SHOSHONE RIVER

Deaver
Elk Lovell
Frannie
Garland
Globe
Heart Mountain
Hunt
Sidon
Willwood

DESCRIPTION AND OPERATION MEMORANDUM

DEAVER CANAL

DIVERSION DESCRIPTION

Diverts from Shoshone River at Corbett Dam as part of Garland Canal through Corbett Tunnel. Separates from Garland Canal at Frannie Canal trifurcation works, then is conveyed in common with Frannie Canal water 10 miles to Coal Mine Hill, then diverts into head of Deaver Canal through sliding steel gates in concrete divider.

DIVERSION LOCATION

Source: Shoshone River
River Diversion – SW 1/4 NW 1/4 Section 7, Township 53N, Range 100W. Trifurcation Works – Lot 60-11 (NE1/4 SE 1/4 Lot 60), Township 55 N, Range 99 W, 6th PM, Deaver Canal Diversion – SE 1/4 NE 1/4 Section 18, Township 56N, Range 98W.

CONVEYANCE DESCRIPTION

Opened lined and unlined canal approximately 17 miles long with 4 major lateral sand, together with Frannie Canal, delivers water to approximately 20,000 acres through screwtype headgates delivering to individual fields and sublaterals.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
5/22/1899	2111	Dom.,Irr.,Stk.	14597.03	208.53		208.53	
1/08/1910	10138	Dom.,Irr.,Stk.	5534.50	79.06		287.59	

STORAGE RIGHTS

Full supply contract from Buffalo Bill Reservoir.

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 25-30% at peak.

IRRIGATION PRACTICES

Conventional flood irrigation practices and techniques with considerable use of concrete lined ditches, buried pipe, gated pipe and sprinklers.

CROP TYPES / CONSUMPTIVE USE

Alfalfa hay, beans, corn, sugar beets, small grains, pasture, lawns and gardens.

RETURN FLOWS

100% to Shoshone River directly through constructed drains, some via Mantua Wash, some via Polecat Creek, some via Sage Creek.

OTHER OPERATIONAL INFORMATION

Managed by formal irrigation district board, employs manager, ditch riders and construction/maintenence crew. Part of U. S. Bureau of Reclamation Shoshone Project.

CONTACT INFORMATION

Deaver Irrigation District
Deaver, WY
(307)664-2351 or 664-2548

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Monthly Summary (ac-ft)

Year	Discharge (ac-ft) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973													
1974													
1975				1,825	9,626	14,366	14,709	14,666	13,418	8,110			68,610
1976													
1977				1,954	8,586	10,931	13,983	10,739	10,030				56,223
1978				1,345		13,978	15,110	14,765					45,197
1979													
1980													
1981													
1982													
1983													
1984													
1985													
1986													
1987													
1988													
1989				5,070	15,130	17,030	17,380	16,830	14,010				85,450
1990				4,780	16,890	16,880	17,160	16,940	14,750				87,400
1991				2,550	13,500	14,860	15,590	16,930	14,400				77,830
1992				6,910	16,670	13,530	16,740	16,410	14,160				84,420
1993													
1994				5,670	16,280	15,980	17,020	17,380	15,530				87,860
1995				4,680	15,560	16,710	16,890	17,690	16,040				87,570
1996				4,450	15,290	15,910	17,230	17,670	15,300				85,850
1997				3,130	15,930	15,620	16,650	16,780	16,350				84,460
1998				3,917	16,326	15,582	15,697	16,951	16,039				84,512
1999				7,037	16,614	15,769	16,378	16,919	16,818				89,535
2000				4,001	16,681	15,933	16,019	16,523	15,951				85,108
2001				2,940	15,912	14,622	16,308	16,717	14,448				80,947
Total				4,017	14,928	15,180	16,191	16,261	14,803	8,110			81,380

Monthly Summary (cfs)

Year	Discharge (cfs) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973													
1974													
1975				31	157	241	239	239	225	132			189
1976													
1977				33	140	184	227	175	169				154
1978				23		235	246	240					186
1979													
1980													
1981													
1982													
1983													
1984													
1985													
1986													
1987													
1988													
1989				85	246	286	283	274	235				235
1990				80	275	284	279	275	248				240
1991				43	220	250	254	275	242				214
1992				116	271	227	272	267	238				232
1993													
1994				95	265	269	277	283	261				242
1995				79	253	281	275	288	270				241
1996				75	249	267	280	287	257				236
1997				53	259	262	271	273	275				232
1998				66	266	262	255	276	270				232
1999				118	270	265	266	275	283				246
2000				67	271	268	261	269	268				234
2001				49	259	246	265	272	243				222
Average				68	243	255	263	264	249	132			211

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.

DESCRIPTION AND OPERATION MEMORANDUM

ELK - LOVELL CANAL

USGS Name Gillmore Hill

DIVERSION DESCRIPTION

Concrete diversion dam, manually operated sliding steel gates in concrete diversion structure, spill gate immediately down ditch from diversion.

DIVERSION LOCATION

Source: Shoshone River
SE 1/4 SW 1/4 Section 30, Township 55 N, Range 98 W

CONVEYANCE DESCRIPTION

Open earthen canal 40 miles long, delivering water to approximately 15,000 acres. Upper 9 1/2 miles known as Roane (Elk) Canal and Lower ±30 miles known as Lovell Canal. Elk Canal has approximately 20 users, Lovell Canal portion has 100 users (±). 135 farm turnouts, eight siphons, 21 check structures, several drops and wasteways, 3 major laterals.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
11/22/1901	3577	Dom.,Irr.	585.00	8.34		8.34	
4/10/1903	1049E	Dom.,Irr.	9455.17	135.08		143.42	
3/21/1904	6822 8279	Dom.,Irr.	1648.16	23.50		166.92	
3/19/1908	1843E	Dom.,Irr.	222.00	3.16		170.08	
3/21/1908	1847E	Dom.,Irr.	1581.00	24.25		194.33	
8/10/1909	2085E	Dom.,Irr.	595.00	8.50		202.83	
3/09/1914	2936E	Dom.,Irr.	307.30	4.39		207.22	
10/03/1951	5609E	Dom.,Irr.	410.06	5.86		213.08	
9/28/1965	6138E	Irr.	100.00	1.42		214.50	
9/29/1965	6139E	Irr.	39.00	0.56		215.06	
4/16/1992	7050E	Irr.	25.90	0.37		215.43	

STORAGE RIGHTS

Full supply contract, if needed, from Buffalo Bill Reservoir, secondary to the needs of the Shoshone Project.

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 25-30% at peak.

IRRIGATION PRACTICES

Conventional flood irrigation techniques, enhanced by buried pipe, gated pipe, concrete delivery ditches, numerous pumps, some sprinklers. Some subdivided land around Lovell.

CROP TYPES / CONSUMPTIVE USE

Alfalfa hay, corn, small grains, beans, sugar beets, pasture.

RETURN FLOWS

95% to Shoshone River, some directly via constructed drains, some via Coon Creek, some via Foster Gultch, some via Sand Draw. 5% to Yellowtail Reservoir (Bighorn River) out end of canal.

OTHER OPERATIONAL INFORMATION

Managed jointly by two entities – Elk Canal Company and Lovell Irrigation District. Employ ditch manager and ditchrider.

CONTACT INFORMATION

Brent Moncur
Lovell, WY
(307)548-2573

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Monthly Summary (ac-ft)

Year	Discharge (ac-ft) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973					18,058	20,953	21,790	22,980	14,247	378			98,029
1974				6,044	21,505	17,905	22,719	20,819	15,013				104,003
1975					8,791	22,052	20,142	20,694	16,255				87,933
1976				3,608	17,357	19,424	23,135	21,602	18,420				103,547
1977				5,272	10,711	12,873	9,443	9,707	7,745				55,751
1978					8,172	20,436	21,860	20,584	18,210				89,262
1979				0	10,844	21,715	22,719	20,971	18,990				95,239
1980													
1981				4,460	14,320	15,290	23,110	22,080	19,190				98,450
1982				3,130	18,790	21,150	24,250	23,620	19,040				109,980
1983				5,500	19,030	22,110	23,630	23,530	16,170				109,970
1984				3,120	16,500	20,880	22,850	20,770	16,510				100,630
1985				4,120	19,680	18,590	20,580	18,740	17,820				99,530
1986				7,890	20,410	19,970	23,070	22,020	12,420				105,780
1987				7,070	20,250	16,300	22,390	20,990	17,890				104,890
1988				7,950	15,150	20,000	21,520	16,510	15,380				96,510
1989				4,540	17,290	20,610	23,280	21,320	14,340				101,380
1990				3,870	16,900	19,110	20,520	18,630	16,680				95,710
1991				1,270	13,780	15,820	21,010	19,040	16,650				87,570
1992				10,220	17,450	16,650	18,570	18,090	15,990				96,970
1993				5,600	18,080	17,180	18,300	16,310	13,750				89,220
1994				4,090	17,410	18,050	19,150	19,660	18,100				96,460
1995				6,580	15,520	17,520	19,070	18,330	15,560				92,580
1996				3,390	17,660	17,950	20,390	19,460	18,240				97,090
1997				6,010	17,600	18,480	20,080	18,250	17,430				97,850
1998				5,514	17,641	18,397	21,450	16,487	16,021				95,510
1999				8,013	15,590	17,625	19,904	19,966	18,373				99,471
2000				4,971	17,193	18,012	19,520	19,861	18,929				98,486
2001				1,398	15,154	16,189	17,203	15,148	16,582				81,674
Total				4,945	16,316	18,616	20,773	19,506	16,427	378			96,583

Monthly Summary (cfs)

Year	Discharge (cfs) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973					294	352	354	374	239	6			323
1974				102	350	301	369	339	252				285
1975					143	371	328	337	273				290
1976				61	282	326	376	351	310				284
1977				89	174	216	154	158	130				153
1978					133	343	356	335	306				295
1979				0	176	365	369	341	319				262
1980													
1981				75	233	257	376	359	322				270
1982				53	306	355	394	384	320				302
1983				92	309	372	384	383	272				302
1984				52	268	351	372	338	277				276
1985				69	320	312	335	305	299				273
1986				133	332	336	375	358	209				290
1987				119	329	274	364	341	301				288
1988				134	246	336	350	269	258				266
1989				76	281	346	379	347	241				278
1990				65	275	321	334	303	280				263
1991				21	224	266	342	310	280				240
1992				172	284	280	302	294	269				267
1993				94	294	289	298	265	231				245
1994				69	283	303	311	320	304				265
1995				111	252	294	310	298	261				255
1996				57	287	302	332	316	307				267
1997				101	286	311	327	297	293				269
1998				93	287	309	349	268	269				262
1999				135	254	296	324	325	309				274
2000				84	280	303	317	323	318				271
2001				23	246	272	280	246	279				224
Average				83	265	313	338	317	276	6			228

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.

DESCRIPTION AND OPERATION MEMORANDUM

FRANNIE CANAL

USGS Name Cowley, Garland, Frannie, Byron, Deaver Reservoir

DIVERSION DESCRIPTION

Diverts from Shoshone River at Corbett Dam as part of Garland Canal through Corbett tunnel. Trifurcation works approximately 14 miles from river diversion divides Frannie Canal from Garland Canal.

DIVERSION LOCATION

Source: Shoshone River
River Diversion – SW 1/4 NW 1/4 Section 7, Township 53N, Range 100W. Trifurcation Works – Lot 60-11 (NE1/4 SE 1/4 Lot 60), Township 55 N, Range 99 W, 6th PM.

CONVEYANCE DESCRIPTION

Open lined and unlined canal with one major lateral (67F) and several smaller laterals and sublaterals. Main canal is approximately 35 miles long and, together with Deaver Canal, serves approximately 20,000 acres after dividing from Garland Canal. Conveys water through open lateral to Deaver Reservoir.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
5/22/1899	2111	Dom.,Irr.,Stk.	14597.03	208.53		208.53	
1/08/1910	10138	Dom.,Irr.,Stk.	5534.50	79.06		287.59	

STORAGE RIGHTS

Full supply contract from Buffalo Bill Reservoir.

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 20-25% at peak.

IRRIGATION PRACTICES

Conventional flood irrigation practices and techniques with considerable use of concrete lined ditches, buried pipe, gated pipe and sprinklers.

CROP TYPES / CONSUMPTIVE USE

Alfalfa hay, beans, corn, sugar beets, small grains, pasture, lawns and gardens.

RETURN FLOWS

100% to Shoshone River directly through constructed drains, some via Bitter Creek, some via Polecat Creek, some via Sage Creek and some via Dry Creek.

OTHER OPERATIONAL INFORMATION

Managed by formal irrigation district board, employs manager, ditch riders and construction/maintenence crew. Part of U. S. Bureau of Reclamation Shoshone Project.

CONTACT INFORMATION

Deaver Irrigation District
Deaver, WY
(307)664-2351 or 664-2548

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Monthly Summary (ac-ft)

Year	Discharge (ac-ft) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973													
1974													
1975				1,825	9,626	14,366	14,709	14,666	13,418	8,110			68,610
1976													
1977				1,954	8,586	10,931	13,983	10,739	10,030				56,223
1978				1,345		13,978	15,110	14,765					45,197
1979													
1980													
1981													
1982													
1983													
1984													
1985													
1986													
1987													
1988													
1989													
1990													
1991													
1992													
1993													
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
Total				1,708	9,106	13,092	14,601	13,390	11,724	8,110			63,620

Monthly Summary (cfs)

Year	Discharge (cfs) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973													
1974													
1975				31	157	241	239	239	225	132			189
1976													
1977				33	140	184	227	175	169				154
1978				23		235	246	240					186
1979													
1980													
1981													
1982													
1983													
1984													
1985													
1986													
1987													
1988													
1989													
1990													
1991													
1992													
1993													
1994													
1995													
1996													
1997													
1998													
1999													
2000													
2001													
Average				29	148	220	237	218	197	132			169

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.

DESCRIPTION AND OPERATION MEMORANDUM

GARLAND CANAL

USGS Name Elk Basin SE, Garland, Byron, Vocation, Ralston, Gillmore Hill

DIVERSION DESCRIPTION

Reinforced concrete Ambursen weir diversion dam 12 feet high across the Shoshone River, diverts water into a 17, 300 foot tunnel controlled by hydraulically operated steel gates.

DIVERSION LOCATION

Source: Shoshone River
S 15° 30' E, 1580' from the NW corner of Section 7, township 53N, range 100W, and in the SW 1/4 NW 1/4 section 7.

CONVEYANCE DESCRIPTION

Upper 3.3 miles is concrete lined tunnel, opening into lined and unlined canal 16 miles long with 10 major laterals and numerous sublaterals. Delivery to farms and fields is through screwtype delivery gates. Canal is re-regulated in Ralston Reservoir and serves approximately 36,000 acres, separate from the Deaver-Frannie System.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
5/22/1899	2111	Dom.,Irr.,Stk.	35905.74	512.94		512.94	

STORAGE RIGHTS

Full supply contract from Buffalo Bill Reservoir.

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 15-20% at peak.

IRRIGATION PRACTICES

Conventional flood irrigation practices and techniques with considerable use of concrete lined ditches, buried pipe, gated pipe and sprinklers.

CROP TYPES / CONSUMPTIVE USE

Alfalfa hay, beans, corn, sugar beets, small grains, some vegetables, pasture, lawns and gardens.

RETURN FLOWS

100% to Shoshone River directly through constructed drains, and via Alkali Creek, Bitter Creek and Mantua Wash. Some Bitter Creek returns are rediverted by Sidon Canal.

OTHER OPERATIONAL INFORMATION

Managed by formal irrigation district board, employs manager, ditch riders and construction/maintenence crew. Part of U. S. Bureau of Reclamation Shoshone Project.

CONTACT INFORMATION

Shoshone Irrigation District
Powell, WY
(307)754-5741

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Monthly Summary (ac-ft)

	Discharge (ac-ft)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973				1,424	44,102	44,739	53,109	50,325	30,837				224,537
1974				10,364	31,484	42,008	50,281	39,289	34,479				207,903
1975				10,871	26,156	50,749	54,776	44,577	30,240				217,368
1976													
1977													
1978													
1979													
1980													
1981													
1982													
1983				20,180	39,620	48,650	56,640	50,260	39,270				254,620
1984				9,059	48,140	50,150	57,800	48,685	33,922				247,756
1985				21,350	50,930	47,940	56,920	43,200	31,700				252,040
1986				17,450	48,920	51,700	56,480	50,780	34,190				259,520
1987				19,160	44,010	43,730	51,910	44,670	35,070				238,550
1988				20,876	33,204	49,597	50,619	32,450	25,766				212,512
1989				17,900	40,140	52,000	54,010	45,950	37,160				247,160
1990				16,450	49,010	48,120	52,270	45,750	39,800				251,400
1991				13,110	46,430	49,140	53,080	52,320	36,870				250,950
1992				29,370	49,930	39,470	53,620	51,660	41,010				265,060
1993				18,250	52,140	49,630	49,740	52,630	46,780				269,170
1994				19,180	50,270	50,250	52,530	52,190	39,800				264,220
1995				16,500	39,120	50,220	55,040	53,720	40,860				255,460
1996				17,600	46,640	48,230	52,500	51,380	43,850				260,200
1997				14,950	50,660	46,090	53,340	48,500	41,470				255,010
1998				20,573	53,358	50,559	53,382	53,521	48,261				279,654
1999				26,672	54,019	51,912	53,858	54,213	50,831				291,505
2000				18,310	53,227	50,276	52,553	54,493	49,562				278,421
2001				13,625	51,734	42,967	54,407	52,533	40,918				256,184
Total				16,965	45,602	48,097	53,585	48,777	38,757				251,782

Monthly Summary (cfs)

	Discharge (cfs)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973				24	717	752	864	818	518				616
1974				174	512	706	818	639	579				571
1975				183	425	853	891	725	508				597
1976													
1977													
1978													
1979													
1980													
1981													
1982													
1983				339	644	818	921	817	660				700
1984				152	783	843	940	792	570				680
1985				359	828	806	926	703	533				692
1986				293	796	869	919	826	575				713
1987				322	716	735	844	726	589				655
1988				351	540	833	823	528	433				585
1989				301	653	874	878	747	624				680
1990				276	797	809	850	744	669				691
1991				220	755	826	863	851	620				689
1992				494	812	663	872	840	689				728
1993				307	848	834	809	856	786				740
1994				322	818	844	854	849	669				726
1995				277	636	844	895	874	687				702
1996				296	759	811	854	836	737				715
1997				251	824	775	867	789	697				700
1998				346	868	850	868	870	811				769
1999				448	879	872	876	882	854				802
2000				308	866	845	855	886	833				765
2001				229	841	722	885	854	688				703
Average				285	742	808	871	793	651				692

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.

DESCRIPTION AND OPERATION MEMORANDUM

GLOBE CANAL

DIVERSION DESCRIPTION

Manually operated steel gates in concrete headwall.

DIVERSION LOCATION

Source: Shoshone River
N 17° 10' W, 1310' from NE corner of lot 66 and lying in Lot 49, Township 56 N, Range 97 W

CONVEYANCE DESCRIPTION

Open earthen and partially piped canal approximately 13 miles long serving approximately 2,600 acres and 30 users. 40 irrigation structures in main canal including headgates, drops, checks, wasteway, and siphons. Canal capacity approximately 80 c.f.s.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
6/19/1894	746	Irr.,Dom.,Mun.	233.11	3.44		3.44	
6/03/1896	210E	Irr.	358.00	5.10		8.54	
5/31/1899	422E	Irr.,Dom.,Mun.	1833.16	26.53		35.07	
1/25/1909	2056E	Irr.	30.00	0.43		35.50	
1/22/1988	6883E	Irr.	67.10	0.96		36.46	
1/22/1988	6884E	Irr.	3.90	0.06		36.52	
1/22/1988	6885E	Irr.	16.10	0.23		36.75	

STORAGE RIGHTS

None – access to Buffalo Bill Reservoir contract if desired

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 20% at peak

IRRIGATION PRACTICES

Conventional flood irrigation practices enhanced by gated pipe, concrete lined delivery ditches and some sprinklers.

CROP TYPES / CONSUMPTIVE USE

Pasture, alfalfa hay, small grains, some corn, some sugar beets, lawn and gardens.

RETURN FLOWS

100% to Shoshone River via constructed drains, Sand Draw and Foster Gulch, and some through Hunt Canal.

OTHER OPERATIONAL INFORMATION

Management is by an association which employs a ditchrider and manager. Lot owners in Town of Lovell is significent use.

CONTACT INFORMATION

Reed Williams
1255 Rd 8 1/2
Lovell, WY 82431
(307)548-7551

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Monthly Summary (ac-ft)

Year	Discharge (ac-ft) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973					2,473	3,362	3,790	3,412	2,767	651			15,804
1974				891	4,118	3,199	4,610	4,499	3,495				20,811
1975					532	3,114	2,896	3,368	2,575				12,484
1976				551	2,729	2,473	4,663	3,860	3,572				17,849
1977				242	2,140	2,200	2,374	3,001	3,011				12,968
1978					468	1,662	2,549	2,789	1,952				9,420
1979				0	2,541	3,876	4,693	4,128	2,973				18,211
1980													
1981				1,220	2,880	1,970	4,340	3,950	3,950				18,310
1982				0	3,490	3,255	3,150	2,570	3,010				15,475
1983				1,060	2,940	3,670	3,560	3,790	3,870				18,890
1984				641	2,110	3,270	3,510	2,700	2,770				15,001
1985				605	3,050	2,630	4,400	3,850	3,420				17,955
1986				710	2,660	2,800	3,780	3,050	3,180				16,180
1987				938	3,560	1,640	3,110	2,740	2,340				14,328
1988				2,230	2,680	3,070	3,090	2,770	1,940				15,780
1989				940	2,540	3,370	3,410	2,950	2,210				15,420
1990				890	3,000	3,190	3,420	3,380	2,980				16,860
1991				570	2,120	2,460	3,130	3,260	2,360				13,900
1992				1,580	2,670	2,130	2,910	2,690	2,400				14,380
1993				890	2,670	2,630	2,570	2,840	2,210				13,810
1994				290	2,870	2,630	2,880	2,620	1,680				12,970
1995				190	1,510	2,390	2,740	2,780	2,170				11,780
1996				0	2,720	2,650	3,060	3,120	2,770				14,320
1997				900	2,980	2,680	2,830	2,710	2,030				14,130
1998				198	2,858	2,410	2,928	2,519	2,323				13,236
1999				444	2,721	2,341	3,066	3,406	2,077				14,055
2000				717	2,556	2,506	2,967	2,717	2,342				13,805
2001				63	2,657	2,477	3,139	3,179	2,720				14,235
Total				670	2,580	2,716	3,342	3,166	2,682	651			15,156

Monthly Summary (cfs)

Year	Discharge (cfs) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973					40	56	62	55	46	11			52
1974				15	67	54	75	73	59				57
1975					9	52	47	55	43				41
1976				9	44	42	76	63	60				49
1977				4	35	37	39	49	51				36
1978					8	28	41	45	33				31
1979				0	41	65	76	67	50				50
1980													
1981				21	47	33	71	64	66				50
1982				0	57	55	51	42	51				43
1983				18	48	62	58	62	65				52
1984				11	34	55	57	44	47				41
1985				10	50	44	72	63	57				49
1986				12	43	47	61	50	53				44
1987				16	58	28	51	45	39				39
1988				37	44	52	50	45	33				43
1989				16	41	57	55	48	37				42
1990				15	49	54	56	55	50				46
1991				10	34	41	51	53	40				38
1992				27	43	36	47	44	40				40
1993				15	43	44	42	46	37				38
1994				5	47	44	47	43	28				36
1995				3	25	40	45	45	36				32
1996				0	44	45	50	51	47				39
1997				15	48	45	46	44	34				39
1998				3	46	41	48	41	39				36
1999				7	44	39	50	55	35				39
2000				12	42	42	48	44	39				38
2001				1	43	42	51	52	46				39
Average				11	42	46	54	51	45	11			37

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.

DESCRIPTION AND OPERATION MEMORANDUM

HEART MOUNTAIN CANAL

USGS Name Corbett Dam, Vocation, Ralston, Elk Basin SE

DIVERSION DESCRIPTION

Conduit directly out of Buffalo Bill Reservoir controlled by hydraulically operated gates.

DIVERSION LOCATION

Source: Shoshone River
Lot 6 of Section 12, Township 52N, Range 103W, 6th PM

CONVEYANCE DESCRIPTION

3.5 mile conduit from diversion point to Heart Mountain Power Plant, through power plant, then through 1/2 mile long siphon into open lined and unlined canal 35 miles long. Serves 250 users and 31,000 acres through 7 major laterals and numerous sublaterals. Estimated capacity ~ 900 c.f.s.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
5/22/1899	2111	Irr.,Dom.,Stk.	9732.00	139.00		139.00	
3/29/1904	1189E	Irr.,Dom.,Stk.	12981.90	185.48		324.48	
12/21/1920	6099E	Irr.,Dom.,Stk.	3436.10	49.09		373.57	
4/26/1972	6425E	Irr.,Stk.	488.60	6.98		380.55	

STORAGE RIGHTS

Full supply contract from Buffalo Bill Reservoir

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 38% at peak.

IRRIGATION PRACTICES

Conventional flood irrigation practices and techniques with considerable use of concrete lined ditches, buried pipe and sprinklers.

CROP TYPES / CONSUMPTIVE USE

Alfalfa hay, corn, sugar beets, beans, peas, pasture, grain, lawns and gardens.

RETURN FLOWS

99% to Shoshone River directly through constructed drains and via Cottonwood Creek, Iron Creek, Buck Springs Creek Eaglenest Creek, Alkali Creek, and via Garland Canal as rediverted from the listed creeks, 1% to Big Sand Coulee

OTHER OPERATIONAL INFORMATION

Managed by formal irrigation district board. Employs canal manager and ditchriders and work crews. Part of U.S. Bureau of Reclamation Shoshone Project.

CONTACT INFORMATION

Jim Flowers
1206 Rd 18
Powell, WY 82435
(307)754-4685

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Monthly Summary (ac-ft)

Year	Discharge (ac-ft) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973				2,416	25,672	48,847	44,616	41,931	18,791	10,040	0	0	182,273
1974	0	0	0	7,755	39,308	46,288	52,193	42,236	25,230	11,581	0	0	213,011
1975	0	0	0	2,604	15,570	43,793	50,733	44,275	27,755	12,837	0	0	184,730
1976	0	0	0	0	0	0	0	0	0				0
1977				5,167	15,691	39,427	41,806	21,219	14,277				137,587
1978				6,629	13,801		54,579		27,029				102,038
1979													
1980													
1981													
1982				8,210	33,240	34,730	48,360	43,130	15,920				183,590
1983				7,070	20,030	49,930	52,550	41,330	26,200				197,110
1984				3,430	20,340	51,480	54,770	40,490	19,700				190,210
1985				11,000	43,990	47,310	51,600	43,470	26,450				223,820
1986				8,230	4,770	48,090	49,980	41,630	25,130				177,830
1987				10,040	36,840	35,830	49,270	36,490	26,740				195,210
1988				9,096	22,697	51,202	52,426	32,166	22,967				190,554
1989				9,710	27,300	53,900	55,600	44,440	29,590				220,540
1990				9,380	32,380	53,410	53,150	44,160	37,450				229,930
1991				260	17,210	45,350	56,000	48,730	29,320				196,870
1992				15,440	49,370	39,810	42,760	45,720	35,280				228,380
1993				7,040	35,950	48,090	48,620	43,500	38,470				221,670
1994				9,400	36,930	50,250	42,020	46,280	34,060				218,940
1995				9,770	15,790	48,330	51,190	48,570	33,680				207,330
1996				9,690	28,010	42,860	47,590	47,630	33,950				209,730
1997				5,820	39,880	42,640	52,890	37,180	36,710				215,120
1998				11,062	47,638	34,910	51,119	41,112	34,918				220,759
1999				12,861	33,178	47,043	51,305	46,364	33,531				224,282
2000				10,681	36,375	47,140	52,081	45,688	33,660				225,625
2001				5,012	40,820	25,764	42,201	35,624	23,899				173,320
Total	0	0	0	7,607	28,184	43,057	48,054	40,135	27,335	11,486	0	0	194,371

Monthly Summary (cfs)

Year	Discharge (cfs) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973				41	418	821	726	682	316	163	0	0	500
1974	0	0	0	130	639	778	849	687	424	188	0	0	390
1975	0	0	0	44	253	736	825	720	466	209	0	0	338
1976	0	0	0	0	0	0	0	0	0				0
1977				87	255	663	680	345	240				378
1978				111	224		888		454				419
1979													
1980													
1981													
1982				138	541	584	786	701	268				503
1983				119	326	839	855	672	440				542
1984				58	331	865	891	658	331				522
1985				185	715	795	839	707	445				614
1986				138	78	808	813	677	422				489
1987				169	599	602	801	593	449				536
1988				153	369	860	853	523	386				524
1989				163	444	906	904	723	497				606
1990				158	527	898	864	718	629				632
1991				4	280	762	911	793	493				540
1992				259	803	669	695	744	593				627
1993				118	585	808	791	707	647				609
1994				158	601	844	683	753	572				602
1995				164	257	812	833	790	566				570
1996				163	456	720	774	775	571				576
1997				98	649	717	860	605	617				591
1998				186	775	587	831	669	587				606
1999				216	540	791	834	754	563				616
2000				179	592	792	847	743	566				620
2001				84	664	433	686	579	402				475
Average	0	0	0	128	458	724	782	653	459	187	0	0	283

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.

DESCRIPTION AND OPERATION MEMORANDUM

HUNT – GODFREY CANAL

USGS Name Lovell, Lovell Lakes

DIVERSION DESCRIPTION

Coffer dam across Shoshone River, manually operated sliding diversion gates in concrete rectangle.

DIVERSION LOCATION

Source: Shoshone River
N 56°0', 1000' from SW corner Lot 81B, Township 56N, Range 96 W

CONVEYANCE DESCRIPTION

Open dirt canal delivering water to approximately 4000 acres. Approximately 20 users, 500 structures including headgates, wasteways, crossings, lined sections, checks and siphons. Canal capacity ~120 c.f.s.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
5/16/1893	486	Irr.,Dom.	529.00	7.54		7.54	
6/20/1896	208E	Irr.,Dom.	300.00	4.28		11.82	
7/13/1900	560E	Irr.	796.00	11.37		23.19	
7/21/1905	1423E	Irr.	221.00	3.15		26.34	
5/25/1911	2472E	Irr.,Dom.	54.00	0.77		27.11	
10/21/1931	5071E	Fire,Mfg		15.00		42.11	
3/14/1932	4809E	Irr.,Dom.	50.00	0.71		42.82	
4/20/1953	5675E	Irr.	5.50	0.08		42.90	
6/09/1965	6127E	Irr.	30.44	0.43		43.33	
1/04/1988	6889E	Irr.	57.10	0.82		44.15	
12/21/1988	6995E	Irr.	5.60	0.08		44.23	
12/21/1988	6997E	Irr.	5.60	0.08		44.31	

STORAGE RIGHTS

None - access to Buffalo Bill Reservoir storage by contract if desired.

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 30% at peak.

IRRIGATION PRACTICES

Conventional flood irrigation practices enhanced by some gated pipe, concrete lined laterals and sprinklers.

CROP TYPES / CONSUMPTIVE USE

Native pasture, alfalfa hay, corn, sugar beets

RETURN FLOWS

100% to Shoshone River, some directly through constructed drains, some via Sand Draw, some via Little Sand Draw.

OTHER OPERATIONAL INFORMATION

Managed by organized irrigation company with manager and ditch riders, recieves limited returns from Globe Canal.

CONTACT INFORMATION

Elsie
P.O. Box 243
Lovell, WY 82431
(307)548-2279

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Year	Discharge (ac-ft) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973					5,068	6,411	7,087	7,537	3,850	994			29,952
1974				2,303	6,795	5,222	7,214	7,575	5,835				34,945
1975				1,626	7,355	7,751	8,146	7,127					32,005
1976					6,498	6,692	8,039	7,519	7,075				35,823
1977					980	4,213	5,821	6,157	5,583				22,754
1978					184	6,637	7,142	6,563	5,157				25,684
1979				375	6,910	6,403	7,281	6,839	5,341	2,344			33,149
1980													
1981				1,250	2,650	4,720	6,400	6,960	6,170				28,150
1982				795	5,217	3,838	6,224	5,903	6,595				28,572
1983				1,240	5,730	6,660	7,870	7,360	6,640				35,500
1984				0	3,970	6,440	7,800	7,120	6,030				31,360
1985				1,440	7,960	7,380	7,630	7,060	5,720				37,190
1986				1,520	7,120	7,100	6,740	5,230	4,830				32,540
1987				2,420	7,090	5,420	7,790	7,530	6,700				36,950
1988				3,020	5,860	7,880	8,160	6,790	6,060				37,770
1989													
1990				1,390	6,870	6,480	7,330	7,280	6,370				35,720
1991				730	4,630	6,250	8,120	6,980	5,330				32,040
1992				1,760	6,640	5,640	7,700	6,870	3,960				32,570
1993				2,530	6,460	6,510	7,250	6,520	5,680				34,950
1994				2,190	5,780	5,900	6,380	6,680	5,820				32,750
1995				4,300	5,260	6,270	6,640	6,600	6,050				35,120
1996				1,380	5,460	6,140	6,450	6,210	5,100				30,740
1997				1,520	5,520	5,530	5,520	6,170	6,060				30,320
1998				1,866	5,655	4,243	5,913	4,679	4,342				26,698
1999				1,408	5,034	6,030	6,183	5,913	5,115				29,683
2000				1,080	5,791	5,884	6,059	5,885	5,115				29,814
2001				917	5,758	4,797	6,290	6,226	2,114				26,102
Total				1,611	5,491	6,016	7,007	6,640	5,486	1,669			32,251

Monthly Summary (cfs)

Year	Discharge (cfs) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973					82	108	115	123	65	16			99
1974				39	111	88	117	123	98				96
1975				27	120	130	132	116					105
1976					106	112	131	122	119				118
1977					16	71	95	100	94				75
1978					3	112	116	107	87				85
1979				6	112	108	118	111	90	38			91
1980													
1981				21	43	79	104	113	104				77
1982				13	85	64	101	96	111				78
1983				21	93	112	128	120	112				98
1984				0	65	108	127	116	101				86
1985				24	129	124	124	115	96				102
1986				26	116	119	110	85	81				89
1987				41	115	91	127	122	113				101
1988				51	95	132	133	110	102				104
1989													
1990				23	112	109	119	118	107				98
1991				12	75	105	132	114	90				88
1992				30	108	95	125	112	67				89
1993				43	105	109	118	106	95				96
1994				37	94	99	104	109	98				90
1995				72	86	105	108	107	102				97
1996				23	89	103	105	101	86				84
1997				26	90	93	90	100	102				83
1998				31	92	71	96	76	73				73
1999				24	82	101	101	96	86				82
2000				18	94	99	99	96	86				82
2001				15	94	81	102	101	36				71
Average				27	89	101	114	108	92	27			80

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.

DESCRIPTION AND OPERATION MEMORANDUM

SIDON CANAL

USGS Name Byron, Cowley, Frannie, Lovell

DIVERSION DESCRIPTION

Concrete diversion dam across Shoshone River, sliding steel gates in concrete rectangle. Supplemental diversion 1 1/4 miles down the canal from river headgate picks up flows of Bitter Creek through 3 sliding steel gates 4' by 4'.

DIVERSION LOCATION

Source: Shoshone River
N 3° 48' E, 410' from the SW corner of Lot 67, Township 55N, Range 97W, 6th PM

CONVEYANCE DESCRIPTION

Open dirt canal 30 miles long, with numerous laterals and sublaterals delivering water to approximately 12,100 acres. Canal capacity approximately 350 c.f.s.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
4/24/1900	2568	Irr.,Dom.	11551.41	164.24		164.24	
11/30/1906	7559	Irr.	128.70	1.84		166.08	
11/30/1906	7560	Irr.	16.30	0.23		166.31	
1/25/1915	3113E	Irr.	5.40	0.08		166.39	
5/09/1916	3601E	Irr.,Dom.,Stk.	431.00	6.15		172.54	

STORAGE RIGHTS

Contract with U.S. Bureau of Reclamation recognizing the right of Sidon Canal to capture flows of Bitter Creek as supplemental supply in lieu of Buffalo Bill reservoir storage contract.

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 20-25% at peak

IRRIGATION PRACTICES

Conventional flood irrigation practices enhanced by concrete lined delivery ditches, buried pipe, gated pipe, some sprinklers.

CROP TYPES / CONSUMPTIVE USE

Alfalfa hay, small grains, beans, corn, sugar beets, pasture, lawns and gardens.

RETURN FLOWS

100% to Shoshone River, some directly, through constructed drains, some through Bitter Creek, some via Polecat Creek, some via Sage Creek.

OTHER OPERATIONAL INFORMATION

Management by an organized canal company. Employs a manager and ditch riders.

CONTACT INFORMATION

Sidon Canal Company
11 East Main St.
Cowley, WY 82420
(307) 548-7424

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Monthly Summary (ac-ft)

	Discharge (ac-ft)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973					15,053	15,433	16,366	13,073	9,552	2,485			69,477
1974				7,384	16,153	14,424	16,806	16,233	14,309				85,309
1975					10,247	14,469	15,804	16,251	13,379				70,149
1976					468	829	1,492	1,101	1,127				5,016
1977				2,848	11,107	15,160	16,247	12,781	11,074				69,217
1978					2,083	14,815	16,463	14,586	11,314				59,260
1979				1,840	10,463	13,379	15,880	13,702	10,915	3,892			66,179
1980													
1981				4,550	10,680	12,220	18,140	16,400	15,710				77,700
1982				2,888	15,500	13,290	17,350	18,350	12,150				79,528
1983				5,430	14,250	15,900	18,460	17,950	12,640				84,630
1984				5,300	14,550	16,040	17,810	17,820	13,590				85,110
1985				5,660	17,340	17,440	19,060	19,200	16,210				94,910
1986				6,660	16,740	16,560	18,560	20,230	14,070				92,820
1987				7,680	16,800	13,510	16,030	16,790	13,250				84,060
1988				9,080	12,210	17,800	20,700	17,510	12,260				89,560
1989				4,960	15,580	18,270	20,450	19,680	17,750				96,690
1990				6,040	17,610	17,300	19,480	18,780	17,810				97,020
1991				6,840	15,590	17,400	19,470	18,400	14,210				91,910
1992				9,270	16,830	15,250	17,730	17,840	16,030				92,950
1993				6,010	16,030	16,620	17,860	17,670	15,950				90,140
1994				6,050	16,650	16,750	18,150	18,180	16,220				92,000
1995				6,960	13,830	16,990	19,850	20,880	16,900				95,410
1996				4,620	14,930	18,410	20,250	20,330	17,150				95,690
1997				3,400	16,680	16,930	18,730	17,880	16,740				90,360
1998				5,780	17,133	16,864	18,740	17,619	16,102				92,238
1999				6,754	15,330	18,084	19,660	19,071	16,191				95,090
2000				6,949	16,255	17,387	19,369	17,596	14,773				92,329
2001				4,108	15,501	16,425	18,478	18,308	14,370				87,190
Total				5,711	13,985	15,498	17,621	16,936	13,991	3,189			83,742

Monthly Summary (cfs)

	Discharge (cfs)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973					245	259	266	213	161	40			229
1974				124	263	242	273	264	240				234
1975					167	243	257	264	225				231
1976					8	14	24	18	19				17
1977				48	181	255	264	208	186				190
1978					34	249	268	237	190				196
1979				31	170	225	258	223	183	63			182
1980													
1981				76	174	205	295	267	264				214
1982				49	252	223	282	298	204				218
1983				91	232	267	300	292	212				232
1984				89	237	270	290	290	228				234
1985				95	282	293	310	312	272				261
1986				112	272	278	302	329	236				255
1987				129	273	227	261	273	223				231
1988				153	199	299	337	285	206				246
1989				83	253	307	333	320	298				266
1990				102	286	291	317	305	299				267
1991				115	254	292	317	299	239				253
1992				156	274	256	288	290	269				256
1993				101	261	279	290	287	268				248
1994				102	271	281	295	296	273				253
1995				117	225	286	323	340	284				262
1996				78	243	309	329	331	288				263
1997				57	271	285	305	291	281				248
1998				97	279	283	305	287	271				254
1999				114	249	304	320	310	272				261
2000				117	264	292	315	286	248				254
2001				69	252	276	301	298	241				239
Average				96	227	260	287	275	235	52			205

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.

DESCRIPTION AND OPERATION MEMORANDUM

WILLWOOD CANAL

USGS Name Vocation, Gillmore Hill

DIVERSION DESCRIPTION

Concrete gravity dam across Shoshone River, 70 feet high hydraulically operated steel headgates.

DIVERSION LOCATION

Source: Shoshone River
Lot 69-6 of O.S. Section 9, Township 54N, Range 100W, 6th PM

CONVEYANCE DESCRIPTION

Open earthen canal approximately 22 miles long with 8 mile long extension lateral (W-135) at end across Whistle Creek. Several major laterals and sublaterals deliver water to approximately 140 users and 11,500 acres. Canal has some lined sections.

WYOMING WATER RIGHTS

Priority Date	Permit Number	Permit Use	Acres	Flow(cfs)	(af)	Cumulative Flow(cfs)	Comments
5/22/1899	2111	Dom.,Irr.,Stk.	5204.77	74.35		74.35	
4/12/1904	1191E	Dom.,Irr.,Stk.	6123.29	87.48		161.83	
10/15/1975	6579E	Irr.	42.61	0.61		162.44	

STORAGE RIGHTS

Full supply contract from Buffalo Bill Reservoir.

ESTIMATED CANAL LOSSES

Varies with time of year; estimated 10-15% at peak.

IRRIGATION PRACTICES

Conventional flood irrigation practices with considerable use of concrete lined ditches, buried pipe, gated pipe and sprinklers.

CROP TYPES / CONSUMPTIVE USE

Alfalfa hay, corn, sugar beets, beans, peas, pasture, lawns, grains, and gardens.

RETURN FLOWS

100% to Shoshone River, some directly, via Constructed drains, some via Roan Wash, some via Whistle Creek.

OTHER OPERATIONAL INFORMATION

Management by formal irrigation district board, employs canal manager, ditchriders and crews. Part of U.S. Bureau of Reclamation Shoshone Project.

CONTACT INFORMATION

Willwood Irrigation District
Powell, WY
(307)754-3831

PHOTO LOG

Information collected from files available at Division 3 Office of the State Engineer Office in Riverton, WY, and from the ditch contact person when available.

DIVERSION RECORD

Monthly Summary (ac-ft)

Year	Discharge (ac-ft) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1973				2,664	16,842	15,104	20,007	20,301	11,578	6,089	0	0	86,495
1974	0	0	0	6,319	16,433	15,814	21,326	19,619	15,049	10,017			94,560
1975				2,190	12,407	17,161	20,073	20,630	16,580				89,040
1976				286	12,853	8,598	15,661	10,790	6,069				54,258
1977				2,225	13,033	11,056	14,465	12,218	7,995				60,994
1978					10,100	18,192	20,099	18,040	13,212				79,642
1979													
1980													
1981				5,600	5,280	14,190	22,370	20,270	15,490	5,870			83,200
1982				3,451	18,580	11,330	22,030	19,760	13,550				88,701
1983				8,330	15,510	16,470	22,730	19,040	16,120				98,200
1984				3,130	16,410	17,830	24,270	20,160	13,820				95,620
1985				6,860	18,470	13,370	22,230	19,070	15,520				95,520
1986				9,000	18,210	15,760	26,170	21,430	14,470				105,040
1987				7,780	14,840	16,170	23,910	21,580	15,870				100,150
1988				8,220	14,080	20,430	23,450	18,780	13,330				98,290
1989				8,500	14,720	19,560	24,090	20,750	15,170				102,790
1990				7,540	16,600	17,030	21,370	20,670	17,540				100,750
1991				2,510	16,060	15,840	23,480	21,270	14,280				93,440
1992				9,700	18,560	12,640	19,840	19,640	15,860				96,240
1993				7,670	19,050	17,900	17,630	21,380	18,640				102,270
1994				6,580	18,040	18,670	19,500	21,670	16,760				101,220
1995				5,640	10,120	16,420	21,720	23,210	17,500				94,610
1996				6,470	16,930	16,360	22,620	22,200	16,820				101,400
1997				6,980	17,270	15,480	22,650	20,970	18,390				101,740
1998				6,797	18,742	16,090	23,479	21,035	19,048				105,191
1999				11,026	17,653	16,806	22,396	21,438	19,006				108,325
2000				8,781	17,853	17,377	22,035	21,876	18,399				106,321
2001				5,484	20,801	12,116	22,439	20,373	15,904				97,117
Total	0	0	0	6,144	15,757	15,695	21,557	19,932	15,258	7,325	0	0	94,343

Monthly Summary (cfs)

Year	Discharge (cfs) Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1973				45	274	254	325	330	195	99	0	0	237
1974	0	0	0	106	267	266	347	319	253	163			173
1975				37	202	288	326	336	279				245
1976				5	209	144	255	175	102				148
1977				37	212	186	235	199	134				167
1978					164	306	327	293	222				262
1979													
1980													
1981				94	86	238	364	330	260	95			229
1982				58	302	190	358	321	228				243
1983				140	252	277	370	310	271				270
1984				53	267	300	395	328	232				262
1985				115	300	225	362	310	261				262
1986				151	296	265	426	349	243				288
1987				131	241	272	389	351	267				275
1988				138	229	343	381	305	224				270
1989				143	239	329	392	337	255				283
1990				127	270	286	348	336	295				277
1991				42	261	266	382	346	240				256
1992				163	302	212	323	319	267				264
1993				129	310	301	287	348	313				281
1994				111	293	314	317	352	282				278
1995				95	165	276	353	377	294				260
1996				109	275	275	368	361	283				278
1997				117	281	260	368	341	309				279
1998				114	305	270	382	342	320				289
1999				185	287	282	364	349	319				298
2000				148	290	292	358	356	309				292
2001				92	338	204	365	331	267				266
Average	0	0	0	103	256	264	351	324	256	119	0	0	139

Notes:

1 Data from SEO Hydrographers Reports, USGS Gage Data and WRDS electronic data.

2 Monthly summaries are summarized from daily data. Missing readings interpolated from readings immediately before and after missing data.