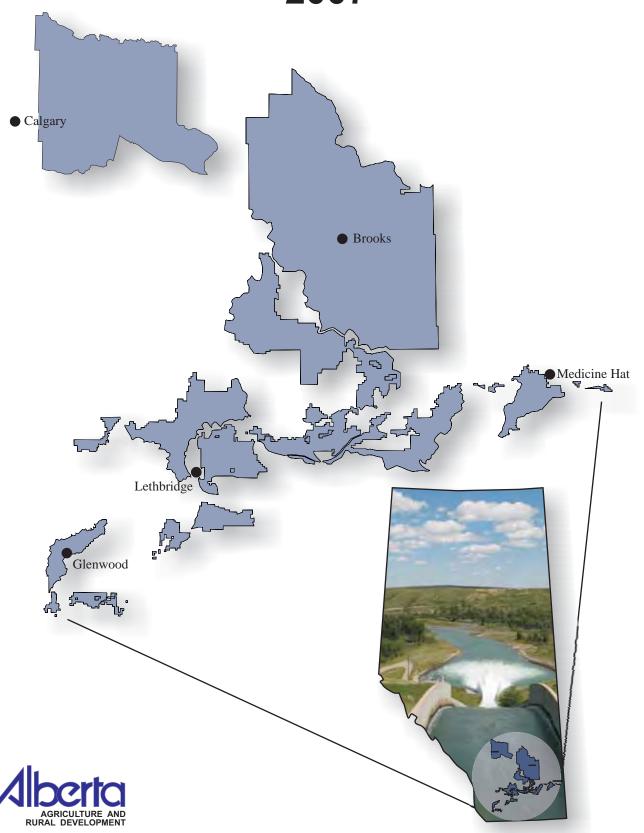
Alberta Irrigation Information 2007



ALBERTA IRRIGATION INFORMATION

FACTS AND FIGURES FOR THE YEAR 2007

WATER RESOURCES BRANCH IRRIGATION AND FARM WATER DIVISION

JUNE 2008

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INTRODUCTION

This report is prepared by Alberta Agriculture and Rural Development. The purpose of this booklet is to provide a statistical overview of irrigation information and data relating primarily to the thirteen irrigation districts situated in southern Alberta, but also includes irrigation water use across the whole province.

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Table 1. Details of Crops Grown within the 13 Irrigation Districts

			AID		BRID			EID			LID		LNID			MID		MVID			RCID			RID		:	SMRID		T	ΓID		UID			WID		
	CROP TYPE	assessed ar	nd covered by assessed tion system with no	assessed a	nd covered by	assessed	assessed and	d covered by	assessed as	ssessed and c	covered by assessed	assessed and	covered by as	ssessed a	ssessed an	d covered by	assessed	assessed and covered by	assessed	assessed an	nd covered by	assessed	assessed and	covered by	assessed	assessed and o	overed by	assessed assess	ed and cov	vered by assessed	assessed a	nd covered by	assessed	assessed ar	nd covered by	assessed	TOTAL ACRES
		Irrigated	Not irrigated this year system	Irrigated	Not irrigated	irrigation	Irrigated N	Not irrigated	irrigation	Irrigated No	ot irrigated irrigation	Irrigated N	lot irrigated ir	rigation	Irrigated	Not irrigated	irrigation	Irrigated Not irrigated	irrigation evetem	Irrigated	Not irrigated	irrigation	Irrigated No	lot irrigated	irrigation	Irrigated No	t irrigated	irrigation Irrigat	ed Not in	rrigated irrigation	Irrigated	Not irrigated	irrigation	Irrigated	Not irrigated	irrigation	
	Barley	this year	this year system	this year 21,699		system	this year 33,142	this year	system	this year the thickness of the thickness	this year system	this year 25,687	this year		this year 3,308		system	this year this year 349	system	this year	this year	system	this year			this year t		this ye		s year system	this year 5,594	this year		this year 6,139		system	177,213
	CPS Wheat	100		1,349			2,982			201		1,424			3,300	100		545					10,303		2,003	30,003	1,000	11,0	+0	24	3,334		0,112	0,133	0,002		5,957
	Durum Wheat			7,123			990			161		8,490			519								993			25,723	590	1,09	93		102		502				46,329
	Grain Corn			1,451	5		268																			1,094		1	17		134						3,069
	Hard Spring Wheat			27,219			30,657					3,931			452	373							2,494		590		1,068	6,8	12	115	1,436		915	1,844	6,311		126,875
CEREALS	Malt Barley	120		218			4 222					494						125					130			58	0	10	20					50	244		770
	Oats Rye	120		879 318			1,322 2,571					454 1,711			80			125					130			624 585	125	''	00					50	241		4,230 5,310
	Soft Wheat			16,293			791					1,096														9,680	409	2,69	99	120							31,632
	Triticale			1,044			4,150					1,382														1,989	115			55							8,735
	Winter Wheat			331			459								275	350										4,160	270	2	01		503		256				6,805
	Alfalfa - Two cuts			4,856			52,669													380	264					13,579	211										72,845
	Alfalfa - Three cuts Alfalfa Hay	904		2,101 13,421			1,949 2,443					18,724			4,949	498		92					10,900		210	1,624 26,477	786	10,73	27	422	3,211		1 254	13,129	17 234		5,714 126,950
	Alfalfa Silage	504		55	1,000		6,515			1,020		14,179			71	450		52					1,940		120	2,243	86	20,7		422	0,211		1,204	10,125	17,204		26,431
	Barley Silage			5,677			5,216			216		45,440			415					120	92		3,865		210	13,781	283	1,4	32		868		73	7,423	4,669		89,830
	Barley Silage (underseeded)						497																			245											742
	Brome Hay			E 000			9.045					804			390								1.000			495	20		10					707			1,709
FORAGES	Corn Silage Grass Hay	288		5,300 1,416			8,915 11,072			1,012		14,357 4,709			70 245	53		2,053					1,690 165			12,046 6,830	167 716	2,4		100	669		633	727 673	782		45,690 32,417
	Green Feed	487		501			5,157			1,978		280			96	67		284					26			1,753	469		39		235		97				12,156
	Milk Vetch			52			32																			68											152
	Millet						150											500												200					الكسر		150
	Native Pasture Oats Silage			1,903 479			899 377					613				50		566								5,837	775	6	14	289	1,374		24	328			13,231 1,486
	Sorghum/Sudan Grass			4/5			226									50										252 494								320			720
	Tame Pasture	462		12,220	1,942		56,917					6,079			2,015	495				100	245		4,621		520	13,197	1,379	4,2	26 1	,589	4,905		1,098	4,322	12,170		128,402
	Timothy Hay			3,360	111		3,460			50		6,968			185											8,666	170	2,5	57		943		5				26,475
	Tritcale Silage																						280			544	43		_						ليبيا		867
OIL SEEDS	Canola Flax			25,624 1,674			24,953 2,017					10,281 605			1,099	242							4,240			44,747 1,195	524	3,1	78 35		1,491		918	3,312	2,825		124,039 5,593
OIL SLLDS	Mustard			1,074	67		2,017					003														72		,	,,,								72
	Safflower											286																									286
	Alfalfa Seed			3,592	133		13,416																														17,141
	Canary Seed																									90											0
	Caraway Seed Carrots			211			307																			90											518
	Catnip																									64											64
	Chick Peas																									1,079											1,079
	Dill			40.000			4.074																			1,456		5.0	0.4								1,456
	Dry Beans Dry Peas			12,688 1,063	111 184		1,674 849					156											70			26,544 2,405	414 258	5,0	61 20		506		113	120	540		46,492 6,293
	Faba Beans			399	104		98					130											19			188	230		20		300		113	120	340		685
	Fresh Corn (sweet)			252			17																			550		2,2	30	31							3,080
	Fresh Peas			1,217			10																			1,775	65	1,59									4,657
	Grass Seed			1,461 282			340 239								487											184 396	93	1	54						264		3,020 917
SPECIALTY CROPS	Hemp Lawn Turf			89			239					519											42			789	53		37					1,568	151		3,248
CROPS	Lentils			100																						41								,			41
	Market Gardens			37			119					48											56			208	8		12					125	75		688
	Mint																									3,070											3,070
	Monarda Nursery			8			457					7											87			313	45		29					495	815		2,256
	Onions			27			.3.																					41									400
	Potatoes			9,985			2,429					731														15,837	203	13,0						190	250		42,676
	Pumpkins														20											5		1	41								146
	Safflower Seed Potatoes			87			50																						16								137 16
	Small Fruit																									49			2	11	14				153		249
	Soy Beans																									1											1
	Sugar Beets			12,998	6		1,358					3,892														12,528	574	5,1		95							36,629
	Sunflower			70	44		345			AE		180 1,149						40								1.005	00		95 55	02	0.5		0.4				620 2,789
	Miscellaneous Non Crop			78	14		244			45		1,149						40								1,065 75	92 570	1	00	92 91	35		24				2,789 980
OTHER	Summer Fallow			276	521		1,671																			171		14,157 10	09	369							3,575
	Unknown (not reported)		1,338			20,653					442								145											2,333						44	40,352
		2,361		201,286		20,653	_		0	4,763			0	1,240	14,676		0	3,509 0	145	600		0	42,573		3,733			14,157 77,0			22,021		12,023	40,716		44	1,356,245
Total	assessment roll acres		3,699		231,713			284,419			5,205		175,913			18,300		3,654			1,101			46,306		3	72,996		82	2,804		34,044		<u> </u>	96,091		1,356,245

Table 2. Summary of Crops Grown within the 13 Irrigation Districts

CDODS						IRRIG <i>A</i>	ATION DI	STRICTS	;					TOTAL ASSESSMENT
CROPS	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	ROLL ACRES
Cereals	220	80,349	77,332	442	44,669	6,853	474	0	17,255	127,349	23,242	15,553	23,187	416,925
	5.9%	34.7%	27.2%	8.5%	25.4%	37.4%	13.0%	0.0%	37.3%	34.1%	28.1%	45.7%	24.1%	30.7%
Forages	2,141	57,012	156,494	4,276	112,151	9,599	2,995	1,101	24,547	113,236	25,047	15,390	61,977	585,966
	57.9%	24.6%	55.0%	82.2%	63.8%	52.5%	82.0%	100.0%	53.0%	30.4%	30.2%	45.2%	64.5%	43.2%
Oil Seeds	0	27,970	26,970	0	11,172	1,341	0	0	4,240	46,538	3,213	2,409	6,137	129,990
	0.0%	12.1%	9.5%	0.0%	6.4%	7.3%	0.0%	0.0%	9.2%	12.5%	3.9%	7.1%	6.4%	9.6%
Specialty Crops	0	44,840	21,708	0	5,533	507	0	0	264	69,285	28,153	633	4,746	175,668
Отора	0.0%	19.4%	7.6%	0.0%	3.1%	2.8%	0.0%	0.0%	0.6%	18.6%	34.0%	1.9%	4.9%	13.0%
Other	1,338	21,542	1,915	487	2,389	0	185	0	0	16,588	3,149	59	44	47,696
	36.2%	9.3%	0.7%	9.4%	1.4%	0.0%	5.1%	0.0%	0.0%	4.4%	3.8%	0.2%	0.0%	3.5%
TOTAL ASSESSMENT ROLL ACRES	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

Note: Assessment roll acres include "irrigation", "terminable" and "annual" acres. Only "irrigation" and "terminable" acres are considered in district expansion limits.

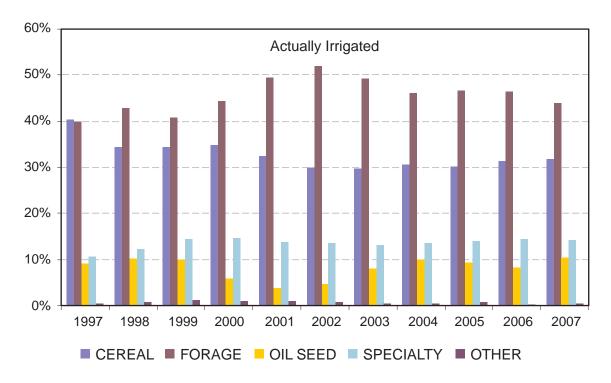


Figure 1. Irrigated Crops within the 13 Irrigation Districts in Southern Alberta (1997 - 2007)

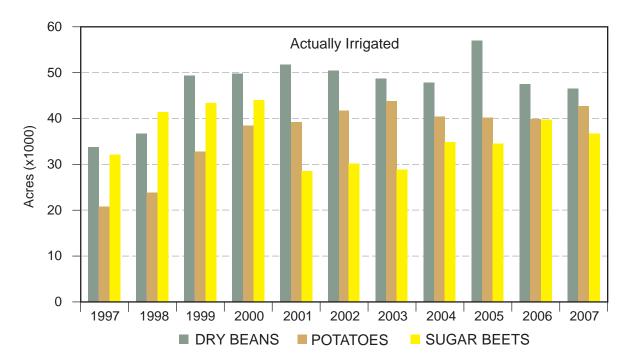


Figure 2. Acres of Three Major Irrigated Specialty Crops – Dry Beans, Potatoes and Sugar Beets within the 13 Irrigation Districts in Southern Alberta (1997 - 2007)

Table 3. Alberta Potato Acreage (seeded acres)

Year	Process	Seed	Table	Total
1990	15,383	5,117	7,882	28,382
91	12,300	5,735	6,509	24,544
92	9,700	5,515	6,970	22,185
93	13,115	5,850	6,115	25,080
94	13,210	7,390	6,075	26,675
1995	13,450	7,400	5,765	26,615
96	13,870	8,485	5,085	27,440
97	12,225	9,430	5,025	26,680
98	12,800	10,250	5,100	28,150
99	24,616	10,886	4,698	40,200
2000	32,563	12,037	4,331	48,931
01	34,877	12,595	3,883	51,355
02	37,296	14,644	3,241	55,181
03	40,960	13,690	4,125	58,775
04	38,077	11,062	3,508	52,647
2005	38,508	10,531	2,567	50,606
06	36,428	11,878	1,615	49,921
07	40,535	9,729	2,245	52,509

Notes: - data are obtained from the Potato Growers of Alberta

Table 4. Alberta Processed Vegetable Acreage (seeded acres)

Year	Carrots	Corn	Peas
1995	740	3,884	3,163
96	710	3,869	2,775
97	367	3,044	3,125
98	856	2,818	2,983
99	1,170	2,442	2,646
2000	854	2,577	2,563
01	994	3,992	3,967
02	479	3,712	4,053
03	441	4,329	4,534
04	1,009	3,365	4,534
2005	647	2,068	3,346
06	817	3,055	4,675
07	518	3,395	4,750

Notes: - data are obtained from the Alberta Vegetable Growers (Processing)

the above acreage is from the whole province of Alberta, but does not include the potato acreage from market gardens of less than 5 acres

⁻ typically, the processed and the table potatoes are irrigated

⁻ processing is defined as fresh, canned, or frozen vegetables for human consumption

⁻ all acres are irrigated

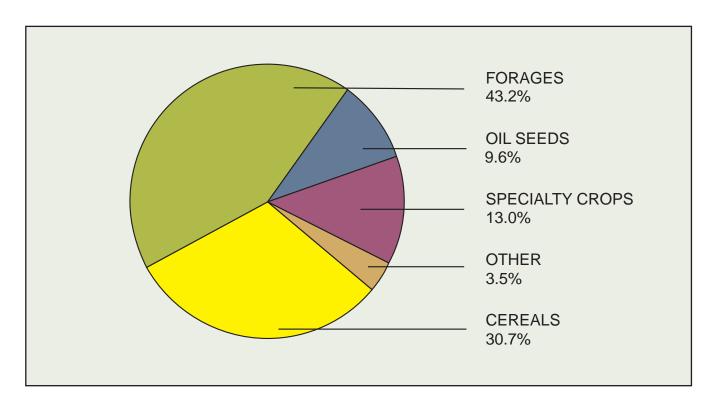


Figure 3. Irrigated Crop Mix within the 13 Irrigation Districts in Southern Alberta

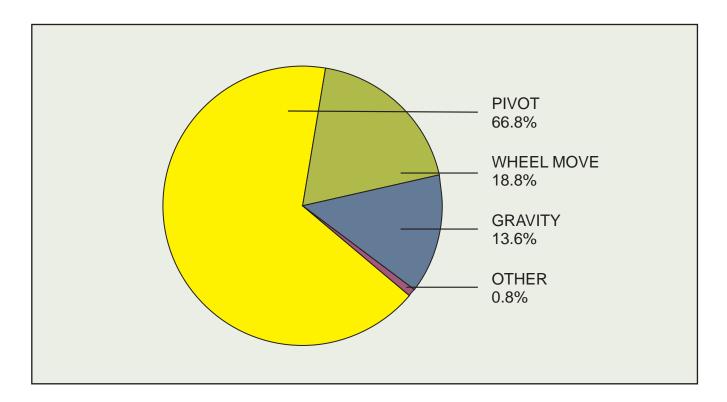


Figure 4. On-farm Irrigation Method Mix within the 13 Irrigation Districts in Southern Alberta

Table 5. On-farm Irrigation Method Summary within the 13 Irrigation Districts in Southern Alberta (acres)

	IRRIGATION METHOD	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	Individual Method Total	Total Acres Covered
	Pivot High Pressure	374	51,240	36,562	747	8,277	3,216		40	10,193	10,536	13,343	6,897	28,803	170,228	
	Pivot High Pressure - Corner arm		3,289	2,950		4,424				567	1,408	1,203		364	14,205	
	Pivot Medium Pressure			3,859		696				362					4,917	
	Pivot Medium Pressure - Corner Arm														0	004.750
PIVOT SPRINKLER	Pivot Low Pressure		91,529	104,238	180	44,083	4,639			5,534	233,527	34,172	3,938	21,487	543,327	864,758
	Pivot Low Pressure - Corner Arm		12,552	6,647		58,246				965	37,950	9,745	141	893	127,139	
	Linear - High Pressure					873				100		110			1,083	
	Linear - Low Pressure		124	2,034		262				139	918	249		134	3,860	
	percent of total	15.8%	75.2%	55.0%	19.5%	66.9%	42.9%	0.0%	3.6%	38.6%	81.2%	73.1%	52.8%	53.6%	66.8%	66.8%
	Wheel Move-Two Laterals	1,157	14,490	29,447	1,251	24,351	6,647	417		19,931	45,615	16,181	3,039	13,507	176,033	
WHEEL MOVE	Wheel Move - Four Laterals		12,593	10,961	424	28,612	225			3,374	5,941	2,041	346	2,371	66,888	242,921
	percent of total	49.0%	12.8%	14.2%	35.2%	30.3%	37.6%	11.9%	0.0%	50.3%	14.7%	22.6%	16.3%	16.5%	18.8%	18.8%
	Gravity - Developed - No Control		5,625	55,441	135	319	3,439		493	1,357	404	601	93	215	68,122	
	Gravity - Developed - Controlled		13,753	15,803	85	1,073			568	1,587	1,065	1,333	2,253	24,896	62,416	
GRAVITY	Gravity - Undeveloped - Flood	474	5,592	15,467	1,771	1,077		3,093		1,235	10,658	1,288	3,976	90	44,721	175,332
	Gravity - Undeveloped - Subsurface					3				70					73	
	percent of total	20.1%	11.8%	30.5%	41.8%	1.4%	18.8%	88.1%	96.4%	9.2%	3.5%	4.0%	30.4%	26.1%	13.6%	13.5%
	Volume Gun - Stationary										143	10		175	472	
	Volume Gun - Traveller		40	325		144					189	46		1,083	1,683	
	Solid Set (underground sprinkler)			8		592				95	254			217	1,166	
OTHER	Hand Move (sprinkler above ground)	356	19	677	170	1,001	114			739	1,441	134	96	924	5,671	11,343
	Micro - Spray - Sprinkler		215			41				42	28	15		83	424	
	Micro - Drip - Trickle						20			7	115			1,185	1,327	
	Other Application Use					601									601	
	percent of total	15.1%	0.1%	0.4%	3.6%	1.4%	0.7%	0.0%	0.0%	1.9%	0.6%	0.3%	0.5%	3.8%	0.9%	0.9%
	Total Acres Irrigated	2,361	211,061	284,419	4,763	174,673	18,300	3,510	1,101	46,297	350,192	80,471	20,779	96,427	1,294,354	1,294,354

Table 6. Assessment Roll Acres within the 13 Irrigation Districts

YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	TOTAL
							101 0 10				110	0.0	****	IOIAL
1970	6,673	23,783	199,729	4,523	89,360	8,506	3,719	2,068	20,847	197,540	57,484	33,353	44,006	691,591
71	6,548	24,071	200,459	4,343	89,883	8,105	3,719	2,068	20,349	199,572	59,172	33,353	43,949	695,591
72	3,131	24,196	202,225	4,305	89,379	9,042	3,719	2,068	20,269	204,051	59,833	33,353	43,899	699,470
73	3,081	26,756	205,481	4,305	98,206	9,182	3,719	2,068	20,647	216,136	61,692	33,353	43,919	728,545
74	3,081	118,741	207,245	4,421	105,958	9,077	3,717	2,068	23,257	237,244	63,823	34,034	44,219	856,885
1975	3,081	131,764	212,982	4,430	108,106	8,871	3,720	2,068	26,920	252,019	62,692	33,358	45,311	895,322
76	3,081	139,665	219,405	4,430	109,629	9,069	3,720	2,069	28,350	262,231	66,423	33,358	52,190	933,620
77	3,081	147,795	224,967	4,430	111,735	9,480	3,720	1,319	31,626	274,301	68,178	33,617	68,549	982,798
78	3,104	153,120	227,202	4,431	111,947	10,737	3,717	1,776	31,570	284,151	68,815	33,651	71,603	1,005,824
79	3,104	150,160	227,254	4,477	111,924	10,797	3,710	1,776	31,524	287,329	69,828	33,546	74,525	1,009,954
1980	3,104	164,889	229,110	4,477	112,562	10,797	3,710	1,776	33,681	293,126	70,368	33,544	76,029	1,037,173
81	3,096	174,641	230,553	4,457	113,845	10,963	3,710	1,776	35,385	299,548	70,819	33,417	79,633	1,061,843
82	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
83	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
84	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
86	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
87	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
88	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
89	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
91	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
92	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
93	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
94	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
96	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
97	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
98	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
99	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
01	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
02	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
03	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
04	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
06 07	3,608	221,677	284,074	4,763 5,205	175,636	18,320	3,561	1,101	46,306	372,618	82,527	34,025	96,100	1,344,316
07	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

Notes: - BRID increased 94,000 acres in 1974 with the amalgamation of the BRID and the Bow River Project (Federal).
- Assessment roll acres include "irrigation", "terminable" and "annual" acres. Only "irrigation" and "terminable" acres are considered in district expansion limits.

 Table 7. Acres Actually Irrigated within the 13 Irrigation Districts

YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	TOTAL
1911										47,000			500	47,500
12 13										76,200 76,200			500 2,600	76,700 78,800
14 1915			7,806 7,806							76,200 76,200			8,448 512	92,454 84,518
16			1,497							71,281			859	73,637
17 18			9,605 24,440							91,780 102,900			3,657 25,191	105,042 152,531
19			43,460							112,569			31,908	187,937
1920 21		4,240 9,400	60,762 88,299							60,893 75,550	2,000 10,352		4,083 33,618	131,978 217,219
22		9,509	93,375							75,558	13,122		49,752	241,316
23 24		11,249 9,720	42,928 84,200		6,963 29,991					72,345 71,700	3,625 13,051	5,264	3,074 24,297	140,184 238,223
1925		13,252	72,994		43,628					81,110	13,472	10,000	5,384	239,840
26 27		13,467 810	74,401 7,921		56,395 10,012	1,235				78,399 20,365	14,385 576	10,026 41	19,561 1,273	266,634 42,233
28		19,373	45,677		33,436	800			6,800	21,153	3,171	2,577	3,892	136,879
29 1930		29,260 31,207	78,610 89,913		61,231 70,007	4,000 5,161			6,634 7,000	25,713 67,004	10,094 19,322	3,102 5,847	37,394 41,570	256,038 337,031
31 32		29,803 26,379	90,724 90,651		70,408 41,842	3,400 4,000	300 800		9,000 10,000	68,089 68,000	19,914 18,998	12,983 11,500	47,593 8,680	352,214 280,850
33		22,440	96,019		62,416	4,000	1,168		12,000	70,000	18,854	10,500	40,812	338,209
34 1935		22,705 25,257	101,566 143,997		54,200 73,022	4,000 4,000	1,950 3,000		13,000 13,000	70,000 70,000	18,490 19,471	10,000 12,000	31,131 19,109	327,042 382,856
36		27,170	111,781		62,790	4,000	2,900		13,000	75,274	19,123	18,000	44,614	378,652
37 38		30,817 34,614	124,645 133,928		70,020 73,297	4,000 4,000	3,500 3,500		13,000 12,000	72,250 75,749	21,296 20,880	17,500 10,000	50,866 35,775	407,894 403,743
39		36,874	141,688		56,712	3,700	3,200		12,000	76,492	18,485	10,500	11,647	371,298
1940 41		37,906 35,312	146,211 156,501		72,492 63,575	3,700 3,700	3,000 3,400		13,000 14,000	76,639 76,579	21,391 15,103	10,500 11,000	20,134 20,144	404,973 399,314
42		37,946	166,453		31,102	3,700	3,400		10,000	57,575	14,108	12,000	9,194	345,478
43 44		35,143 37,266	168,496 167,094	526	67,777 75,927	3,500 3,500	3,254 3,400		12,000 12,000	75,707 75,725	20,935 21,325	12,000 13,000	7,666 20,000	406,478 429,763
1945		38,838	167,100	1,000	57,126	3,500	3,300		12,000	75,766	21,218	13,000	20,000	412,848
46 47		42,251 43,611	166,328 168,580	1,300 1,300	64,894 57,343	3,500 3,500	3,000 3,500		12,000 12,000	76,013 110,848	21,222 19,141	13,500 7,453	19,000 20,000	423,008 447,276
48 49		44,160 46,975	172,894 177,084	1,500 1,500	55,374	3,500 3,500	3,700 3,300		12,000 12,000	76,351 70,117	17,720 21,533	2,970 19,228	12,000 26,345	402,169 454,389
1950		36,508	180,000	2,500	72,807 78,721	3,500	3,300		12,000	77,674	21,864	9,758	23,100	448,925
51 52		24,283 40,416	183,316 149,289	941 941	21,979 35,314	3,500 3,500	100 3,350		12,000 12,000	83,682 86,297	8,739 21,251	1,869 6,072	1,000 700	341,409 359,130
53		40,000	114,776	980	37,409	5,000	3,392	1,100	13,000	76,624	22,503	8,894	500	324,178
54 1955		40,000 40,000	187,612 190,976	254 423	58,745 31,753	7,000 7,000	3,392 3,132	2,100 1,500	16,000 16,000	102,266 81,100	27,224 20,530	10,333 10,115	1,500 5,000	456,426 407,529
56		109,400	191,568	852	31,588	7,000	2,773	1,800	15,500	98,647	21,009	11,082	6,000	497,219
57 58		55,374 56,995	189,792 188,928	2,779 1,542	51,809 51,916	7,000 7,000	2,733 2,760	1,685 1,500	16,000 15,500	116,713 123,440	21,579 22,854	15,886 11,032	7,000 9,870	488,350 493,337
59	360	54,514	188,721	1,542	46,459	7,000	2,789	405	15,800	155,155	25,426	17,761	9,930	525,862
1960 61	440 1,800	71,392 80,603	189,761 189,421	1,542 1,542	71,006 73,637	5,000 6,000	2,789 2,760	200 200	15,200 18,300	179,477 157,300	29,448 30,747	16,536 23,095	12,000 23,000	594,791 608,405
62 63	2,177 2,315	83,259 87,267	190,866 192,324	4,187 4,511	73,317 63,000	7,000 7,250	2,760 2,789	200 200	18,500 18,500	155,500	36,029 33,902	28,465 27,012	30,000 25,000	632,260 634,070
64	2,513	86,034	193,381	4,511	70,575	7,500	2,789	200	18,000	170,000 170,000	39,015	19,376	24,000	637,904
1965 66	2,523 2,523	44,507 40,423	194,824 195,905	4,511 4,523	22,778 19,196	3,000 4,000	2,789 2,789	1,500 1,050	15,000 16,000	165,000 165,000	26,005 25,904	9,805 12,725	2,750 3,100	494,992 493,138
67	2,523	71,936	196,549	4,523	47,962	5,000	2,789	1,250	17,000	160,000	38,235	11,866	12,870	572,503
68 69	2,523 2,523	82,876 79,980	198,352 198,248	4,523 4,523	56,993 35,902	4,400 4,500	2,789 2,789	900 900	15,200 15,000	154,336 124,879	45,420 45,980	10,109 10,228	10,000 13,500	588,421 538,952
1970	2,523	77,580	199,729	4,523	49,783	5,000	2,789	1,000	15,000	134,982	50,094	15,019	15,000	573,022
71 72	2,424 2,400	81,018 82,928	166,219 175,915	4,343 4,305	60,207 58,817	5,500 5,750	2,789 2,000	1,100 675	15,000 15,000	149,444 147,884	52,185 52,470	14,417 11,061	16,000 17,000	570,646 576,205
73	2,400	98,185	183,279	4,305	80,995	5,600	3,720	800	15,000	176,120	58,826	22,233	19,000	670,463
74 1975	2,424 2,400	108,021 116,155	188,657 179,095	4,305 4,430	90,085 92,850	6,000 6,000	3,737 3,000	700 600	18,000 21,500	190,017 171,883	60,981 44,606	11,710 4,952	22,000 34,036	706,637 681,507
76	2,400	125,380	201,438	4,600	96,661	9,070	2,910	700	22,680	213,085	59,116	13,355	39,824	791,219
77 78	2,500 2,400	131,492 127,236	208,785 204,192	4,430 4,430	97,829 93,562	7,000 6,000	2,000 2,775	350 578	30,000 31,060	232,072 198,755	64,115 56,940	15,000 8,671	43,525 33,329	839,098 769,928
79 1980	2,500 2,500	133,517 134,493	213,837 212,524	4,476 4,476	100,487 95,979	8,000 8,000	2,900 2,900	623 600	31,264 19,137	249,232 251,914	62,635 63,202	13,899 12,607	46,570 43,986	869,940 852,318
81	2,500	140,300	216,200	4,476	90,552	8,650	2,783	0	19,462	259,564	66,206	15,064	28,389	854,146
82 83	1,200 1,200	152,144 168,461	216,620 231,125	3,000 3,000	104,533 108,141	8,500 9,000	3,154 3,154	650 650	25,169 28,055	268,916 288,969	67,305 68,474	10,054 12,734	41,996 46,638	903,241 969,601
84	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 86	2,933 2,933	174,087 174,903	244,763 246,916	3,664 3,600	114,635 113,663	13,000 13,000	3,184 3,184	700 700	36,286 36,008	305,560 307,875	70,133 69,928	12,620 13,146	49,666 48,000	1,031,231 1,033,856
87	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
88 89	2,500 1,962	173,400 181,106	241,494 249,623	3,900 3,900	124,555 127,330	13,436 13,555	3,100 2,000	500 0	36,496 35,766	316,223 323,400	69,581 70,278	14,536 11,693	52,950 52,153	1,052,671 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
91 92	2,473 2,519	182,932 182,543	246,083 256,342	4,200 4,200	130,989 131,305	15,000 15,240	2,880 2,880	650 0	32,847 36,788	319,745 324,477	73,169 74,229	11,548 15,499	48,300 43,889	1,070,816 1,089,911
93	0	184,463	259,778	0	67,565	0	0	0	0	262,718	66,158	0	40,007	880,689
94 1995	1,940 765	187,247 192,328	259,942 263,576	4,200 1,000	133,803 100,589	11,425 3,250	3,277 3,300	734 643	36,291 16,473	330,949 289,173	73,949 72,108	14,255 5,035	47,335 39,130	1,105,347 987,370
96 97	2,145 2,476	196,055 197,904	271,075	4,277 4,600	143,147	14,341 13,479	3,355 3,600	734 794	39,662 39,484	339,098	74,766 76,083	14,135	68,710 62,448	1,171,500 1,182,248
98	1,930	198,197	274,880 274,942	4,600	145,061 122,379	11,189	3,500	1,055	32,259	342,234 342,758	76,083	19,205 17,276	67,643	1,154,328
99 2000	1,870 2,361	198,060 199,873	277,723 278,956	4,735 4,763	145,782 154,300	14,723 15,427	3,510 3,510	1,210 0	38,966 42,062	355,988 352,372	79,166 79,206	17,407 19,741	51,032 64,414	1,190,172 1,216,985
01	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
02 03	2,422 2,386	202,807 202,974	281,070 280,624	4,763 4,763	162,624 162,779	14,717 15,579	3,510 3,510	1,149 1,194	37,221 42,210	342,053 351,257	76,245 76,884	20,364 22,660	75,635 67,540	1,224,580 1,234,360
04	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 06	2,361 2,361	206,452 208,378	282,267 280,753	4,763 4,763	175,206 175,184	13,044 13,232	3,510 3,510	800	36,611 41,156	346,596 335,269	77,522 76,765	20,780 22,771	56,186 43,136	1,226,097 1,207,278
07	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

Table 8. Irrigation Districts Annual Water Rates (\$ per assessed acre per year)

YEAR	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID
1982	\$2.50	\$6.50	\$6.50	\$5.00	\$12.00	\$6.00	\$3.00	\$3.00	\$6.25	\$12.00	\$10.75	\$3.25	\$6.30
83	\$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
84	\$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
86	\$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
87	\$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
88	\$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
89	\$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
91	\$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
92	\$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
93	\$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*
94	\$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*
96	\$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*
97	\$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*
98	\$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*
99	\$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*
01	\$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*
02	\$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*
03	\$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*
04	\$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*
06 07	\$9.00* \$9.00*	\$14.50* \$14.50*	\$0.00 \$0.00	\$11.00* \$11.00*	\$14.00* \$14.00*	\$8.50* \$9.00*	\$10.00 \$10.00	\$15.00 \$18.00	\$9.50* \$9.50*	\$18.50 \$18.75	\$11.00 \$8.00	\$8.25 \$8.25	\$16.25* \$16.25*

Note: * The districts levy the following additional surcharges.

AID - \$2.00 per acre for pipeline delivery in township 2

- \$3.00 per acre for pipeline delivery in township 3

BRID – \$0.60 per acre inch for excess water use on flood parcels

LID - \$3.00 per acre for pipeline delivery
LNID - \$0.15 per psi for pressure pipeline up to and including 40 psi

- \$0.30 per psi for pressure pipeline above 40 psi

MID - \$1.00 per 10 psi for pressure pipeline

RID - \$100 per acre inch for volumes over the annual allocation of 17 inches

WID - \$3.10 per 10 psi delivered

Table 9. Alberta Irrigation Districts Annual Irrigation Diversions

					OLDMA	N RIVER	BASIN				воу	V RIVER	BASIN	
DISTRICT	AID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	BRID	EID	WID	TOTALS
WATER SOURCE	diversion from Belly River	diversion from Belly River	diversion from Oldman River	diversion from Belly, Waterton, & St. Mary Rivers	diversion from Belly River	diversion from Gros Ck. & Ross Ck.	diversion from SMRID main canal	diversion from Belly, Waterton, & St.Mary Rivers	diversion from SMRID main canal	diversion from Belly, & St.Mary Rivers	diversion from Bow River	diversion from Bow River	diversion from Bow River	
EXPANSION LIMITS (acres)	5,000	4,770	177,000	18,300	4,240	1,210	46,500	372,000	82,200	34,400	232,000	311,000	95,000	1,383,620
WATER LICENCE ALLOCATION (acre-feet)	9,000	12,000	334,450	34,000	8,000	3,000	81,000	722,000	158,000	66,210	450,000	762,000	160,400	2,800,060
YEAR					VOLU	ME OF WAT	ER DIVERTI	ED (acre-feet)					
1976 77 78 79 1980 81 82 83 84 1985 86 87 88 89 1990 91 92 93 94 1995 96 97 98	5,020 4,074 4,392 6,910 4,613 3,754 3,556 2,170 2,126 4,110 1,802 4,035 6,051 4,874 3,485	8,500 6,858 5,644 9,398 3,517 5,328 4,468 11,216 1,824 4,319 1,548 4,892 5,193 5,331 11,415	154,844 169,436 85,934 138,630 134,576 132,955 142,683 150,790 177,543 184,029 182,408 181,597 222,943 198,622 192,136 184,840 137,008 61,775 180,000 110,200 209,600 193,574 160,800 179,987	9,295 18,439 4,378 13,059 10,710 8,869 13,068 14,363 18,857 18,533 14,114 14,649 22,918 12,338 13,555 12,712 15,695 4,848 13,895 4,248 12,506 12,564 9,671 25,178	4,250 3,212 3,180 6,066 2,750 3,290 2,662 4,118 988 3,325 861 2,660 1,529 2,323 2,499	1,981 2 2,489 5,561 0 264 3,551 1,354 67 3,827 1,832 1,321 256 122 298 1,775 0 3,300 758 208 1,085 1,760 1,726 1,700	36,414 48,317 12,848 24,521 19,944 22,162 27,697 14,955 17,544 27,302 22,045 40,559 55,411 34,540 32,000 30,702 32,070 13,574 28,328 17,600 45,527 38,043 33,834 42,960	339,188 423,509 202,066 303,097 340,254 379,075 332,337 361,537 492,674 425,583 406,536 426,434 563,621 504,255 467,244 391,634 441,745 218,375 415,162 385,290 498,483 466,000 424,700 405,000	86,330 122,209 35,303 94,736 94,858 108,427 91,998 97,674 101,643 95,751 101,597 98,621 121,668 78,396 98,572 94,956 101,122 59,278 103,028 79,818 127,436 115,582 116,300 105,208	14,998 31,050 10,620 23,517 17,754 12,242 19,133 24,078 25,093 24,193 20,106 19,958 30,462 18,372 16,133 17,003 18,628 8,107 16,827 7,710 19,832 20,364 14,895 20,900	309,000 304,600 204,268 262,593 287,892 307,452 281,000 313,897 322,335 337,409 309,580 275,841 389,186 301,442 334,304 264,340 295,238 222,380 333,446 244,160 331,342 354,420 312,164 277,097	565,100 572,100 387,100 542,846 548,686 577,969 481,258 580,299 657,640 655,188 680,592 639,928 730,274 605,148 689,178 629,872 625,650 423,551 559,476 602,098 615,478 593,782 638,500 426,788	153,222 137,008 102,959 138,630 136,198 108,630 129,712 146,737 162,140 158,897 131,333 129,712 171,868 122,416 128,091 147,547 135,387 114,309 132,104 116,254 117,065 116,740 142,367 88,410	1,670,372 1,826,670 1,047,965 1,547,190 1,590,872 1,658,045 1,522,437 1,705,684 1,975,536 1,948,399 1,884,287 1,841,836 2,336,101 1,882,719 1,983,883 1,694,388 1,824,187 1,134,435 1,794,778 1,574,150 1,989,941 1,925,602 1,867,485 1,590,627
2000 01* 02 03 04 2005 06 07	6,000 3,952 2,938 4,598 3,440 4,000 3,681 3,235	11,240 7,593 9,835 7,964 5,425 6,243 5,341 6,330	245,976 275,475 109,704 187,518 159,286 134,088 178,500 235,390	35,375 21,173 10,788 20,711 12,391 8,859 14,114 18,238	6,700 6,814 3,033 5,889 2,660 2,067 3,987 3,600	0 0 N/A N/A N/A 1,190 0 N/A	58,202 40,207 23,552 49,723 28,224 27,046 37,049 34,493	562,100 426,400 263,700 385,300 327,800 306,300 354,500 419,600	140,046 94,770 53,324 86,500 64,399 72,487 82,448 100,903	37,200 27,526 21,283 32,500 21,600 13,717 20,390 31,801	374,565 456,678 179,842 268,097 226,810 209,140 212,751 251,477	675,000 685,000 430,000 459,700 417,370 318,000 335,210 417,830	156,400 160,000 149,577 128,700 114,000 120,000 73,000 68,000	2,308,804 2,205,588 1,257,576 1,637,200 1,383,405 1,223,137 1,320,971 1,603,730
Percent of Licence (2007) Average Volume	35.9% 4,035	52.8% 6,497	70.4% 168,526	53.6% 14,378	45.0% 3,411	0.0%	42.6% 31,794	58.1% 392,742	63.9% 94,543	48.0%	55.9% 292,336	54.8% 555,207	42.4% 129,294	57.3% 1,711,188

Notes: - Data are obtained from Alberta Environment for AID, LID, MVID, RCID, and UID, and Irrigation Districts for BRID, EID, LNID, MID, RID, SMRID, TID, and WID.

⁻ RCID has a second supply from Ross Creek, but data has not been consistently recorded at that location.

Diversion data represent the gross diversion into and through the works of the districts and include volumes used directly for irrigation purposes, reservoir filling and the water supplied or licensed to municipal, domestic, other agricultural, industrial and environmental uses.

⁻ UID licence amended in 2004, re-allocating 1300 acre-feet of diversion authority to the Southeast Alberta Water Cooperative.

^{- *}Water rationing in effect for MID, RID, SMRID, and TID in 2001.

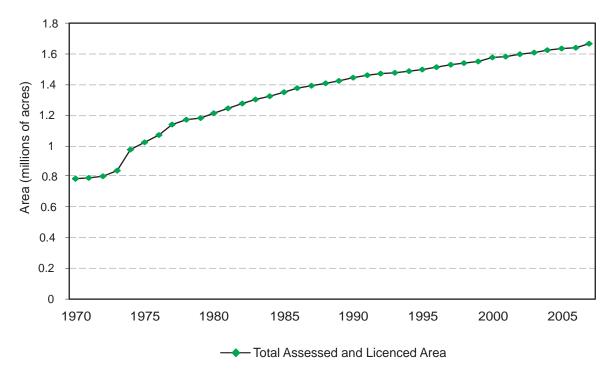


Figure 5. Growth in Irrigation Across Alberta (1970 - 2007)

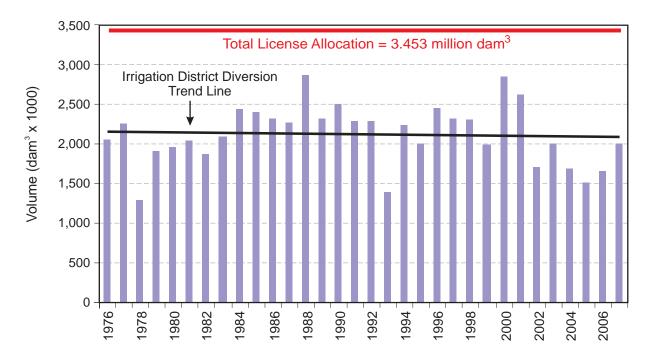


Figure 6. Irrigation District Annual Diversions (1976 - 2007)

Note: The annual gross diversion volumes represent the gross volume of water diverted into the works of all 13 irrigation districts and includes water distributed for irrigation purposes, volumes which may have accrued as net gains in reservoir storage, and volumes diverted through the works of the districts for other uses such as domestic, municipal, other agricultural, industrial, recreational and habitat enhancement purposes.

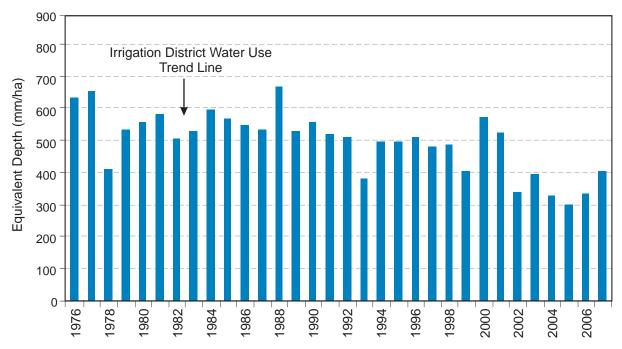


Figure 7. Irrigation District Water Use and Allocation (1976 - 2007)

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

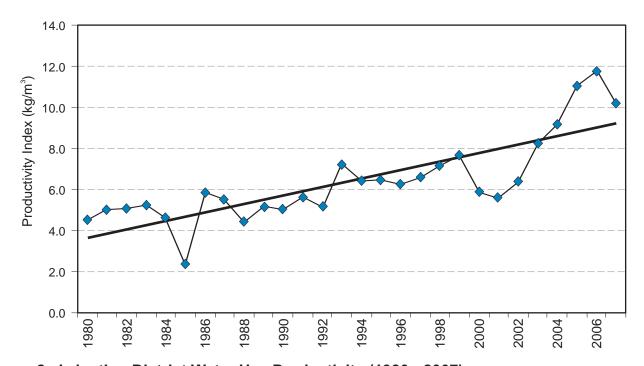


Figure 8. Irrigation District Water Use Productivity (1980 - 2007)

Note: Commodity yield per unit area divided by the volume of irrigation water diverted per unit area provides a measure of productive output per unit of irrigation water used. The historical yields of sugar beets (as recorded by the Alberta Sugar Beet Growers Marketing Board), the historical yields of potatoes (as compiled by the Potato Growers of Alberta) and the historical yields of soft white spring wheat (as provided by the Alberta Soft Wheat Growers) are tallied and then divided by the respective annual gross water use values of the 13 irrigation districts to derive a 'Productivity Index'.

Table 10. Conveyance Infrastructure by Type of Works

					REH	ABILITATED					UN-REHA	ABILITATED	
Irrigation District	Membrane	e-Lined Canals	Pipelir	nes - Closed	Pipelin	es - Open	Concr	ete - Lined	Eart	h Canals	Un-Rehab	ilitated Canals	Total Conveyance
	Length (km)	% of District Works	Length (km)	% of District Works	Length (km)	% of District Works	Works (km)						
AID	3.8	11.2%	16.0	47.1%	0.2	0.6%	0.0	0.0%	1.2	3.5%	12.8	37.6%	34
BRID	179.8	17.1%	315.6	30.0%	15.1	1.4%	34.4	3.3%	224.9	21.4%	283.5	26.9%	1053
EID	313.1	16.3%	826.8	43.1%	41.8	2.2%	0.0	0.0%	213.3	11.1%	521.9	27.2%	1917
LID	2.0	3.7%	28.7	53.6%	0.3	0.6%	0.0	0.0%	11.7	21.9%	10.8	20.2%	54
LNID	56.8	7.7%	339.5	45.7%	12.6	1.7%	48.6	6.5%	68.1	9.2%	216.5	29.2%	742
MID	1.2	1.2%	54.5	52.8%	1.1	1.1%	0.3	0.3%	36.9	35.8%	9.2	8.9%	103
MVID	0.0	0.0%	15.0	37.8%	1.8	4.5%	0.0	0.0%	17.0	42.8%	5.9	14.9%	40
RCID	1.3	4.0%	13.0	40.2%	1.7	5.3%	0.0	0.0%	9.5	29.4%	6.8	21.1%	32
RID	0.0	0.0%	104.5	43.6%	8.0	3.3%	0.0	0.0%	95.2	39.7%	32.0	13.4%	240
SMRID	66.3	3.7%	766.4	43.3%	17.4	1.0%	96.3	2.6%	460.6	26.0%	411.2	23.3%	1818
TID	57.7	17.5%	155.0	46.9%	11.7	3.5%	8.7	2.6%	70.8	21.4%	26.7	8.1%	331
UID	15.8	6.6%	52.3	21.8%	30.7	12.8%	0.3	0.1%	57.6	24.0%	83.6	34.8%	240
WID	38.4	3.6%	71.8	6.7%	33.5	3.1%	5.3	0.5%	149.1	13.8%	779.3	72.3%	1077
Total	736	9.6%	2,759	36.2%	176	2.3%	144	1.9%	1,416	18.6%	2,400	31.5%	7681
										wned by Alber ance System		,	339 8020

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

– the Irrigation Rehabilitation Program (IRP)

– Alberta Environment's headworks improvement program

Totals only include irrigation conveyance works, ie. does not include domestic water supply

⁻ individual district O & M program

Table 11. Irrigation District Infrastructure by Length and Replacement Cost

IRRIGATION	CONVEYANCE	DRAINAGE	E WORKS	MAJOR	TOTAL of ALL
DISTRICTS	WORKS	CONSTRUCTED	NATURAL	STRUCTURES	WORKS
	(length - km)	(length - km)	(length - km)	(number of units)	(length - km)
	(replacement cost)				
AID	34	0	19	0	53
	\$10,404,820	\$0	\$304,925	\$0	\$10,709,745
BRID	1053	54	502	22	1,609
	\$387,139,735	\$3,309,730	\$5,678,134	\$97,752,916	\$493,880,515
EID	1917	172	1704	61	3,793
	\$668,258,361	\$7,615,049	\$15,545,438	\$349,421,106	\$1,040,839,954
LID	53	10	0.4	0	63
	\$12,800,754	\$435,135	\$6,464	\$0	\$13,242,353
LNID	742	19	224	2	985
	\$250,581,776	\$863,932	\$2,755,947	\$2,879,826	\$257,081,481
MID	103	13	150	0	266
	\$28,826,867	\$619,404	\$2,139,413	\$0	\$31,585,684
MVID	40	1	0	0	41
	\$14,804,083	\$32,955	\$0	\$0	\$14,837,038
RCID	26	3	5	1	34
	\$4,213,814	\$104,966	\$19,809	\$135,000	\$4,473,589
RID	240	19	188	0	447
	\$70,498,302	\$965,690	\$3,511,575	\$0	\$74,975,567
SMRID	1818	33	346	48	2,197
	\$648,717,683	\$2,526,628	\$4,986,030	\$335,617,499	\$991,847,840
TID	331	56	16	12	402
	\$120,787,353	\$3,943,887	\$156,443	\$14,168,210	\$139,055,893
UID	240	4	56	11	300
	\$77,397,137	\$295,672	\$670,794	\$16,206,484	\$94,570,087
WID	1077	8	864	13	1,948
	\$323,990,870	\$643,943	\$15,530,846	\$18,179,874	\$358,345,533
DISTRICT	7,674	392	4,073	170	12,140
TOTALS	\$2,618,421,555	\$21,356,991	\$51,305,818	\$834,360,915	\$3,525,445,279

NOTE: – Constructed drainage works include both open channels and pipelines.

⁻ Natural drains are those channels that exist as natural watercourses and provide a means to drain unused tailwater away from irrigated works.

⁻ Total of All Works length values include the summation of conveyance and drainage works only.

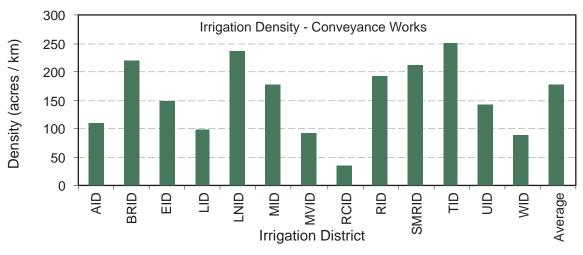


Figure 9. Density of Irrigation Area Relative to Infrastructure

Note: Irrigation Density is a measure of the "compactness" of an irrigation district. Greater compactness or being able to serve more irrigated area per unit of conveyance length is one factor that leads to opportunities for conveying water more efficiently.

Table 12. Summary of Condition Assessments (All Works by Replacement Cost)

Works Category	Good	Fair	Poor	TOTAL
Conveyance	\$1,547,225,644	\$892,410,086	\$178,785,827	\$2,618,421,557
Drainage	\$13,510,695	\$44,687,466	\$15,064,649	\$73,262,810
Major Structures	\$526,840,690	\$300,308,391	\$7,211,834	\$834,360,915
TOTAL	\$2,087,577,029	\$1,237,405,943	\$201,062,310	\$3,526,045,282
Proportion	59.2%	35.1%	5.7%	100%

Note: In 2006, the construction and material costs used in these calculations were updated to reflect current prices. Combined with the updated works conditions, this resulted in an approximate 21% increase over 2005 values. The last valuation was done in 2000. Construction and material costs are updated approximately every five years.

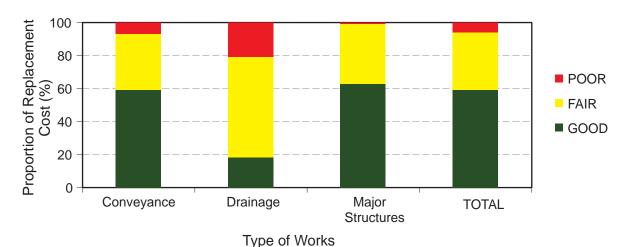


Figure 10. Irrigation District Infrastructure Condition Rating

Table 13. Irrigation District Reservoirs

Location	Reservoir	Approximate Date of Impoundment	Live Storage (dam³)	Live Storage (acre-feet)
	Badger	1985	53,650	43,494
	'D' Reservoir	2005	395	320
Bow River Irrigation District	'H' Reservoir	1953	2,220	1,800
	Lost Lake	1973 - 1987*	5,050	4,094
G	'PFRID' Reservoir	2005	586	475
	Scope	1953	19,740	16,003
	Total storage	-	81,641	66,186
	Bantry # 1	1968	617	500
	Bantry # 2	1967	5,550	4,500
	Cowoki Lake	1937	19,735	16,000
	Crawling Valley	1984	130,500	105,797
	'J' Reservoir	1949 - 1966*	615	500
	Kitsim	1980	26,520	21,500
F	Lake Newell	1914	320,215	259,600
Eastern Irrigation District	One Tree	1935	2,345	1,901
	Rock Lake	1956	9,250	7,500
	Rolling Hills	1940 - 2003*	46,000	37,292
	Snake Lake	1997	18,230	14,779
	Tilley "A"	1972	33,300	26,996
	Tilley "B"	1973 - 1979*	38,235	30,997
	Total storage	-	651,112	527,862
Lathbridge Nauthaus	Park Lake	1928	740	600
Lethbridge Northern	Picture Butte	1936	1,600	1,297
Irrigation District	Vandenburg	1992	114	93
	Total storage	-	2,454	1,990
	Corner Lake	1925	495	400
	Craddock	1925	615	500
Raymond Irrigation District	Factory Lake	1925	370	300
	Total storage	-	1,480	1,200
	Bullshead	1954	125	101
	Chin	1954	190,330	154,300
	Cross Coulee	1954	2,590	2,100
	Forty Mile	1987	86,345	70,000
	Murray	1954	30,590	24,800
	North East	1954	2,095	1,698
St. Mary River Irrigation District	Raymond	1954	1,600	1,297
ot. Mary Trivor irrigation District	Sauder	1953 - 1982*	37,745	30,600
	Seven Persons	1953	1,355	1,099
	Sherburne	1952	10,625	8,614
	Stafford	1954 - 1982*	23,315	18,900
	Yellow Lake	1952	18,130	14,690
	Total storage	-	404,845	328,199
	Fincastle	1952	3,085	2,501
	Horsefly	1950	9,250	7,499
Taber Irrigation District	Taber Lake	1955	6,415	5,200
	Total storage	-	18,750	15,200
United Irrigation District	Cochrane Lake	1923	3,100	2,513
S.iiod iiigation District	Chestermere	1944	5,180	4,200
Western Irrigation District	Langdon	1979	5,180 7,895	4,200 6,400
Wooden inigation District	Total storage	-	13,075	10,600
0 17/1	Total Storage			
Grand Total	-	-	1,176,457	953,751

Note: - all reservoirs are off-stream storage sites

^{*} denotes year of reservoir enlargement

Table 14. Provincially Owned and Operated Reservoirs

Source Supply for:	Reservoir	Approximate Date of Impoundment	Live storage (dam³)	Live storage (acre-feet)
	Little Bow	1920	21,078	17,088
Bow River Irrigation District	McGregor	1914	351,059	284,604
Ŭ	Travers *	1954	104,638	84,830
	Total Storage	-	476,775	386,522
Lethbridge Northern Irrigation District	Keho	1920	95,635	77,531
Louisinago (torurom imigadon Biodriot	Oldman River *	1991	490,180	397,390
	Total Storage	-	585,815	474,921
Ross Creek Irrigation District	Cavan	1950	4,625	3,750
Mountain View, Leavitt, Aetna	Payne	1942	8,690	7,045
	Jensen *	1948	19,000	15,403
	Milk River Ridge	1957	127,297	103,200
St. Mary Project (SMRID, MID, TID, RID)	St Mary *	1951	369,310	299,400
	Waterton *	1965	111,196	90,147
	Total Storage	-	626,803	508,150
	Chain Lakes *	1966	14,679	11,900
Diversions Outside of Irrigation Districts	Twin Valley Dam *	2003	62,700	50,831
	Pine Coulee	1998	51,000	41,346
	Women's Coulee	1949	362	293
	Total Storage	_	128,741	104,370
Grand Total	-	-	1,831,449	1,484,759

Note: - * denotes on-stream storage reservoir

Table 15. Hydroelectric Plants Associated with Water Distribution Works

Location	Owner	Capacity (megawatts)
Oldman Reservoir	ATCO Electric	32.0
Waterton Reservoir	Canadian Hydro	2.8
Belly River Chute	Canadian Hydro	3.0
St. Mary Reservoir	Canadian Hydro	2.5
Taylor Coulee Chute (Jensen Reservoir)	Canadian Hydro	12.7
Raymond Reservoir	Irrican	20.5
Chin Chute (Chin Reservoir)	Irrican	11.0
SMRID - Main Canal Drops #4, #5 and #6	Irrican	7.0

Table 16. Private Water Licences for Irrigation in Alberta

There are 2,924 individual irrigation projects, outside of the 13 irrigation districts, irrigating approximately 310,733 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 agricultural feasibility of these projects is reviewed by Alberta Agriculture and Rural Development and the licencing is regulated by Alberta Environment.

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.
ATHABASCA RIVER	2,213	42	5	1
MILK RIVER	18,823	98		14
NORTH SASKATCHEWAN RIVER	28,194	331	57	15
PEACE RIVER	3,501	72	9	0
SOUTH SASKATCHEWAN RIVER - Bow River - Little Bow River - Lower Oldman River - Red Deer River - South Saskatchewan River - Upper Oldman River - Waterton / Belly / St. Mary Rivers - Willow Creek	28,915 29,958 15,725 45,779 47,815 7,545 52,253 30,012	156 133 22 421 535 64 132 151	61 63 24 89 81 22 72 75	20 22 11 19 25 3 19
Total (2007)	310,733	2,157	601	166
2006 2005 2004 2003 2002 2001 2000 1999 1998	296,964 293,055 285,276 283,254 275,599 272,353 277,826 257,258 255,192 253,868	2,150 2,138 2,113 2,108 2,100 2,085 2,076 1,863 1,884 1,893	579 572 575 571 567 558 555 509 501 486	159 154 152 149 141 143 140 137 138 129

Notes: - upper Oldman reach is defined as upstream of the Belly River confluence

- lower Oldman 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
- data are obtained from Alberta Environment
- licence authorization as of January 2007

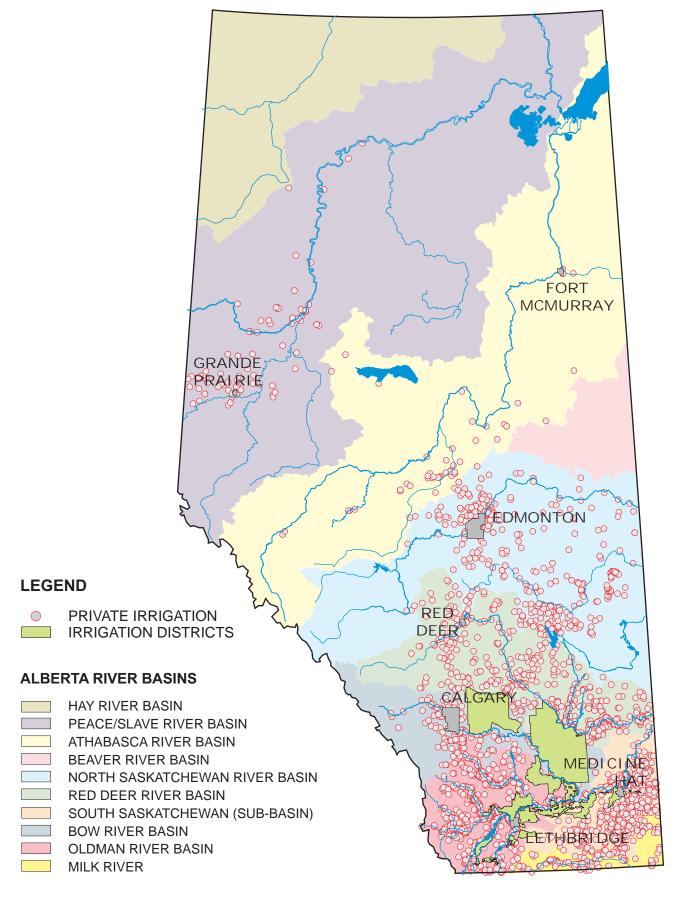


Figure 11. Private Irrigation in Alberta

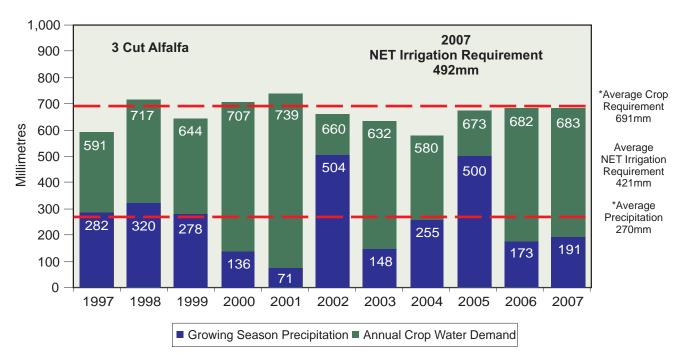


Figure 12. Lethbridge Optimum Crop Water and Net Irrigation Requirements (1997 - 2007)

Note: The high water use, 3 cut alfalfa is used in these examples because this crop's annual growing season closely coincides with the annual irrigation season.

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 1970 to 2007.

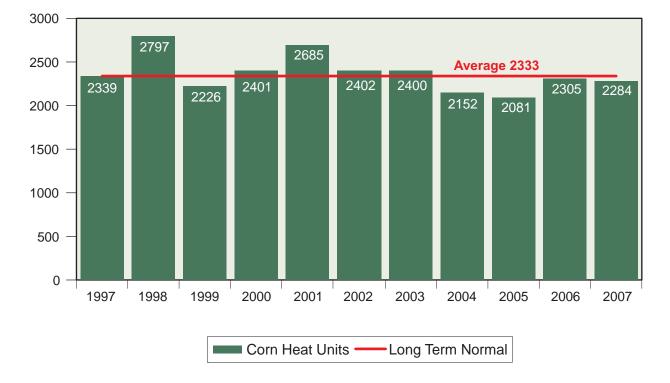


Figure 13. Lethbridge Corn Heat Units (1997 - 2007)

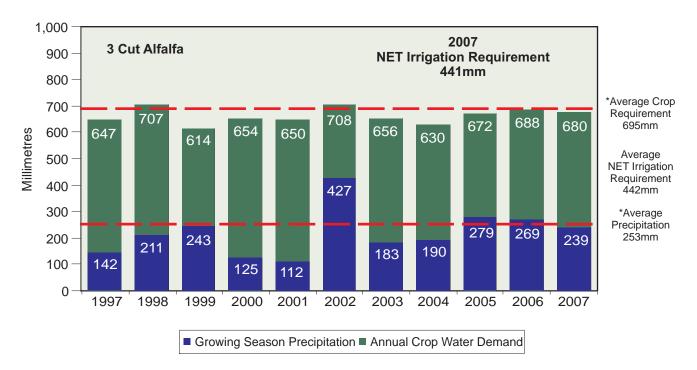


Figure 14. Bow Island Optimum Crop Water and Net Irrigation Requirements (1997 - 2007)

Note: The high water use, 3 cut alfalfa is used in these examples because this crop's annual growing season closely coincides with the annual irrigation season.

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 1970 to 2007.

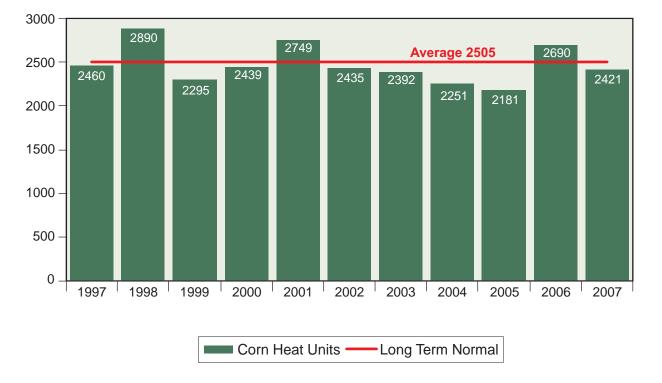


Figure 15. Bow Island Corn Heat Units (1997 - 2007)

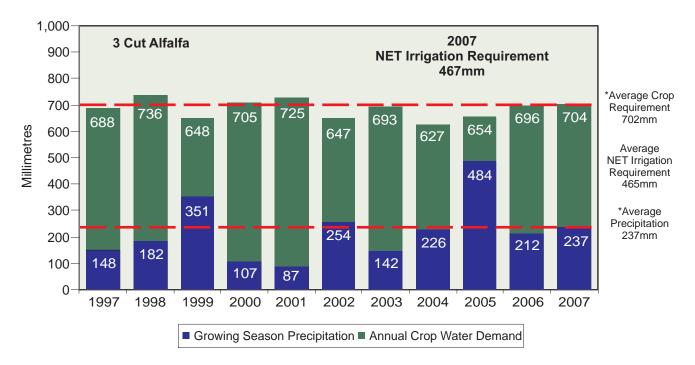


Figure 16. Brooks Optimum Crop Water and Net Irrigation Requirements (1997 - 2007)

Note: The high water use, 3 cut alfalfa is used in these examples because this crop's annual growing season closely coincides with the annual irrigation season.

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 1970 to 2007.

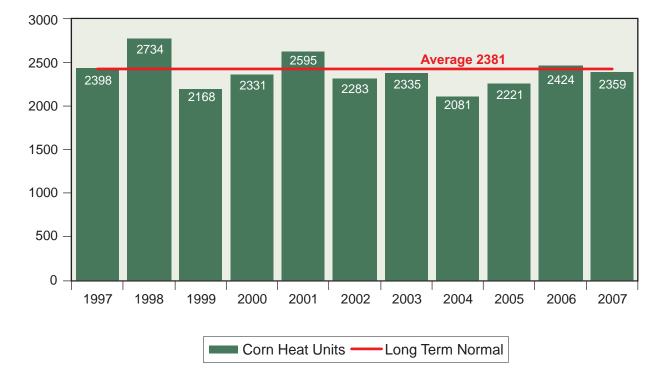


Figure 17. Brooks Corn Heat Units (1997 - 2007)

Table 17. Historical Rainfall in Southern Alberta (April 15 to October 15)

AREA	MAXIMUM RAINFALL (mm)	MINIMUM RAINFALL (mm)	NORMAL RAINFALL* (mm)	2007 RAINFALL (mm)	2007 % OF NORMAL
Lethbridge	534 (1978)	71 (2001)	270	191	71%
Bow Island	439 (1993)	112 (2001)	253	239	94%
Brooks	484 (2005)	87 (2001)	237	237	100%

^{*} Note: Normal rainfall 1970 - 2007

Table 18. Historical Corn Heat Units in Southern Alberta (May 15 to 1st Killing Frost)

AREA	MAXIMUM CHU (1997-2007)	MINIMUM CHU (1997-2007)	LONG TERM NORMAL*	2007 CHU	2007 % OF NORMAL
Lethbridge	2797 (1998)	2081 (2005)	2333	2284	98%
Bow Island	2890 (1998)	2181 (2005)	2505	2421	97%
Brooks	2734 (1998)	2081 (2004)	2381	2359	99%

^{*} Note: Long term normal - 25 year period

Table 19. Frost Free Period (0°C) in Southern Alberta

AREA	AVERAGE LAST FROST	AVERAGE FIRST FROST	AVERAGE FROST FREE DAYS*	2007 FROST FREE DAYS	2007 % OF NORMAL
Lethbridge	May 23	Sept 17	117	144	123%
Bow Island	May 17	Sept 20	126	144	114%
Brooks	May 22	Sept 14	115	144	125%

^{*} Note: Average frost free days 1951 - 1980

Table 20. Frost Free Period (-2°C) in Southern Alberta

AREA	AVERAGE LAST FROST	AVERAGE FIRST FROST	AVERAGE FROST FREE DAYS*	2007 FROST FREE DAYS	2007 % OF NORMAL
Lethbridge	May 6	Oct 1	148	161	109%
Bow Island	Apr 28	Sept 30	155	165	106%
Brooks	May 8	Sept 29	144	155	108%

^{*} Note: Average frost free days 1951 - 1980

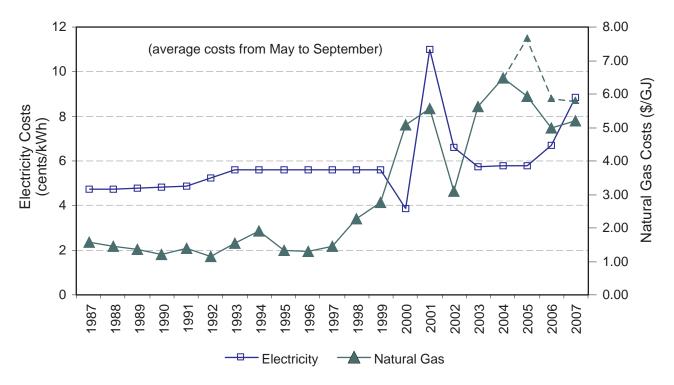


Figure 18. Historical Irrigation Energy Costs

Note: 2007 Natural Gas cost reduced by an average \$0.60 per GJ – Alberta Government rebate

Table 21. Energy Type Used in the Irrigation Districts (acres irrigated by energy type)

Energy Type	BRID	EID	LNID	MID	RID	SMRID	TID	UID	WID	Average Energy Type
Electricity	61.2% 129,105	31.5% 89,475	43.7% 74,510	9.2% 1,683	32.9% 14,871	49.1% 176,318	56.2% 45,255	40.9% 5,991	27.4% 26,345	39.1%
Natural Gas	21.4% 45,075	28.7% 81,523	40.7% 69,366	56.7% 10,384	50.5% 22,842	44.0% 158,038	37.8% 30,385	14.1% 2,064	26.4% 25,404	35.6%
Diesel	4.0% 8,387	5.2% 14,853	0.7% 1,179	0.0% 0	1.0% 444	1.5% 5,446	1.0% 775	1.3% 189	7.8% 7,539	2.5%
Gravity	12.6% 26,659	32.1% 91,324	11.0% 18,698	33.9% 6,203	7.4% 3,330	4.9% 17,584	4.8% 3,856	43.7% 6,409	31.0% 29,827	20.1%
Pump Pressure	0.2% 397	0.7% 2,004	2.5% 4,204	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.1% 125	0.4%
Other*	0.6% 1,269	1.0% 2,856	0.7% 1,192	0.2% 30	2.0% 891	0.4% 1,342	0.2% 185	0.1% 12	7.3% 7,052	1.4%
Unknown	0.1% 168	0.8% 2,384	0.8% 1,296	0.0% 0	6.4% 2,888	0.0% 130	0.0% 15	0.0% 0	0.0% 0	0.9%

Notes: - * other includes gasoline, propane or butane

- AID, LID, MVID and RCID did not report any data

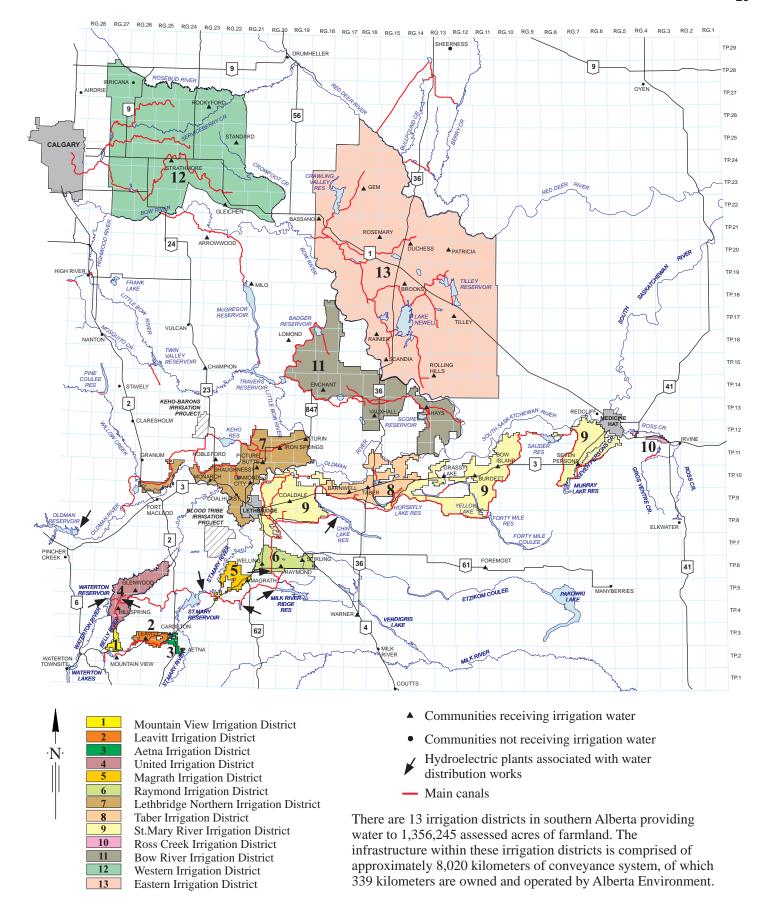


Figure 19. Alberta's Irrigation Districts