$12.00	\$21.50	\$9.50	\$20.00	\$8.00	\$8.50	\$16.25
2011	\$10.00	\$15.00	\$0.00	\$11.50	\$14.00	\$9.50	\$12.00	\$20.50	\$9.50	\$20.00	\$8.00	\$8.50	\$16.25
2012	\$11.00	\$16.00	\$0.00	\$11.50	\$14.00	\$11.00	\$12.00	\$20.50	\$10.00	\$20.00	\$8.00	\$9.00	\$16.25
2013	\$11.00	\$16.00	\$0.00	\$11.50	\$14.00	\$11.00	\$12.00	\$20.50	\$10.00	\$20.00	\$8.00	\$11.00	\$18.00
2014	\$12.00	\$16.00	\$0.00	\$12.00	\$16.00	\$11.00	\$12.00	\$23.00	\$10.00	\$20.00	\$8.00	\$11.00	\$18.00
2015	\$12.00	\$16.00	\$0.00	\$12.00	\$16.00	\$11.00	\$12.00	\$25.00	\$10.00	\$20.00	\$10.00	\$11.00	\$18.00
2016	\$12.00	\$16.00	\$0.00	\$12.00	\$16.00	\$11.00	\$12.00	\$25.00	\$12.00	\$20.00	\$14.00	\$11.00	\$18.00
2017	\$13.00	\$16.00	\$0.00	\$12.00	\$16.00	\$11.00	\$12.00	\$25.00	\$12.00	\$22.00	\$16.00	\$11.50	\$18.00
2018	\$13.00	\$16.00	\$0.00	\$12.50	\$16.00	\$12.50	\$12.00	\$25.00	\$13.00	\$22.00	\$18.00	\$12.00	\$18.32
2019	\$13.00	\$16.00	\$0.00	\$13.00	\$17.00	\$14.00	\$12.00	\$25.00	\$16.00	\$22.00	\$20.00	\$12.50	\$18.32
2020	\$13.00	\$16.00	\$0.00	\$13.00	\$17.50	\$14.00	\$12.00	\$25.00	\$16.00	\$23.00	\$21.00	\$12.88	\$18.40

Note: Some districts levy the additional surcharges for use in excess of allocation, and for pipeline and pressure delivery.

**Table 8. Irrigation District Expansion Limits and Water Licence Allocations**

BASIN	IRRIGATION DISTRICT	EXPANSION LIMIT (ACRES)	WATER SOURCE	OTHER PURPOSES* (AC-FT)	TOTAL LICENSED VOLUME (AC-FT)
BOW RIVER SUB-BASIN	BRID	295,000	Bow River	2,380	490,000
	EID	311,000	Bow River	5,000	761,000
	WID	95,000	Bow River	3,500	190,500
OLDMAN RIVER SUB-BASIN	AID	7,500	Belly River	700	9,000
	LID	6,000	Belly River	1,000	12,000
	LNID	227,000	Oldman River	39,068	334,450
	MID	18,300	Belly, Waterton, and St. Mary Rivers	740	34,000
	MVID	4,240	Belly River	340	8,000
	RID	52,000	Belly, Waterton, and St. Mary Rivers	4,500	81,000
	SMRID	412,000	Belly, Waterton, and St. Mary Rivers	12,000	722,000
	TID	92,200	Belly, Waterton, and St. Mary Rivers	8,000	158,000
	UID	34,400	Belly and Waterton Rivers	1,000	65,988
SOUTH SASKATCHEWAN RIVER SUB-BASIN	RCID	1,210	Gros Ventre Creek	n/a	3,000
TOTAL		1,555,850		78,228	2,868,938

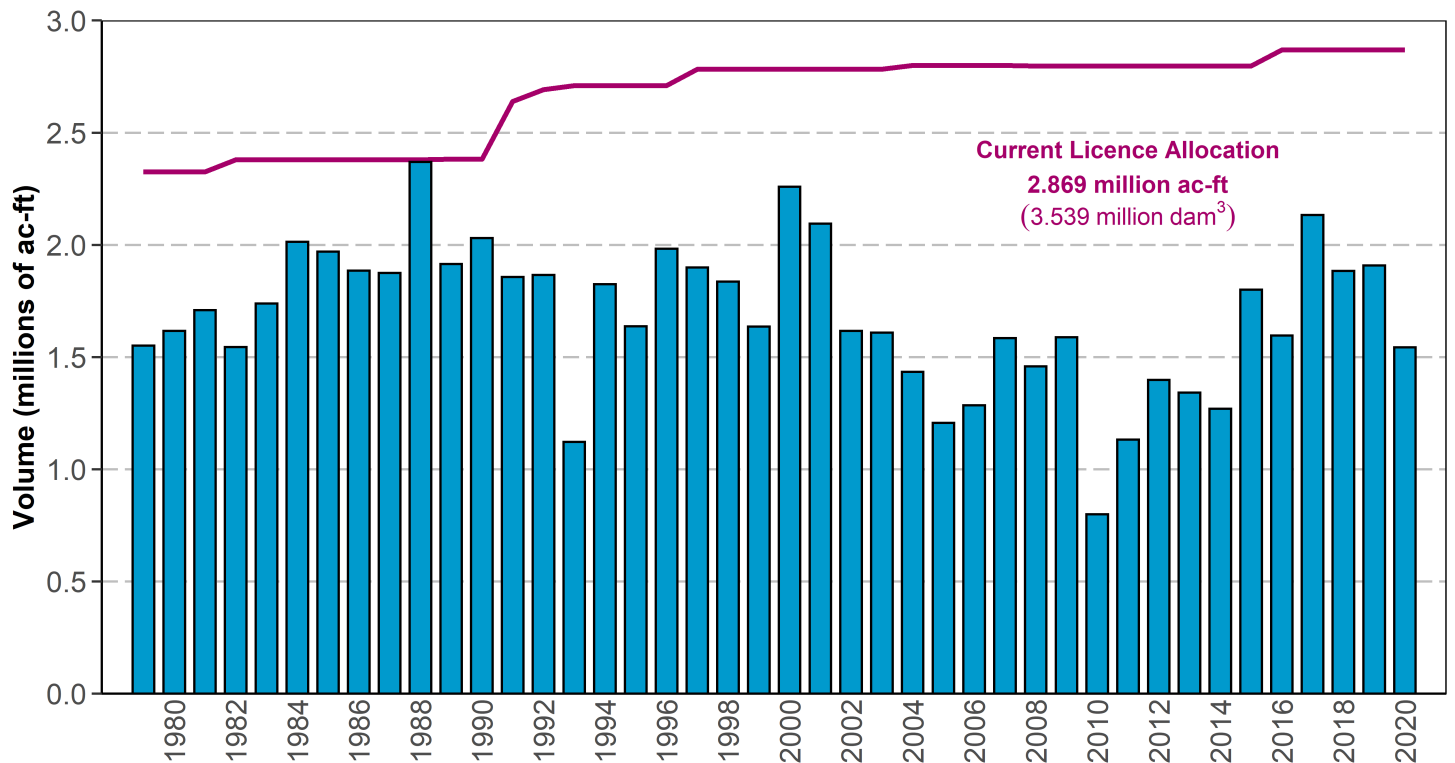
Note: The other purposes volumes may be used for purposes other than irrigation, as set out in the districts water licences. Other purpose uses of water volumes licensed to irrigation districts include non-irrigation uses such as municipal, rural water supply, agricultural, commercial, industrial, rural residential, management of fish, management of wildlife, habitat enhancement and recreation.

\* Water volumes allocated to other purposes are included in the total licensed volumes.

**Table 9. Gross Annual Diversions for Irrigation Districts**

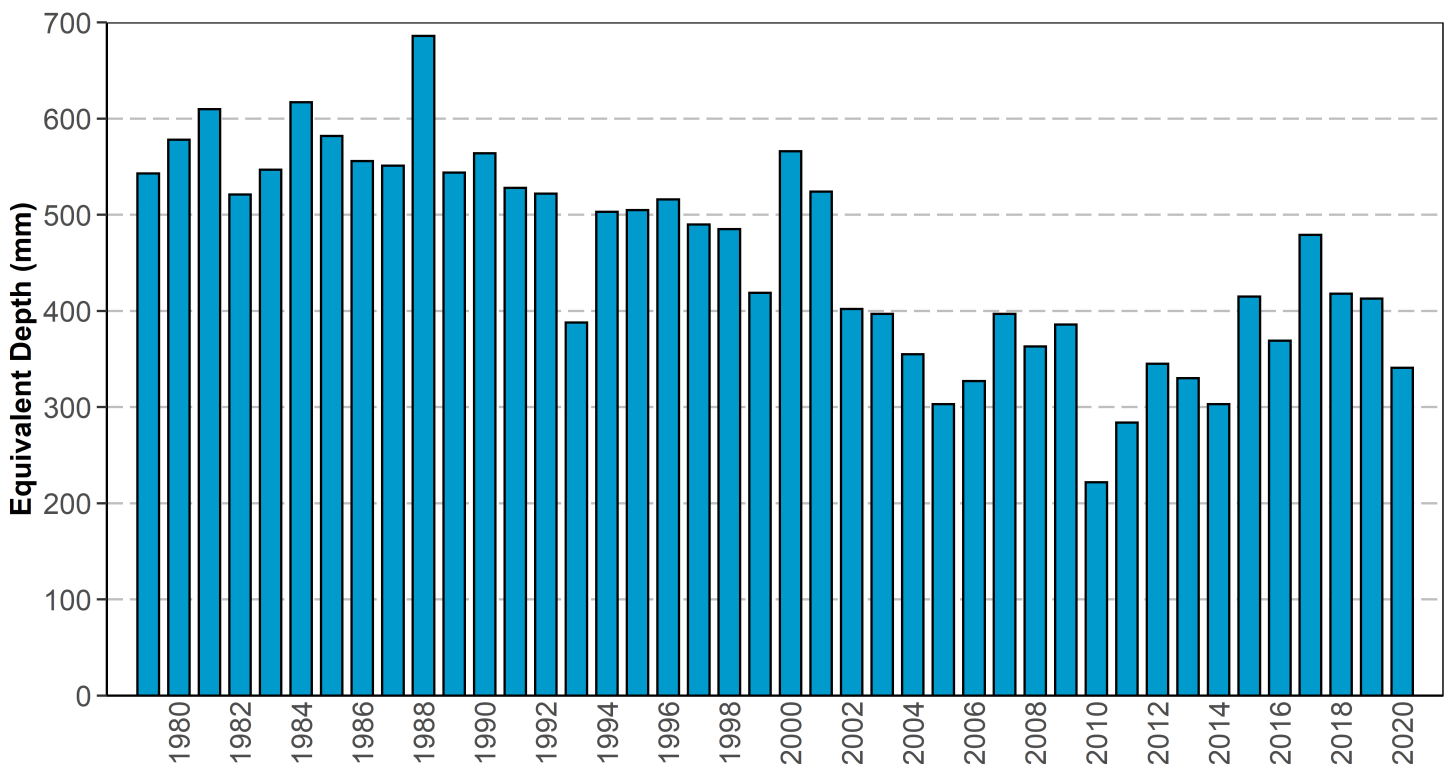
YEAR	BOW RIVER SUB-BASIN			OLDMAN RIVER SUB-BASIN									SOUTH SASK RIVER SUB-BASIN	TOTALS (AC-FT)
	BRID	EID	WID	AID	LID	LNID	MID	MVID	RID	SMRID	TID	UID	RCID	
1987	309,000	639,928	129,712	4,392	5,644	181,934	14,649	3,180	40,559	426,434	98,621	19,958	1,321	1,875,332
1988	423,000	730,274	171,868	6,910	9,398	222,936	22,918	6,066	60,531	563,621	121,668	30,462	256	2,369,908
1989	333,000	605,148	122,416	4,613	3,517	198,789	12,338	2,750	30,728	504,255	78,396	18,372	122	1,914,444
1990	380,907	689,178	128,091	3,754	5,328	191,899	13,555	3,290	32,000	467,244	98,572	16,133	298	2,030,249
1991	334,792	629,872	147,547	3,556	4,468	184,737	12,712	2,662	30,702	391,634	94,956	17,003	1,775	1,856,416
1992	336,878	625,650	135,387	2,170	11,216	136,925	15,695	4,118	36,210	441,745	101,122	18,628	0	1,865,744
1993	210,340	423,551	114,309	2,126	1,824	61,753	4,848	988	13,574	218,375	59,278	8,107	3,300	1,122,373
1994	364,126	559,476	132,104	4,110	4,319	179,663	13,895	3,325	28,328	415,162	103,028	16,827	758	1,825,121
1995	302,305	602,098	116,254	1,802	1,548	110,114	4,248	861	19,953	390,285	79,818	7,710	208	1,637,204
1996	328,182	615,478	117,065	4,035	4,892	206,206	12,506	2,660	45,527	498,483	127,436	19,832	1,085	1,983,387
1997	343,380	593,782	116,740	6,051	5,193	188,378	12,564	1,529	38,043	455,300	115,582	20,364	1,760	1,898,666
1998	303,565	638,500	142,367	4,874	5,331	157,758	9,671	2,323	33,834	405,000	116,300	14,895	1,726	1,836,144
1999	298,524	426,788	88,410	3,485	11,415	196,906	25,178	2,499	42,960	411,532	105,208	20,900	1,700	1,635,505
2000	417,897	675,238	156,400	6,000	11,240	263,413	35,375	6,700	58,202	451,700	140,046	37,200	0	2,259,411
2001	413,780	685,000	160,000	3,952	7,593	308,236	21,173	6,814	40,207	325,700	94,770	27,526	0	2,094,751
2002	333,541	430,000	149,577	2,938	9,835	112,143	10,788	3,033	23,552	466,700	53,324	21,283	N/A	1,616,714
2003	279,798	459,700	128,700	4,598	7,964	201,812	20,711	5,889	49,723	330,600	86,500	32,500	N/A	1,608,495
2004	230,817	417,370	114,000	3,440	5,425	166,276	12,391	2,660	28,224	367,500	64,399	21,600	N/A	1,434,102
2005	182,819	318,000	120,400	4,000	6,243	134,088	8,859	2,067	27,046	316,200	72,487	13,717	1,190	1,207,116
2006	210,741	335,210	72,000	3,681	5,341	165,752	14,114	3,987	37,049	334,100	82,448	20,390	0	1,284,813
2007	256,518	417,830	68,000	3,235	6,330	235,330	18,238	3,600	47,322	394,700	100,907	31,801	N/A	1,583,811
2008	238,000	409,400	85,000	3,584	6,389	178,750	12,659	2,609	34,348	381,200	85,829	21,054	200	1,459,022
2009	295,557	435,650	120,829	2,651	5,378	179,945	14,885	2,138	45,705	370,100	97,532	17,506	200	1,588,076
2010	156,116	210,500	65,850	1,938	2,383	71,950	5,351	1,013	21,903	201,700	53,135	7,264	116	799,219
2011	151,700	310,100	85,985	2,902	8,028	132,388	15,233	2,393	32,534	286,000	84,909	19,073	530	1,131,775
2012	260,000	343,200	103,862	2,761	3,973	176,683	20,720	2,558	35,200	340,800	88,309	19,039	562	1,397,105
2013	240,000	383,400	99,473	3,446	4,101	139,035	17,210	2,297	39,723	314,600	77,371	18,598	2,319	1,341,573
2014	222,191	371,000	113,666	3,113	5,928	120,097	13,552	1,801	31,448	297,600	71,874	16,565	700	1,269,535
2015	331,900	471,900	136,600	3,306	4,540	197,000	21,459	2,420	50,711	453,300	100,481	25,839	700	1,800,156
2016	328,085	371,100	109,865	3,848	4,564	206,730	20,325	2,233	39,704	402,600	84,313	21,864	367	1,595,598
2017	422,000	521,200	131,000	4,710	5,697	274,400	24,221	2,838	54,062	536,900	123,923	31,350	800	2,133,101
2018	290,400	495,500	136,000	3,648	9,363	223,918	26,529	2,475	53,799	504,000	105,352	30,680	1,569	1,883,233
2019	389,000	508,900	120,687	5,091	3,953	207,086	18,917	2,433	47,518	479,300	102,900	22,053	750	1,908,588
2020	284,400	384,500	96,360	4,337	7,232	167,486	25,685	1,932	39,819	408,700	94,784	25,821	2,237	1,543,293
<b>PERCENT OF LICENCE (2020)</b>	<b>58.0%</b>	<b>50.5%</b>	<b>50.6%</b>	<b>48.2%</b>	<b>60.3%</b>	<b>50.1%</b>	<b>75.5%</b>	<b>24.2%</b>	<b>49.2%</b>	<b>56.6%</b>	<b>60.0%</b>	<b>39.1%</b>	<b>74.6%</b>	<b>53.8%</b>

Note: - Data is obtained from Water Survey of Canada (WSC), Alberta Environment and Irrigation Districts' annual reports.  
- Diversion volume could include other allocation at the point of diversion for users other than irrigation districts (municipal, domestic, other agricultural, industrial, water management and environmental uses).



**Figure 8. Irrigation Districts Gross Annual Diversion and Licence Allocation**

Note: Diversion data represent the gross diversion into and through the works of the irrigation districts and include volumes used directly for irrigation purposes, reservoir filling and the water supplied or licensed to municipal, domestic, other agricultural, industrial, environmental uses and water delivered to other licence holders through a conveyance agreement with the licence holder.

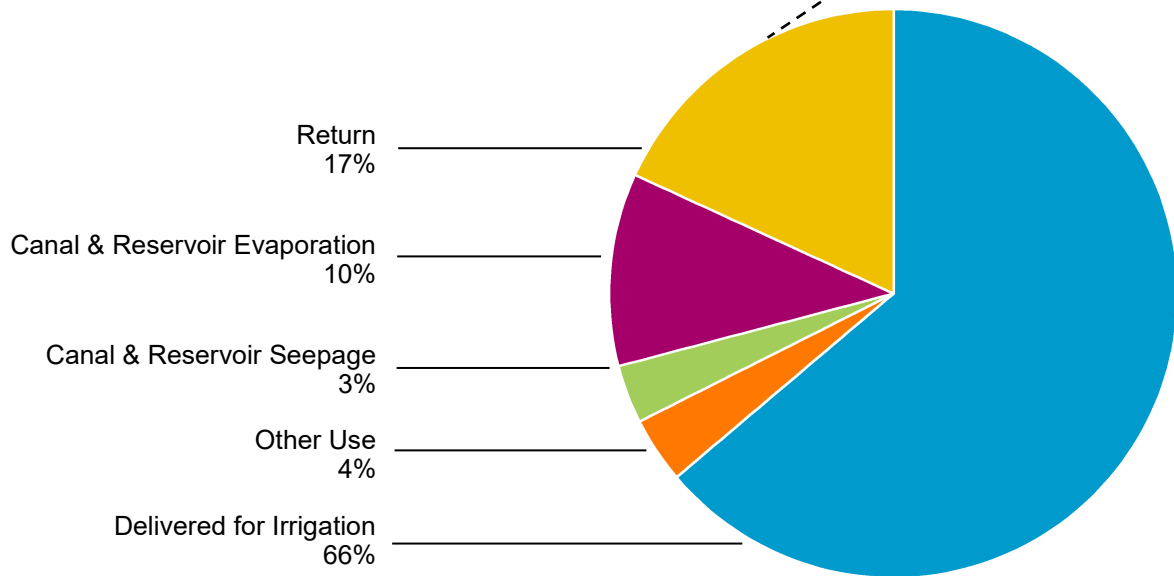


**Figure 9. Irrigation Districts Gross Diversion Equivalent Depth**

Note: Irrigation district equivalent depth is the annual gross diversion of water (into the works of all 13 irrigation districts), divided by the area actually irrigated. However, this "depth" also includes water used for net gains in reservoir storage, water diverted for other uses such as domestic, municipal, other agricultural, industrial, recreational and habitat enhancement purposes.

**Table 10. Irrigation Districts Water Balance**

WATER BALANCE CATEGORY	BOW RIVER BASIN DISTRICTS (AC-FT)	OLDMAN RIVER BASIN DISTRICTS (AC-FT)	TOTAL IRRIGATION DISTRICTS (AC-FT)
Gross Diversion	765,300	778,000	1,543,300
Net District Storage Change	32,100	26,300	58,400
<b>TOTAL DISTRICT USE</b>	<b>797,400</b>	<b>804,300</b>	<b>1,601,700</b>
Delivered for Irrigation	459,900	595,700	1,055,400
Delivered for Other Use	29,200	28,200	57,600
Canal & Reservoir Seepage	27,900	22,300	50,200
Canal & Reservoir Evaporation	101,100	63,200	164,300
Return	179,300	94,900	274,200
<b>TOTAL DISTRICT OPERATIONS</b>	<b>797,400</b>	<b>804,300</b>	<b>1,601,700</b>



**Note:** Irrigation district reported values were used to estimate the water balance. Where district reporting was incomplete, Alberta Agriculture and Forestry calculated estimates. Canal and reservoir seepage and evaporation values were used from 2018.

**Gross Diversion** - Volume of water diverted from a lake, reservoir or the river system by irrigation districts.

**Net District Storage Change** - Net volume of water removed from internal irrigation district reservoirs for use. A negative number indicates a net increase in reservoir storage volume over the irrigation season.

**Total District Use** - Total volume of water used from diversion and storage.

**Delivered for Irrigation** - Net volume of water supplied for irrigation purposes.

**Delivered for Other Use** - Volume of water supplied for other uses including municipal domestic, other agricultural, industrial, and environmental uses.

**Canal & Reservoir Seepage** - Water lost from seepage from reservoirs and canals.

**Canal & Reservoir Evaporation** - Water lost from evaporation from the surface of irrigation district canals and reservoirs.

**Return** - Volume of water returned to the river system.

**Total District Operations** - Total volume of water used for irrigation districts operations comprised of water delivered for irrigation, other use, seepage and evaporation, and water returned.

Table 11. Types of Conveyance Infrastructure within the Irrigation Districts

IRRIGATION DISTRICT	REHABILITATED										UNREHABILITATED		TOTAL CONVEYANCE WORKS (KM)
	PIPELINES - CLOSED		PIPELINES - OPEN		MEMBRANE-LINED CANALS		CONCRETE-LINED CANALS		EARTH CANALS		UN-REHABILITATED CANALS		
	Length (km)	% of District Works	Length (km)	% of District Works	Length (km)	% of District Works	Length (km)	% of District Works	Length (km)	% of District Works	Length (km)	% of District Works	
<b>AID</b>	24.3	61.6%	0.2	0.6%	4.5	11.4%	0.0	0.0%	1.0	2.5%	9.4	23.8%	39
<b>BRID</b>	616.1	60.4%	6.4	0.6%	109.9	10.8%	6.4	0.6%	164.9	16.2%	115.8	11.4%	1,020
<b>EID</b>	1270.1	65.4%	21.2	1.1%	227.8	11.7%	0.0	0.0%	192.2	9.9%	230.6	11.9%	1,942
<b>LID</b>	32.6	56.4%	0.3	0.5%	2.0	3.5%	0.0	0.0%	11.7	20.3%	11.2	19.4%	58
<b>LNID</b>	579.2	74.9%	8.6	1.1%	47.8	6.2%	17.0	2.2%	62.6	8.1%	58.2	7.5%	773
<b>MID</b>	65.7	61.2%	1.5	1.4%	1.2	1.1%	0.3	0.3%	33.7	31.4%	4.9	4.6%	107
<b>MVID</b>	19.1	44.5%	1.8	4.2%	0.0	0.0%	0.0	0.0%	17.0	39.7%	5.0	11.7%	43
<b>RCID</b>	12.2	83.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.5	17.0%	0.0	0.0%	15
<b>RID</b>	154.2	63.4%	2.5	1.0%	0.0	0.0%	0.0	0.0%	67.9	27.9%	18.5	7.6%	243
<b>SMRID</b>	992.9	54.5%	26.0	1.4%	64.9	3.6%	44.2	2.4%	459.0	25.2%	234.2	12.9%	1,821
<b>TID</b>	202.0	57.5%	10.9	3.1%	56.2	16.0%	6.5	1.8%	57.0	16.2%	18.7	5.3%	351
<b>UID</b>	102.0	44.2%	22.8	9.9%	13.9	6.0%	0.2	0.1%	42.2	18.3%	49.9	21.6%	231
<b>WID</b>	249.1	24.7%	33.2	3.3%	100.2	9.9%	5.2	0.5%	162.6	16.1%	459.4	45.5%	1,010
<b>TOTAL</b>	<b>4,319</b>	<b>56.4%</b>	<b>135</b>	<b>1.8%</b>	<b>628</b>	<b>8.2%</b>	<b>80</b>	<b>1.0%</b>	<b>1,274</b>	<b>16.7%</b>	<b>1,216</b>	<b>15.9%</b>	<b>7,653</b>
Headworks Owned by Alberta Environment and Parks (AEP)												<b>339</b>	
Total Length of Conveyance System in Southern Alberta (km)												<b>7,992</b>	

Note: Rehabilitated infrastructure includes those works re-constructed through:

- The Irrigation Rehabilitation Program (IRP)
- Alberta Environment and Parks.
- District funded infrastructure projects

**Table 12. Irrigation District Infrastructure Length and Replacement Cost**

IRRIGATION DISTRICTS	CONVEYANCE WORKS		DRAINAGE WORKS		MAJOR STRUCTURES		TOTAL OF ALL WORKS	
	Length (km)	Replacement Cost (\$'000)	Length (km)	Replacement Cost (\$'000)	Number of Units	Replacement Cost (\$'000)	Length (km)	Replacement Cost (\$'000)
<b>AID</b>	39	\$11,155	19	\$314	0	\$0	<b>59</b>	<b>\$11,469</b>
<b>BRID</b>	1,020	\$366,424	794	\$17,464	22	\$97,753	<b>1,814</b>	<b>\$481,641</b>
<b>EID</b>	1,942	\$731,563	1,960	\$45,766	61	\$349,421	<b>3,902</b>	<b>\$1,126,750</b>
<b>LID</b>	58	\$13,776	5	\$160	0	\$0	<b>63</b>	<b>\$13,936</b>
<b>LNID</b>	773	\$264,107	254	\$9,457	2	\$2,880	<b>1,027</b>	<b>\$276,444</b>
<b>MID</b>	107	\$27,702	163	\$5,667	0	\$0	<b>270</b>	<b>\$33,369</b>
<b>MVID</b>	43	\$14,567	1	\$75	0	\$0	<b>44</b>	<b>\$14,642</b>
<b>RCID</b>	15	\$2,844	20	\$986	1	\$135	<b>35</b>	<b>\$3,965</b>
<b>RID</b>	243	\$61,098	218	\$10,829	0	\$0	<b>461</b>	<b>\$71,927</b>
<b>SMRID</b>	1,821	\$676,391	413	\$11,378	48	\$335,617	<b>2,234</b>	<b>\$1,023,386</b>
<b>TID</b>	351	\$133,505	84	\$4,662	12	\$14,168	<b>435</b>	<b>\$152,336</b>
<b>UID</b>	231	\$75,279	59	\$1,574	11	\$16,206	<b>290</b>	<b>\$93,060</b>
<b>WID</b>	1,010	\$352,999	929	\$24,900	13	\$18,180	<b>1,939</b>	<b>\$396,080</b>
<b>TOTAL</b>	<b>7,653</b>	<b>\$2,731,410</b>	<b>4,919</b>	<b>\$133,232</b>	<b>170</b>	<b>\$834,361</b>	<b>12,572</b>	<b>\$3,699,003</b>

Note: Total of "All Works" length values include the summation of conveyance and drainage works. Replacement cost is based on construction and material costs that were updated in 2012 .

**Table 13. Irrigation District Reservoirs**

LOCATION	RESERVOIR	APPROXIMATE DATE OF LIVE IMPOUNDMENT	IRRIGATION LIVE STORAGE (dam <sup>3</sup> )	IRRIGATION LIVE STORAGE (acre-feet)
BRID	Badger	1985	57,120	46,300
	'D' Reservoir	2005	350	280
	'H' Reservoir	1953	2,790	2,260
	Lost Lake	1973/1987*	5,060	4,100
	'PFRID' Reservoir	2005	570	480
	Scope	1953	12,930	10,480
	<b>Total storage</b>		<b>78,820</b>	<b>63,900</b>
EID	Bantry # 1	1968	1,090	880
	Bantry # 2	1967	4,150	3,360
	Cowoki Lake	1937	8,370	6,780
	Crawling Valley	1984	94,300	76,450
	'J' Reservoir	1949/1966*	1,460	1,180
	Kitsim	1980	19,470	15,790
	Lake Newell	1914	315,300	255,610
	One Tree	1935	5,660	4,590
	Rock Lake	1956	3,990	3,240
	Rolling Hills	1940/2003*	40,640	32,950
	Snake Lake	1997	18,620	15,100
Tilley "B"	1972	21,070	17,080	
	<b>Total storage</b>		<b>534,120</b>	<b>433,010</b>
LNID	Park Lake	1928	1,440	1,170
	Picture Butte	1936	1,490	1,210
	<b>Total storage</b>		<b>2,930</b>	<b>2,380</b>
RID	Corner Lake	1925	500	400
	Craddock	1925	620	500
	Factory Lake	1925	370	300
	<b>Total storage</b>		<b>1,490</b>	<b>1,200</b>
SMRID	Bullshead	1954	130	100
	Chin	1954	207,370	168,120
	Cross Coulee	1954	2,090	1,700
	Forty Mile	1987	100,430	81,420
	Murray	1954	30,630	24,830
	North East	1954	2,820	2,290
	Raymond	1954	1,810	1,470
	Sauder	1953/1982*	45,240	36,680
	Seven Persons	1953	900	730
	Sherburne	1952	12,190	9,880
	Stafford	1954/1982*	21,790	17,670
	Yellow Lake	1952	18,130	14,700
	<b>Total storage</b>		<b>443,530</b>	<b>359,590</b>
TID	Fincastle	1952	3,770	3,060
	Horsefly	1950	6,370	5,170
	Taber Lake	1955	6,410	5,190
	<b>Total storage</b>		<b>16,550</b>	<b>13,420</b>
UID	Cochrane Lake	1923	3,130	2,540
WID	Chestermere	1944	5,090	4,130
	Langdon	1979/2014*	15,750	12,770
	<b>Total storage</b>		<b>20,840</b>	<b>16,900</b>
<b>GRAND TOTAL</b>			<b>1,101,398</b>	<b>892,905</b>

Note: All reservoirs are off-stream storage sites. \* Denotes year of reservoir enlargement



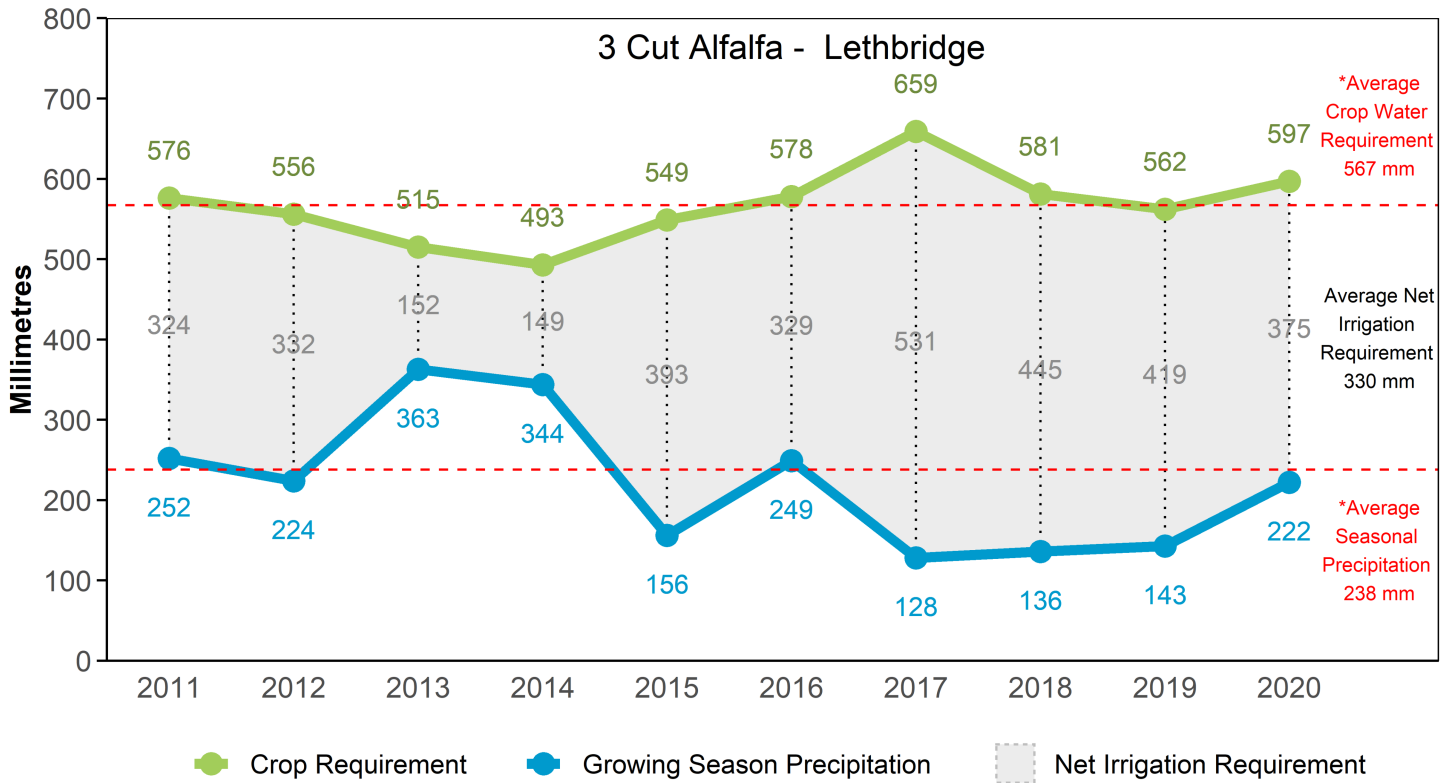
**Table 14. Provincially Owned and Operated Reservoirs Used by Irrigation**

SOURCE SUPPLY FOR:	RESERVOIR	APPROXIMATE DATE OF IMPOUNDMENT	LIVE STORAGE (dam <sup>3</sup> )	LIVE STORAGE (acre-feet)
BRID	Little Bow	1920	43,260	35,070
	McGregor	1914	351,060	284,600
	Travers *	1954	104,640	84,830
	<b>Total Storage</b>		<b>498,960</b>	<b>454,500</b>
LNID	Keho	1920	95,640	77,540
	Oldman River *	1991	490,180	397,390
	<b>Total Storage</b>		<b>585,820</b>	<b>474,930</b>
RCID	Cavan	1950	4,630	3,750
MVID, LID, AID	Payne	1942	8,690	7,040
MID, RID, SMRID, TID	Jensen	1948	19,000	15,400
	Milk River Ridge	1957	127,300	103,200
	St. Mary *	1951	369,310	299,400
	Waterton *	1965	111,200	90,150
	<b>Total Storage</b>		<b>626,810</b>	<b>508,150</b>
Other	Chain Lakes *	1966	14,680	11,900
	Twin Valley Dam *	2003	60,700	49,210
	Pine Coulee	1998	51,000	41,350
	Women's Coulee	1949	360	290
	<b>Total Storage</b>		<b>126,740</b>	<b>102,750</b>
<b>GRAND TOTAL</b>			<b>1,851,650</b>	<b>1,501,120</b>

Note: Irrigation storage might be lower than live storage. \* Denotes on-stream storage reservoir.

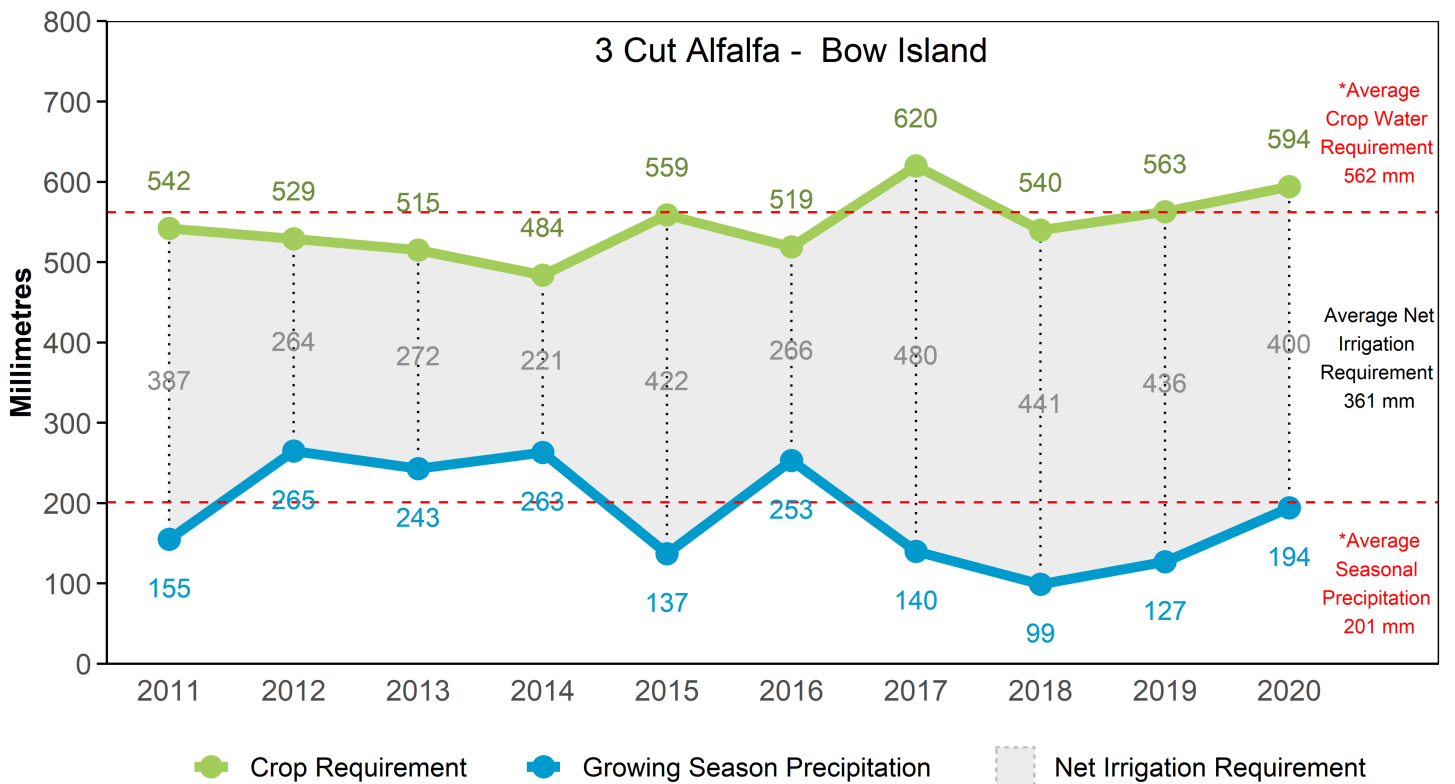
**Table 15. Hydroelectric Plants Associated with Irrigation Infrastructure**

LOCATION	COMMISSION DATE	OWNER	CAPACITY (MEGAWATTS)
Oldman Reservoir	2003	ATCO	32
Waterton Reservoir	1992	TransAlta	3
Belly River Chute	1991	TransAlta	3
St. Mary Reservoir	1992	TransAlta	2
Taylor Coulee Chute (Jensen Reservoir)	2000	TransAlta	13
Raymond Reservoir	1994	Irrican	21
Chin Chute (Chin Reservoir)	1994	Irrican	15
SMRID - Main Canal Drops #4, #5 and #6	2004	Irrican	7
<b>TOTAL</b>			<b>96</b>

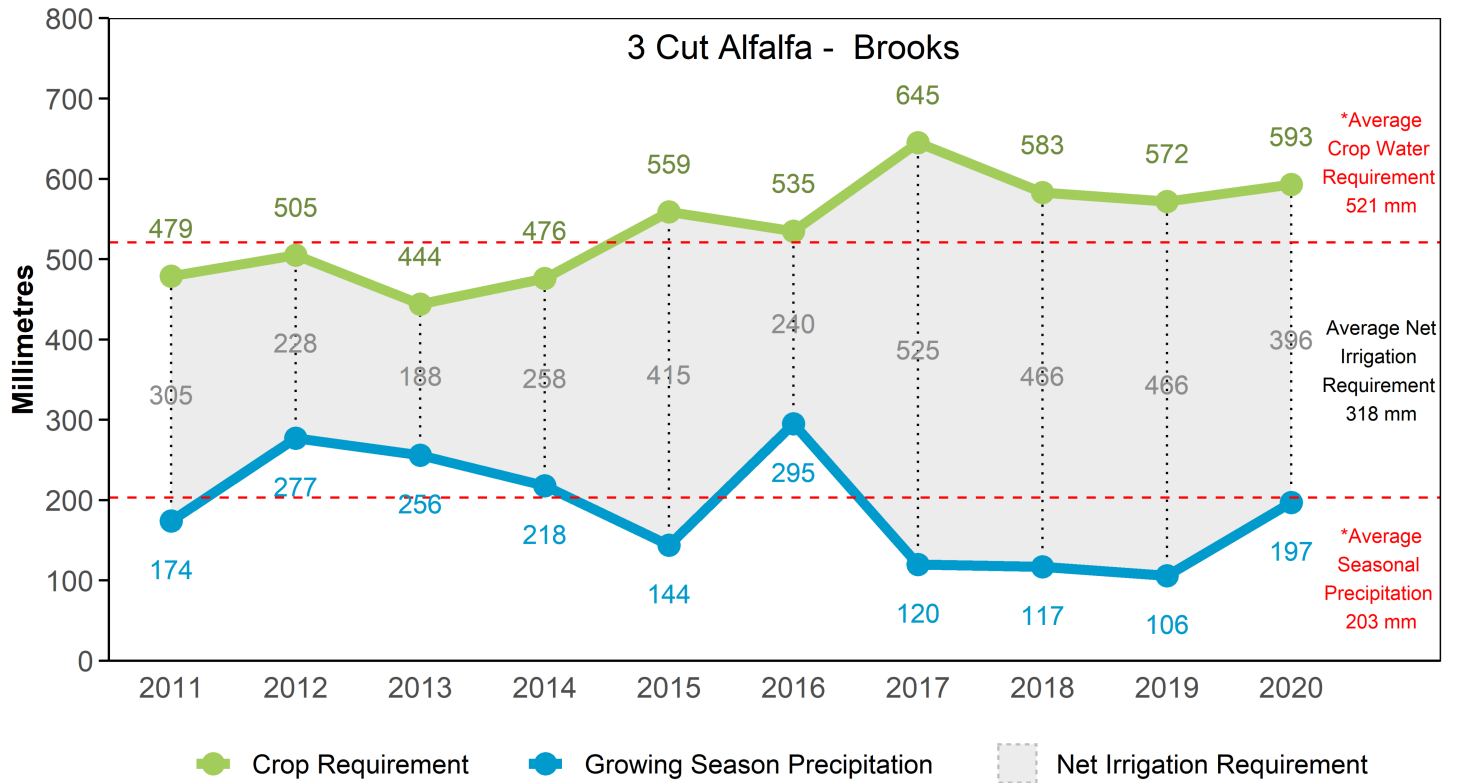


**Figure 10. Lethbridge Optimum Crop Water and Net Irrigation Requirements**

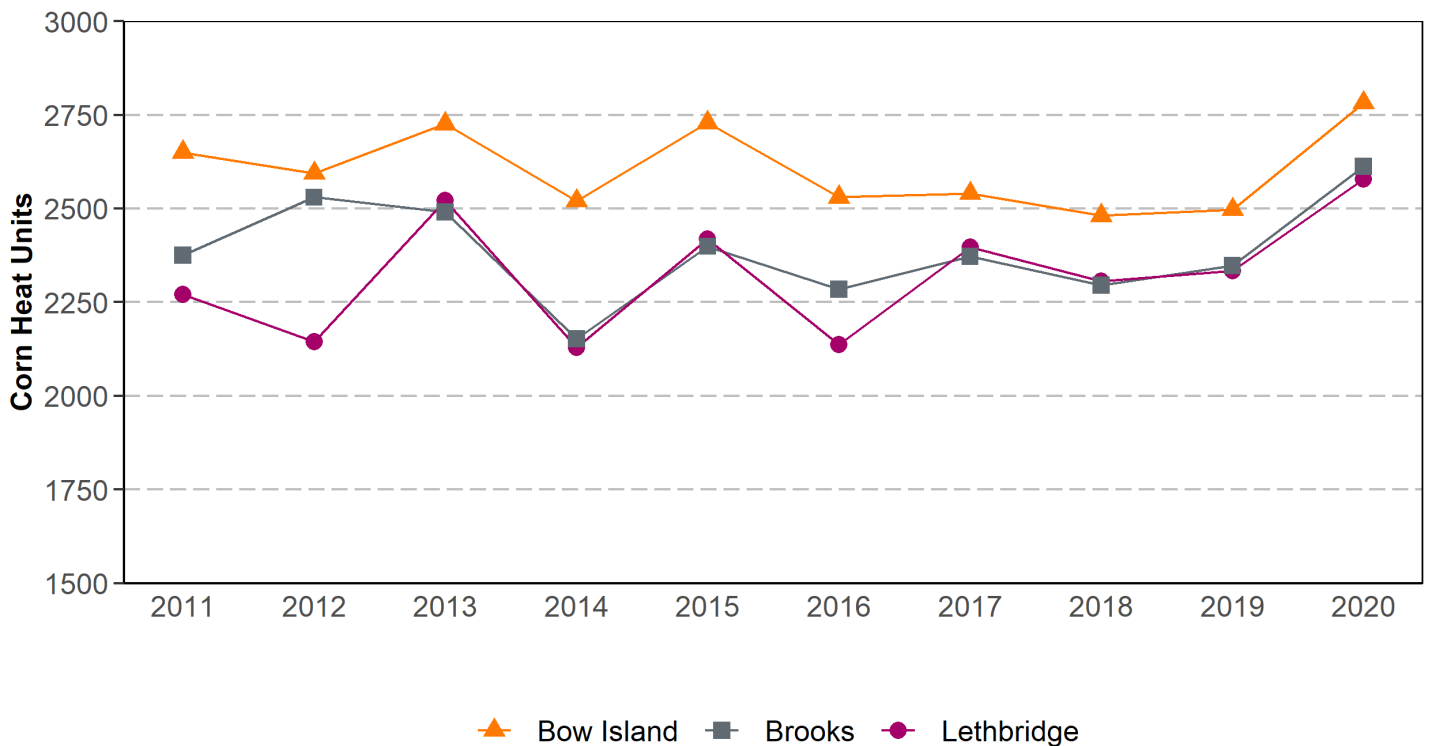
Note: Three cut alfalfa is used as an indicator crop because of its high water demand. The difference between the total crop water requirement and total precipitation is the Net Irrigation Requirement. \*The average crop requirement and average precipitation are from the period of 1997 to 2020. Seasonal precipitation from May 1 to September 30.



**Figure 11. Bow Island Optimum Crop Water and Net Irrigation Requirements**



**Figure 12. Brooks Optimum Crop Water and Net Irrigation Requirements**



**Figure 13. Lethbridge, Bow Island and Brooks Corn Heat Units**

Note: Total Corn Heat Units starting May 15 until first frost (-2°C)

**Table 16. Historical Rainfall in Southern Alberta (April 15 — October 15)**

SITE	MAXIMUM RAINFALL (MM)	MINIMUM RAINFALL (MM)	NORMAL RAINFALL* (MM)	2020 RAINFALL (MM)	2020 % OF NORMAL
Lethbridge	534 (1978)	71 (2001)	273	<b>267</b>	<b>98%</b>
Bow Island	439 (1993)	112 (2001)	250	<b>259</b>	<b>103%</b>
Brooks	484 (2005)	87 (2001)	236	<b>227</b>	<b>96%</b>

Note: \*Normal rainfall: 1970 - 2020 average

**Table 17. Historical Corn Heat Units (CHU) in Southern Alberta (May 15 to First -2°C Frost)**

SITE	MAXIMUM CHU (2011 - 2020)	MINIMUM CHU (2011 - 2020)	LAST TEN YEAR AVERAGE*	2020 CORN HEAT UNITS	2020 % of LAST TEN YEAR AVERAGE
Lethbridge	2578 (2020)	2129 (2014)	2324	<b>2578</b>	<b>111%</b>
Bow Island	2782 (2020)	2481 (2018)	2605	<b>2782</b>	<b>107%</b>
Brooks	2612 (2020)	2152 (2014)	2386	<b>2612</b>	<b>109%</b>

Note: \*Last ten year average 2011 - 2020

**Table 18. Frost Free Period (> 0°C) in Southern Alberta**

SITE	AVERAGE LAST FROST	AVERAGE FIRST FROST	AVERAGE FROST FREE DAYS	2020 LAST FROST	2020 FIRST FROST	2020 FROST FREE DAYS	2020 % OF AVERAGE
Lethbridge	May 11	Sep 20	132	<b>May 13</b>	<b>Oct 1</b>	<b>141</b>	<b>107%</b>
Bow Island	May 11	Sep 21	134	<b>May 10</b>	<b>Sep 8</b>	<b>121</b>	<b>91%</b>
Brooks	May 14	Sep 18	127	<b>May 15</b>	<b>Sep 8</b>	<b>116</b>	<b>91%</b>

Note: \*Average frost free days 1998 - 2020

**Table 19. Frost Free Period (> -2°C) in Southern Alberta**

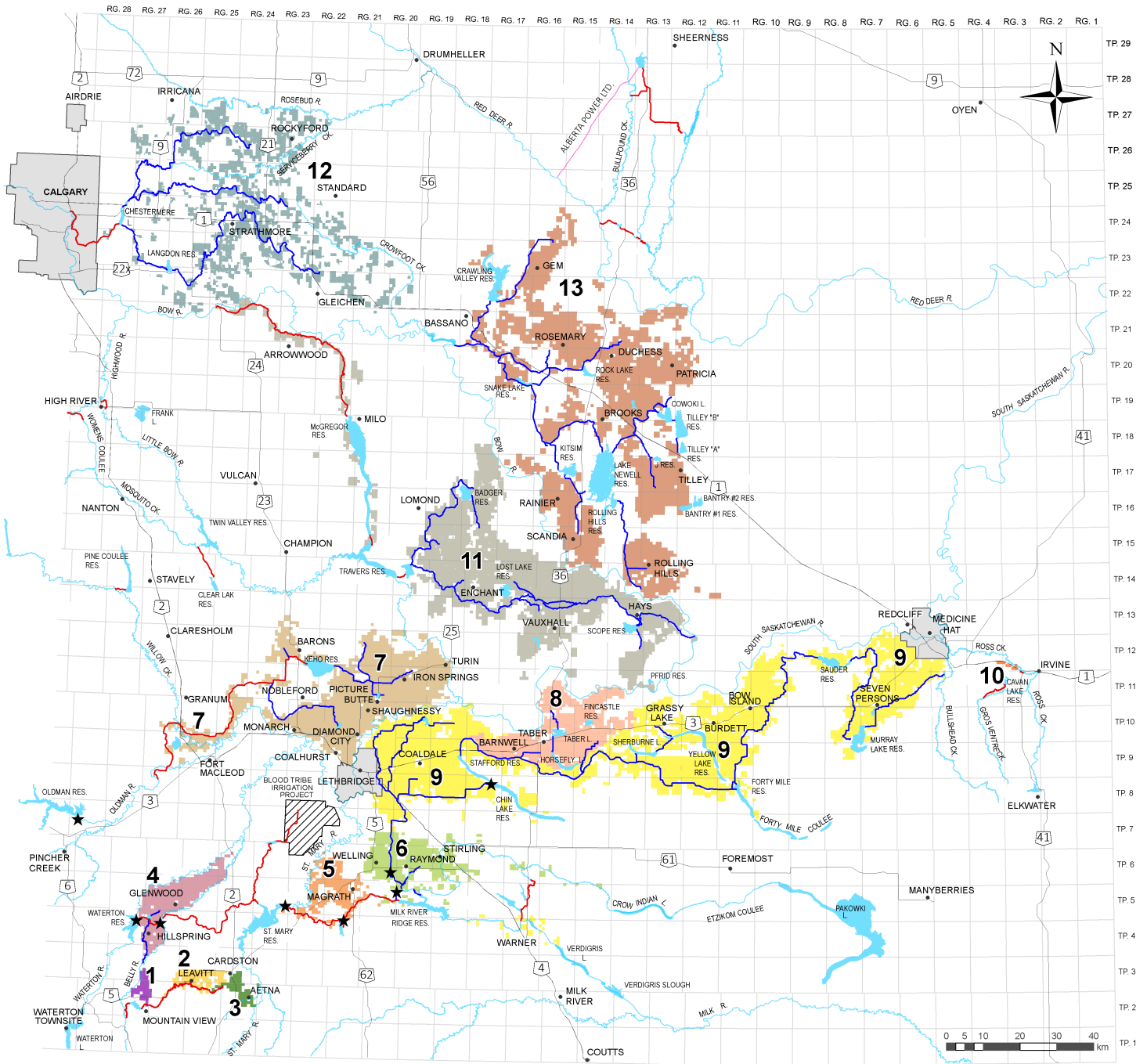
SITE	AVERAGE LAST FROST	AVERAGE FIRST FROST	AVERAGE FROST FREE DAYS	2020 LAST FROST	2020 FIRST FROST	2020 FROST FREE DAYS	2020 % OF AVERAGE
Lethbridge	May 2	Sept 27	149	<b>Apr 19</b>	<b>Oct 15</b>	<b>179</b>	<b>120%</b>
Bow Island	May 1	Oct 2	154	<b>Apr 16</b>	<b>Oct 15</b>	<b>182</b>	<b>118%</b>
Brooks	May 10	Sept 24	137	<b>May 13</b>	<b>Oct 3</b>	<b>143</b>	<b>104%</b>

Note: \*Average frost free days 1998 - 2020

**Table 20. Energy Types Used in the Irrigation Districts' Irrigated Areas**

ENERGY TYPE	IRRIGATION DISTRICT										TOTAL ACRES
	BRID	EID	LNID	MID	RCID	RID	SMRID	TID	UID	WID	
<b>ELECTRICITY</b>	201,415	172,727	76,361	1,499	0	23,420	263,653	57,930	17,637	31,106	<b>845,746</b>
	79.3%	56.2%	39.3%	8.2%	0.0%	52.3%	67.0%	67.2%	51.7%	36.1%	<b>59.6%</b>
<b>NATURAL GAS</b>	25,510	65,841	53,916	10,761	0	15,653	110,210	24,668	773	24,336	<b>331,668</b>
	10.0%	21.4%	27.8%	58.7%	0.0%	35.0%	28.0%	28.6%	2.3%	28.2%	<b>23.4%</b>
<b>DIESEL</b>	5,883	10,673	896	0	0	204	2,539	752	790	9,892	<b>31,629</b>
	2.3%	3.5%	0.5%	0.0%	0.0%	0.5%	0.6%	0.9%	2.3%	11.5%	<b>2.2%</b>
<b>GRAVITY</b>	8,909	42,605	2,169	3,119	0	3,409	5,374	2,234	5,728	7,486	<b>81,033</b>
	3.5%	13.9%	1.1%	17.0%	0.0%	7.6%	1.4%	2.6%	16.8%	8.7%	<b>5.7%</b>
<b>GRAVITY PRESSURE PIPELINE</b>	9,080	5,805	34,462	2,921	1,075	456	10,757	381	9,072	7,222	<b>81,230</b>
	3.6%	1.9%	17.7%	15.9%	100.0%	1.0%	2.7%	0.4%	26.6%	8.4%	<b>5.7%</b>
<b>PUMP PRESSURE PIPELINE</b>	715	6,917	16,383	0	0	0	0	0	0	395	<b>24,411</b>
	0.3%	2.2%	8.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	<b>1.7%</b>
<b>OTHER *</b>	1,023	2,643	1,102	30	0	602	1,084	190	85	5,225	<b>11,983</b>
	0.4%	0.9%	0.6%	0.2%	0.0%	1.3%	0.3%	0.2%	0.2%	6.1%	<b>0.8%</b>
<b>UNKNOWN</b>	1,336	222	8,885	0	0	1,005	0	31	0	540	<b>12,019</b>
	0.5%	0.1%	4.6%	0.0%	0.0%	2.2%	0.0%	0.0%	0.0%	0.6%	<b>1.0%</b>
<b>TOTAL ACRES</b>	<b>253,870</b>	<b>307,433</b>	<b>194,174</b>	<b>18,330</b>	<b>1,075</b>	<b>44,748</b>	<b>393,617</b>	<b>86,186</b>	<b>34,084</b>	<b>86,202</b>	<b>1,419,719</b>

Note: - \* other includes gasoline, propane or butane  
- AID, LID and MVID did not report any data



- 1 Mountain View Irrigation District
- 2 Leavitt Irrigation District
- 3 Aetna Irrigation District
- 4 United Irrigation District
- 5 Magrath Irrigation District
- 6 Raymond Irrigation District
- 7 Lethbridge Northern Irrigation District
- 8 Taber Irrigation District
- 9 St. Mary River Irrigation District
- 10 Ross Creek Irrigation District
- 11 Bow River Irrigation District
- 12 Western Irrigation District
- 13 Eastern Irrigation District

- Hydroelectric Plants Associated with Water Distribution Works
- Headworks Owned and Operated by Alberta Environment and Parks
- Major Canals (District Owned and Operated)

There are 13 irrigation districts in Alberta providing water to 1,496,200 assessed acres of land. The infrastructure that provides water to the irrigation districts is comprised of approximately 7,992 kilometers of conveyance system, of which 339 kilometers are owned and operated by Alberta Environment and Parks\*.

\* based on 2020 data.

**Figure 14. Alberta's Irrigation Districts**

# Glossary

**Acres Actually irrigated:** A parcel of assessed land that includes an irrigation system and received water during the current year, as reported by the irrigation districts.

**Acres covered by an irrigation system:** A parcel of land recorded on the assessment roll of an irrigation district as having irrigation acres and has some type of irrigation system.

**Irrigated this year:** A parcel of land that received irrigation water in the current year.

**Not irrigated this year:** A parcel of land that did not receive irrigation water in the current year.

**Acres with no irrigation system:** A parcel of land recorded on the assessment roll of an irrigation district as having irrigation acres without any type of system.

**Assessment roll:** List of all parcels in a district that have irrigation acres, and acres subject to terminable or annual agreements. To learn more about assessment rolls, please refer to Alberta's Irrigation Districts Act.

**Canal Evaporation:** Water lost through the delivery system by evaporation from the water surface of an open channel.

**Canal Seepage:** Water lost through the delivery system through the sides and bottom of an open channel.

**Corn Heat Unit:** A numerical measure of the growth response of a corn plant to daily minimum and maximum temperatures. Zero corn heat units are calculated when daily minimum temperatures are below 4.4°C and daily maximum temperatures are below 10°C. They are calculated on a daily basis and accumulated annually starting on May 15 and continuing until the first killing frost of -2°C.

**Crop Water Requirement:** The amount of water a crop needs to transpire in response to meteorological conditions.

**Crop Type:** Plants that are grown in the irrigation districts are grouped into five categories: cereals, forages, oil seeds, specialty crops, and other.

**Cereals:** Annual grasses grown for their grain. Crops reported include barley, Canada Prairie Spring (CPS) wheat, durum wheat, grain corn, hard red spring wheat, malt barley, oats, rye, soft wheat, triticale, and winter wheat.

**Forages:** Plants that are consumed by livestock. Crops reported include alfalfa (two & three cut, hay, and silage), barley silage, brome hay, corn silage, grass hay, green feed, milk vetch, native pasture, oats silage, sorghum/sudan grass, tame pasture, timothy hay, and triticale silage.

**Oil Seeds:** Plants that are grown for the oil contained in the seeds. Crops reported include canola, flax, mustard and safflower.

**Specialty Crops:** Include fruits and vegetables, horticulture, seed production, pulse crops, and nursery crops. Crops reported include alfalfa seed, canola seed, carrots, cat nip, chick peas, dill, dry beans, dry peas, faba beans, fresh sweet corn, fresh peas, grass seed, hemp, lawn turf, lentils, market gardens, mint, nursery, onions, potatoes, pumpkins, seed potatoes, small fruit, soy beans, sugar beets, sunflower and yellow peas.

**Other:** Other reported include miscellaneous, non-crop, summer fallow, and unknown.

**Delivered for Irrigation:** Any water delivered by an irrigation district for irrigation purposes.

**Delivered for Other Use:** Any water delivered by an irrigation district for a use other than irrigation; this includes municipal, domestic, other agricultural, industrial, and environmental uses.

**Drainage Works:** A natural or man-made, open channel or pipeline that provides a means to move unused water away from irrigation works.

**Expansion Limit:** The maximum allowable number of irrigation acres plus acres subject to a terminable agreement in an irrigation district, as per the Irrigation Districts Act. (reason: Annual acres can result in the total irrigated area exceeding the expansion limit).

**Frost Free Period (0°C):** Continuous number of days where the minimum daily temperature does not drop below 0°C.

**Frost Free Period (-2°C):** Continuous number of days where the minimum daily temperature does not drop below -2°C.

**Gross Annual Diversion:** All water diverted into the works of an irrigation district from a water source. It includes water used directly for irrigation purposes, reservoir filling, and the water supplied or licenced to municipal, domestic, other agricultural, industrial, and environmental uses, as well as losses through seepage and evaporation.

**Irrigation District:** A corporation that operates under the authority of the Alberta Irrigation Districts Act whose primary purpose is to convey and deliver water through irrigation works, divert and use quantities of water within the terms of its licence, and to construct, operate and maintain irrigation works. An irrigation district is the geographical area consisting of the parcels of land included in the district.

**Irrigation District Irrigation Rate:** The annual amount charged by an irrigation district per irrigation acre of land for irrigation water delivery. Some districts levy additional surcharges for services including pipeline and/or pressurized delivery, using more water than allocated, and automated screen cleaning.

**Irrigation District Works:** Any structure, device, or artificial body of water or watercourse used or to be used by a district.

**Rehabilitated:** includes work re-constructed through the Irrigation Rehabilitation Program (IRP), Alberta Environment and Parks and district funded infrastructure projects.

**Closed pipeline:** A buried conduit that is closed at the outlet.

**Open pipeline:** A buried conduit that is open at the outlet.

**Membrane-lined canal:** An open channel that has been lined with a membrane material to prevent water seepage.



**Concrete-lined canal:** An open channel that has been constructed with concrete to prevent water seepage.

**Earth canal:** An open channel that has been constructed with a natural low porosity material that reduces water seepage.

**Un-rehabilitated:** includes irrigation district works, in particular, canals that have not been re-constructed.

**Irrigation method:** On-farm technique and system used to apply irrigation water to an irrigated field. Irrigation systems are grouped into five categories: high pressure pivot sprinkler, low pressure pivot sprinkler, wheel move sprinkler, gravity, and other.

**Low pressure pivot sprinkler includes:**

**Pivot medium pressure:** Centre pivot irrigation system with medium pressure (between 30 and 50 psi) impact sprinklers.

**Pivot medium pressure – corner arm:** Centre pivot irrigation system with medium pressure (between 30 and 50 psi) impact sprinkler nozzles with the addition of a secondary pivotal arm connected to the end of the centre pivot boom.

**Pivot low pressure:** Centre pivot irrigation system with low pressure (less than 30 psi) spray nozzles.

**Pivot low pressure – corner arm:** Centre pivot irrigation system with medium pressure (less than 30 psi) impact spray nozzles with the addition of a secondary pivotal arm connected to the end of the centre pivot boom.

**Linear – low pressure:** Linear move irrigation pivot system with high pressure (less than 30 psi) impact sprinklers that irrigate a rectangular field.

**High pressure pivot sprinkler includes:**

**Pivot high pressure:** Centre pivot irrigation system with high pressure (greater than 50 pounds per square inch (psi) impact sprinklers.

**Pivot high pressure – corner arm:** Centre pivot irrigation system with high pressure (greater than 50 psi) impact sprinklers with the addition of a secondary pivotal arm connected to the end of the centre pivot boom.

**Linear – high pressure:** Linear move irrigation pivot system with high pressure (greater than 50 psi) impact sprinklers that irrigate a rectangular field.

**Wheel move includes:**

**Wheel move – two laterals:** Two wheel mounted pipelines with sprinklers along their length per parcel of land.

**Wheel move – four laterals:** Four wheel mounted pipelines with sprinklers along their length per parcel of land.

**Gravity includes:**

**Gravity – developed:** surface irrigation system with some land modification (leveling) or application control (construction of border strips, furrows, dykes), where the soil surface is used to distribute and infiltrate the applied water.

**Gravity undeveloped:** surface irrigation system without any land modification (leveling) or application control (furrows, border strips, dykes).

**Other includes:**

**Volume gun – stationary:** Large volume sprinkler stationed at a single point.

**Volume gun – traveller:** Large volume sprinkler mounted on wheels.

**Solid set:** Sprinklers mounted on risers connected to a buried pipe.

**Hand move:** Sprinklers mounted on risers connected to a surface pipe that can be moved.

**Micro – spray – sprinkler:** Spray emitter connected to a drip irrigation system.

**Micro – drip – trickle:** Drip emitter connected to a drip irrigation system.

**Other application use:** Water used for purposes other than irrigation.

**Live storage:** Portion of the volume of water stored in a reservoir that is available for use for flood control, power production, irrigation or other downstream releases. In contrast, dead storage refers to the portion of water in a reservoir that cannot be drained or released from the reservoir under normal operations.

**Net District Storage Change:** Net volume of water removed from internal irrigation district reservoirs for use. Irrigation districts own and operate reservoirs to store irrigation water for release when there is insufficient diversion capacity to meet the demand for water. They are also used for normal district operations to stabilize flows and capture unused water for further use.

**Net Irrigation Requirement:** The amount of water supplied by irrigation to meet the crop water requirement.

**Percent of Licence:** The percentage of the irrigation district's water licence volume that was diverted in a year.

**Replacement Cost:** The cost in today's dollars to replace a piece of irrigation district infrastructure.

**Reservoir Evaporation:** Water lost from the surface of a reservoir by vaporization.

**Reservoir Seepage:** Water lost from a reservoir through seepage.

**Return:** Water returned by an irrigation district infrastructure to a river system.

**Water Licence (Irrigation):** Includes irrigation district and private licences.

**Irrigation District Water Licence:** An authorization which permits the irrigation district to divert a certain volume of water, at a specific rate, from a watercourse into district owned conveyance and storage systems.

**Private Irrigation Water Licence:** An authorization which permits the licence holder to divert a certain volume of water, at a specific rate, from a watercourse to a private irrigation development project.

**Water Licence Allocation (Irrigation District):** The total volume of water that an irrigation district is licenced to annually divert.