
Alberta irrigation information 2022



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

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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 m³

1 ac-ft = 1.233 dam³

1 inch = 25.4 mm

1 mile = 1.609 km

Metric to Imperial

1 ha = 2.471 acres

1 m³ = 0.00081 ac-ft

1 dam³ = 0.8107 ac-ft

1 mm = 0.0394 inches

1 km = 0.6214 miles

Other

1 m³ = 1000 L

1 dam³ = 1000 m³

1 km = 1000 m

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TABLE 1. DETAILS OF CROPS GROWN WITHIN THE IRRIGATION DISTRICTS

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CROP TYPE		AID		BRID		EID		LID	
		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	14,793	2,023	17,397	40	150	16
	CPS Wheat			1,586	929	157			
	Durum Wheat			30,026	476	11,301			
	Grain Corn			7,526	425	5,254	4		
	Hard Spring Wheat			46,469	2,720	48,659	585		
	Malt Barley			517					
	Miscellaneous Cereals					291			
	Oats			2,443	283	2,383		30	
	Rye			4,746	38	1,087			
	Soft Wheat			2,503	425	2,009			
	Triticale			364	34	6,570	37	60	
	Winter Wheat			5,438	1,136	4,779			
FORAGES	Alfalfa - Two cuts			68		30,942	526		
	Alfalfa - Three cuts					5,826			
	Alfalfa Hay	1,345	550	8,559	869	2,456	11	663	75
	Alfalfa Silage			131		345			
	Barley Silage			4,801	319	2,034			
	Barley Silage (Underseeded)					1,793			
	Brome Hay								
	Corn Silage			8,927	350	17,450	127		
	Custom Variety Forage / Misc.					393			
	Grass Hay		6	6,469	515	14,254	885	466	330
	Green Feed	202	89	629	98	4,622	169	69	
	Native Pasture	14		117	143	961	143	100	
	Oats Silage					70			
	Sorghum/Sudan Grass			112		448			
	Tame Pasture	388	428	7,914	1,536	31,734	2,589	1,393	30
Timothy Hay					6,665		705		
Other Silage (Triticale, Wheat)									
OIL SEEDS	Canola		107	19,749	1,345	27,939	475		
	Flax			4,799	61	7,395			
	Mustard			432	263	130			

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

TABLE 1. DETAILS OF CROPS GROWN WITHIN THE IRRIGATION DISTRICTS

(Page 2 of 8)

	CROP TYPE	AID		BRID		EID		LID	
		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
SPECIALTY CROPS	Alfalfa Seed			5,748	8	14,102	222		
	Canary Seed								
	Canola Seed			18,354	339	13,311	66		
	Carrots					420			
	Catnip								
	Chick Peas			100					
	Dill					125	125		
	Dry Beans			13,677	388	2,950			
	Dry Peas			10,061	317	4,845	125		
	Faba Beans			1,012		830			
	Fresh Corn (Sweet)								
	Fresh Peas			270					
	Grass Seed			466		568			
	Hemp			1,565	44	932			
	Lawn Turf (Turf Sod)								
	Lentils			121					
	Market Gardens			53		333			
	Mint			270			125		
	Nursery					127	272		
	Onions								
	Potatoes			15,567	17	7,525			
	Quinoa			130					
	Seed Potatoes			124		60			
Soybeans					771				
Sugar Beets			10,756	32	1,601				
Sunflower			181						
Yellow Peas					351				
OTHER	Miscellaneous	44	65	93	116	1,000	11	228	717
	Non Crop				205	115	158		
	Summer Fallow				104	50	59		
	Unknown								
TOTAL ACRES		2,468	2,236	257,664	15,558	305,360	6,754	3,864	1,168
		4,704		273,222		312,114		5,032	

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

TABLE 1. DETAILS OF CROPS GROWN WITHIN THE IRRIGATION DISTRICTS

(Page 3 of 8)

CROP TYPE		LNID		MID		MVID		RCID	
		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	16,053	n/a	1,513	147	463	271		
	CPS Wheat	749	n/a						
	Durum Wheat	6,330	n/a	460	130				
	Grain Corn								
	Hard Spring Wheat	1,824	n/a	3,061	275				
	Malt Barley								
	Miscellaneous Cereals	862	n/a						
	Oats	709	n/a	80			16		
	Rye	5,227	n/a		25				
	Soft Wheat	7,826	n/a						
	Triticale	1,253	n/a				41		
Winter Wheat	4,097	n/a		140					
FORAGES	Alfalfa - Two cuts								
	Alfalfa - Three cuts								
	Alfalfa Hay	10,703	n/a	6,724	344	698	579	781	
	Alfalfa Silage	18,234	n/a						
	Barley Silage	34,290	n/a	130					
	Barley Silage (Underseeded)								
	Brome Hay	414	n/a						
	Corn Silage	27,367	n/a	140					
	Custom Variety Forage / Misc.	242	n/a						
	Grass Hay	5,395	n/a	308	140	211	184		
	Green Feed			87		62	32		
	Native Pasture	137	n/a						
	Oats Silage								
	Sorghum / Sudan Grass								
	Tame Pasture	3,803	n/a	1,308	272	595	307		
Timothy Hay	5,156	n/a			164				
Other Silage (Triticale, Wheat)									
OIL SEEDS	Canola	27,642	n/a	2,369	74		125	116	
	Flax	1,373	n/a	196					
	Mustard								

Note: LNID - n/a or not applicable - district does not separate out irrigated and not irrigated acres. Information for RCID is for the 2014 irrigation season.

TABLE 1. DETAILS OF CROPS GROWN WITHIN THE IRRIGATION DISTRICTS

(Page 4 of 8)

CROP TYPE		LNID		MID		MVID		RCID	
		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
SPECIALTY CROPS	Alfalfa Seed								
	Canary Seed								
	Canola Seed								
	Carrots								
	Catnip								
	Chick Peas								
	Dill								
	Dry Beans								
	Dry Peas	374	n/a		107				
	Faba Beans								
	Fresh Corn (Sweet)								
	Fresh Peas								
	Grass Seed			260					
	Hemp	2,025	n/a		20				
	Lawn Turf (Turf Sod)	749	n/a						
	Lentils								
	Market Gardens	48	n/a						
	Mint								
	Nursery	7	n/a						
	Onions								
	Potatoes	1,809	n/a						
	Quinoa								
	Seed Potatoes								
Soybeans									
Sugar Beets	2,509	n/a							
Sunflower									
Yellow Peas									
OTHER	Miscellaneous	11,608	n/a						
	Non Crop			20					
	Summer Fallow								
	Unknown								
TOTAL ACRES		198,635	n/a	16,656	1,674	2,194	1,555	897	
		198,635		18,330		3,749		897	

Note: LNID - n/a or not applicable - district does not separate out irrigated and not irrigated acres. Information for RCID is for the 2014 irrigation season.

TABLE 1. DETAILS OF CROPS GROWN WITHIN THE IRRIGATION DISTRICTS

(Page 5 of 8)

CROP TYPE		RID		SMRID		UID		WID	
		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	8,195	648	30,033	1,250	4,714	n/a	8,643	n/a
	CPS Wheat	384		3,060	50	3,473	n/a	1,451	n/a
	Durum Wheat	2,962		48,901	1,426			893	n/a
	Grain Corn			4,788	90			158	n/a
	Hard Spring Wheat	3,454	270	34,109	1,470	3,112	n/a	9,823	n/a
	Malt Barley	42		426				3,299	n/a
	Miscellaneous Cereals			130					
	Oats	90		666	94	201	n/a	597	n/a
	Rye	501		5,759	148			786	n/a
	Soft Wheat	657		12,902	495			2,324	n/a
	Triticale			1,722	133	111	n/a	203	n/a
Winter Wheat	175		17,902	991	1,173	n/a			
FORAGES	Alfalfa - Two cuts	7,792	50	2,855	81	3,194	n/a	10,739	n/a
	Alfalfa - Three cuts	1,452		14,619	159	1,722	n/a		
	Alfalfa Hay	2,078	15	19,999	2,406	176	n/a	1,187	n/a
	Alfalfa Silage	170		1,109				548	n/a
	Barley Silage	1,815	75	6,343	474	2,118	n/a	6,909	n/a
	Barley Silage (Underseeded)			670	89	139	n/a	432	n/a
	Brome Hay			743	19			867	n/a
	Corn Silage	2,956		31,409	693			841	n/a
	Custom Variety Forage / Misc.								
	Grass Hay	405		7,326	1,717	1,123	n/a	2,229	n/a
	Green Feed	115		2,412	71	83	n/a	445	n/a
	Native Pasture			2,533	954			3,132	n/a
	Oats Silage			369	35			60	n/a
	Sorghum / Sudan Grass			372					
	Tame Pasture	1,827	667	11,027	1,949	4,696	n/a	3,245	n/a
Timothy Hay	1,444		10,711	328	1,394	n/a	1,851	n/a	
Other Silage (Triticale, Wheat)							1,209	n/a	
OIL SEEDS	Canola	9,115	90	50,024	2,092	5,300	n/a	18,867	n/a
	Flax	551	30	7,798	330			1,354	n/a
	Mustard			952	52	1,583	n/a		

Note: UID and WID - n/a or not applicable - district does not separate out irrigated and not irrigated acres.

TABLE 1. DETAILS OF CROPS GROWN WITHIN THE IRRIGATION DISTRICTS

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CROP TYPE	RID		SMRID		UID		WID		
	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	
SPECIALTY CROPS	Alfalfa Seed	120	1,474	21					
	Canary Seed		476	130					
	Canola Seed		20,000	410					
	Carrots		705				30	n/a	
	Catnip		328						
	Chick Peas		452	37					
	Dill		930						
	Dry Beans		31,507	197					
	Dry Peas	501	11,908	266	338	n/a	2,307	n/a	
	Faba Beans		477				639	n/a	
	Fresh Corn (Sweet)		3,114						
	Fresh Peas		4,649						
	Grass Seed	143	260	22			150	n/a	
	Hemp	545	4,538						
	Lawn Turf (Turf Sod)		682				2166	n/a	
	Lentils		2,124	77					
	Market Gardens	38	528	36	9	n/a	185	n/a	
	Mint		3,875	47					
	Nursery	63	220	37			1,172	n/a	
	Onions		1,421						
	Potatoes		36,253	235	5	n/a	260	n/a	
	Quinoa								
	Seed Potatoes		279				312	n/a	
Soybeans									
Sugar Beets		14,518	76						
Sunflower		1,120							
Yellow Peas		616							
OTHER	Miscellaneous		2,220	328	152	n/a	184	n/a	
	Non Crop		492	1200	2	n/a	572	n/a	
	Summer Fallow		198	642			60	n/a	
	Unknown			218					
TOTAL ACRES		47,589	1,845	477,030	21,576	34,817	n/a	90,129	n/a
		49,433		498,606		34,817		90,129	

Note: UID and WID - n/a or not applicable - district does not separate out irrigated and not irrigated acres.

TABLE 1. DETAILS OF CROPS GROWN WITHIN THE IRRIGATION DISTRICTS

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CROP TYPE		ALL DISTRICTS		TOTAL ACRES (FOR ALL DISTRICTS)
		Irrigated this year	Not irrigated this year	
CEREALS	Barley	102,429	5,385	107,814
	CPS Wheat	10,860	979	11,840
	Durum Wheat	100,872	2,031	102,904
	Grain Corn	17,726	519	18,245
	Hard Spring Wheat	150,511	5,320	155,830
	Malt Barley	4,284		4,284
	Miscellaneous Cereals	1,283		1,283
	Oats	7,199	392	7,592
	Rye	18,106	211	18,317
	Soft Wheat	28,221	920	29,141
	Triticale	10,282	245	10,527
	Winter Wheat	33,564	2,267	35,831
FORAGES	Alfalfa - Two cuts	55,590	657	56,247
	Alfalfa - Three cuts	23,619	159	23,778
	Alfalfa Hay	55,369	4,849	60,218
	Alfalfa Silage	20,537		20,537
	Barley Silage	58,440	869	59,308
	Barley Silage (Underseeded)	3,034	89	3,123
	Brome Hay	2,024	19	2,043
	Corn Silage	89,090	1,170	90,260
	Custom Variety Forage / Misc.	635		635
	Grass Hay	38,186	3,777	41,963
	Green Feed	8,725	459	9,184
	Native Pasture	6,994	1,240	8,235
	Oats Silage	499	35	534
	Sorghum/Sudan Grass	932		932
	Tame Pasture	67,930	7,778	75,708
	Timothy Hay	28,090	328	28,418
Other Silage (Triticale, Wheat)	1,209		1,209	
OIL SEEDS	Canola	160,941	4,308	165,249
	Flax	23,466	420	23,887
	Mustard	3,097	315	3,412

Note: Information is for 2022 except for AID, LID and RCID. LNID, UID and WID - district does not separate out irrigated and not irrigated acres.

TABLE 1. DETAILS OF CROPS GROWN WITHIN THE IRRIGATION DISTRICTS

(Page 8 of 8)

CROP TYPE		ALL DISTRICTS		TOTAL ACRES (FOR ALL DISTRICTS)
		Irrigated this year	Not Irrigated this year	
SPECIALTY CROPS	Alfalfa Seed	21,444	251	21,696
	Canary Seed	476	130	606
	Canola Seed	51,664	815	52,480
	Carrots	1,155		1,155
	Catnip	328		328
	Chick Peas	552	37	590
	Dill	1,055	125	1,180
	Dry Beans	48,133	585	48,719
	Dry Peas	30,333	815	31,148
	Faba Beans	2,958		2,958
	Fresh Corn (Sweet)	3,114		3,114
	Fresh Peas	4,919		4,919
	Grass Seed	1,847	22	1,868
	Hemp	9,605	64	9,669
	Lawn Turf (Turf Sod)	3,597		3,597
	Lentils	2,245	77	2,322
	Market Gardens	1,194	36	1,230
	Mint	4,145	172	4,317
	Nursery	1,589	309	1,898
	Onions	1,421		1,421
	Potatoes	61,419	252	61,671
	Quinoa	130		130
	Seed Potatoes	775		775
	Soybeans	771		771
	Sugar Beets	29,384	108	29,492
	Sunflower	1,301		1,301
Yellow Peas	967		967	
OTHER	Miscellaneous	15,529	1,237	16,766
	Non Crop	1,181	1,563	2,744
	Summer Fallow	328	805	1,132
	Unknown	0	218	218
TOTAL ACRES		1,437,303	52,365	1,489,668
		1,489,668		

Note: Information is for 2022 except for AID, LID and RCID. LNID, UID and WID - district does not separate out irrigated and not irrigated acres.

TABLE 2. CROP TYPES GROWN WITHIN THE IRRIGATION DISTRICTS

CROP TYPE	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	UID	WID	TOTAL ACRES
CEREALS	1,466	124,900	100,553	256	44,930	5,831	790	0	17,377	166,543	12,784	28,177	503,607
	31.2%	45.7%	32.2%	5.1%	22.6%	31.8%	21.1%	0.0%	35.2%	33.4%	36.7%	31.3%	33.8%
FORAGES	3,022	41,557	124,443	3,831	105,741	9,453	2,834	781	20,861	121,473	14,644	33,694	482,333
	64.2%	15.2%	39.9%	76.1%	53.2%	51.6%	75.6%	87.1%	42.2%	24.4%	42.1%	37.4%	32.4%
OIL SEEDS	107	26,649	35,939	0	28,835	2,639	125	116	9,786	61,248	6,882	20,221	192,547
	2.3%	9.8%	11.5%	0.0%	14.5%	14.4%	3.3%	12.9%	19.8%	12.3%	19.8%	22.4%	12.9%
SPECIALTY CROPS	0	79,600	49,786	0	7,521	387	0	0	1,410	144,044	352	7,221	290,320
	0.0%	29.1%	16.0%	0.0%	3.8%	2.1%	0.0%	0.0%	2.9%	28.9%	1.0%	8.0%	19.5%
OTHER	109	517	1,393	945	11,608	20	0	0	0	5,297	154	816	20,860
	2.3%	0.2%	0.4%	18.8%	6.4%	0.1%	0.0%	0.0%	0.0%	1.1%	0.4%	0.9%	1.4%
TOTAL	4,704	273,222	312,114	5,032	198,635	18,330	3,749	897	49,433	498,606	34,817	90,129	1,489,668

Note: Other includes miscellaneous, non crop, summer fallow and unknown crops. Information for AID and LID is for the 2016 irrigation season. Information for RCID is for the 2014 irrigation season.

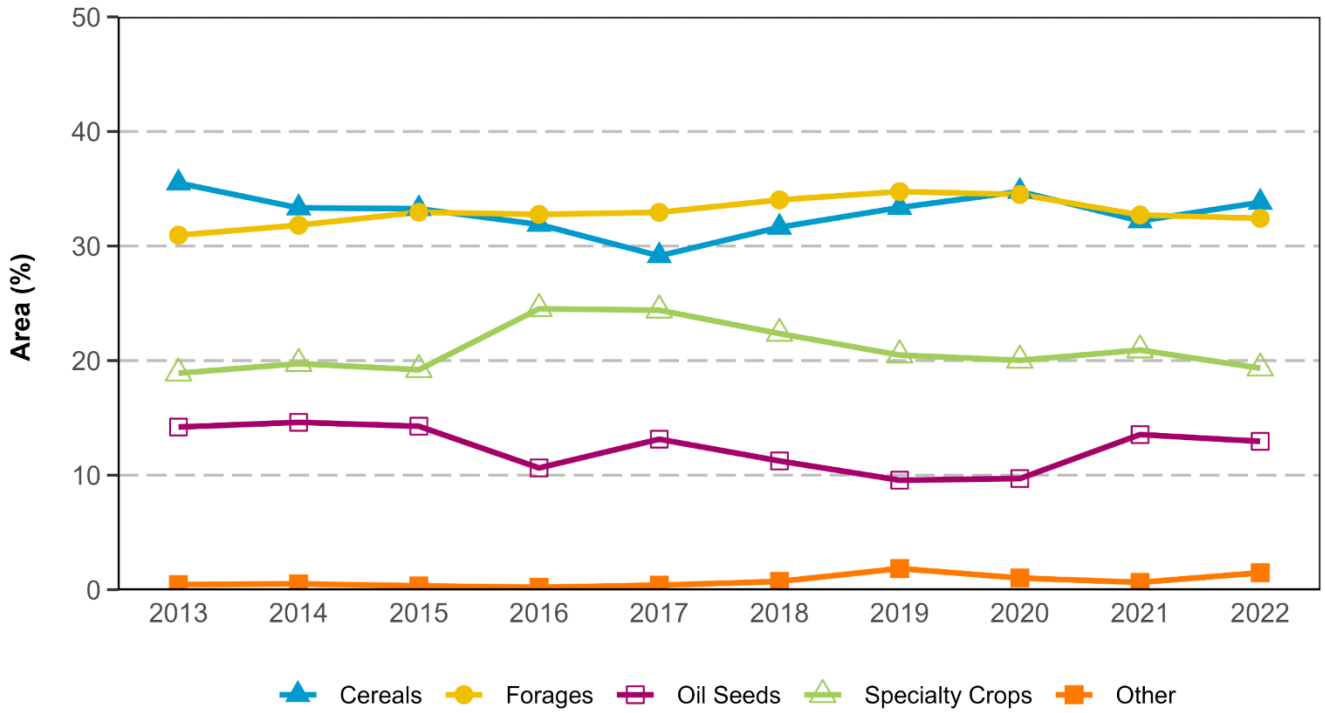


FIGURE 1. IRRIGATED CROP TYPES WITHIN THE IRRIGATION DISTRICTS IN THE LAST 10 YEARS

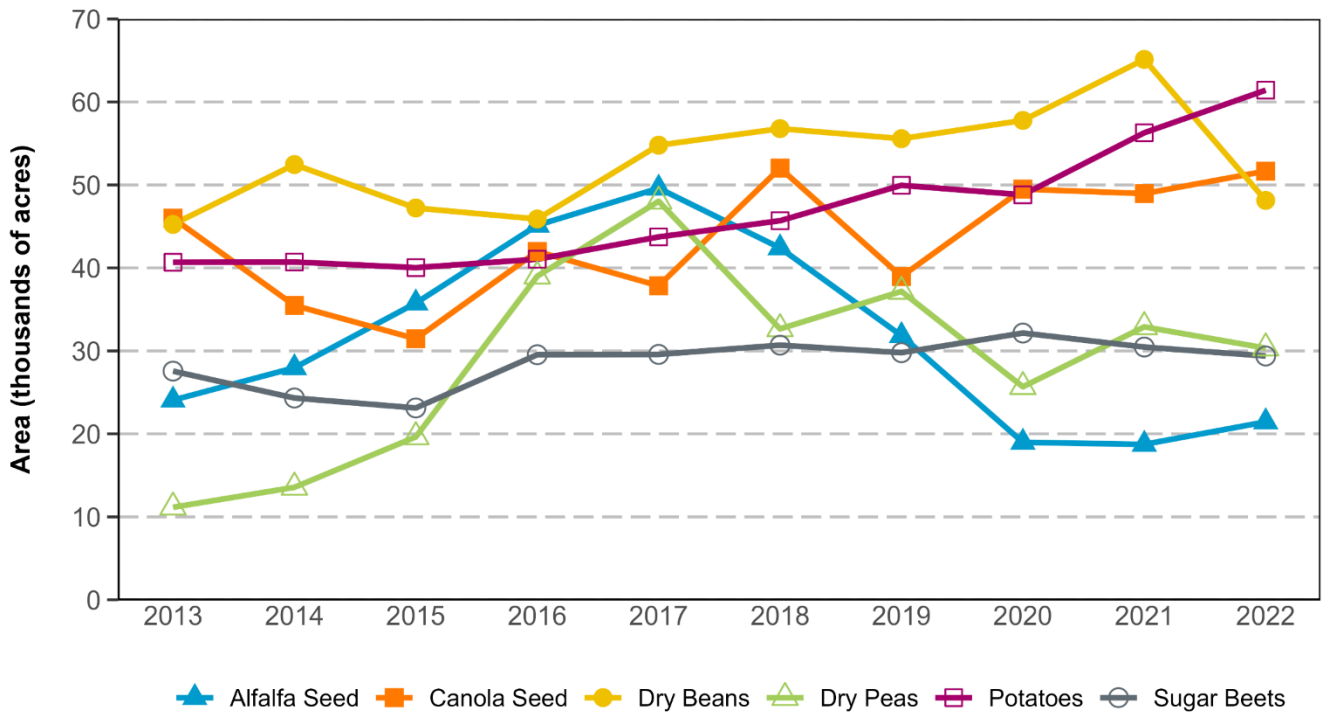


FIGURE 2. ACRES OF MAJOR IRRIGATED SPECIALTY CROPS WITHIN THE IRRIGATION DISTRICTS IN THE LAST 10 YEARS

TABLE 3. ON-FARM IRRIGATION METHOD ACRES WITHIN THE IRRIGATION DISTRICTS

(Page 1 of 2)

	IRRIGATION METHOD	AID	BRID	EID	LID	LNID	MID	MVID	RCID
LOW PRESSURE PIVOT	Pivot Low Pressure	1,099	165,144	217,536	411	75,833	8,343		604
	Pivot Low Pressure - Corner Arm		75,606	25,393		100,622	140		
	Linear - Low Pressure		56	2,082		520			
	Pivot Medium Pressure			4,188					
	Pivot Medium Pressure - Corner Arm			397					
	Pivot LEPA / LESA / PMDI								
	Pivot LEPA / LESA / PMDI Corner Arm								
	Percent of total -----	23.4%	88.1%	80.0%	8.2%	89.2%	46.3%	0.0%	67.3%
HIGH PRESSURE PIVOT	Pivot High Pressure		15,498	15,012	761	155	2,186	1,349	67
	Pivot High Pressure - Corner Arm		2,671	1,585		153			
	Linear - High Pressure			217					
	Percent of total -----	0.0%	6.7%	5.4%	15.1%	0.2%	11.9%	36.0%	7.5%
WHEEL MOVE	Wheel Move - One and Two Laterals	1,822	3,455	9,910	1,324	8,328	4,537	337	226
	Wheel Move - Three and Four Laterals		2,162	1,904	198	9,089			
	Percent of total -----	38.7%	2.1%	3.8%	30.2%	8.8%	24.7%	9.0%	25.2%
SURFACE (GRAVITY)	Surface (Gravity) - Developed		7,076	27,100		556	2,905		
	Surface (Gravity) - Undeveloped	277	1,209	6,107	1,747	470		2,064	
	Percent of total -----	5.9%	3.0%	10.6%	34.7%	0.5%	15.8%	55.0%	0.0%
OTHER	Volume Gun - Stationary								
	Volume Gun - Traveller		25	207		150			
	Solid Set (Underground sprinkler)	140		8		691	25		
	Hand Move (Sprinkler above ground)	1,366	124	468	591	824	174		
	Micro - Spray - Sprinkler					41			
	Micro - Drip - Trickle						20		
	Subsurface - Subsurface Drip		194			944			
	Other Application Use								
	Percent of total -----	32.0%	0.1%	0.2%	11.7%	1.3%	1.2%	0.0%	0.0%
	Total Acres with Irrigation System	4,704	273,221	312,114	5,032	198,375	18,330	3,749	897
	No Irrigation System or Not Reported					260			
	TOTAL	4,704	273,221	312,114	5,032	198,635	18,330	3,749	897

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

TABLE 3. ON-FARM IRRIGATION METHOD ACRES WITHIN THE IRRIGATION DISTRICTS

(Page 2 of 2)

	IRRIGATION METHOD	RID	SMRID	UID	WID	Individual Method Total	Total Acres
LOW PRESSURE PIVOT	Pivot Low Pressure	31,354	348,388	19,432	64,103	932,246	1,231,687
	Pivot Low Pressure - Corner Arm	2,008	75,822	954	4,895	285,440	
	Linear - Low Pressure	706	1,503	70	120	5,057	
	Pivot Medium Pressure	671	3,148			8,007	
	Pivot Medium Pressure - Corner Arm		500			897	
	Pivot LEPA / LESA / PMDI		40			40	
	Pivot LEPA / LESA / PMDI Corner Arm					0	
	Percent of total -----	70.3%	89.2%	59.9%	84.6%		84.2%
HIGH PRESSURE PIVOT	Pivot High Pressure	1,291	15,081	330	2,120	53,850	61,046
	Pivot High Pressure - Corner Arm		2,421			6,830	
	Linear - High Pressure	65	84			366	
	Percent of total -----	2.7%	3.7%	1.0%	2.6%		
WHEEL MOVE	Wheel Move - One and Two Laterals	7,534	21,290	1,359	5,017	65,137	86,400
	Wheel Move - Three and Four Laterals	1,396	5,333	167	1,015	21,264	
	Percent of total -----	18.1%	5.5%	4.5%	6.7%		
SURFACE (GRAVITY)	Surface (Gravity) - Developed	1,843	981	1,576	30	42,067	73,713
	Surface (Gravity) - Undeveloped	2,265	5,351	9,871	2,286	31,646	
	Percent of total -----	8.3%	1.3%	33.5%	2.6%		
OTHER	Volume Gun - Stationary		189			189	10,520
	Volume Gun - Traveller		29	50	135	596	
	Solid Set (Underground sprinkler)	0	254		605	1,723	
	Hand Move (Sprinkler above ground)	283	923	188	120	5,061	
	Micro - Spray - Sprinkler	9	49	22	11	131	
	Micro - Drip - Trickle	10	264	157	1,125	1,576	
	Subsurface - Subsurface Drip					1,139	
	Other Application Use				106	106	
	Percent of total -----	0.6%	0.4%	1.2%	2.4%		0.7%
	Total Acres with Irrigation System	49,433	481,650	34,175	81,688	1,463,368	1,463,368
	No Irrigation System or Not Reported		16,956	642	8,441	26,299	26,299
	TOTAL	49,433	498,606	34,817	90,129	1,489,667	1,489,667

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

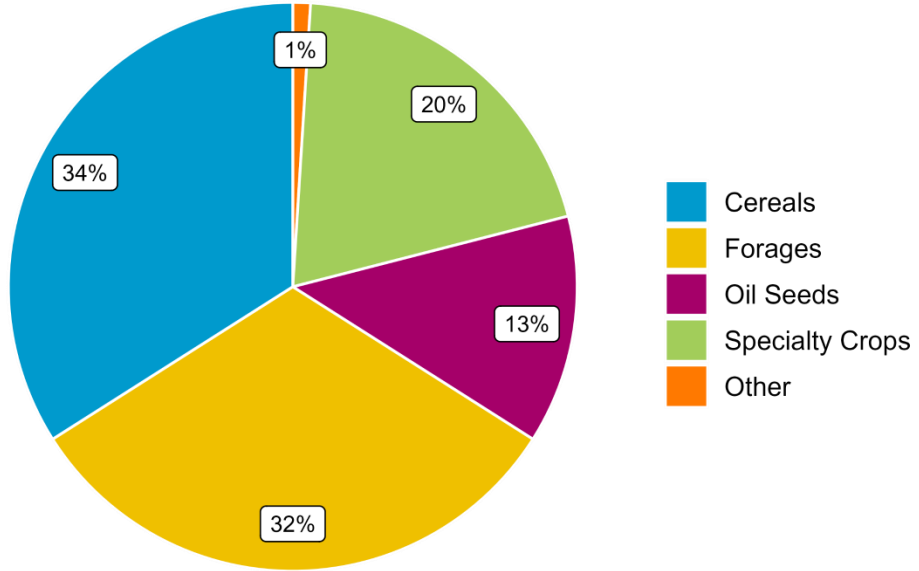


FIGURE 3. CROP TYPES WITHIN THE IRRIGATION DISTRICTS (% OF AREA)

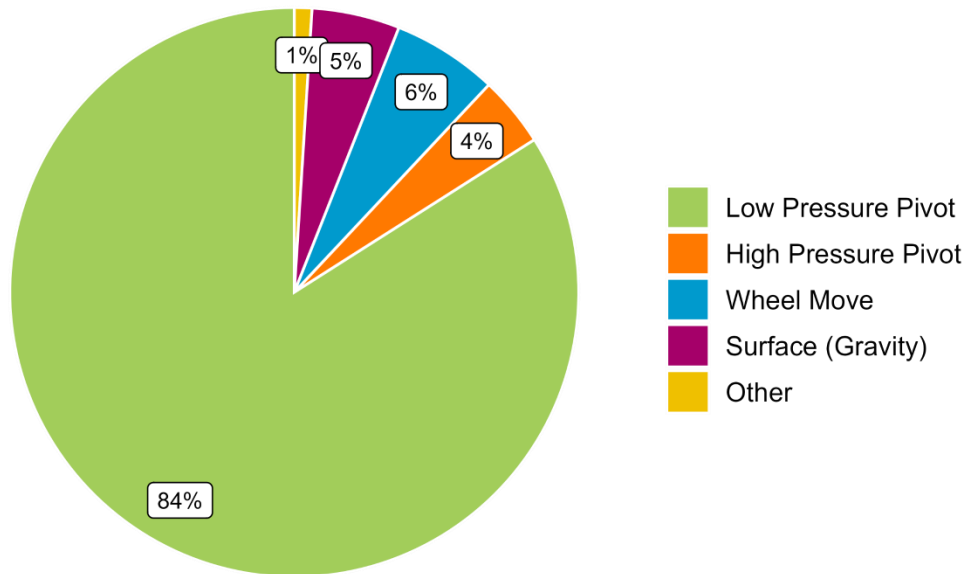
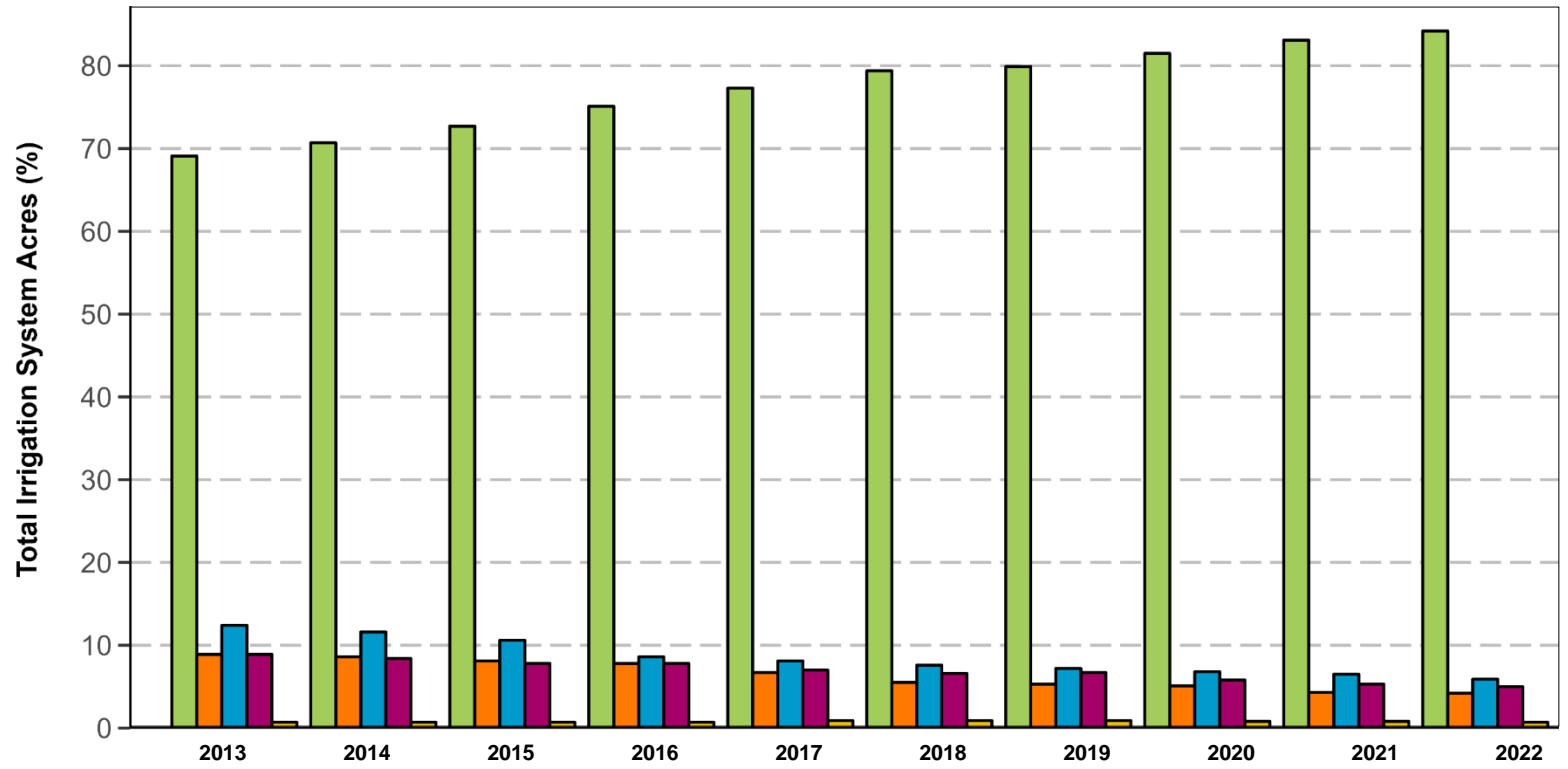


FIGURE 4. ON-FARM IRRIGATION METHODS WITHIN THE IRRIGATION DISTRICTS (% OF AREA)



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Low Pressure Pivot	923,391	957,117	991,859	1,038,024	1,072,113	1,115,693	1,139,291	1,173,944	1,215,434	1,231,687
High Pressure Pivot	119,449	116,436	110,733	107,761	93,052	77,393	76,115	72,868	63,494	61,046
Wheel move	165,561	157,056	145,124	118,962	112,091	107,193	102,824	98,668	94,429	86,400
Surface (Gravity)	118,307	114,122	106,764	107,129	97,421	92,329	95,258	84,162	78,102	73,713
Other	8,785	8,941	9,698	9,731	12,807	13,067	12,399	11,806	11,302	10,520
ACRES										

FIGURE 5. ON-FARM IRRIGATION METHODS WITHIN THE IRRIGATION DISTRICTS IN THE LAST 10 YEARS

TABLE 4. ACRES ON THE ASSESSMENT ROLL WITHIN THE IRRIGATION DISTRICTS IN THE LAST 30 YEARS

YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID		UID	WID	TOTAL
										SMRID	TID			
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
2021	4,707	286,707	309,828	5,600	198,158	18,300	3,733	1,091	49,623	412,406	90,388	34,817	96,832	1,512,190
2022	5,065	289,954	312,078	5,701	199,596	18,300	3,741	1,079	51,242	504,487 *		34,817	100,541	1,526,601

Note: * SMRID and TID amalgamated in August 2022.
Assessment roll acres include "irrigation", "terminable" and "annual" acres. Only "irrigation" and "terminable" acres are considered in district expansion limits. In 2022, irrigation districts reported 14,117 annual acres.

TABLE 5. ACRES ACTUALLY IRRIGATED WITHIN THE IRRIGATION DISTRICTS IN THE LAST 30 YEARS

YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID		UID	WID	TOTAL
										SMRID	TID			
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	1,381,180
2021	2,468	262,163	304,603	3,864	196,994	17,036	3,547	897	45,059	390,856	84,895	23,768	84,384	1,420,534
2022	2,468	257,664	305,360	3,864	198,635	16,656	2,194	0	47,589	477,030 *		34,817	90,129	1,436,406

Note: * SMRID and TID amalgamated in August 2022.
 Information for AID and LID is for the 2016 irrigation season. RCID did not divert water from Cavan Lake Reservoir in 2022, therefore it is assumed that no acres were irrigated.
 Not all districts separate out irrigated and not irrigated acres.

TABLE 6. PRIVATE WATER LICENCES FOR IRRIGATION

There are 2,595 individual irrigation projects, outside of 12 irrigation districts, irrigating approximately 298,323 acres in Alberta. These projects vary in size from 1 acre to several thousand acres of agricultural and horticultural production (crops, greenhouses, gardening, market gardens sod and tree farms). Each of these projects is licensed to an individual, a group of producers or to private or public lands. Water licensing is regulated by Alberta Environment and Protected Areas.

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	1,306	34	3	0	37
BEAVER RIVER	219	6	0	0	6
MILK RIVER	18,840	81	48	14	143
NORTH SASKATCHEWAN RIVER	27,594	278	45	17	340
PEACE RIVER	4,468	53	9	3	65
SOUTH SASKATCHEWAN RIVER	245,896	1,390	464	150	2,004
Sub-Basin					
- Bow River	18,758	105	38	13	156
- Little Bow River	34,830	97	71	34	202
- Oldman River (Lower)	18,837	22	24	17	63
- Oldman River (Upper)	7,446	55	20	4	79
- Red Deer River	36,758	367	87	18	472
- South Saskatchewan River	46,405	493	86	24	603
- Waterton / Belly / St. Mary Rivers	49,016	107	66	18	191
- Willow Creek	33,846	144	72	22	238
TOTAL	298,323	1,842	569	184	2,595

Note: Oldman (lower) reach is defined as downstream of the Belly River confluence
 Oldman (upper) reach is defined as upstream 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
 Licence authorization as of January 2023 obtained from Alberta Environment and Protected Areas

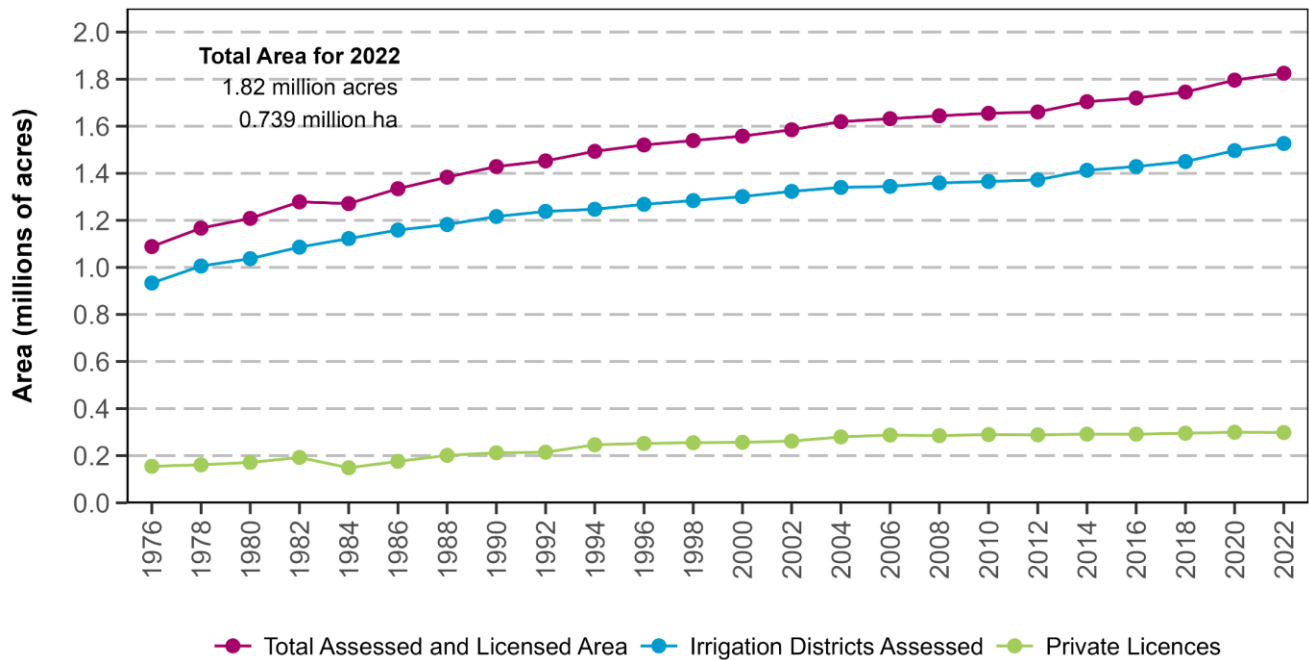


FIGURE 6. GROWTH IN IRRIGATION AREA

Note: Figure generated using biennial data and includes private water licences for crops, greenhouses, gardening, market gardens, sod, and tree farms.

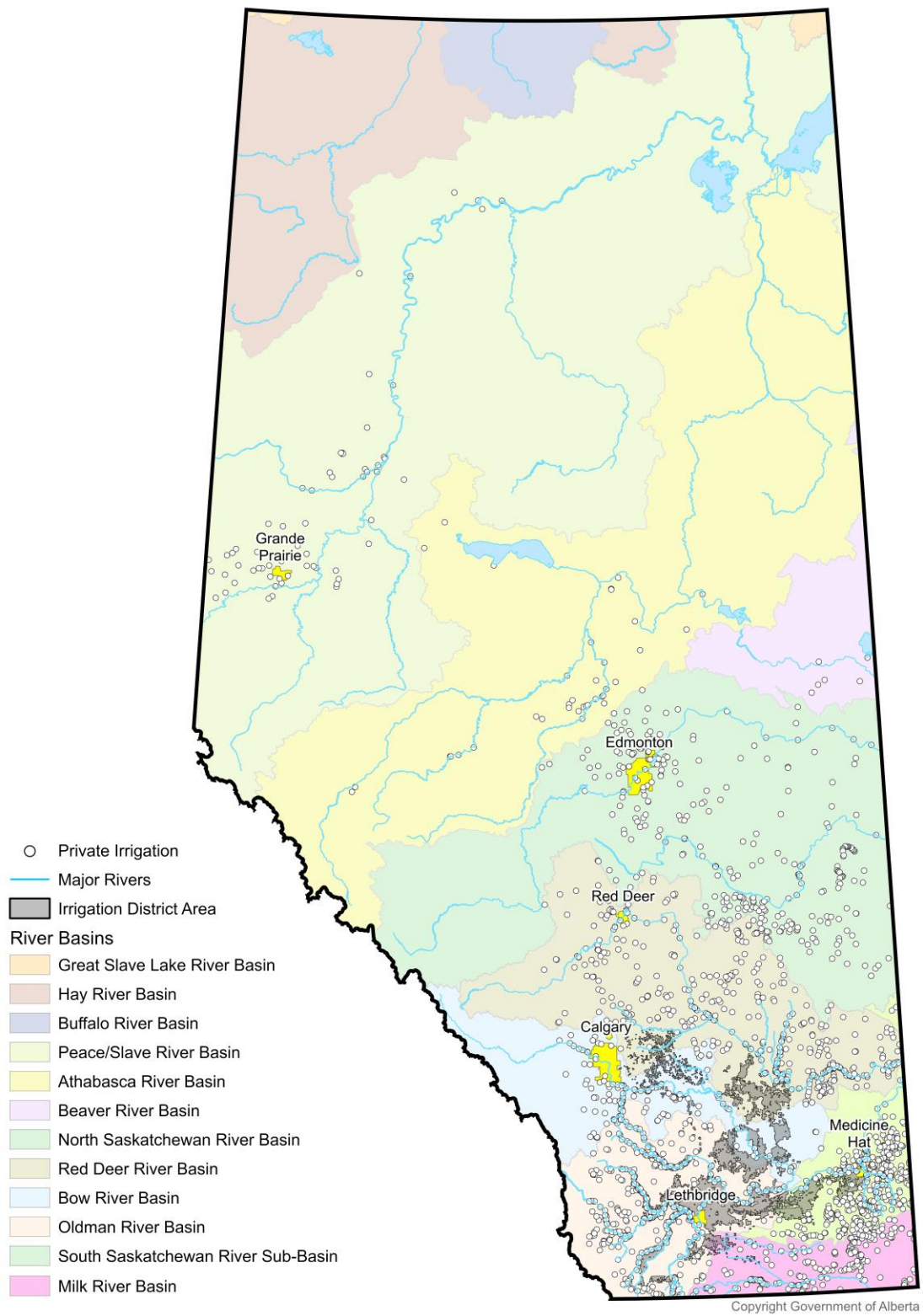


FIGURE 7. LOCATION OF PRIVATE IRRIGATION WATER LICENCE DIVERSIONS IN ALBERTA'S RIVER BASINS

TABLE 7. IRRIGATION RATES IN IRRIGATION DISTRICTS IN THE LAST 30 YEARS

(\$ per irrigation acre)

YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID		UID	WID
										SMRID	TID		
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
2021	\$14.00	\$16.00	\$0.00	\$14.00	\$18.00	\$14.00	\$12.00	\$25.00	\$18.00	\$23.00	\$23.50	\$13.27	\$18.40
2022	\$14.00	\$17.50	\$0.00	\$14.25	\$18.50	\$16.00	\$12.00	\$25.00	\$18.00	\$23.00 *		\$13.67	\$19.00

Note: * SMRID and TID amalgamated in August 2022.
Some districts levy additional surcharges for use in excess of allocation, and for pipeline and pressure delivery.

TABLE 8. ENERGY TYPES USED IN THE IRRIGATION DISTRICTS' IRRIGATED AREAS

ENERGY TYPE	BRID	EID	LNID	MID	RCID	RID	SMRID	UID	WID	TOTAL ACRES
ELECTRICITY	215,024	182,170	73,338	1,499		25,675	329,068	17,524	27,520	871,817
	81.5%	58.4%	36.9%	8.2%		51.9%	68.3%	51.3%	33.2%	60.5%
NATURAL GAS	26,183	61,688	52,252	10,761		17,660	129,815	773	25,474	324,605
	9.9%	19.8%	26.3%	58.7%		35.7%	27.0%	2.3%	30.7%	22.5%
DIESEL	5,870	11,723	896			128	3,530	666	8,335	31,148
	2.2%	3.8%	0.5%			0.3%	0.7%	1.9%	10.1%	2.2%
SURFACE (GRAVITY)	8,505	41,958	2,174	3,119		5,084	6,974	5,030	6,081	78,925
	3.2%	13.4%	1.1%	17.0%		10.3%	1.4%	14.7%	7.3%	5.5%
GRAVITY PRESSURE PIPELINE	5,013	5,863	40,939	2,921	897	279	10,830	9,950	7,165	83,857
	1.9%	1.9%	20.6%	15.9%	100.0%	0.6%	2.2%	29.1%	8.6%	5.8%
PUMP PRESSURE PIPELINE	715	6,314	18,546						125	25,701
	0.3%	2.0%	9.3%						0.2%	1.8%
OTHER *	1,099	2,294	1,102	30		578	1,199	85	5,907	12,293
	0.4%	0.7%	0.6%	0.2%		1.2%	0.2%	0.2%	7.1%	0.9%
UNKNOWN	1,354	104	9,386			30	235	147	2,297	13,553
	0.5%	0.0%	4.7%			0.1%	0.0%	0.4%	2.8%	1%
TOTAL	263,764	312,114	198,634	18,330	897	49,433	481,650	34,175	82,904	1,441,900

Note: * Other includes gasoline, propane, or butane.
AID, LID and MVID did not report any data.

TABLE 9. EXPANSION LIMITS AND WATER LICENCE ALLOCATIONS FOR IRRIGATION DISTRICTS

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	345,000	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	58,500	Belly, Waterton, and St. Mary Rivers	4,500	81,000
	SMRID	584,200	Belly, Waterton, and St. Mary Rivers	20,000	880,000
	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		1,676,350		78,228	2,868,938

Note: * Water volumes allocated to other purposes are included in the total licensed volumes.
 Other purposes volumes may be used for purposes other than irrigation, as set out in the relevant 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

TABLE 10. GROSS ANNUAL DIVERSIONS FOR IRRIGATION DISTRICTS IN THE LAST 30 YEARS

YEAR	BOW RIVER SUB-BASIN			OLDMAN RIVER SUB-BASIN									SOUTH SASK RIVER SUB-BASIN	TOTAL (ac-ft)
	BRID	EID	WID	AID	LID	LNID	MID	MVID	RID	SMRID		UID	RCID	
										SMRID	TID			
1993	210,340	423,551	114,309	2,126	1,824	61,753	4,848	988	13,574	218,395	59,278	8,107	3,300	1,122,393
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	385,290	79,818	7,710	208	1,632,209
1996	328,182	615,478	117,065	4,035	4,892	206,206	12,506	2,660	45,527	518,164	127,436	19,832	1,085	2,003,068
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	406,100	116,300	14,895	1,726	1,837,244
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	196,700	53,135	7,264	116	794,219
2011	151,700	310,100	85,985	2,902	8,028	132,388	15,233	2,393	32,534	245,800	84,909	19,073	530	1,091,575
2012	260,000	343,200	103,862	2,761	3,973	176,683	20,720	2,558	35,200	330,800	88,309	19,039	562	1,387,105
2013	240,000	383,400	99,473	3,446	4,101	139,035	17,210	2,297	39,723	316,100	77,371	18,598	2,319	1,343,073
2014	222,191	371,000	113,666	3,113	5,928	120,097	13,552	1,801	31,448	289,200	71,874	16,565	700	1,261,135
2015	331,900	471,900	136,600	3,306	4,540	197,000	21,459	2,420	50,711	447,000	100,481	25,839	700	1,793,856
2016	328,085	371,100	109,865	3,848	4,564	206,730	20,325	2,233	39,704	412,100	84,313	21,864	367	1,605,098
2017	422,000	521,200	131,000	4,710	5,697	274,400	24,221	2,838	54,062	488,100	123,923	31,350	800	2,084,301
2018	290,400	495,500	136,000	3,648	9,363	223,918	26,529	2,475	53,799	494,000	105,352	30,680	1,569	1,873,233
2019	389,000	508,900	120,687	5,091	3,953	207,086	18,917	2,433	47,518	461,700	102,900	22,053	750	1,890,988
2020	284,400	384,500	96,360	4,337	7,232	167,486	25,685	1,932	39,819	399,000	94,784	25,821	2,237	1,533,593
2021	424,000	537,700	145,500	4,913	7,802	272,129	27,195	4,151	53,528	517,600	127,484	29,135	872	2,152,009
2022	383,092	480,400	114,645	6,851	7,463	255,403	21,278	3,283	51,103	662,100 *		26,892	0	2,012,512
Percent of Licence (2022)	78.2%	63.1%	60.2%	76.1%	62.2%	76.4%	62.6%	41.0%	63.1%	75.2%		40.8%	0%	70.1%

Note: * SMRID and TID amalgamated in August 2022.

Data are obtained from Water Survey of Canada, Alberta Environment and Protected Areas, and Irrigation districts' annual reports. Diversion volumes can include other allocations for users other than irrigation districts (i.e., municipal, domestic, other agricultural, industrial, water management, and environmental uses).

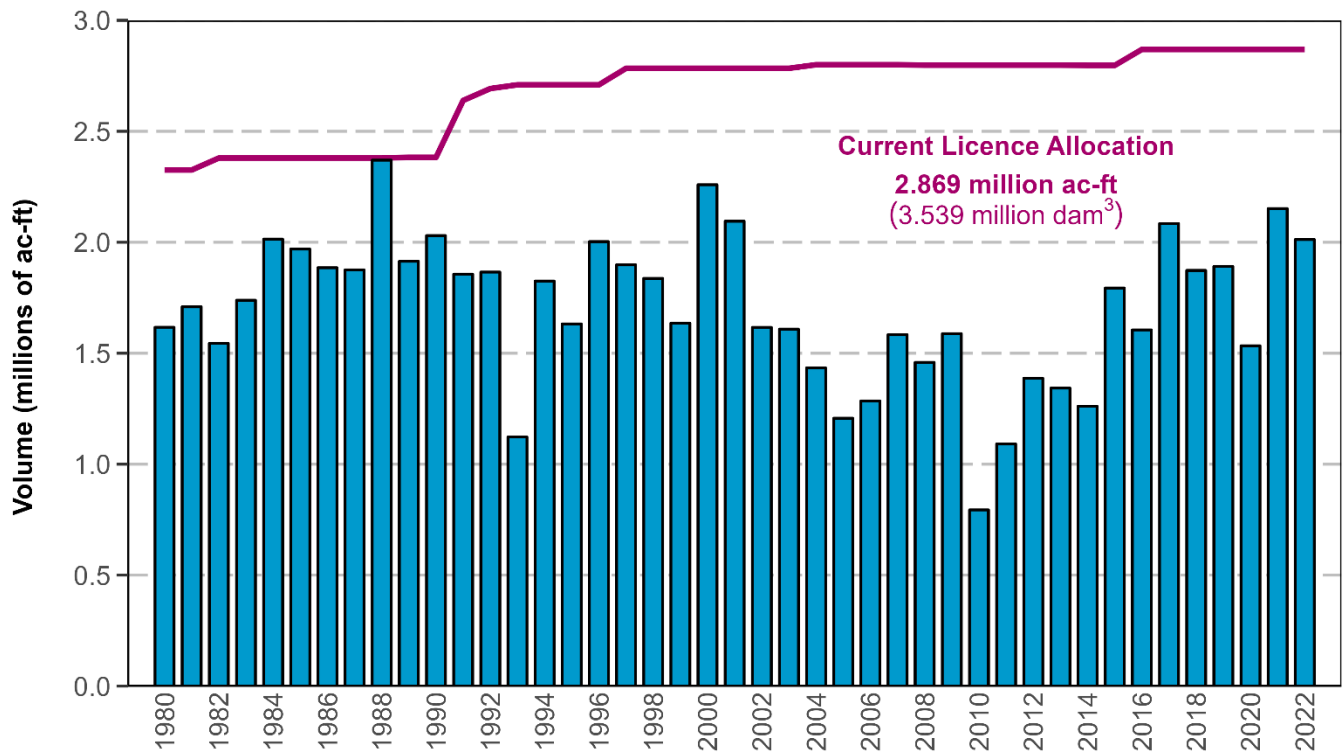


FIGURE 8. ANNUAL IRRIGATION DISTRICTS GROSS ANNUAL DIVERSIONS AND LICENCE ALLOCATIONS SINCE 1980

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 conveyance agreements.

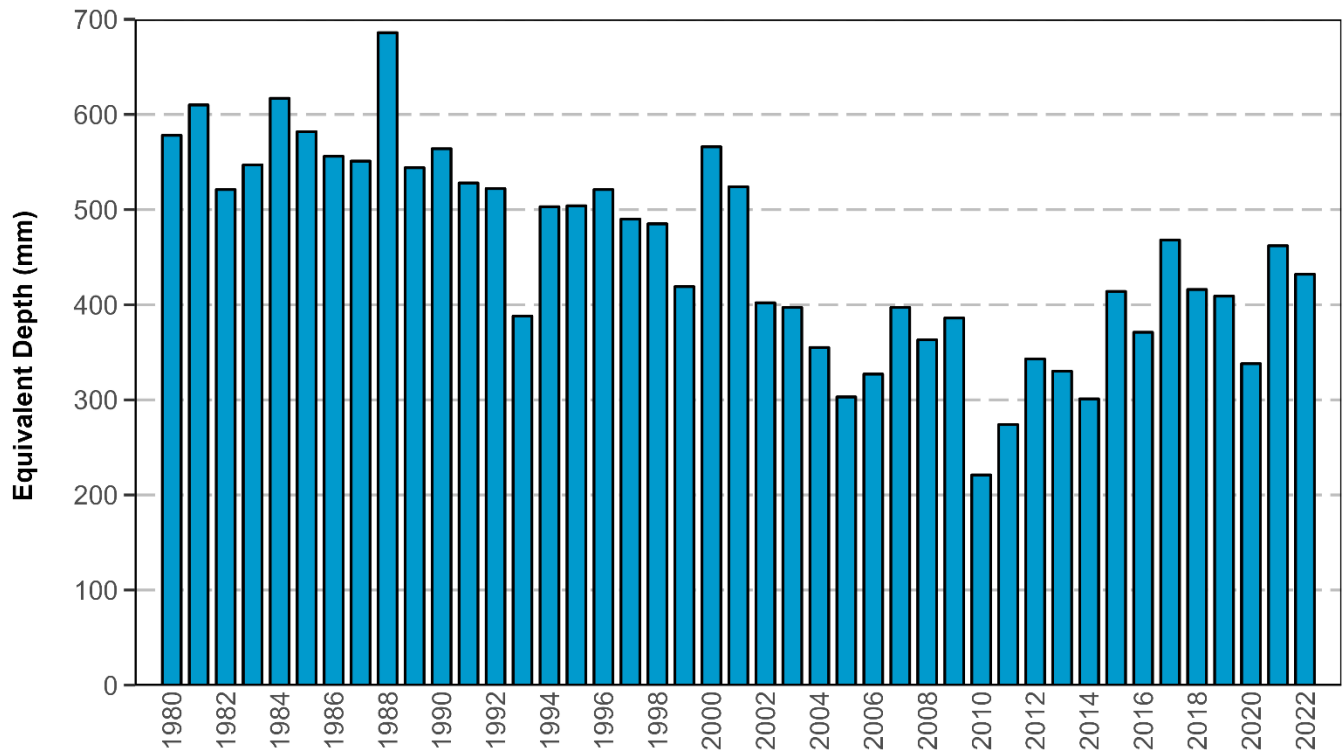
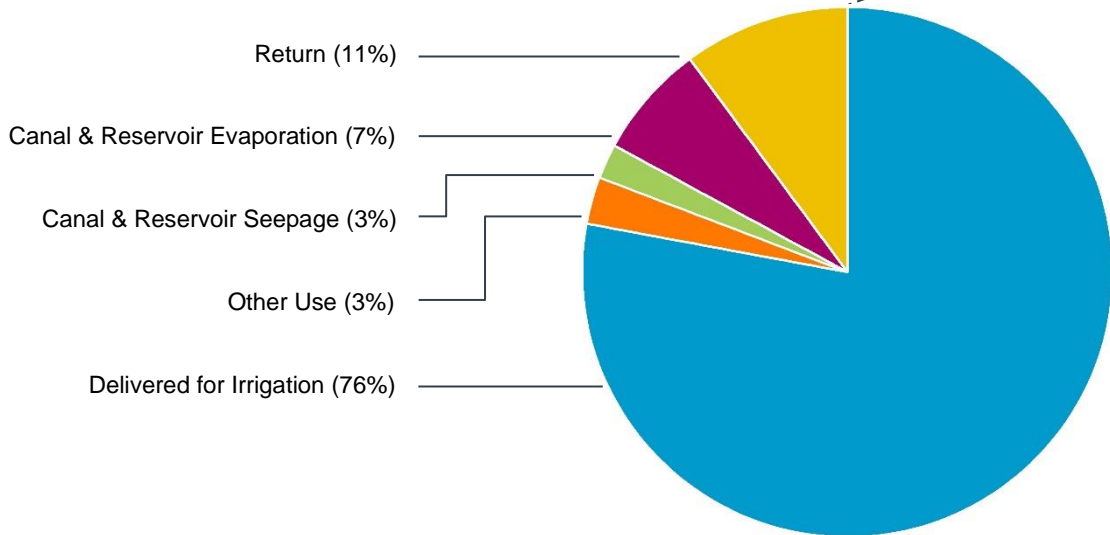


FIGURE 9. ANNUAL IRRIGATION DISTRICTS GROSS DIVERSION EQUIVALENT DEPTH SINCE 1980

Note: Irrigation district equivalent depth is the annual gross diversion of water (into the works of all irrigation districts), divided by the area actually irrigated. However, this “depth” also includes water used for net gains in reservoir storage, and water diverted for other uses and other licences.

TABLE 11. IRRIGATION DISTRICTS WATER BALANCE

WATER BALANCE CATEGORY	BOW RIVER BASIN	OLDMAN RIVER BASIN	TOTAL IRRIGATION
	DISTRICTS (ac-ft)	DISTRICTS (ac-ft)	DISTRICTS (ac-ft)
Gross Diversion	978,100	1,034,400	2,012,500
Net District Storage Change	-15,300	-31,200	-46,500
TOTAL SUPPLY	962,800	1,003,200	1,966,000
Delivered for Irrigation	673,500	824,400	1,497,900
Delivered for Other Use	41,100	13,300	54,400
Canal & Reservoir Seepage	36,600	20,600	47,200
Canal & Reservoir Evaporation	87,700	56,400	144,100
Return	133,900	88,500	222,400
TOTAL USE	962,800	1,003,200	1,966,000



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

Gross Diversion - Volume of water diverted from 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 Supply - Total volume of water including diversion and change in 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 within irrigation district licences and other licences.

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 Use - Total volume of water used comprised of water delivered for irrigation, other use within district licence, seepage and evaporation, water returned, and other licences.

TABLE 12. 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		UNREHABILITATED 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
AID	24.3	61.6%	0.2	0.6%	4.5	11.4%	0.0	0.0%	1.0	2.5%	9.4	23.9%	39
BRID	647.1	62.4%	8.1	0.8%	107.2	10.3%	0.1	0.0%	163.6	15.8%	111.8	10.8%	1,038
EID	1329.5	68.2%	20.6	1.1%	192.5	9.9%	0.0	0.0%	185.1	9.5%	223.1	11.4%	1,951
LID	38.6	75.4%	0.0	0.0%	0.3	0.5%	0.0	0.0%	2.0	4.0%	10.3	20.1%	51
LNID	632.6	78.8%	6.6	0.8%	47.5	5.9%	1.4	0.2%	62.6	7.8%	51.8	6.5%	802.6
MID	65.7	61.2%	1.8	1.7%	1.2	1.1%	0.3	0.3%	33.7	31.4%	4.6	4.3%	107
MVID	19.0	44.5%	1.8	4.2%	0.0	0.0%	0.0	0.0%	17.0	39.6%	5.0	11.7%	43
RCID	12.2	83.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.5	16.9%	-	0.0%	15
RID	164.7	65.6%	2.5	1.0%	0.0	0.0%	0.0	0.0%	65.5	26.1%	18.5	7.4%	251
SMRID	1218.2	55.9%	36.1	1.7%	119.2	5.5%	48.5	2.2%	509.0	23.4%	247.7	11.4%	2,179
UID	108.4	46.8%	22.8	9.8%	13.9	6.0%	0.2	0.1%	39.2	16.9%	47.4	20.5%	232
WID	250.2	24.7%	33.8	3.3%	100.8	10.0%	5.3	0.5%	171.6	17.0%	450.8	44.5%	1,012
TOTAL	4,511	58.4%	134	1.7%	587	7.6%	56	0.7%	1,253	16.2%	1,180	15.3%	7,721
Headworks Owned by Government of Alberta												339	
Total Length of Irrigation Conveyance System (km)												8,060	

Note: Rehabilitated infrastructure includes those works re-constructed through past and current investments, including:
 Irrigation infrastructure modernization investment
 Irrigation Rehabilitation Program
 District-funded infrastructure projects
 Government of Alberta

TABLE 13. IRRIGATION DISTRICT INFRASTRUCTURE LENGTH AND REPLACEMENT COST

IRRIGATION DISTRICT	CONVEYANCE WORKS		DRAINAGE WORKS		MAJOR STRUCTURES		TOTAL OF ALL WORKS	
	Length (km)	Replacement Cost (\$'000)	Length (km)	Replacement Cost (\$'000)	Length (km)	Replacement Cost (\$'000)	Length (km)	Replacement Cost (\$'000)
AID	39	\$14,055	19	\$396	0	\$0	58	\$14,451
BRID	1,038	\$463,092	848	\$23,773	22	\$123,169	1,886	\$610,034
EID	1,951	\$923,274	1,961	\$58,010	61	\$440,271	3,912	\$1,421,555
LID	51	\$11,778	5	\$202	0	\$0	56	\$11,980
LNID	803	\$343,644	261	\$12,696	2	\$3,629	1,064	\$359,968
MID	107	\$35,012	163	\$7,141	0	\$0	270	\$42,153
MVID	43	\$18,354	1	\$94	0	\$0	44	\$18,448
RCID	15	\$3,584	20	\$1,242	1	\$170	35	\$4,996
RID	251	\$78,130	219	\$13,657	0	\$0	470	\$91,788
SMRID	2,177	\$1,020,868	497	\$20,200	60	\$440,730	2,674	\$1,481,798
UID	232	\$94,805	60	\$2,091	11	\$20,420	292	\$117,316
WID	1,012	\$447,192	956	\$33,741	13	\$22,907	1,968	\$503,840
TOTAL	7,718	\$3,453,790	5,008	\$173,243	170	\$1,051,295	12,726	\$4,678,327

Note: Total of "All Works" length values include the sum of conveyance and drainage works. Replacement cost is based on construction and material costs that were updated (based on inflation factor) in 2022.

TABLE 14. IRRIGATION DISTRICT RESERVOIRS

LOCATION	RESERVOIR	APPROXIMATE DATE OF IMPOUNDMENT	IRRIGATION LIVE STORAGE (dam ³)	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
	TOTAL STORAGE		78,820	63,900
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	
	TOTAL STORAGE		534,120	433,010
LNID	Park Lake	1928	1,440	1,170
	Picture Butte	1936	1,490	1,210
	TOTAL STORAGE		2,930	2,380
RID	Corner Lake	1925	500	400
	Craddock	1925	620	500
	Factory Lake	1925	370	300
	TOTAL STORAGE		1,490	1,200
SMRID	Bullshead	1954	130	100
	Chin	1954	190,350	154,320
	Cross Coulee	1954	2,090	1,700
	Fincastle	1952	3,770	3,060
	Forty Mile	1987	86,350	70,000
	Horsefly	1950	6,370	5,170
	Murray	1954	30,830	24,990
	North East	1954	2,820	2,290
	Raymond	1954	1,810	1,470
	Sauder	1953/1982*	37,800	30,640
	Seven Persons	1953	900	730
	Sherburne	1952	12,190	9,880
	Stafford	1954/1982*	21,500	17,430
	Taber Lake	1955	6,410	5,190
Yellow Lake	1952	6,170	5,000	
	TOTAL STORAGE		409,490	331,970
UID	Cochrane Lake	1923	3,130	2,540
WID	Chestermere	1944	5,090	4,130
	Langdon	1979/2014*	15,750	12,770
	TOTAL STORAGE		20,840	16,900
GRAND TOTAL			1,050,820	851,880

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

TABLE 15. PROVINCIALY OWNED AND OPERATED RESERVOIRS USED FOR IRRIGATION

SOURCE SUPPLY FOR:	RESERVOIR	APPROXIMATE DATE OF IMPOUNDMENT	IRRIGATION LIVE STORAGE (dam ³)	IRRIGATION LIVE STORAGE (acre-feet)
BRID	Little Bow	1920	43,260	35,070
	McGregor	1914	351,060	284,600
	Travers	1954	104,640	84,830
	TOTAL STORAGE		498,960	454,500
LNID	Keho	1920	95,640	77,540
	Oldman River	1991	490,180	397,390
	TOTAL STORAGE		585,820	474,930
RCID	Cavan Lake	1950	4,630	3,750
MVID, LID, AID	Payne	1942	8,690	7,040
MID, RID, SMRID	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
	TOTAL STORAGE		626,810	508,150
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
	TOTAL STORAGE		126,740	102,750
GRAND TOTAL			1,851,650	1,501,120

TABLE 16. HYDROELECTRIC PLANTS ASSOCIATED WITH IRRIGATION INFRASTRUCTURE

LOCATION	COMMISSION DATE	OWNER	CAPACITY (megawatts)
Oldman Reservoir	2003	ATCO and Piikani Nation	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
TOTAL			96

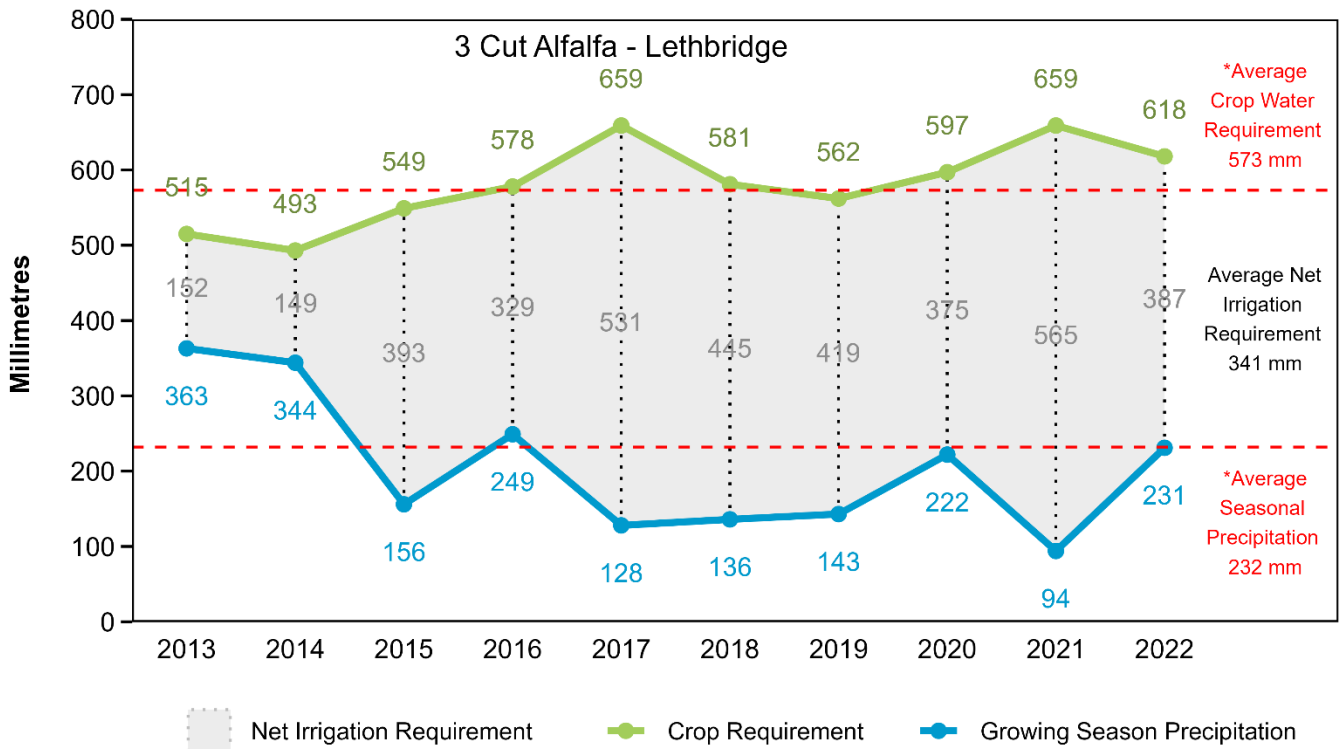


FIGURE 10. LETHBRIDGE OPTIMUM CROP WATER AND NET IRRIGATION REQUIREMENTS IN THE LAST 10 YEARS

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 2022. Seasonal precipitation from May 1 to September 30.

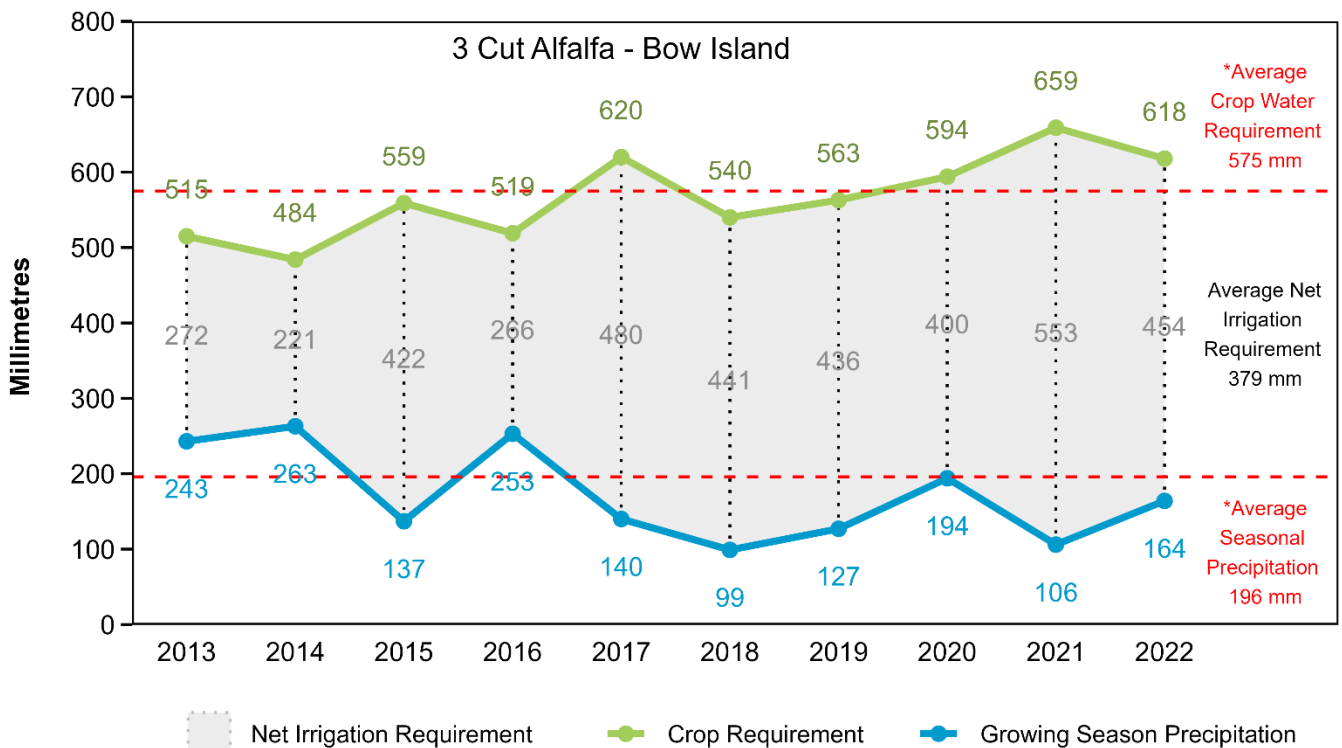


FIGURE 11. BOW ISLAND OPTIMUM CROP WATER AND NET IRRIGATION REQUIREMENTS IN THE LAST 10 YEARS

Note: Bow Island station re-located to Winnfred (approx. 10 km east from Bow Island) in 2022.

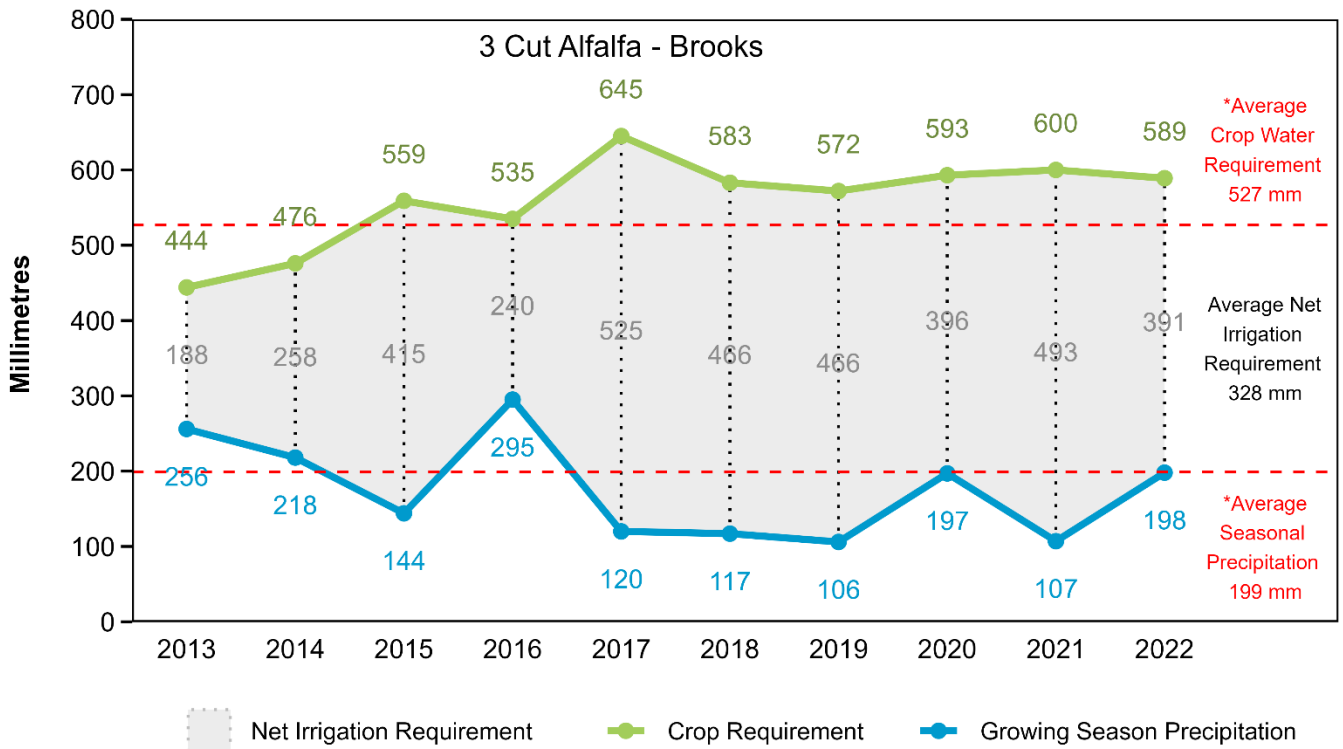


FIGURE 12. BROOKS OPTIMUM CROP WATER AND NET IRRIGATION REQUIREMENTS IN THE LAST 10 YEARS

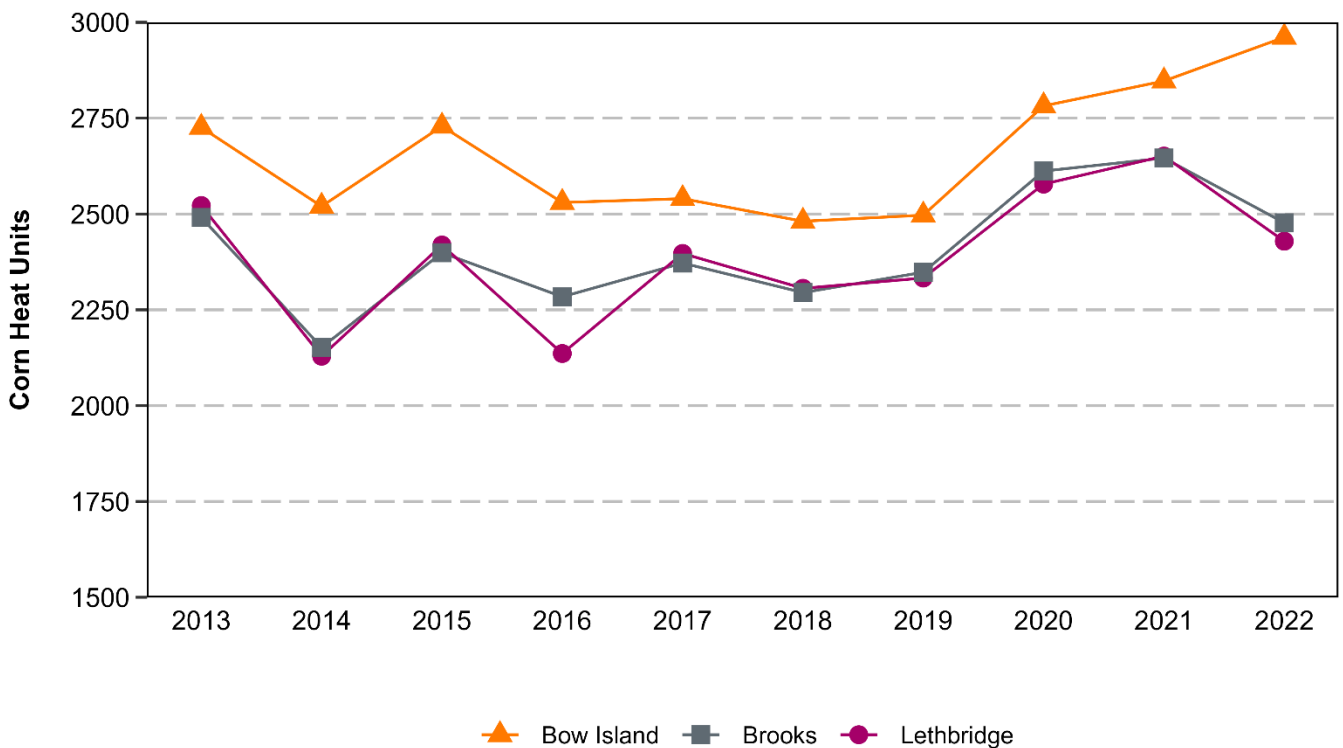


FIGURE 13. LETHBRIDGE, BOW ISLAND AND BROOKS CORN HEAT UNITS IN THE LAST 10 YEARS

Note: Bow Island station re-located to Winnifred (approx. 10 km east from Bow Island) in 2022.

TABLE 17. HISTORICAL RAINFALL IN SOUTHERN ALBERTA

(April 15 — October 15)

SITE	MAXIMUM RAINFALL (mm)	MINIMUM RAINFALL (mm)	NORMAL RAINFALL ² (mm)	2022 RAINFALL (mm)	2022 % OF NORMAL
Lethbridge	534 (1978)	71 (2001)	270	251	93%
Bow Island ¹	439 (1993)	112 (2001)	247	169	68%
Brooks	484 (2005)	87 (2001)	234	207	88%

TABLE 18. HISTORICAL CORN HEAT UNIT (CHU) IN SOUTHERN ALBERTA

(May 15 to first -2 °C frost)

SITE	MAXIMUM CHU (2013 - 2022)	MINIMUM CHU (2013 - 2022)	LAST TEN YEAR AVERAGE ³	2022 CORH HEAT UNITS	2022 % OF LAST TEN YEAR AVERAGE
Lethbridge	2651 (2021)	2129 (2014)	2390	2429	102%
Bow Island ¹	2961 (2022)	2481 (2018)	2661	2961	111%
Brooks	2646 (2021)	2152 (2014)	2407	2477	103%

TABLE 19. FROST FREE PERIOD (> 0°C) IN SOUTHERN ALBERTA

SITE	AVERAGE LAST FROST	AVERAGE FIRST FROST	AVERAGE FROST FREE DAYS ⁴	2022 LAST FROST	2022 FIRST FROST	2022 FROST FREE DAYS	2022 % OF AVERAGE
Lethbridge	Jun 07	Oct 22	136	Apr 25	Oct 23	181	133%
Bow Island ¹	May 23	Oct 09	139	Apr 24	Nov 1	191	137%
Brooks	May 29	Oct 05	129	May 15	Oct 7	145	112%

TABLE 20. FROST FREE PERIOD (> -2°C) IN SOUTHERN ALBERTA

SITE	AVERAGE LAST FROST	AVERAGE FIRST FROST	AVERAGE FROST FREE DAYS ⁴	2022 LAST FROST	2022 FIRST FROST	2022 FROST FREE DAYS	2022 % OF AVERAGE
Lethbridge	May 16	Oct 13	151	Apr 24	Oct 23	182	121%
Bow Island ¹	May 15	Oct 18	156	Apr 23	Nov 2	193	124%
Brooks	May 24	Oct 10	140	Apr 30	Oct 18	171	122%

Note: ¹ Re-located to Winnifred (approx. 10 km east from Bow Island) in 2022² Normal rainfall: 1970 - 2022 average³ Last ten year average: 2013 - 2022⁴ Average frost free days: 1998 - 2022

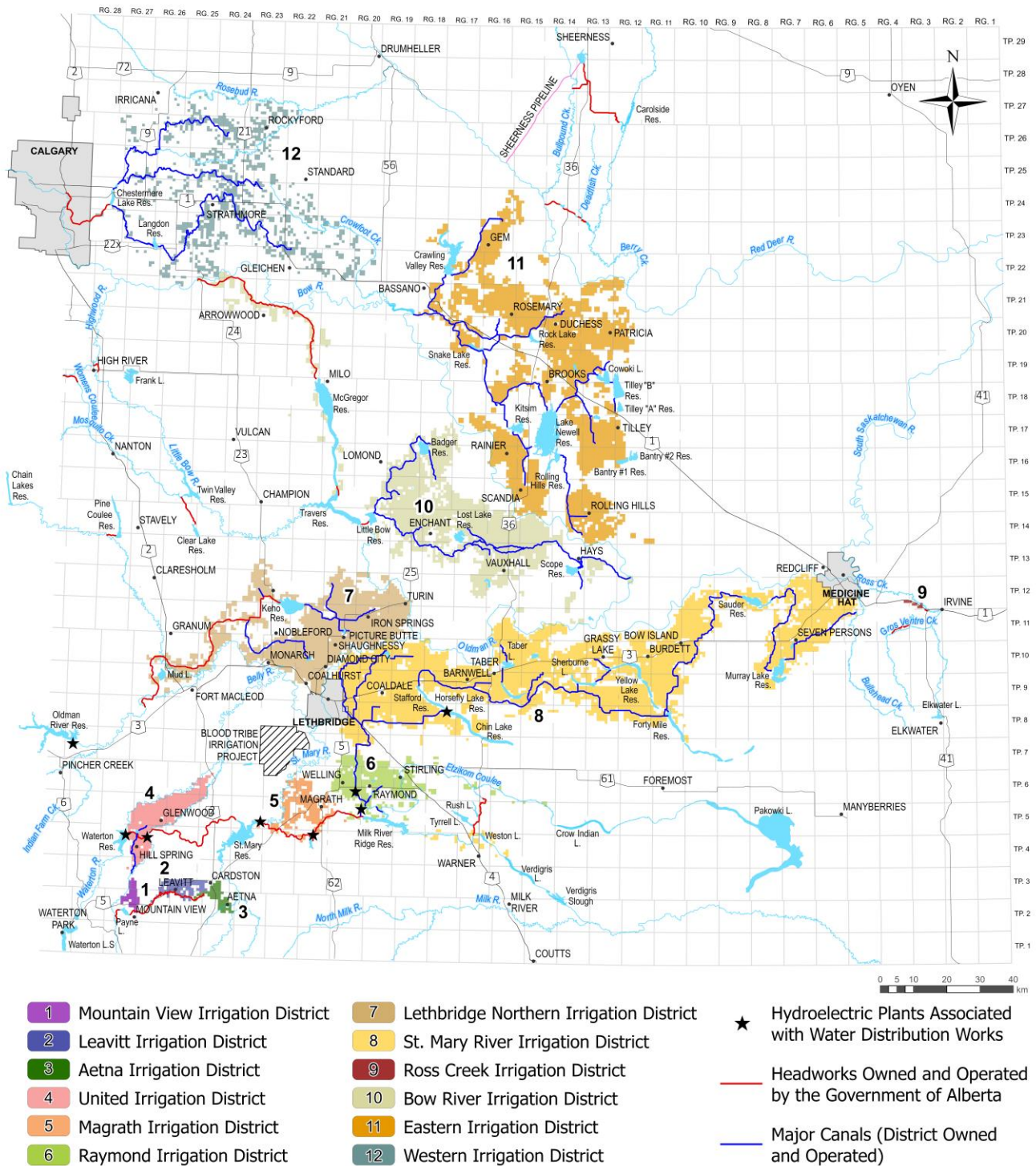


FIGURE 14. IRRIGATION DISTRICTS IN ALBERTA

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, and timothy hay.

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

Specialty Crops: Include fruits and vegetables, horticulture, seed production, pulse crops, and nursery crops. Crops reported include alfalfa seed, canary seed, canola seed, carrots, catnip, chick peas, dill, dry beans, dry peas, faba beans, fresh corn (sweet), fresh peas, grass seed, hemp, lawn turf (turf sod), lentils, market gardens, mint, nursery, onions, potatoes, quinoa, seed potatoes, soybeans, 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 licensed 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 Protected Areas (AEPA) 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, surface, and other.

Low pressure pivot sprinkler includes:

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.

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 LEPA / LESA / PMDI:

LEPA: Low Energy Precision Application Sprinklers include bubbler plate or drag socks that are mounted 1 to 1.5 feet above the soil surface or are in direct contact with the soil surface using drag socks. They have 3.5 to 5 feet spacing between the drop tubes.

LESA: Low Elevation Spray Application Sprinklers are mounted 1 to 3.5 feet above the soil surface. They have 5 feet spacing between the drop tubes.

PMDI (MDI): Precision Mobile Drip Irrigation (Mobile Drip Irrigation) tubing is pulled behind a pivot mounted manifold and the drip tubing is in direct contact with the soil or crop canopy.

Pivot LEPA / LESA / PMDI corner arm: Low Energy Precision Application Sprinklers, Low Elevation Spray Application Sprinklers, or Precision Mobile Drip Irrigation (Mobile Drip Irrigation) with the addition of a secondary pivotal arm connected to the end of the center pivot boom.

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 – one and two laterals: One and two wheel mounted pipelines with sprinklers along their length per parcel of land.

Wheel move – three and four laterals: Three and four wheel mounted pipelines with sprinklers along their length per parcel of land.

Surface (Gravity) includes:

Surface (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.

Surface (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.

Subsurface – subsurface drip: Low-pressure irrigation system that uses buried drip tubes or drip tape.

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. Irrigation live storage refers to the portion of the live storage available specifically for irrigation.

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 licensed to annually divert.