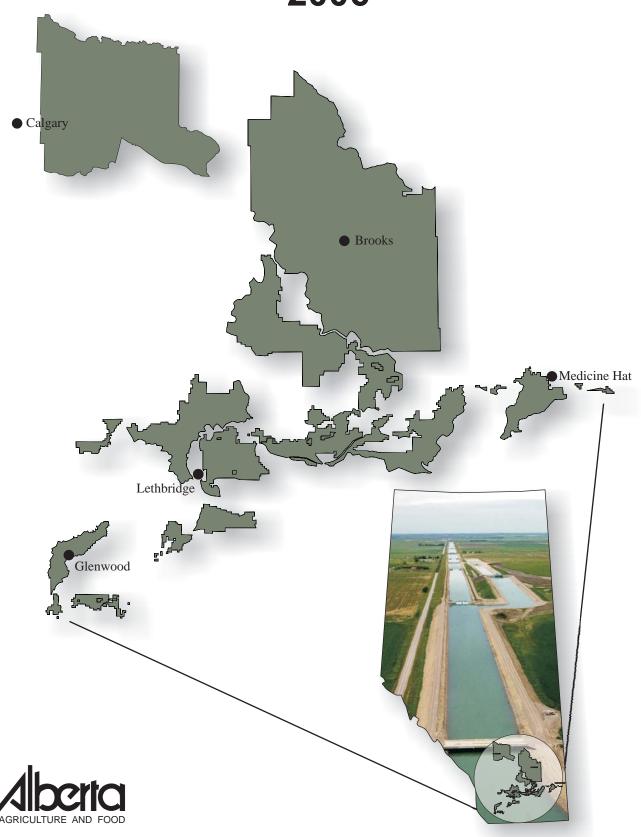
Alberta Irrigation Information 2006



IRRIGATION IN ALBERTA

FACTS AND FIGURES FOR THE YEAR 2006

RESOURCE SCIENCES BRANCH AGRICULTURE STEWARDSHIP DIVISION

JUNE 2007

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INTRODUCTION

This report is prepared by Alberta Agriculture and Food. 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		L	D	LNID			MID		MVID		RCID		R	ID		SMRID		TID		UID			WID	
	CROP TYPE	assessed and cov	vered by assessed	assessed and covered by asse	assessed and covered	ed by assessed a	ssessed and cove	red by asses	sed assessed and covered by	assessed a	assessed and	covered by asse	ssed assesse	d and covered b	y assessed assessed	d and covered by	assessed	assessed and cove	ered by assessed	assessed and	d covered by	assessed asses	sed and covered	by assessed	assessed and covered by	y assessed as	ssessed and	covered by assessed	TOTAL
		an irrigation sy		an irrigation system with																									ACRES
		this year this	s year system	Irrigated Not irrigated irrigated this year this year syst	em this year this year	ar system	this year this	year syst	em this year this year	system	this year	this year sys	tem this ye	ar this year	system this year	ar this year	system	this year this	year system	this year	this year	system this	ear this year	system	this year this year	system t	his year	this year system	
	Barley			18,361	23,138		281		23,288		1,292	2,048	34	19				9,970	1,220	26,917		1,085 9		5	3,908	2,131	5,996	10,158	143,494
	CPS Wheat			1,288	6,688				1,590											1,229	20		240						11,063
	Durum Wheat Grain Corn			7,198 348	1,025		161		8,273									1,446	80	19,013 1,580	898	458 13	977			535			40,064 1,961
	Hard Spring Wheat			34,753	35,425				4,194		2,002	880						2,940	697	54,288	4,428	2,985 5	572 41	Q	1,616	1,598	2 825	8,050	162,671
CEREALS	Malt Barley			169	69				494		2,002	000						2,540	007	440	217	2,300	72	3	1,010	1,000	2,020	0,000	1,461
	Oats			1,342	2,867				454				1:	25				65		786	186	32		16	135	262		241	6,740
	Rye			370	1,820				1,711			30								82									4,014
	Soft Wheat			15,742	1,077				1,107									150		9,962	729	272 3	529 15	60					32,718
	Triticale			965	4,411				2,695											2,309	255	166	3	0					10,831
	Winter Wheat			65	958							60								2,586	95		198		230	319			4,536
	Alfalfa - Two cuts				59,439											644				10,956	256	361 10	329						81,985
	Alfalfa - Three cuts Alfalfa Hay	904		24,840	1,799 1,675				11,011		4,996	655		92				10,190	443	522 28,828	1,829	1,149			4,507	1,963	15,938	14,538	2,321 123,559
	Alfalfa Silage	304		5	5,098		1,020		22,515		71	000		,,,				2,021	520	1,522	30		555 50	18	4,007	1,500	10,000	14,000	33,950
	Barley Silage			5,099	7,114		216		45,243		280	348				212			415	16,339	931		644		1,654	106	6,740	1,991	93,716
	Barley Silage (underseeded)				1,978						270									740		18							3,006
	Brome Hay			403	137				947		255									638	17	30				240			2,667
	Corn Silage			4,875	5,778				14,318		70							2,010		8,349			171		34		257	121	38,307
FORAGES		288		5,436	9,036		1,012		4,995		195	123	2,0					765	310	7,175	1,042			5	733	223	873	639	35,807
	Green Feed Milk Vetch	707		919 65	6,001 32		1,978		436		152	70	28	54					200	3,189 60	616	109	18		208	107	271	364	15,629 157
	Millet			60	288															60									348
	Native Pasture			2,606	626				467				50	36						2,838	1,204	194	525 43	18	1,574	262			11,300
	Oats Silage			130	1,530							50								261					,-		328		2,299
	Sorghum/Sudan Grass				281															130		16							427
	Tame Pasture	462		12,227	59,938				6,172		1,623	612				245		4,321	1,000	13,935	2,674	1,816 4	271 1,38	0	3,965	2,554	4,020	11,860	133,075
	Timothy Hay			5,197	4,086		50		6,720		185									10,267	233		049		1,955	18			33,018
	Tritcale Silage																	100		1,181	195	200		_					1,676
OIL SEEDS	Canola			19,839 2,542	14,142 4,129				10,417 761		1,582	67						2,830	260	32,178 2,920	665 275		212 2 260	!5	1,912	117	3,766	2,751	93,242
OIL SEEDS	Mustard			2,042	4,129				701											62	213		140						10,915 202
	Alfalfa Seed			1,302	11,439															02			1.10						12,741
	Canary Seed																												0
	Caraway Seed																	65		40									105
	Carrots			120	697																								817
	Catnip																			64									64
	Chick Peas																			2,480	65	75							2,620
	Dill Dry Beans			11,514	1,345															909 29,197	20	35 5	448						909 47,559
	Dry Peas			2,220	458				156											2,068	100			60	272	738	130	250	6,827
	Faba Beans			764	125				100									169		285	71								1,414
	Fresh Corn (sweet)			254	22															926	5	2	977						4,184
	Fresh Peas			261	133															1,485	73			.5					3,839
	Grass Seed			727	65							105								1,121	146	.0	18					264	2,645
SPECIALTY	Hemp			1,033	760				540		100							130	5	932	4.00		136				700	600	3,096
SPECIALTY CROPS	Lawn Turf Lentils			89					518									42		645	146	6	37 45 2	25			733	688	2,904 70
	Market Gardens			29	124				48									56		173	37		16				85	115	682
	Mint																			2,773	64								2,837
	Monarda																												0
	Nursery			8	455				7									107		238	53		72				971	544	2,468
	Onions			27																			865						892
	Potatoes			8,929	2,890				1,064											15,836	130		646		20		100	340	39,956
	Pumpkins Safflower			65	68				286											33			123						156 419
	Seed Potatoes			00	00				200																				0
	Small Fruit			135	2															40	40	9	6	7	10	9	103	50	410
	Soy Beans																			21									21
	Sugar Beets			14,943	1,149				3,675									30		13,607	14	43 6	190 5	60					39,700
	Sunflower				436				180											110			371						1,097
	Miscellaneous			38			45		1,445					40						402	262	254	93 10	16	37	18			2,740
OTHER	Non Crop			4.076		364						00								50	515	416	60 22	2,121					3,466
	Summer Fallow Unknown (not reported)		1,247	1,076	2,99	10/				452		20	20		52					554	643	1,835 19	69 22	.2		55			7,431 15,089
	Criknown (not reported)	2,361	0 1,247		299 280,753 3,3	321 0	4,763	0	0 175,184 0		13,232	5,068	20 3,50	09 (0 1,101	0	41,156	5,150 0	335.269	23.125	14,223 76	765 3.64	1 2,121	22,771 0	11,254	43,136	52,964	1,344,316
Tota	l assessment roll acres		608	221,677	284,07		4,7		175,636			18,320	.,	3,561	-	1,101	1	46,		-	372,618		82,527		34,025	· · ·		96,100	1,344,316

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

CROPS						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	0	80,601 36.4%	77,478 27.3%	442 9.3%	43,806 24.9%	6,312 34.5%	474 13.3%	0	16,568 35.8%	135,015 36.2%	20,854	10,734 31.5%	27,270 28.4%	419,554 31.2%
	0.0%	30.4%	21.3%	9.5%	24.9%	34.3%	13.3%	0.0%	33.0%	30.2%	20.5%	31.3%	20.4%	31.2%
Forages	2,361	61,862	164,836	4,276	112,823	9,955	2,995	1,101	26,044	121,707	27,244	20,103	57,940	613,246
	65.4%	27.9%	58.0%	89.8%	64.2%	54.3%	84.1%	100.0%	56.2%	32.7%	33.0%	59.1%	60.3%	45.6%
Oil Seeds	0	22,381	18,271	0	11,178	1,649	0	0	3,090	36,607	2,637	2,029	6,517	104,359
	0.0%	10.1%	6.4%	0.0%	6.4%	9.0%	0.0%	0.0%	6.7%	9.8%	3.2%	6.0%	6.8%	7.8%
Specialty Crops	0	42,420	20,168	0	5,934	364	0	0	604	74,338	29,181	1,048	4,373	178,431
	0.0%	19.1%	7.1%	0.0%	3.4%	2.0%	0.0%	0.0%	1.3%	20.0%	35.4%	3.1%	4.6%	13.3%
Other	1,247	14,413	3,321	45	1,897	40	92	0	0	4,950	2,611	110	0	28,726
	34.6%	6.5%	1.2%	0.9%	1.1%	0.2%	2.6%	0.0%	0.0%	1.3%	3.2%	0.3%	0.0%	2.1%
TOTAL ASSESSMENT ROLL ACRES	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

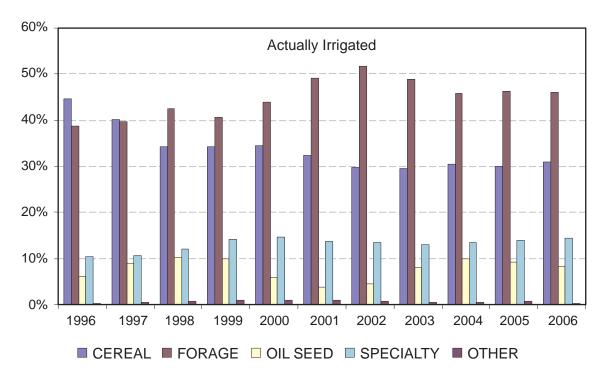


Figure 1. Irrigated Crops within the 13 Irrigation Districts in Southern Alberta (1996 - 2006)

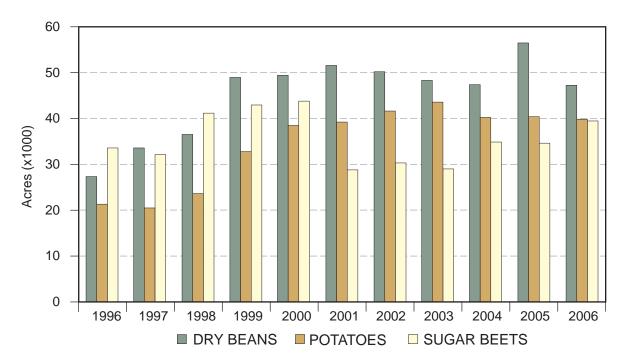


Figure 2. Acres of Three Major Irrigated Specialty Crops – Dry Beans, Potatoes and Sugar Beets within the 13 Irrigation Districts in Southern Alberta (1996 - 2006)

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	37,541	10,531	2,567	50,639
06	36,282	11,878	1,615	49,775

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	1170	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	1009	3,365	4,534
2005	647	2,068	3,346
06	817	3,055	4,675

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

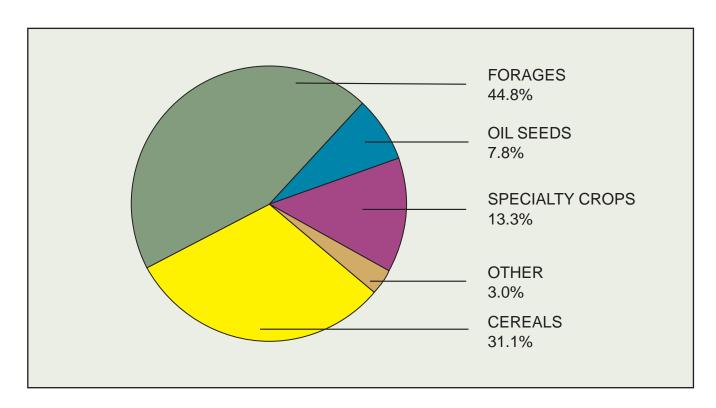


Figure 3. Irrigated Crop Mix within the 13 Irrigation Districts in Southern Alberta

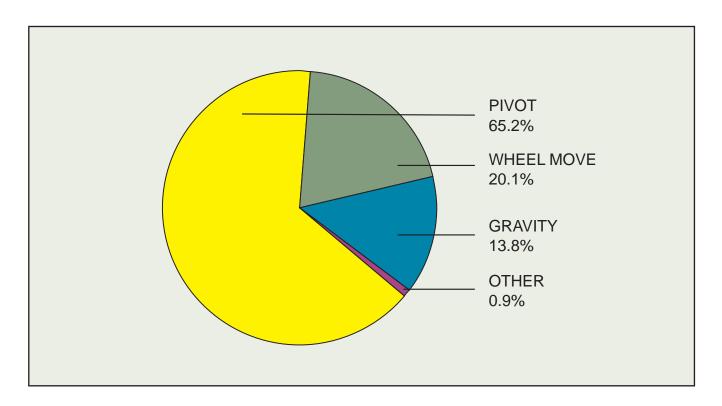


Figure 4. On-farm Irrigation Method Mix within the 13 Irrigation Districts in Southern Alberta

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Table 5. On-farm Irrigation Method Summary within the 13 Irrigation Districts in Southern Alberta (acres covered by an irrigation system)

IF	RRIGATION METHOD	AID	BRID	EID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	WID	Individual Method Total	l Total Acres Covered
	Pivot High Pressure	374	66,698	36,071	747	8,316	3,441		40	10,193	10,527	14,151	6,897	28,904	186,359	
	Pivot High Pressure - Corner arm		5,363	3,188		4,424				567	1,560	2,417		364	17,883	
	Pivot Medium Pressure			3,878		641				362	3,141				8,022	
	Pivot Medium Pressure - Corner Arm			140							154				294	
PIVOT SPRINKLER	Pivot Low Pressure		70,380	99,285	180	43,589	4,364			5,534	227,401	31,193	3,938	21,572	507,436	848,519
	Pivot Low Pressure - Corner Arm		9,424	6,871		58,483				965	37,089	9,472	141	916	123,361	
	Linear - High Pressure					873				100	130	110			1,213	
	Linear - Low Pressure		124	1,825		262				139	1,218	249		134	3,951	
	percent of total	15.8%	72.9%	53.3%	19.5%	66.6%	42.7%	0.0%	3.6%	38.6%	78.5%	71.6%	52.8%	53.5%	65.2%	65.2%
	Wheel Move -Two Laterals	1,157	15,707	31,283	1,251	24,542	6,667	417		19,931	52,485	16,507	3,039	13,518	186,504	
WHEEL MOVE	Wheel Move - Four Laterals		14,216	11,869	424	29,197	225			3,374	9,296	2,892	346	2,371	74,210	260,714
	percent of total	49.0%	14.4%	15.2%	35.2%	30.7%	37.7%	11.9%	0.0%	50.3%	17.2%	24.1%	16.3%	16.4%	20.1%	20.1%
	Gravity - Developed - No Control		6,434	55,793	135	319	3,459		493	1,357	449	601	93	215	69,348	
	Gravity - Developed - Controlled		14,049	17,239	85	1,139			568	1,587	995	1,321	2,253		39,236	470.004
GRAVITY	Gravity - Undeveloped - Flood	474	5,713	15,570	1,771	1,018		3,093		1,235	11,747	1,288	3,976	25,272	71,157	179,904
	Gravity - Undeveloped - Subsurface					3				70				90	163	
	percent of total	20.1%	12.6%	31.2%	41.8%	1.4%	18.9%	88.1%	96.4%	9.2%	3.7%	4.0%	30.4%	26.3%	13.8%	13.8%
	Volume Gun - Stationary										143	10		175	328	
	Volume Gun - Traveller		40	318		144					189	46		1,083	1,820	
	Solid Set (underground sprinkler)			8		592				95	254			217	1,166	
OTHER	Hand Move (sprinkler above ground)	356	19	673	170	1,001	144			739	1,512	134	96	974	5,818	11,453
	Micro - Spray - Sprinkler		212			41				42	28	15		83	421	
	Micro - Drip - Trickle									7	115			1,185	1,307	
	Other Application Use			26		567									593	
	percent of total	15.1%	0.1%	0.4%	3.6%	1.3%	0.8%	0.0%	0.0%	1.9%	0.6%	0.3%	0.5%	3.8%	0.8%	0.9%
	Total Acres Covered	2,361	208,379	284,037	4,763	175,151	18,300	3,510	1,101	46,297	358,433	80,406	20,779	97,073	1,300,590	1,300,590

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
				4.500										
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	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

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			8,448 512	92,454 84,518
16			1,497							76,200 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		0.000					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 26		13,252 13,467	72,994 74,401		43,628 56,395					81,110 78,399	13,472 14,385	10,000 10,026	5,384 19,561	239,840 266,634
27		810	7,921		10,012	1,235				20,365	576	41	1,273	42,233
28 29		19,373 29,260	45,677 78,610		33,436 61,231	800 4,000			6,800 6,634	21,153 25,713	3,171 10,094	2,577 3,102	3,892 37,394	136,879 256,038
1930 31		31,207	89,913		70,007 70,408	5,161 3,400	300		7,000 9,000	67,004	19,322	5,847 12,983	41,570 47,593	337,031 352,214
32		29,803 26,379	90,724 90,651		41,842	4,000	800		10,000	68,089 68,000	19,914 18,998	11,500	8,680	280,850
33 34		22,440 22,705	96,019 101,566		62,416 54,200	4,000 4,000	1,168 1,950		12,000 13,000	70,000 70,000	18,854 18,490	10,500 10,000	40,812 31,131	338,209 327,042
1935		25,257	143,997		73,022	4,000	3,000		13,000	70,000	19,471	12,000	19,109	382,856
36 37		27,170 30,817	111,781 124,645		62,790 70,020	4,000 4,000	2,900 3,500		13,000 13,000	75,274 72,250	19,123 21,296	18,000 17,500	44,614 50,866	378,652 407,894
38		34,614	133,928		73,297	4,000	3,500		12,000	75,749	20,880	10,000	35,775	403,743
39 1940		36,874 37,906	141,688 146,211		56,712 72,492	3,700 3,700	3,200 3,000		12,000 13,000	76,492 76,639	18,485 21,391	10,500 10,500	11,647 20,134	371,298 404,973
41		35,312	156,501		63,575 31,102	3,700 3,700	3,400 3,400		14,000	76,579 57,575	15,103	11,000	20,144 9,194	399,314
42 43		37,946 35,143	166,453 168,496		67,777	3,500	3,254		10,000 12,000	57,575 75,707	14,108 20,935	12,000 12,000	7,666	345,478 406,478
44 1945		37,266 38,838	167,094 167,100	526 1,000	75,927 57,126	3,500 3,500	3,400 3,300		12,000 12,000	75,725 75,766	21,325 21,218	13,000 13,000	20,000 20,000	429,763 412,848
46		42,251	166,328	1,300	64,894	3,500	3,000		12,000	76,013	21,222	13,500	19,000	423,008
47 48		43,611 44,160	168,580 172,894	1,300 1,500	57,343 55,374	3,500 3,500	3,500 3,700		12,000 12,000	110,848 76,351	19,141 17,720	7,453 2,970	20,000 12,000	447,276 402,169
49		46,975	177,084	1,500	72,807	3,500	3,300		12,000	70,117	21,533	19,228	26,345	454,389
1950 51		36,508 24,283	180,000 183,316	2,500 941	78,721 21,979	3,500 3,500	3,300 100		12,000 12,000	77,674 83,682	21,864 8,739	9,758 1,869	23,100 1,000	448,925 341,409
52 53		40,416 40,000	149,289 114,776	941 980	35,314 37,409	3,500 5,000	3,350 3,392	1,100	12,000 13,000	86,297 76,624	21,251 22,503	6,072 8,894	700 500	359,130 324,178
54		40,000	187,612	254	58,745	7,000	3,392	2,100	16,000	102,266	27,224	10,333	1,500	456,426
1955 56		40,000 109,400	190,976 191,568	423 852	31,753 31,588	7,000 7,000	3,132 2,773	1,500 1,800	16,000 15,500	81,100 98,647	20,530 21,009	10,115 11,082	5,000 6,000	407,529 497,219
57		55,374	189,792	2,779	51,809	7,000	2,733	1,685	16,000	116,713	21,579	15,886	7,000	488,350
58 59	360	56,995 54,514	188,928 188,721	1,542 1,542	51,916 46,459	7,000 7,000	2,760 2,789	1,500 405	15,500 15,800	123,440 155,155	22,854 25,426	11,032 17,761	9,870 9,930	493,337 525,862
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	2,177	83,259	190,866	4,187	73,317	7,000	2,760	200	18,500	155,500	36,029	28,465	30,000	632,260
63 64	2,315 2,523	87,267 86,034	192,324 193,381	4,511 4,511	63,000 70,575	7,250 7,500	2,789 2,789	200 200	18,500 18,000	170,000 170,000	33,902 39,015	27,012 19,376	25,000 24,000	634,070 637,904
1965	2,523	44,507	194,824	4,511	22,778	3,000	2,789	1,500	15,000	165,000	26,005	9,805	2,750	494,992
66 67	2,523 2,523	40,423 71,936	195,905 196,549	4,523 4,523	19,196 47,962	4,000 5,000	2,789 2,789	1,050 1,250	16,000 17,000	165,000 160,000	25,904 38,235	12,725 11,866	3,100 12,870	493,138 572,503
68	2,523 2,523	82,876	198,352	4,523 4,523	56,993	4,400 4,500	2,789	900 900	15,200 15,000	154,336	45,420 45,980	10,109	10,000	588,421
69 1970	2,523	79,980 77,580	198,248 199,729	4,523	35,902 49,783	5,000	2,789 2,789	1,000	15,000	124,879 134,982	50,094	10,228 15,019	13,500 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 1000	2,500	133,517	213,837 212,524	4,476	100,487	8,000	2,900	623	31,264	249,232	62,635	13,899	46,570	869,940
1980 81	2,500 2,500	134,493 140,300	216,200	4,476 4,476	95,979 90,552	8,000 8,650	2,900 2,783	600 0	19,137 19,462	251,914 259,564	63,202 66,206	12,607 15,064	43,986 28,389	852,318 854,146
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 91	2,446 2,473	183,147 182,932	253,261 246,083	4,500 4,200	127,439 130,989	14,000 15,000	2,500 2,880	0 650	36,911 32,847	338,274 319,745	73,329 73,169	11,523 11,548	49,000 48,300	1,096,330 1,070,816
92	2,519	182,543	256,342	4,200	131,305	15,240	2,880	0	36,788	324,477	74,229	15,499	43,889	1,089,911
93 94	0 1,940	184,463 187,247	259,778 259,942	0 4,200	67,565 133,803	0 11,425	0 3,277	0 734	0 36,291	262,718 330,949	66,158 73,949	0 14,255	40,007 47,335	880,689 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
96 97	2,145 2,476	196,055 197,904	271,075 274,880	4,277 4,600	143,147 145,061	14,341 13,479	3,355 3,600	734 794	39,662 39,484	339,098 342,234	74,766 76,083	14,135 19,205	68,710 62,448	1,171,500 1,182,248
98	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
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 4,763	160,657	17,520	3,510	0	39,326	339,666 342,053	76,653	21,708	71,158 75,635	1,219,329
02 03	2,422 2,386	202,807 202,974	281,070 280,624	4,763	162,624 162,779	14,717 15,579	3,510 3,510	1,149 1,194	37,221 42,210	351,257	76,245 76,884	20,364 22,660	67,540	1,224,580 1,234,360
04 2005	2,386 2,361	203,007 206,452	283,625 282,267	4,763 4,763	175,406 175,206	14,489 13,044	3,510 3,510	800 800	38,461 36,611	353,085 346,596	76,277 77,522	21,735 20,780	54,666 56,186	1,232,210 1,226,097
06	2,361	208,378	280,753	4,763	175,206	13,232	3,510	0	41,156	335,269	76,765	22,771	43,136	1,226,097

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	\$7.50**	\$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	\$7.50**	\$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	\$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*

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 for volumes used on flood parcels over the annual water allocation

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

WID - \$3.10 per 10 psi delivered

^{**} The Eastern Irrigation District waived the irrigation rate for irrigated acres in recognition of the local BSE related agricultural economic impacts.

Table 9. Alberta Irrigation Districts Annual Irrigation Diversions

					OLDMA	AN RIVER	BASIN				ВО	V RIVER	BASIN	
DISTRICT	AID	LID	LNID	MID	MVID	RCID	RID	SMRID	TID	UID	BRID	EID	WID	TOTALS
WATER SOURCE	Belly River	Belly River	Oldman River	SMRID main canal	Belly River	Gros Ck. & Ross Ck.	SMRID main canal	Belly, Waterton, & St.Mary Rivers	SMRID main canal	Belly, & St.Mary Rivers	Bow River	Bow River	Bow River	
EXPANSION LIMITS (acres)	3,560	4,770	177,000	18,300	4,240	1,210	46,500	372,000	82,200	34,400	232,000	311,000	95,000	1,382,180
WATER LICENCE ALLOCATION (acre-feet)	9,000	12,000	317,000	34,000	8,000	3,000	81,000	722,000	158,000	66,210	450,000	762,000	160,400	2,782,610
YEAR					VOL	JME OF WAT	ER DIVERT	ED (acre-feet)					
1976 77 78 79			154,844 169,436 85,934 138,630	7,600 14,300 3,900 9,500		1,981 2 2,489 5,561	36,414 48,317 12,848 24,521	339,188 423,509 202,066 303,097	86,330 122,209 35,303 94,736	14,998 31,050 10,620 23,517	309,000 304,600 204,268 262,593	565,100 572,100 387,100 542,846	153,222 137,008 102,959 138,630	1,668,677 1,822,531 1,047,487 1,543,631
1980 81 82 83 84			134,576 132,955 142,683 150,790 177,543	8,100 5,910 9,404 9,800 14,106		264 3,551 1,354 67	19,944 22,162 27,697 14,955 17,544	340,254 379,075 332,337 361,537 492,674	94,858 108,427 91,998 97,674 101,643	17,754 12,242 19,133 24,078 25,093	287,892 307,452 281,000 313,897 322,335	548,686 577,969 481,258 580,299 657,640	136,198 108,630 129,712 146,737 162,140	1,588,262 1,655,086 1,518,773 1,701,121 1,970,785
1985 86 87 88	5,020 4,074 4,392 6,910	8,500 6,858 5,644 9,398	184,029 182,408 181,597 222,943	13,457 13,515 11,761 23,414	4,250 3,212 3,180 6,066	3,827 1,832 1,321 256	27,302 22,045 40,559 55,411	425,583 406,536 426,434 563,621	95,751 101,597 98,621 121,668	24,193 20,106 19,958 30,462	337,409 309,580 275,841 389,186	655,188 680,592 639,928 730,274	158,897 131,333 129,712 171,868	1,943,406 1,883,688 1,838,948 2,331,477
89 1990 91 92	4,613 3,754 3,556 2,170	3,517 5,328 4,468 11,216	198,622 192,136 184,840 137,008	10,795 16,196 16,521 12,261	2,750 3,290 2,662 4,118	122 298 1,775 0	34,540 32,000 30,702 32,070	504,255 467,244 391,634 441,745	78,396 98,572 94,956 101,122	18,372 16,133 17,003 18,628	301,442 380,907 334,792 336,878	605,148 689,178 629,872 625,650	122,416 128,091 147,547 135,387	1,884,988 2,033,127 1,860,328 1,858,253
93 94 1995 96	2,126 4,110 1,802 4,035	1,824 4,319 1,548 4,892	61,775 180,000 110,200 209,600	5,792 8,073 2,180 15,539	988 3,325 861 2,660	3,300 758 208 1,085	13,574 28,328 17,600 45,527	218,375 415,162 385,290 498,483	59,278 103,028 79,818 127,436	8,107 16,827 7,710 19,832	210,340 364,126 302,305 328,182	423,551 559,476 602,098 615,478	114,309 132,104 116,254 117,065	1,123,339 1,819,636 1,627,874 1,989,814
97 98 99	6,051 4,874 3,485	5,193 5,331 11,415	193,574 160,800 179,987	7,337 13,514 20,800	1,529 2,323 2,499	1,760 1,726 1,700	38,043 33,834 42,960	466,000 424,700 411,532	115,582 116,300 105,208	20,364 14,895 20,900	343,428 303,565 298,524	572,151 638,500 426,788	116,740 142,367 88,410	1,887,752 1,862,729 1,614,208
2000 01 02 03	6,000 3,952 2,938 4,598	11,240 7,593 9,835 7,964	245,976 275,475 109,704 187,518	30,160 17,109 11,940 18,020	6,700 6,814 3,033 5,889	0 0 N/A N/A	58,202 40,207 23,552 49,723	540,200 461,200 543,600 466,800	140,046 94,770 53,324 86,500	37,200 27,526 21,283 32,500	417,897 413,780 333,541 279,798	675,000 685,000 562,000 459,700	156,400 160,000 149,577 128,700	2,325,021 2,193,426 1,824,327 1,727,710
04 2005 06	3,440 4,000 3,681	5,425 6,243 5,341	159,286 134,088 178,500	12,475 7,524 11,900	2,660 2,067 3,987	N/A 1,190 0	28,224 27,046 37,049	460,200 336,456 369,303	64,399 72,487 82,448	21,600 13,717 20,390	230,817 184,600 192,200	417,370 323,417 354,700	114,195 109,500 87,100	1,520,091 1,222,335 1,346,599
Percent of Licence (2006)	40.9%	44.5%	56.3%	35.0%	49.8%	0.0%	45.7%	51.2%	52.2%	30.8%	42.7%	46.5%	54.3%	48.4%
Average Volume	4,072	6,504	166,370	12,352	3,403	1,175	31,706	412,842	94,338	20,200	305,231	564,002	131,394	1,749,530

Notes: - Data are obtained from Water Survey of Canada (WSC), Alberta Environment and Irrigation Districts' annual reports.

⁻ 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.

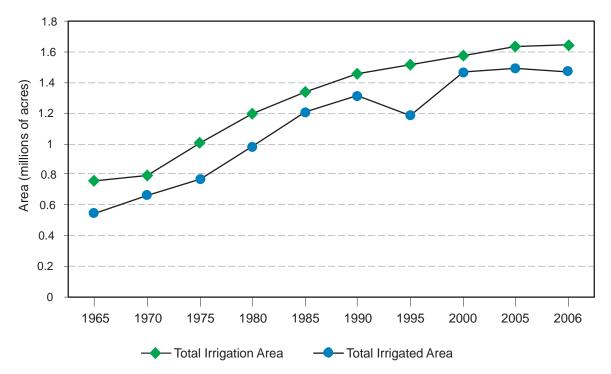


Figure 5. Growth in Irrigation Across Alberta (1965 - 2006)

Note: The ratio of the actual irrigated area vs. the authorized or assessed irrigation area is referred to as the "Utilization Factor". During the course of the past 30 to 40 years, this ratio, weighted for all irrigated areas, has increased from a little more than 70%, in a given year, to approximately 92%.

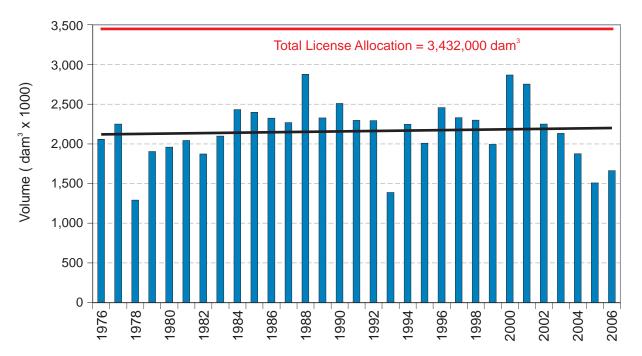


Figure 6. Irrigation District Annual Diversions (1976 - 2006)

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

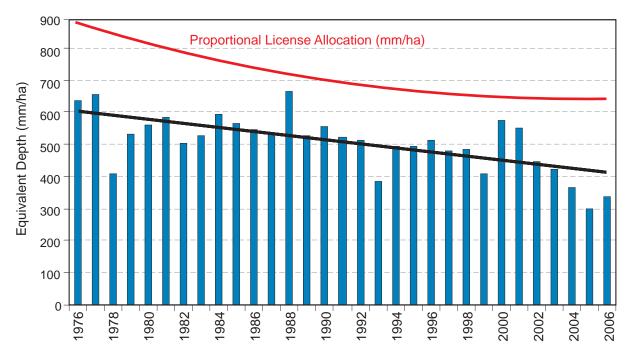


Figure 7. Irrigation District Water Use and Allocation (1976 - 2006)

Note: The amount of annual gross diversion of water into the works of all 13 irrigation districts, divided by the total number of hectares actually irrigated in respective years, represents a measurement of irrigation water use. However, this "depth" also includes that water which may have accounted as net gains in reservoir storage within the districts as well as those volumes diverted through the works of the districts for other uses such as domestic, municipal, other agricultural, industrial, recreational and habitat enhancement purposes. The "Proportional Licence Allocation" represents the equivalent depth of the total licensed water volumes over all district assessed irrigation areas. The change through time is a reflection of the historical growth in irrigation area.

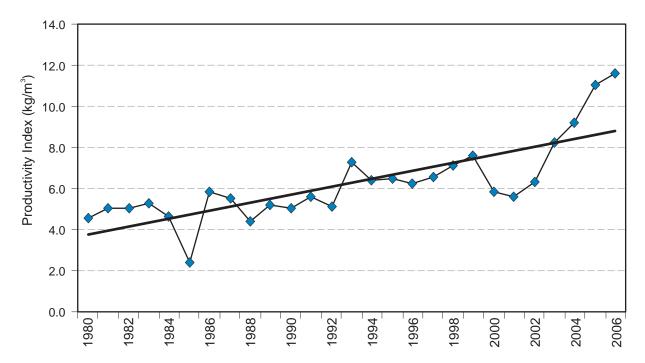


Figure 8. Irrigation District Water Use Productivity (1980 - 2006)

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-REH	ABILITATED	
Irrigation District	Membrane	e-Lined Canals	Pipelir	nes - Closed	Pipelin	es - Open	Concr	ete - Lined	Eart	n Canals	Un-Rehab	ilitated Canals	Total Conveyance
	Length (km)	% of District Works	Length (km)	% of District Works	Works (km)								
AID	3.5	10.2%	16.0	46.8%	0.0	0.0%	0.0	0.0%	1.2	3.5%	13.5	39.5%	34
BRID	184.0	17.6%	290.6	27.7%	14.7	1.4%	34.4	3.3%	221.4	21.1%	303.2	28.9%	1048
EID	300.3	15.7%	770.9	40.2%	42.4	2.2%	0.0	0.0%	216.2	11.3%	587.0	30.6%	1917
LID	2.0	3.6%	25.2	45.1%	0.4	0.7%	0.0	0.0%	12.7	22.7%	15.6	27.9%	56
LNID	53.3	7.1%	321.2	42.8%	18.8	2.5%	52.4	7.0%	68.1	9.1%	236.4	31.5%	750
MID	1.2	1.2%	50.1	50.7%	1.1	1.1%	0.3	0.3%	36.9	37.3%	9.2	9.3%	99
MVID	0.0	0.0%	15.4	38.4%	1.8	4.5%	0.0	0.0%	17.0	42.4%	5.9	14.7%	40
RCID	1.3	6.4%	0.0	0.0%	1.7	8.3%	0.0	0.0%	9.5	46.6%	7.9	38.7%	20
RID	1.2	0.5%	96.9	40.7%	10.7	4.5%	0.0	0.0%	97.0	40.8%	32.2	13.5%	238
SMRID	70.0	3.9%	736.4	40.6%	18.3	1.0%	99.5	5.5%	458.8	25.3%	431.2	23.8%	1814
TID	57.6	17.3%	154.8	46.4%	11.7	3.5%	8.7	2.6%	70.4	21.1%	30.2	9.1%	333
UID	15.8	6.6%	46.4	19.5%	31.1	13.1%	0.2	0.1%	56.5	23.8%	87.7	36.9%	238
WID	38.4	3.6%	60.7	5.6%	34.9	3.2%	5.3	0.5%	144.9	13.4%	795.2	73.7%	1079
Total	729	9.5%	2,585	33.7%	188	2.4%	201	2.6%	1,411	18.4%	2,555	33.3%	7667
										d by Alberta E vance System		` ,	339 8006

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

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

the Irrigation Rehabilitation Program (IRP)Alberta Environment's headworks improvement program

⁻ individual district O & M program

Table 11. Irrigation District Infrastructure by Length and Replacement Cost

IRRIGATION	CONVEYANCE	MAJOR	DRAINAGE	E WORKS	TOTAL of ALL
DISTRICTS	WORKS	STRUCTURES	CONSTRUCTED	NATURAL	WORKS
	(length - km)	(number of units)	(length - km)	(length - km)	(length - km)
	(replacement cost)				
AID	34.2	0	0.0	19.1	53.3
	\$9,274,300	\$0	\$0	\$286,848	\$9,561,148
BRID	1057.0	22	42.2	486.3	1,585.5
	\$346,884,180	\$93,543,460	\$2,254,350	\$5,327,820	\$448,009,810
EID	1920.2	57	178.3	1704.1	3,802.6
	\$589,872,245	\$332,129,532	\$7,468,777	\$15,534,826	\$945,005,380
LID	55.8	0	9.7	3.4	69.0
	\$13,352,479	\$0	\$421,717	\$32,934	\$13,807,130
LNID	750.2	2	18.9	225.2	994.3
	\$232,911,947	\$2,755,814	\$958,653	\$2,671,426	\$239,297,840
MID	98.7	0	12.5	150.0	261.2
	\$24,802,133	\$0	\$2,683,500	\$2,045,920	\$29,531,553
MVID	40.0	0	0.5	0.0	40.5
	\$12,633,123	\$0	\$33,725	\$0	\$12,666,848
RCID	20.4	0	0.0	2.9	23.3
	\$7,571,573	\$0	\$0	\$43,710	\$7,615,283
RID	238.1	0	19.4	187.6	445.1
	\$53,712,690	\$0	\$1,007,868	\$3,400,772	\$58,121,330
SMRID	1814.2	48	32.5	348.0	2,194.6
	\$556,692,391	\$321,165,074	\$2,965,010	\$4,802,955	\$885,625,430
TID	333.4	12	49.2	17.7	400.3
	\$101,776,028	\$13,558,095	\$2,887,431	\$177,282	\$118,398,836
UID	237.7	11	3.9	56.3	297.9
	\$63,386,875	\$15,508,598	\$333,297	\$656,852	\$79,885,622
WID	1079.3	13	6.9	855.8	1,942.0
	\$284,805,706	\$17,397,008	\$669,219	\$14,843,873	\$317,715,806
DISTRICT	7,679.0	165	374.0	4,056.4	12,109.5
TOTALS	\$2,297,675,670	\$796,057,581	\$21,683,547	\$49,825,218	\$3,165,242,016

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.

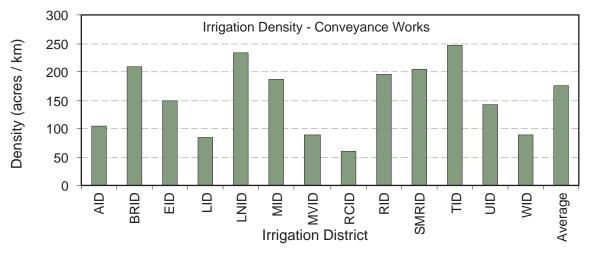


Figure 9. Density of Irrigation Area Relative to Infrastructure

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.

Works Category	Good	Fair	Poor	TOTAL	
Conveyance	\$1,336,368,845	\$823,341,852	\$137,964,973	\$2,297,675,670	
Drainage (Const.)	\$11,752,359	\$7,885,269	\$0	\$19,637,628	
Drainage (Natural)	\$118,062	\$35,757,601	\$13,949,015	\$49,824,678	
Major Structures	\$504,024,585	\$285,131,719	\$6,901,277	\$796,057,581	
TOTAL	\$1,852,263,851	\$1,152,116,441	\$158,815,265	\$3,163,195,557	
Proportion	58.6%	36.4%	5.0%	100%	

Figure 10. Summary of Condition Assessments (All Works by Replacement Cost)

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.

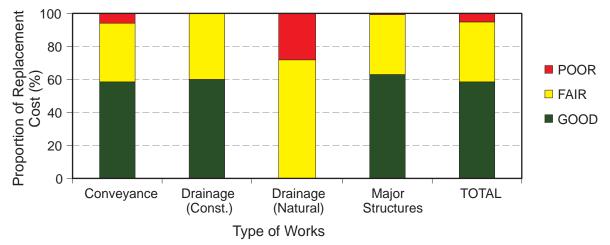


Figure 11. Irrigation District Infrastructure Condition Rating

Table 12. 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
	'H' Reservoir	1953	2,220	1,800
Bow River Irrigation District	Lost Lake	1973 - 1987*	5,050	4,094
J.	'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
	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
	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
Raymond Irrigation District	Craddock	1925	615	500
_	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
	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
Taber Irrigation District	Horsefly	1950	9,250	7,499
Tabol Inigation District	Taber Lake	1955	6,415	5,200
	Total storage	-	18,750	15,200
United Irrigation District	Cochrane Lake	1923	3,100	2,513
	Chestermere	1944	5,180	4,200
Western Irrigation District	Langdon	1979	7,895	6,400
	Total storage	-	13,075	10,600

Note: - all reservoirs are off-stream storage sites

^{*} denotes year of reservoir enlargement

Table 13. 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
j j	Traverse *	1954	104,638	84,830
	Total Storage	-	476,775	386,522
Lethbridge Northern Irrigation District	Keho	1920	95,635	77,531
Louisinago Horaioin inigadon Biodiot	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 14. 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 15. Private Water Licences for Irrigation in Alberta

There are 2,888 individual irrigation projects, outside of the 13 irrigation districts, irrigating approximately 296,964 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 Food 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	18,980	103	42	14
NORTH SASKATCHEWAN RIVER	27,996	328	57	15
PEACE RIVER	3,615	76	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	28,689 23,492 16,056 40,604 48,045 7,347 51,934 27,993	23,492 124 16,056 23 40,604 421 48,045 534 7,347 64 51,934 135		19 16 11 18 25 3 20 17
Total (2006)	296,964	2,150	579	159
2005 2004 2003 2002 2001 2000 1999 1998 1997	293,055 285,276 283,254 275,599 272,353 277,826 257,258 255,192 253,868	2,138 2,113 2,108 2,100 2,085 2,076 1,863 1,884 1,893	572 575 571 567 558 555 509 501 486	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 2006

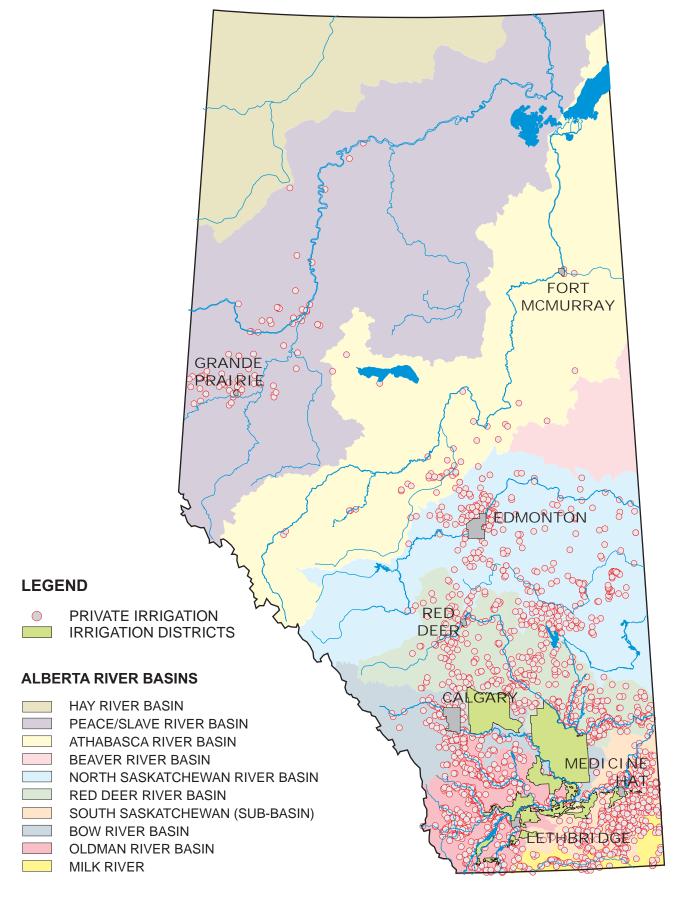


Figure 12. Private Irrigation in Alberta

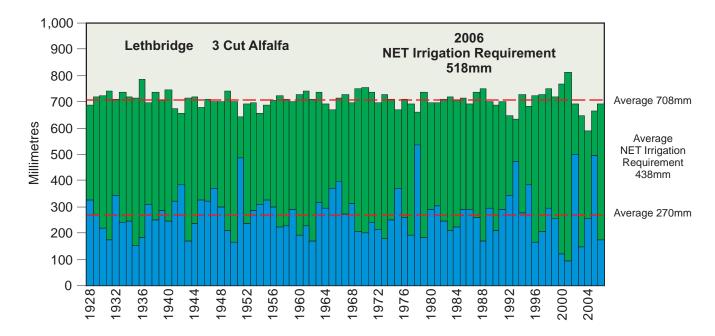


Figure 13. Optimum Crop Water and Net Irrigation Requirements



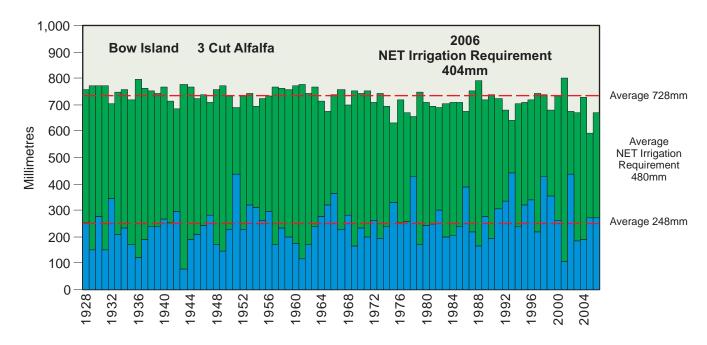


Figure 14. Optimum Crop Water and Net Irrigation Requirements

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.

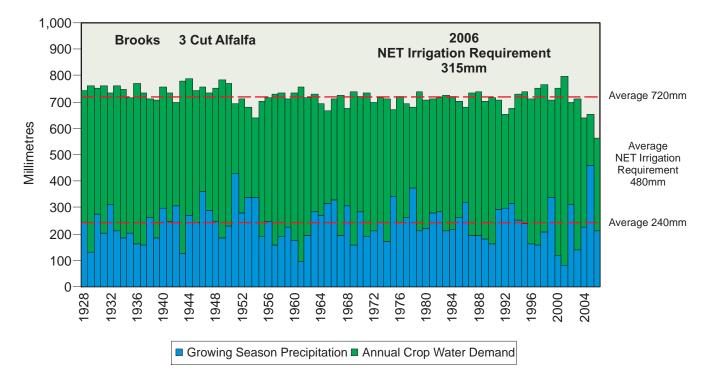


Figure 15. Optimum Crop Water and Net Irrigation Requirements

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.

Table 16. Historical Rainfall in Southern Alberta (from April 15 to October 15)

AREA	MAXIMUM RAINFALL (mm)	MINIMUM RAINFALL (mm)	NORMAL RAINFALL (mm)	2006 RAINFALL (mm)	2006 % OF NORMAL
Lethbridge	534 (1978)	92 (2001)	270	173	64%
Bow Island	439 (1993)	77 (1943)	248	269	108%
Brooks	460 (2005)	83 (2001)	240	212	88%

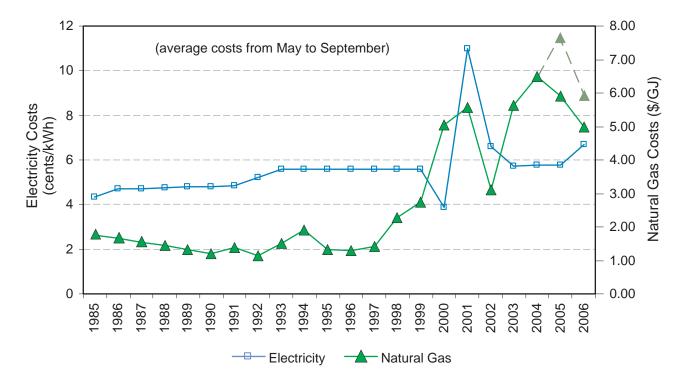


Figure 16. Historical Irrigation Energy Costs

Note: 2006 Natural Gas cost reduced by an average \$0.90 per GJ – Alberta Government rebate

Table 17. 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	60.0% 125,023	30.6% 86,995	44.3% 75,860	9.2% 1,683	32.9% 14,871	48.6% 174,156	55.4% 44,525	40.9% 5,991	27.2% 26,361	38.8%
Natural Gas	22.3% 46,513	28.9% 81,958	40.6% 69,658	59.2% 10,824	50.5% 22,842	44.2% 158,435	38.7% 31,155	14.1% 2,064	26.2% 25,404	36.1%
Diesel	3.1% 6,374	5.4% 15,434	0.4% 724	0.0% 0	1.0% 444	1.5% 5,459	1.0% 775	1.3% 189	8.0% 7,708	2.4%
Gravity	13.7% 28,578	32.8% 93,101	10.9% 18,745	31.5% 5,763	7.4% 3,330	5.3% 18,870	4.7% 3,751	43.7% 6,409	31.2% 30,203	20.1%
Pump Pressure	0.1% 261	0.7% 2,064	2.6% 4,452	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.1% 125	0.4%
Other*	0.6% 1,231	1.0% 2,890	0.7% 1,192	0.0% 0	2.0% 891	0.4% 1,384	0.2% 185	0.1% 12	7.4% 7,137	1.4%
Unknown	0.2% 399	0.6% 1,595	0.4% 745	0.0% 0	6.4% 2,888	0.0% 130	0.0% 15	0.0% 0	0.0% 0	0.8%

Notes: - * other includes gasoline, propane or butane

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

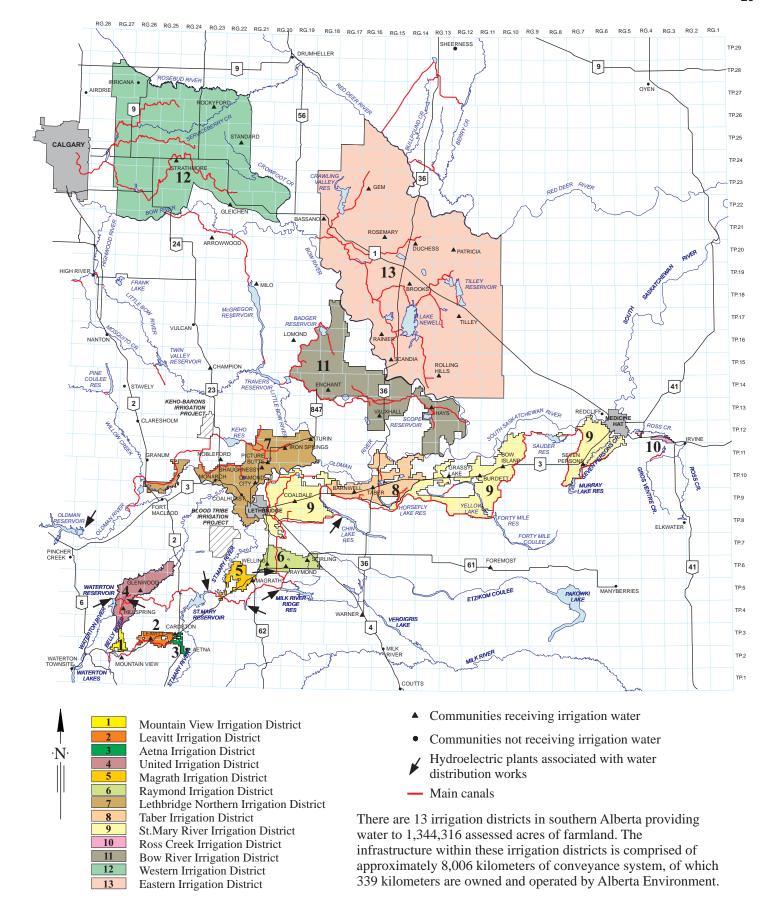


Figure 17. Alberta's Irrigation Districts