
MEMORANDUM

Subject: **Bear River Basin Plan**
 Key Structures and Diversions
 ALONZO F. SIGHTS DIVERSION

Date: August 7, 2000

Diversion Description: The Alonzo F. Sights diversion structure consists of a concrete chute with wing walls and a 65-inch wide steel slide gate.



Alonzo F. Sights headgate structure

Diversion Location: The diversion is located on the Bear River downstream of the Smiths Fork confluence. The headgate is located about 100 yards downstream of the actual diversion. Water is carried to the headgate across existing railroad tracks through a culvert. The Diversion is regulated as part of the Central Division of the Bear River Compact. See location map hereafter.

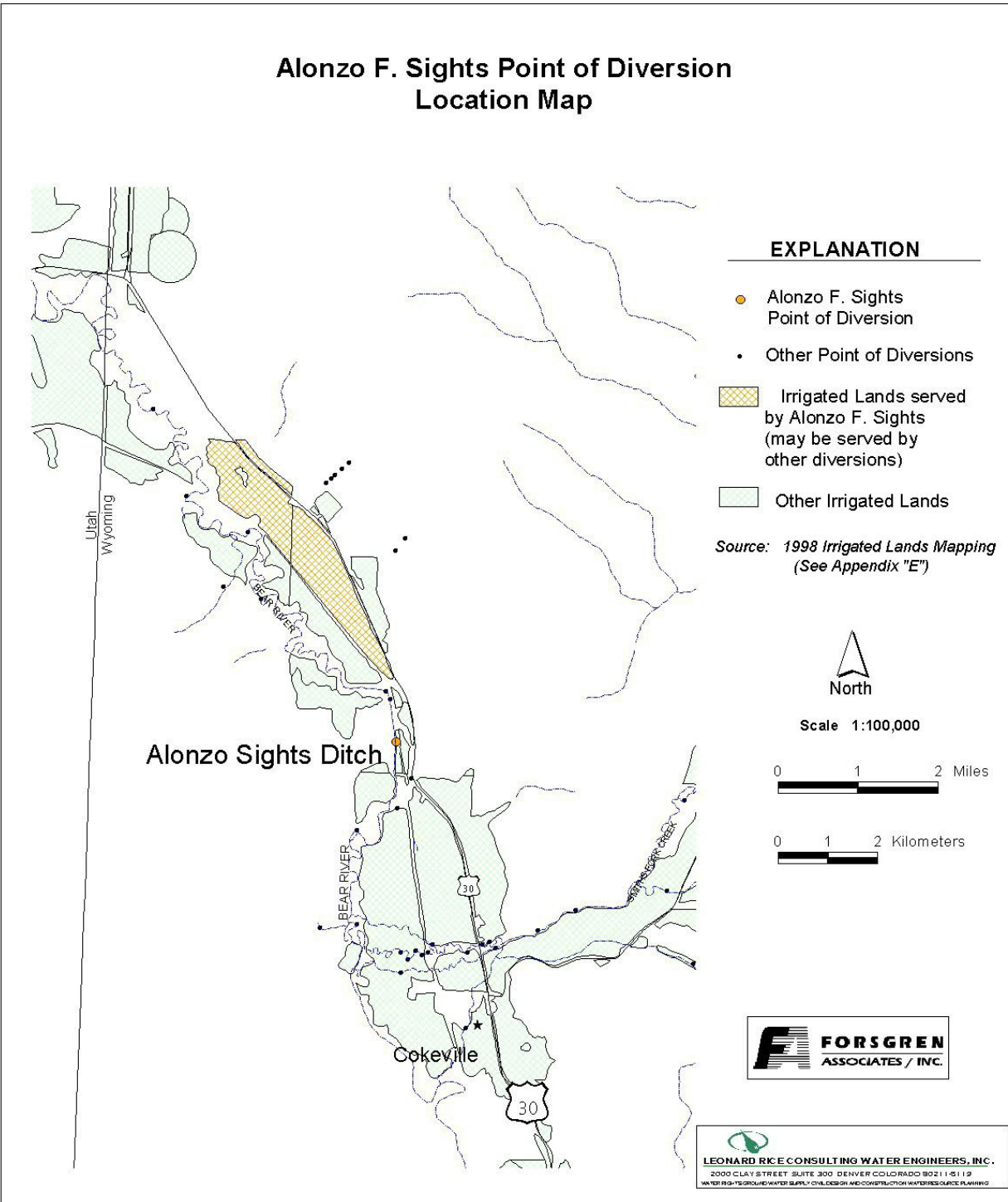
Latitude N 42° 08' 06.8"
Longitude W 110° 58' 21.5"

Conveyance Description: Open channel ditch, approximately 15,840 feet in length.¹

Direct Flow Water Rights:²

Priority Date	Permit Number	Permitted Use	Permitted Acres	Flow (CFS)	Cumulative (CFS)	Comments
05-30-1884	TERR	Irrigation	97	1.38	1.38	
05-30-1884	TERR	Irrigation, Storage	250	3.57	4.95	
05-30-1884	TERR	Irrigation, Storage	227	3.24	8.19	
-1-11-1954	5721E	Irrigation, Storage	33	0.47	8.66	<i>George Bourne – Garret Springs (Non-Compact tributary – deducted from compact accounting.)</i>

Alonzo F. Sights Point of Diversion Location Map



Associated Storage Rights: None

Irrigation Practices: Irrigation practices are mixed (Approx. 60% flood irrigation, 40% hand line sprinklers & side rolls).³

Estimated Diversion Efficiency:

Calculated Diversion Efficiency = Conveyance Efficiency X Application Efficiency:

Conveyance Efficiency:	65%
Application Efficiency:	<u>65%</u>
Overall Diversion Efficiency:	42%

Conveyance efficiency is estimated based on total length of main canal. Application efficiency for flood irrigation and sprinkler irrigation is estimated at 55% and 85% respectively.

Crop Types / Consumptive Use: Approximately 40% of the irrigated acreage is alfalfa and grains (primarily oats). The remainder of the acreage is meadow grasses.³

Return Flows: Return flow is primarily captured the Oscar E. Snyder Ditch (approx. 50%) and the Cook Brothers Ditch (approx. 50%).

The following return flow pattern was adopted for modeling in this study are as follows:

<u>Month</u> <u>(after initial Diversion)</u>	<u>Percent of Return</u>
0	70%
1	20%
2	10%
3	<u>0%</u>
	100%

References:

- 1) *USDA -Soil Conservation Service Economic Research Service-Forest Service in Cooperation with the States of Idaho, Utah, Wyoming, Irrigation Conveyance Systems, Working Paper for the Bear River Basin Type IV Study, Idaho-Utah-Wyoming, April 1976*
- 2) *Water rights summary obtained from State Engineer Interstate Reglist – revised April 14, 1999*
- 3) *Irrigation practices based on field investigation and interview with Mr. Kevin Wilde, Water Hydrographer-Commissioner – November 30, 1999.*
- 4) *State of Utah Natural Resources, Water Budget Studies – Utah, Bear River Study Area, September 1994*

**BEAR RIVER WYOMING DIVERSIONS
MONTHLY DIVERSION RECORDS**

ALONZO F. SIGHTS

YEAR	MAY			JUNE			JULY			AUGUST			SEPTEMBER		
	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft
1970	11	0.4	21.8	268	8.9	531.6	320	10.3	634.7	143	4.6	283.6	0	0.0	0.0
1971	1229	39.6	2437.7	1284	42.8	2546.8	432	13.9	856.9	105	3.4	208.3	15	0.5	29.8
1972	612	19.7	1213.9	1890	63.0	3748.8	200	6.5	396.7	304	9.8	603.0	36	1.2	71.4
1973	79	2.5	156.7	462	15.4	916.4	470	15.2	932.2	132	4.3	261.8	0	0.0	0.0
1974	413	13.3	819.2	696	23.2	1380.5	392	12.6	777.5	213	6.9	422.5	20	0.7	39.7
1975	0	0.0	0.0	327	10.9	648.6	138	4.5	273.7	113	3.6	224.1	2	0.1	4.0
1976	0	0.0	0.0	192	6.4	380.8	412	13.3	817.2	784	25.3	1555.0	0	0.0	0.0
1977	202	6.5	400.7	216	7.2	428.4	175	5.6	347.1	2	0.1	4.0	0	0.0	0.0
1978	148	4.8	293.6	567	18.9	1124.6	504	16.3	999.7	119	3.8	236.0	0	0.0	0.0
1979	404	13.0	801.3	471	15.7	934.2	323	10.4	640.7	28	0.9	55.5	0	0.0	0.0
1980	447	14.4	886.6	693	23.1	1374.5	360	11.6	714.0	35	1.1	69.4	116	3.9	230.1
1981	223	7.2	442.3	445	14.8	882.6	450	14.5	892.6	28	0.9	55.5	9	0.3	17.9
1982	1683	54.3	3338.2	1245	41.5	2469.4	328	10.6	650.6	14	0.5	27.8	73	2.4	144.8
1983	2	0.1	4.0	2783	92.8	5520.0	118	3.8	234.0	21	0.7	41.7	0	0.0	0.0
1984	990	31.9	1963.6	2482	82.7	4923.0	448	14.5	888.6	12	0.4	23.8	0	0.0	0.0
1985	0	0.0	0.0	216	7.2	428.4	206	6.6	408.6	107	3.5	212.2	130	4.3	257.9
1986	0	0.0	0.0	168	5.6	333.2	314	10.1	622.8	246	7.9	487.9	0	0.0	0.0
1987	291	9.4	577.2	283	9.4	561.3	242	7.8	480.0	68	2.2	134.9	0	0.0	0.0
1988	11	0.4	21.8	809	27.0	1604.6	268	8.6	531.6	275	8.9	545.5	42	1.4	83.3
1989	104	3.4	206.3	596	19.9	1182.1	614	19.8	1217.9	224	7.2	444.3	0	0.0	0.0
1990	32	1.0	63.5	207	6.9	410.6	266	8.6	527.6	256	8.3	507.8	23	0.8	45.6
1991	125	4.0	247.9	285	9.5	565.3	272	8.8	539.5	267	8.6	529.6	147	4.9	291.6
1992	279	9.0	553.4	270	9.0	535.5	279	9.0	553.4	118	3.8	234.0	0	0.0	0.0
1993	202	6.5	400.7	718	23.9	1424.1	504	16.3	999.7	151	4.9	299.5	96	3.2	190.4
1994	283	9.1	561.3	283	9.4	561.3	274	8.8	543.5	28	0.9	55.5	18	0.6	35.7
1995	266	8.6	527.6	672	22.4	1332.9	362	11.7	718.0	106	3.4	210.2	0	0.0	0.0
1996	211	6.8	418.5	786	26.2	1559.0	475	15.3	942.1	0	0.0	0.0	282	9.4	559.3
1997	75.1	2.4	149.0	434.2	14.5	861.2	545.1	17.6	1081.2	240.7	7.8	477.4	14	0.5	27.8
1998	87.5	2.8	173.6	69.6	2.3	138.0	465.8	15.0	923.9	98.7	3.2	195.8	0	0.0	0.0

AVERAGES **9.4** **575.2** **22.8** **1355.4** **11.3** **694.7** **4.7** **289.9** **1.2** **70.0**