
MEMORANDUM

Subject: **Bear River Basin Plan**
 Key Structures and Diversions
 OSCAR E. SNYDER CANAL DIVERSION

Date: August 7, 2000

Diversion Description: The Oscar E. Snyder Canal diversion structure consists of a steel flume with a 7-foot rectangular slide gate.



Diversion Location: The diversion is on the Bear River below the Smiths Fork confluence. The Diversion is regulated as part of the Central Division of the Bear River Compact. See location map hereafter.

Latitude N 42° 08' 24.8"
Longitude W 110° 58' 46.5"

Conveyance Description: Open channel canal.¹

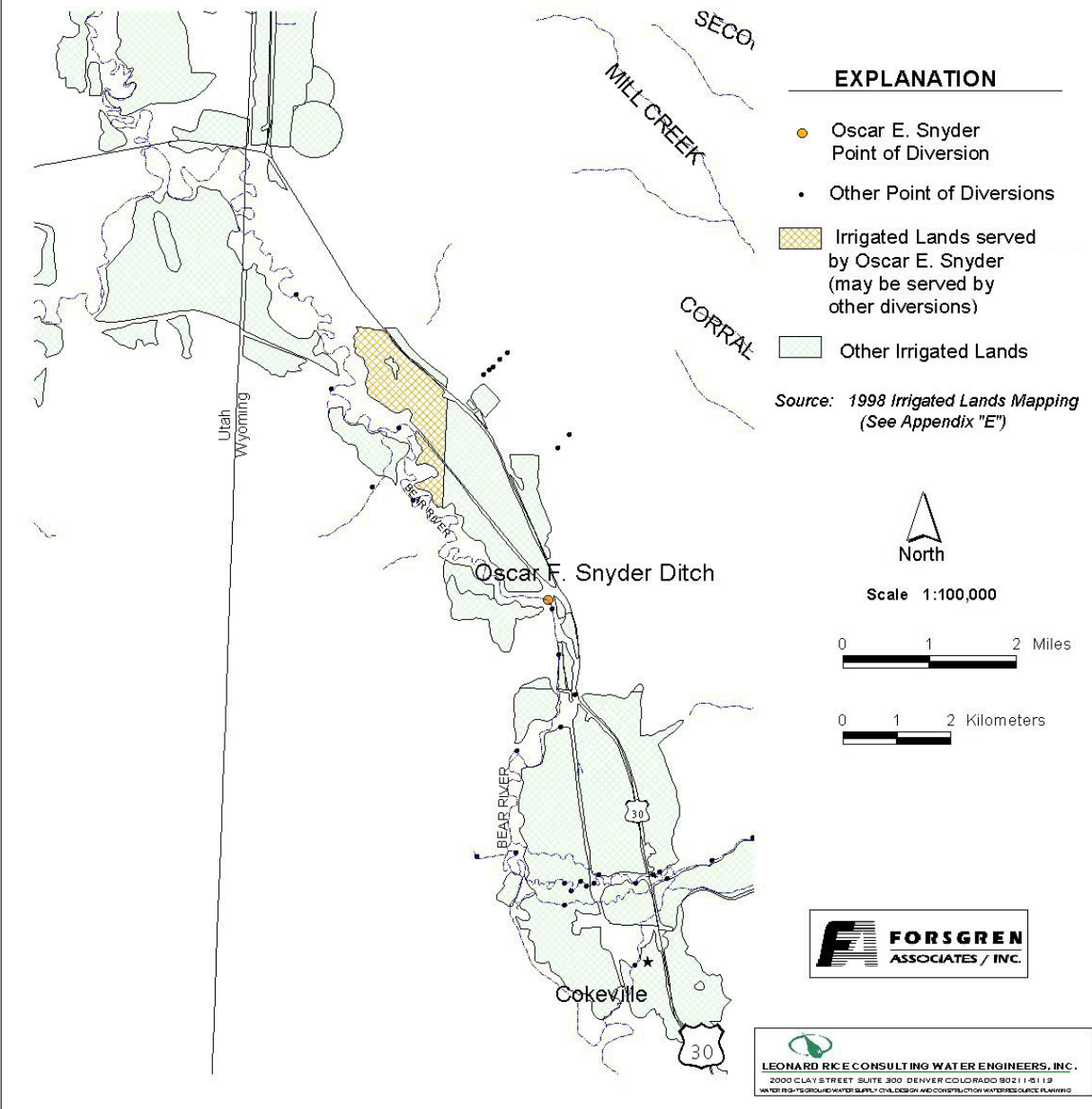
Direct Flow Water Rights:²

Priority Date	Permit Number	Permitted Use	Permitted Acres	Flow (CFS)	Cumulative (CFS)	Comments
05-30-1881	TERR	Irrigation, Domestic, Storage	355	5.07	5.07	
05-04-1954	5849E	Irrigation	441.87	6.31	11.38	

Associated Storage Rights: None

Irrigation Practices: Land is flood irrigated.³

Oscar E. Snyder Point of Diversion Location Map



Estimated Diversion Efficiency:

Calculated Diversion Efficiency = Conveyance Efficiency X Application Efficiency:

Conveyance Efficiency:	65%
Application Efficiency:	<u>55%</u>
Overall Diversion Efficiency:	36%

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 entirely to irrigate meadow grasses (Timothy, Meadow Foxtail), etc.³

Return Flows: Return flow is captured by the Cook Brothers Ditch (approx. 50%) with the remainder returning directly to the Bear River.

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**

OSCAR E. SNYDER

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	283	9.1	561.3	1327	44.2	2632.1	896	28.9	1777.2	31	1.0	61.5	0	0.0	0.0
1971	231	7.5	458.2	619	20.6	1227.8	653	21.1	1295.2	172	5.5	341.2	70	2.3	138.8
1972	124	4.0	246.0	1509	50.3	2993.1	861	27.8	1707.8	37	1.2	73.4	0	0.0	0.0
1973	0	0.0	0.0	610	20.3	1209.9	741	23.9	1469.8	133	4.3	263.8	436	14.5	864.8
1974	1095	35.3	2171.9	875	29.2	1735.5	550	17.7	1090.9	85	2.7	168.6	0	0.0	0.0
1975	304	9.8	603.0	664	22.1	1317.0	995	32.1	1973.6	175	5.6	347.1	16	0.5	31.7
1976	140	4.5	277.7	539	18.0	1069.1	402	13.0	797.4	114	3.7	226.1	1	0.0	2.0
1977	183	5.9	363.0	135	4.5	267.8	111	3.6	220.2	178	5.7	353.1	30	1.0	59.5
1978	0	0.0	0.0	676	22.5	1340.8	367	11.8	727.9	0	0.0	0.0	0	0.0	0.0
1979	31	1.0	61.5	1050	35.0	2082.6	459	14.8	910.4	394	12.7	781.5	472	15.7	936.2
1980	130	4.2	257.9	968	32.3	1920.0	522	16.8	1035.4	756	24.4	1499.5	602	20.1	1194.0
1981	508	16.4	1007.6	964	32.1	1912.1	508	16.4	1007.6	326	10.5	646.6	83	2.8	164.6
1982	69	2.2	136.9	877	29.2	1739.5	1118	36.1	2217.5	378	12.2	749.8	341	11.4	676.4
1983	393	12.7	779.5	1800	60.0	3570.2	453	14.6	898.5	374	12.1	741.8	84	2.8	166.6
1984	1033	33.3	2048.9	1354	45.1	2685.6	688	22.2	1364.6	0	0.0	0.0	0	0.0	0.0
1985	566	18.3	1122.6	1381	46.0	2739.2	799	25.8	1584.8	114	3.7	226.1	348	11.6	690.2
1986	168	5.4	333.2	1800	60.0	3570.2	695	22.4	1378.5	165	5.3	327.3	349	11.6	692.2
1987	249	8.0	493.9	924	30.8	1832.7	571	18.4	1132.6	204	6.6	404.6	317	10.6	628.8
1988	438	14.1	868.8	737	24.6	1461.8	376	12.1	745.8	124	4.0	246.0	102	3.4	202.3
1989	565	18.2	1120.7	734	24.5	1455.9	506	16.3	1003.6	127	4.1	251.9	30	1.0	59.5
1990	100	3.2	198.3	432	14.4	856.9	470	15.2	932.2	141	4.5	279.7	19	0.6	37.7
1991	209	6.7	414.5	409	13.6	811.2	422	13.6	837.0	179	5.8	355.0	111	3.7	220.2
1992	155	5.0	307.4	150	5.0	297.5	155	5.0	307.4	155	5.0	307.4	105	3.5	208.3
1993	487	15.7	966.0	760	25.3	1507.4	470	15.2	932.2	179	5.8	355.0	93	3.1	184.5
1994	487	15.7	966.0	346	11.5	686.3	207	6.7	410.6	161	5.2	319.3	57	1.9	113.1
1995	427	13.8	846.9	773	25.8	1533.2	678	21.9	1344.8	167	5.4	331.2	180	6.0	357.0
1996	871	28.1	1727.6	771	25.7	1529.3	321	10.4	636.7	53	1.7	105.1	7	0.2	13.9
1997	287.5	9.3	570.2	490.4	16.3	972.7	548.9	17.7	1088.7	65.9	2.1	130.7	98.5	3.3	195.4
1998	0	0.0	0.0	712.4	23.7	1413.0	423.6	13.7	840.2	61.5	2.0	122.0	123	4.1	244.0

AVERAGES

10.6 652.0

28.0 1667.9

17.8 1092.0

5.6 345.4

4.7 278.7