

---

**MEMORANDUM**

---

**Subject:**     **Bear River Basin Plan**  
                  **Key Structures and Diversions**  
                  **EVANSTON WATER SUPPLY**  
                  **(and Anderson)**

**Date:**         August 7, 2000

**Diversion Description:** Simple headgate structure with slide gate.

**Diversion Location:** Diversion and irrigated lands are in the Upper Bear River Basin in Wyoming as shown on the location map hereafter.

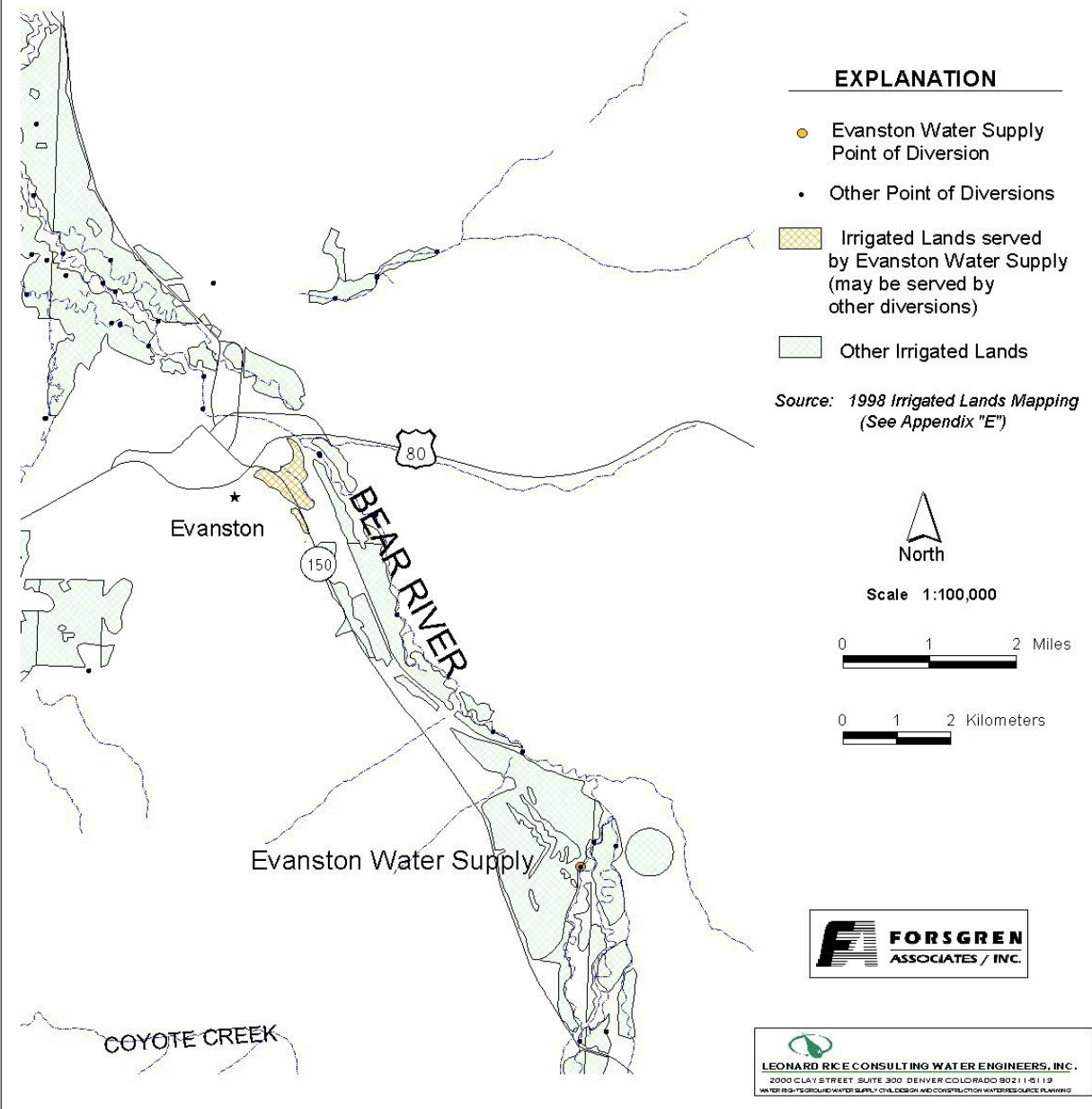
**Conveyance Description:** Open channel canal, approximately 26,400 feet in length.<sup>1</sup>

**Direct Flow Water Rights:**<sup>2</sup>

Priority Date	Permit Number	Permitted Use	Permitted Acres	Flow (CFS)	Cumulative (CFS)	Comments
05-15-1882	TERR	Irrigation	100	1.43	1.43	
03-29-1901	693E	Irrigation, Domestic, Storage	279.93	4.00	5.43	<i>Enl Anderson</i>
09-10-1921	4263E	Irrigation, Domestic, Storage	9	0.13	5.56	
09-10-1921		Irrigation Supplemental Supply, Domestic, Storage	6	1.57		<i>Buchanan (Knight Hollow Spring. 1)</i>

**Irrigation Practices:** Land is all flood irrigated..<sup>3</sup>

## Evanston Water Supply Point of Diversion Bear River Basin, Wyoming



**Estimated Diversion Efficiency:**

Calculated Diversion Efficiency = Conveyance Efficiency X Application Efficiency:

Conveyance Efficiency:	50%
Application Efficiency:	<u>55%</u>
<b>Overall Diversion Efficiency:</b>	<b>27%</b>

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:** Water is used primarily to irrigate mixed meadow grasses, primarily Meadow Foxtail, Redtop, etc.

**Return Flows:** Return flow is primarily intercepted by the Rocky Mountain & Blythe Canal (approx. 50%) and the John Sims 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	<u>10%</u>
	100%

**Other Operational Information:** The Evanston Water Supply Ditch diversions included municipal demands from the City of Evanston prior to 1989. The City’s 7.25 CFS water right was transferred to the Evanston Pipeline diversion at that time.

**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. Don Shoemaker, Water Hydrographer-Commissioner – November 12,1999.*
- 4) *State of Utah Natural Resources, Water Budget Studies – Utah, Bear River Study Area, September 1994*

**BEAR RIVER WYOMING DIVERSIONS  
MONTHLY DIVERSION RECORDS**

**EVANSTON WATER SUPPLY**

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															
1971	38	1.2	75.4	575	19.2	1140.5	451	14.5	894.5	496	16.0	983.8	308	10.3	610.9
1972	0	0.0	0.0	183	6.1	363.0	385	12.4	763.6	312	10.1	618.8	0	0.0	0.0
1973	0	0.0	0.0	375	12.5	743.8	324	10.5	642.6	274	8.8	543.5	80	2.7	158.7
1974	22	0.7	43.6	328	10.9	650.6	354	11.4	702.1	235	7.6	466.1	47	1.6	93.2
1975	50	1.6	99.2	240	8.0	476.0	654	21.1	1297.2	255	8.2	505.8	217	7.2	430.4
1976	246	7.9	487.9	392	13.1	777.5	339	10.9	672.4	271	8.7	537.5	227	7.6	450.2
1977	216	7.0	428.4	278	9.3	551.4	249	8.0	493.9	184	5.9	365.0	125	4.2	247.9
1978	0	0.0	0.0	261	8.7	517.7	313	10.1	620.8	312	10.1	618.8	107	3.6	212.2
1979	159	5.1	315.4	402	13.4	797.4	304	9.8	603.0	199	6.4	394.7	18	0.6	35.7
1980	81	2.6	160.7	382	12.7	757.7	301	9.7	597.0	115	3.7	228.1	35	1.2	69.4
1981	81	2.6	160.7	175	5.8	347.1	114	3.7	226.1	84	2.7	166.6	7	0.2	13.9
1982	0	0.0	0.0	25	0.8	49.6	57	1.8	113.1	54	1.7	107.1	69	2.3	136.9
1983	31	1.0	61.5	40	1.3	79.3	81	2.6	160.7	67	2.2	132.9	30	1.0	59.5
1984	14	0.5	27.8	43	1.4	85.3	15	0.5	29.8	0	0.0	0.0	0	0.0	0.0
1985	17	0.5	33.7	242	8.1	480.0	130	4.2	257.9	81	2.6	160.7	235	7.8	466.1
1986	52	1.7	103.1	48	1.6	95.2	100	3.2	198.3	182	5.9	361.0	130	4.3	257.9
1987	116	3.7	230.1	197	6.6	390.7	208	6.7	412.6	282	9.1	559.3	68	2.3	134.9
1988	31	1.0	61.5	105	3.5	208.3	220	7.1	436.4	165	5.3	327.3	30	1.0	59.5
1989	53	1.7	105.1	58	1.9	115.0	61	2.0	121.0	103	3.3	204.3	50	1.7	99.2
1990	18	0.6	35.7	45	1.5	89.3	5	0.2	9.9	0	0.0	0.0	0	0.0	0.0
1991	7	0.2	13.9	34	1.1	67.4	2	0.1	4.0	3	0.1	6.0	3	0.1	6.0
1992	2	0.1	4.0	21	0.7	41.7	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
1993	2	0.1	4.0	21	0.7	41.7	13	0.4	25.8	0	0.0	0.0	0	0.0	0.0
1994	0	0.0	0.0	2	0.1	4.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
1995	0	0.0	0.0	24	0.8	47.6	55	1.8	109.1	27	0.9	53.6	8	0.3	15.9
1996	14	0.5	27.8	15	0.5	29.8	56	1.8	111.1	46	1.5	91.2	65	2.2	128.9
1997	13	0.4	25.8	19.2	0.6	38.1	3.1	0.1	6.1	3.1	0.1	6.1	4.2	0.1	8.3
1998	0	0.0	0.0	14.3	0.5	28.4	97.9	3.2	194.2	81.2	2.6	161.1	64.3	2.1	127.5
1999	4	0.1	7.9	76	2.5	150.7	107	3.5	212.2	50	1.6	99.2	29	1.0	57.5
<b>AVERAGES</b>	<b>1.4</b>	<b>86.7</b>		<b>5.3</b>	<b>316.0</b>		<b>5.6</b>	<b>341.9</b>		<b>4.3</b>	<b>265.5</b>		<b>2.2</b>	<b>133.8</b>	

Notes: \*1. No published records are available for this diversion for 1970  
 2. Evanston water supply included City of Evanston demands prior to construction of Evanston Pipeline in 1989. City's 3 CFS direct flow right was transferred to the Evanston Pipeline at that time.