Water Division IV

District 10

Ada Ditch, Green River

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Green River
Section, Township, Range: 15, 33, 110

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
11-18-1899	2372	Irrigation	490.00	7.00	7.00	
06-03-1907	1719E	Irrigation	62.00	0.88	7.88	
08-03-1908	1942E	Irrigation	227.00	3.24	11.12	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Green River near Hill Ditch[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Ada Ditch, Green River, Diversion Data

Data:
1992: 4/30, off; 6/17, 22 cfs (est); 7/17, 7/23, 8/14, off.
1993: 5/27, 45.0 cfs (est); 7/2, 18.0 cfs (est); 7/29, 8/23, 9/27, off.
1994: 7/25, off.
1995: 5/11, 28 cfs (est); 7/12, 40 cfs (est); 8/2, 9/18, off.
1996: 6/13, 45 cfs (est); 7/9, 59 cfs (est); 8/13, off.
1997: 6/6, 80 cfs (est); 6/11, 120.5 cfs; 7/28, 8/19, off.
1998: 6/12, 75 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Aurora Ditch, Fish Creek

Diversion Description: Diversion consists of a single 40" diameter slide gate.[1]

Diversion Location:

Source: Fish Creek, Trib. South Piney Creek, Trib. Green River
Section, Township, Range: 28, 30, 114

Conveyance Description: Open Channel Canal, approximately 1 mile in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
07-13-1899	2169	Irrigation	187.00	2.67	2.67	
08-21-1909	2793E	Irrigation	28.00	0.40	3.07	
01-13-1915	3116E	Irrigation	18.00	0.26	3.33	

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to South Piney Creek at Fish Creek.[2]

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Aurora Ditch, Fish Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984					10.26	630.86				
1985	1.47	90.39								
1986										
1987	1.92	118.06								
1988										
1989										
1990	1.86	114.37	2.48	147.57						
1991	3.06	188.15	4.45	264.79	2.51	154.33	0.22	13.53	0.00	0.00
1992										
1993			6.88	409.39	2.80	172.17				
1994	2.15	132.20	1.15	68.23	0.00	0.00	0.00	0.00	0.00	0.00
1995	1.68	103.30	6.46	384.40	7.07	434.72				
1996			7.91	470.68	11.16	686.20				
1997										
1998					6.88	423.03	0.11	6.76		
Averages:	2.02	124.41	4.89	290.84	5.81	357.33	0.11	6.76	0.00	0.00

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Aurora Ditch, Fish Creek, Diversion Data

Data:

1981: 5/4, 6 cfs; 6/11, 0.71 cfs.
1984: 7/3, 15 cfs; 7/13, 11 cfs; 8/8, 8 cfs.
1985: 5/9, off; 5/27, 3.4 cfs; 5/27, 2.8 cfs; 6/5, 3.4 cfs; 8/7, 0.5 cfs (est).
1986: 5/27, 3 cfs (est); 7/8, 9 cfs (est).
1987: 4/28, 4 cfs (est); 5/11, 3/4 cfs (est); 6/1, 3 cfs (est).
1988: 6/21, 3.0 cfs (est); 7/1, 2.5 cfs (est).
1989: 5/5, 2.7 cfs; 7/6, 3.0 cfs; 8/4, off.
1990: 5/10, 2.7 cfs (est); 6/5, 2.5 cfs; 6/14, 2.5 cfs (est); 6/26, 2.5 cfs(est); 8/13, 8/22, off.
1991: 5/9, 6.5 cfs (est); 5/14, 2.7 cfs (est); 5/24, 4.5 cfs; 6/4, 4.5 cfs; 6/28, 4.5 cfs; 7/3, 2.8 cfs (est); 7/16, 3.0 cfs (est); 8/12, 9/6, 9/18, off.
1993: 5/26, 5.0 cfs (est); 6/24, 8.0 cfs (est); 7/16, 2.5 cfs (est); 8/2, off.
1994: 5/5, 2.5 cfs (est); 5/9, 2.5 cfs; 5/24, 2.6 cfs; 6/2, 1.9 cfs (arrive), 2.6 cfs (depart); 6/27, 7/10, 7/18, 7/19, 7/28, 8/8, 9/15, 9/30, off.
1995: 4/19, 1.5 cfs (est) (arrive), off (depart); 5/8, off; 5/16, 1.96 cfs (est); 5/19, 1.96 cfs (est) (arrive), 2.67 cfs (est) (depart); 5/30, 3.35 cfs (arrive), 2.67 cfs (est) (depart); 6/1, 2.6 cfs (est) (arrive), 3.3 cfs (est) (depart); 6/13, 6 cfs (est); 6/16, 6 cfs (est) (arrive), 8 cfs (est) (depart); 7/13, 8 cfs (est) (arrive), 9 cfs (est) (depart); 8/14, 0.5 cfs (est).
1996: 6/4, 6 cfs (est); 7/3, 12 cfs (est); 7/24, 12 cfs (est); 8/8, 8/30, off.
1997: 5/27, 8 cfs (est); 7/31, off.
1998: 5/15, 4.2 cfs; 5/19, 6.1 cfs; 7/6, 12 cfs (est); 7/22, 4 cfs (est); 8/6, 9/30, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Barbara Budd Ditch, Fish Creek

Diversion Description: Diversion consists of a single 3' by 6' wooden plank structure.[1]

Diversion Location:

Source: Fish Creek, Trib. South Piney Creek, Trib. Green River
Section, Township, Range: 34, 30, 114

Conveyance Description: Open Channel Canal, approximately 2½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
08-21-1909	2794E	Irrigation	69.00	0.99	0.99	POD/MOC change from a portion of Aurora Ditch.
01-16-1956	21784	Irrigation, Stock	691.78	9.88	10.87	
04-17-1963	6162E	Irrigation, Stock	279.00	3.98	14.85	
09-25-1973	6470E	Res. Supply			14.85	Reservoir Supply for Sphaeralcea Reservoir

Storage Rights: None.

Estimated Canal Losses: Slightly greater than typical losses (20%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to South Piney Creek at Fish Creek.[2]

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Barbara Budd Ditch, Fish Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981	0.57	35.08								
1982							1.24	76.24	1.40	83.31
1983	4.10	252.10	9.65	574.21	7.20	442.71	0.87	53.49	0.61	36.30
1984			5.85	348.10	5.39	331.42				
1985	0.54	33.20	0.60	35.70						
1986					4.45	273.60	2.49	153.10		
1987	2.89	177.70	0.27	16.07						
1988					1.00	61.49	0.80	49.19		
1989					1.03	63.04				
1990	0.30	18.45	1.36	80.93						
1991	0.79	48.58	2.18	129.72	1.69	103.91	0.92	56.57	1.65	98.18
1992										
1993			3.28	195.17	1.98	121.75				
1994					0.00	0.00	0.00	0.00	0.00	0.00
1995	0.05	3.07	5.23	311.21	1.40	86.08				
1996			3.54	210.64	7.31	449.47	5.73	352.32		
1997										
1998							2.65	163.03		
Averages:	1.32	81.17	3.55	211.31	3.15	193.35	1.84	112.99	.92	54.45

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Barbara Budd Ditch, Fish Creek, Diversion Data

Data:

1980: 5/2, off; 5/22, 10 cfs.
1981: 5/4, 1 cfs; 6/11, off.
1982: 7/19, 10.9 cfs; 8/10, 0.87 cfs; 8/24, 0.42 cfs; 9/17, 0.28 cfs; 9/29, 4.41 cfs; 10/13, 2.31 cfs.
1983: 5/3, off; 5/27, 7.39 cfs; 7/5, 11.8 cfs; 8/2, 0.98 cfs; 9/6, 0.70 cfs (est); 10/19, 0.30 cfs; 11/3, off.
1984: 6/12, 8 cfs; 7/5, 11 cfs; 7/13, 5 cfs; 8/8, off.
1985: 5/10, 6.0 cfs (est); 5/10, 2.0 cfs (est); 5/13, 0.3 cfs; 5/20, 1.0 cfs (est); 5/27, off; 5/28, 1.0 cfs (est), 6/5, 1.8 cfs (est); 6/18, off; 8/7, 2.0 cfs (est).
1986: 5/27, 10.8 cfs; 7/8, 9 cfs; 7/30, 3 cfs (est); 9/2, 2 cfs (est).
1987: 4/28, off; 5/4, 4 cfs (est); 5/11, 1 cfs (est); 5/27, 5 cfs (est); 6/1, 1 cfs (est); 6/17, off.
1988 (all est): 6/21, 1.0 cfs; 7/1, 1.0 cfs; 8/24, 1.0 cfs.
1989: 5/5, off; 6/14, 1.0 cfs (est); 6/20, 2.0 cfs (est); 7/6, 1.0 cfs (est); 8/4, 1.0 cfs (est).
1990: 5/10, off; 6/5, 1.0 cfs (est); 6/14, 1.0 cfs (est); 6/26, 2.0 cfs (est); 8/13, 2.0 cfs (est); 8/22, off.
1991 (all est): 5/9, 3.0 cfs; 5/14, off; 5/24, 1.0 cfs; 6/4, 2.4 cfs; 6/28, 2.0 cfs; 7/3, 2.0 cfs; 7/16, 2.0 cfs; 8/12, off; 9/6, 3.0 cfs; 9/18, 3.0 cfs.
1993: 5/26, 2.0 cfs (est); 6/24, 4.0 cfs (est); 7/16, 1.0 cfs (est); 8/2, 3.0 cfs (est).
1994: 4/18, 2.5 cfs (est) (arrive), off (depart); 5/9, 7/10, 7/18, 7/19, 7/28, 8/8, 9/15, 9/30, off.
1995: 10/26/94, 3.0 cfs (est); 4/19, 1.0 cfs (est); 5/9, 5/16, off; 6/1, off (arrive), 1 cfs (est) (depart); 6/13, 1 cfs (est) (arrive), 5 cfs (est) (depart); 7/13, off; 8/14, 2 cfs (est).
1996: 6/4, 3 cfs (est); 7/3, 5 cfs (est); 7/24, 9 cfs (est); 8/8, 8 cfs (est); 8/30, 2.9 cfs.
1997: 5/27, 3.6 cfs; 7/31, 6 cfs (est).
1998: 5/15, 2.1 cfs; 5/19, 1.6 cfs; 7/6, 4 cfs (est); 8/6, 2 cfs (est); 9/30, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Bedier Ditch, North Piney Creek

Diversion Description: Diversion consists of a single 2½' by 2½' wood slide gate mounted on a wood structure. The remains of a beaver dam act as a diversion dam.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 22, 31, 113

Conveyance Description: Open Channel Canal, approximately 2 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
04-28-1900	2582	Irrigation	439.00	6.25	6.25	
02-25-1901	628E	Irrigation	280.00	4.00	10.25	

Storage Rights: None.

Estimated Canal Losses: Slightly greater than typical losses (15%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to North Piney Creek at Fleming Slough.[2]

Other Operational Information: The canal is typically turned on the first of May and off in late July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Bedier Ditch, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982	12.41	763.06	24.07	1,432.26	9.77	600.73				
1983					11.32	696.04	9.06	557.08	1.87	111.27
1984										
1985					0.43	26.44	0.00	0.00		
1986	5.56	341.87	12.84	764.03	9.13	561.38				
1987										
1988					.26	15.87				
1989	3.79	233.04	16.30	969.92	4.33	266.24	0.01	0.61	0.00	0.00
1990	0.02	1.23	1.98	117.82	0.72	44.27				
1991	0.94	57.80	3.48	207.07	5.27	324.04	2.27	139.58	0.27	16.07
1992	4.43	272.39	0.11	6.55	3.59	220.74	2.51	154.33		
1993			21.91	1,303.74	8.67	533.10	2.91	178.93	1.76	104.73
1994	7.21	443.33	3.78	224.93	0.68	41.81	1.05	64.56	0.00	0.00
1995	10.17	625.33	7.23	429.95			4.54	279.17		
1996			12.90	767.74	6.42	394.75	0.05	3.07	0.00	0.00
1997										
1998	0.99	60.87	4.99	296.93	4.77	293.30	0.00	0.00		
Averages:	5.06	310.99	9.97	591.90	4.69	288.11	2.24	137.73	0.78	46.41

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Bedier Ditch, North Piney Creek, Diversion Data

Data:

1981: 6/22, 8.3 cfs; 6/26, 9 cfs; 7/8, 7.3 cfs; 7/9, 5.3 cfs; 7/13, off.
1982: 5/14, 7.27 cfs; 5/21, 29.6 cfs; 6/3, 14.6 cfs; 6/18, 31.7 cfs; 7/21, 4.90 cfs; 8/12, 0.70 cfs; 10/7, 0.13 cfs; 10/22, 0.15 cfs (est).
1983: 5/20, off; 7/12, 16.0 cfs; 7/28, 19.0 cfs; 8/12, 9.45 cfs; 9/13, 1.37 cfs; 10/12, 0.80 cfs (est); 11/16, 3.00 cfs (est).
1984: 5/18, 33 cfs; 5/30, 26 cfs; 7/17, 2 cfs; 8/9, 9/5, 10/2, off.
1985: 6/21, 16.7 cfs; 7/1, 13.2 cfs; 7/3, 7/15, 8/21, off.
1986: 5/2, off; 5/14, 5.6 cfs; 6/23, 15 cfs (est); 8/6, 4 cfs (est).
1987: 5/28, 5 cfs (est); 6/25, off (rotated).
1988: 7/5, 4.0 cfs; 7/7, 7/25, 9/2, off.
1989: 4/25, off; 5/19, 2.3 cfs; 6/15, 22.0 cfs (est); 7/6, 5.7 cfs; 7/10, 6.0 cfs (est); 7/17, 5.0 cfs (est); 7/24, 2.0 cfs (est); 8/3, 8/16, 8/25, 8/30, off.
1990: 5/3, 5/17, 5/29, off; 6/13, 2.5 cfs (est); 7/6, 2.0 cfs (est); 7/18, 7/31, 8/14, off.
1991: 5/15, off; 5/20, 2.0 cfs (est); 6/5, 2.0 cfs (est); 6/11, 3.5 cfs (est); 7/1, 4.5 cfs; 7/15, 6.5 cfs; 8/2, 3.5 cfs (est); 8/19, 2.0 cfs (est); 9/16, off.
1992: 4/23, off; 5/12, 3.5 cfs (est); 5/16, 6.5 cfs (est); 5/19, 6.3 cfs; 5/26, 6.5 cfs; 6/4, 6/11, 6/18, 7/7, off; 7/14, 2.0 cfs (est); 7/16, 8.0 cfs (est); 8/4, 3.0 cfs (est); 8/28, 2.0 cfs (est); 9/8, 1.5 cfs (est).
1993: 5/18, 16.0 cfs (est); 6/15, 25.0 cfs (est); 7/8, 14.0 cfs (est); 7/11, 6.5 cfs; 7/19, 6.0 cfs (est); 7/23, 6.0 cfs; 7/28, 6.0 cfs (est); 8/10, 6.5 cfs (est); 8/18, off; 9/27, 3.0 cfs (est).
1994: 5/5, 8.5 cfs (est); 5/25, 6.3 cfs; 5/29, 12.5 cfs; 6/3, 13.0 cfs (est) (arrive), 8.5 cfs (depart); 6/7, 10.8 cfs; 6/9, 8.0 cfs (est) (arrive), 6.0 cfs (est) (depart); 6/13, 6.3 cfs (est) (arrive), off (depart); 6/20, 6/22, off; 6/24, 5.5 cfs (est) (arrive), off (depart); 6/25, 6/27, 6/28, 7/1, 7/11, 7/15, off; 7/28, 2.0 cfs (est); 8/4, 2.0 cfs (est); 8/11, 3.0 cfs (est); 8/17, dry; 8/26, off; 9/23, dry; 9/27, off.
1995: 10/26/94, 2.5 cfs (est); 4/20, off; 5/22, 17 cfs (est) (arrive); 5.0 cfs (est) (depart); 5/24, 6.0 cfs (est); 5/26, 8 cfs (est); 6/22, 11.8 cfs; 8/3, 0.5 cfs (est); 8/11, 1 cfs (est); 8/25, 10 cfs (est); 9/12, 1 cfs (est).
1996: 4/30, 9.0 cfs; 6/10, 17 cfs (est); 7/2, 20 cfs (est); 7/19, 0.5 cfs (est); 8/14, 9/27, off.
1997: 5/1, off; 5/23, 16 cfs (est); 8/8, 9/12, off.
1998: 5/12, 0.5 cfs (est); 6/10, 3.5 cfs (est); 7/7, 9.5 cfs; 7/27, 8/14, 8/28, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Cottonwood Canal, Cottonwood Creek

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Cottonwood (or Marsh) Creek, Trib. Green River
Section, Township, Range: 21, 32, 111

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
07-16-1908	8573	Irrigation, Stock	285.50	4.08	4.08	POD/MOC change from a portion of Ranchero Ditch
12-22-1908	8795-11890	Domestic, Irrigation	3,481.60	49.71	53.79	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Approximately 70% of the return flows are delivered to Upper Muddy Creek, and approximately 30% to Green River at Bray Draw.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Cottonwood Canal, Cottonwood Creek, Diversion Data

Data:
1997: 6/2, 53.0 cfs; 8/8, 30 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Cowdell Waste Water Ditch, Green River

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Green River
Section, Township, Range: 26, 28, 112

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
10-00-1890	Terr.	Irrigation	550.74	7.87	7.87	POD/MOC change from a portion of Green River Island Ditch
07-08-1901	678E	Irrigation	349.13	4.99	12.86	
06-15-1923	4379E	Irrigation	73.10	1.04	13.90	
06-01-1925	4461E	Irrigation	114.00	1.63	15.53	POD/MOC change from a portion of Green River Island Ditch
04-04-1963	6150E	Irrigation, Stock	5.00	0.07	15.60	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Green River near Stott's Ditch.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Cowdell Waste Water Ditch, Green River, Diversion Data

No Diversion Data Available.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Darrow Ditch, South Beaver Creek

Diversion Description: Information not available at time of report.

Diversion Location:

Source: South Beaver Creek, Trib. Beaver Creek, Trib. South Piney Creek, Trib. Green River
Section, Township, Range: 4, 35, 113

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
06-25-1914	12529	Domestic, Irrigation	767.00	10.95	10.95	
02-03-1915	3132E	Domestic, Irrigation	183.00	2.61	13.56	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to South Beaver Creek at between Chall Creek and Beaver Creek.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Darrow Ditch, South Beaver Creek, Diversion Data

No Diversion Data.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Dewey Ditch, North Piney Creek

Diversion Description: Diversion consists of a single 40" slide. A diversion dam consisting of old Volkswagen cars exists.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 21, 31, 113

Conveyance Description: Open Channel Canal, approximately 2½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
08-09-1898	1922	Irrigation	830.00	11.83	11.83	
12-15-1902	5220	Irrigation	40.00	0.55	12.38	POD/MOC change from Mills No. 2 Ditch
06-24-1904	1236E	Irrigation	140.00	2.00	14.38	

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to North Piney Creek at Spring Creek.[2]

Other Operational Information: The canal is typically turned on the first of May and off in late July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Dewey Ditch, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985					3.53	217.05	2.85	175.01		
1986										
1987			2.11	125.56	1.59	98.01				
1988					3.92	240.89	3.46	212.83		
1989	17.21	1,058.20	24.40	1,451.90	9.21	566.30	5.68	349.25		
1990	15.93	979.50	5.01	298.12	5.85	359.70				
1991	8.81	541.71	24.12	1,435.24	14.25	876.20	3.80	233.65	0.00	0.00
1992	16.96	1,042.60	2.73	162.55	6.50	399.67	11.85	728.48		
1993			20.77	1,235.90	11.82	726.78	5.27	324.04	0.00	0.00
1994	14.15	870.05	11.48	683.11	0.00	0.00	1.23	75.63	2.65	157.69
1995	10.77	662.22	20.08	1,194.84	21.80	1,340.43	4.06	249.64		
1996			16.20	964.08	21.29	1,309.07	2.66	163.56	2.93	174.35
1997	47.48	2,919.43					5.14	316.05		
1998	0.44	27.05	1.71	101.75	9.82	603.81	0.00	0.00		
Averages:	16.47	1,012.60	12.86	765.31	9.13	561.49	4.18	257.10	1.40	83.01

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Dewey Ditch, North Piney Creek, Diversion Data

Data:

1985: 6/21, 14.2 cfs; 7/3, off; 7/15, off; 7/18, 7.8 cfs; 8/21, 3.0 cfs (est).
1986: 5/14, off; 6/23, 25 cfs (est); 6/23, off; 8/6, 4 cfs (est).
1987: 5/28, 6 cfs (est); 6/25, off (rotated); 7/29, 3 cfs (est).
1988: 7/5, off; 7/25, 7.0 cfs; 8/9, 8.5 cfs; 8/19, off.
1989: 4/25, 8.5 cfs (est); 5/19, 18.4 cfs; 6/15, 28.0 cfs (est); 7/6, 16.0 cfs (est); 7/10, 15.0 cfs (est); 7/17, 12.0 cfs (est); 7/24, 8/3, off; 8/16, 7.2 cfs; 8/25, 11.0 cfs (est); 8/30, 8.0 cfs (est).
1990: 4/20, 2.0 cfs (est); 5/3, 16.8 cfs; 5/7, 18.0 cfs; 5/17, 16.3 cfs; 5/29, 15.0 cfs; 6/4, off; 7/6, 12.2 cfs; 7/13, 7/18, off; 7/31, 11.0 cfs (est); 8/14, 10.0 cfs
1991: 5/15, 12.8 cfs; 5/20, 16.0 cfs; 6/5, 18.0 cfs (est); 6/11, 29.5 cfs; 7/1, 21.5 cfs; 7/15, 12.0 cfs (est); 8/2, 12.4 cfs; 8/19, 9/16, off.
1992: 4/23, 12.0 cfs (est); 5/13, 18.0 cfs (est); 5/16, 12.0 cfs (est); 5/19, 12.0 cfs; 5/26, 12.0 cfs; 6/8, 3.8 cfs (rotated); 6/18, 3.8 cfs (rotated); 6/19, off (rotated); 7/7, off; 7/14, 6.0 cfs; 7/16, 6.5 cfs; 8/4, 16.0 cfs; 8/28, 8.1 cfs; 9/8, 8.0 cfs.
1993: 5/18, 21.0 cfs (est); 6/15, 22.0 cfs (est); 7/8, 16.0 cfs (est); 7/11, 12.1 cfs; 7/19, 12.5 cfs; 7/21, 12.5 cfs; 7/23, 12.5 cfs; 7/23, 4.2 cfs (rotated); 7/28, 4.5 cfs (rotated); 7/28, 8.0 cfs; 8/10, 14.0 cfs (est); 8/18, 9/27, off.
1994: 5/5, 14.0 cfs (est); 5/20, 18.0 cfs (est); 5/25, 11.9 cfs; 5/29, 20 cfs; 6/3, 20.0 cfs (est) (arrive), 12.2 cfs (depart); 6/7, 17.6 cfs; 6/13, 17.8 cfs (arrive), 12.6 cfs (depart); 6/20, 11.9 cfs; 6/22, 11.5 cfs; 6/24, 6.0 cfs (est) (arrive), 4.0 cfs (rotated) (depart); 6/27, 4.0 cfs (arrive), off (depart); 6/28, 7/1, 7/11, 7/15, 7/28, 8/4, 8/11, off; 8/17, 1.5 cfs (est); 8/26, 2.5 cfs (est); 9/23, 3.5 cfs (est); 9/27, 2.0 cfs (est).
1995: 10/26/94, 3.5 cfs (est); 4/20, off; 5/8, 8.0 cfs (est); 5/22, 21.5 cfs (est) (arrive), 8.0 cfs (est) (depart); 5/24, 9.5 cfs (est); 5/26, 6 cfs (est); 6/22, 25.9 cfs; 6/30, 23.5 cfs; 8/3, 20 cfs (est); 8/11, 0.5 cfs (est); 8/25, off.
1996: 4/30, 12.0 cfs; 6/10, 17.8 cfs; 7/2, 29 cfs; 7/19, 21 cfs; 8/14, 0.5 cfs (est); 8/22, off; 9/27, 5.3 cfs.
1997: 5/1, off; 5/23, 16 cfs; 7/23, 11.2 cfs; 8/8, 6.3 cfs; 9/12, 1.0 cfs (est).
1998: 5/12, off; 6/10, 2 cfs (est); 6/19, 2 cfs (est); 7/7, 0.5 cfs (est) (arrive), 30 cfs (est) (depart); 7/27, 8/14, 8/28, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Essex Ditch, Cottonwood Creek

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Cottonwood (or Marsh) Creek, Trib. Green River
Section, Township, Range: 11, 32, 112

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
04-13-1900	2544	Irrigation	863.00	12.31	12.31	
08-17-1906	1588E	Irrigation	40.00	0.47	12.78	
12-06-1954	5768E	Irrigation, Stock	371.00	5.29	18.07	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Cottonwood Creek at Cottonwood Canal.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Essex Ditch, Cottonwood Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983							0.00	0.00	0.00	0.00
1984			25.80	1,535.21						
1985										
1986					13.31	818.18				
1987										
1988										
1989										
1990					6.06	372.89				
1991			31.48	1,873.48	7.23	444.64	0.00	0.00		
1992					1.31	80.33				
1993							0.00	0.00	0.00	0.00
1994							0.00	0.00	0.00	0.00
1995			33.86	2,014.94	13.84	850.74				
1996			16.73	995.70	10.89	669.42				
1997										
1998										
Averages:			26.97	1,604.83	7.61	467.98	0.00	0.00	0.00	0.00

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Essex Ditch, Cottonwood Creek, Diversion Data

Data:

1983: 6/16, 52.3 cfs; 7/27, 8/10, 9/14, 10/13, off; 11/3, 3.64 cfs.
1984: 5/16, 3 cfs; 5/29, 42 cfs; 6/13, 19 cfs; 6/26, 48 cfs; 9/10, off.
1986: 5/20, 37.4 cfs; 5/23, 47.0 cfs; 7/3, 55 cfs (est); 7/18, 7/29, 8/11, off.
1990: 6/15, 23.0 cfs (est); 7/17, 8.0 cfs (est); 8/29, off.
1991: 5/28, 30.0 cfs (est); 6/16, 36.6 cfs; 7/22, 8/9, 9/4, off.
1992: 4/24, 6/22, 6/27, 7/1, off; 7/8, 3.0 cfs (est); 7/28, off.
1993: 5/19, 28.0 cfs; 6/16, 48.0 cfs; 8/4, 8/30, 9/27, off.
1994: 5/18, 36.0 cfs (est); 6/21, 24 cfs (est); 7/6, 7/29, 8/25, 9/7, off.
1995: 6/4, 38.0 cfs (est); 6/27, 38 cfs (est); 7/27, off; 8/4, 0.5 cfs (est).
1996: 6/14, 30 cfs (est); 6/27, 30 cfs (est); 7/26, 1 cfs (est).
1997: 5/15, 50 cfs (est); 7/14, 2 cfs (est).
1998: 7/2, 50 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Ex-Pence Ditch, South Piney Creek

Diversion Description: Diversion consists of single 5' metal slide gate in a wood frame.[1]

Diversion Location:

Source: South Piney Creek, Trib. Green River
Section, Township, Range: 9, 29, 113

Conveyance Description: Open Channel Canal, approximately 9 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
12-09-1901	3597	Irrigation	296.81	4.24	4.24	
07-22-1902	885E	Irrigation	193.79	2.76	7.00	
02-23-1956	5836E	Irrigation, Stock	324.00	4.63	11.63	Supplementary Supply for 216.00 acres with Original Supply from Middle Piney Creek

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Approximately 90% of the return flows are delivered to North Piney Canal at the confluence of the east and west channels, and 10% to Middle Piney Creek above North Channel.[2]

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Ex-Pence Ditch, South Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980	3.87	238.02								
1981										
1982			29.57	1,759.54	30.42	1,870.45	16.92	1,040.37	15.21	905.06
1983			24.12	1,435.24	15.22	935.84	2.42	148.80	1.71	101.75
1984	12.89	792.40							7.41	441.18
1985										
1986	6.14	377.84	23.45	1,395.28	13.64	838.39	.93	57.05		
1987	6.89	423.65	2.34	139.24	4.89	300.67				
1988										
1989	8.44	518.96	11.92	709.29	8.61	529.41	1.61	99.00	0.00	0.00
1990	9.96	612.42	6.05	360.00	7.80	479.60	4.67	287.15		
1991	5.46	335.72	10.39	618.25	6.16	378.76	0.00	0.00	1.35	80.33
1992	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1993	6.30	387.37	13.23	787.24	5.38	330.80	0.00	0.00	0.00	0.00
1994	4.89	300.67	2.82	167.80					0.00	0.00
1995	4.05	249.02	15.17	902.68					4.72	280.86
1996										
1997										
1998	10.10	249.02								
Averages:	6.58	373.76	12.64	752.23	10.24	629.32	3.32	204.05	3.38	201.02

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Ex-Pence Ditch, South Piney Creek, Diversion Data

Data:

1980: 5/2, 6 cfs; 5/22, 6 cfs; 7/30, 9/25, off.
1981: 6/1, off.
1982: 5/27, 20.5 cfs; 6/10, 17.2 cfs; 6/24, 44.3 cfs; 7/13, 30.5 cfs; 8/10, 22.0 cfs; 8/26, 9.45 cfs; 9/20, 17.8 cfs; 10/11, 11.8 cfs.
1983: 6/2, 28.8 cfs; 7/18, 16.6 cfs; 8/4, 2.51 cfs; 9/20, 1.73 cfs; 10/20, off.
1984: 5/14, 15 cfs; 5/31, 32 cfs; 7/16, 13 cfs; 9/13, 13 cfs; 10/11, 11 cfs.
1986: 05/13, off; 5/22, 7 cfs (est); 5/30, 21.8 cfs; 7/2, 25 cfs (est); 7/30, 3 cfs (est); 8/22, 9/5, off.
1987 (all est): 4/23, off; 4/28, 8 cfs; 5/4, 3 cfs; 5/12, 7 cfs; 5/18, 9 cfs; 6/2, 7 cfs; 6/17, 6/24, off; 7/1, 3 cfs; 7/7, 4 cfs; 7/13, 7 cfs; 7/28, 6 cfs.
1988: 6/20, 7.4 cfs; 6/27, 8/4, 8/15, off.
1989: 5/3, 11.3 cfs; 5/4, off; 5/9, 9.0 cfs (est); 6/8, 12.0 cfs (est); 7/3, 12.0 cfs (est); 7/31, 5.0 cfs (est); 8/7, 5.0 cfs (est); 8/15, 9/18, off.
1990: 4/16, 12.0 cfs (est); 5/8, 12.6 cfs; 6/4, 5.0 cfs (est); 6/10, 5.5 cfs; 7/10, 8.0 cfs; 8/20, 7.5 cfs.
1991: 5/6, 8.4 cfs; 5/13, off; 5/23, 10.0 cfs (est); 6/4, 10.0 cfs (est); 6/13, 10.0 cfs (est); 6/28, 11.5 cfs; 7/3, 7.0 cfs (est); 7/22, 7.5 cfs (est); 8/12, 9/6, off; 9/18, 7.0 cfs (est).
1992: 4/10, 3.5 cfs (est); 4/12, 4/20, 5/1, 5/12, 5/20, 5/26, 6/9, 6/26, 7/1, 7/15, 7/20, 8/4, 8/7, 8/21, 9/15, 9/21, off.
1993: 4/19, 15.0 cfs (est); 4/19, off; 4/23, 6.0 cfs (est); 4/23, 4/27, 4/29, 5/4, 5/5, 5/10, 5/12, 5/14, off; 5/14, 7.5 cfs (est); 5/17, 11.5 cfs; 5/24, 10.5 cfs; 5/27, 12.0 cfs; 5/27, 9.7 cfs; 5/28, 10.0 cfs; 6/11, 21.0 cfs; 6/11, 15.1 cfs; 6/24, 10.5 cfs (est); 6/30, 7.0 cfs (est); 7/6, 12.0 cfs (est); 7/8, 11.5 cfs; 7/8, 7.5 cfs; 7/19, 4.2 cfs; 8/2, 8/9, 8/18, 8/26, 9/2, 9/7, 9/9, 9/20, 9/28, off.
1994: 4/7, 4/8, 4/13, 4/14, 4/24, 5/2, 5/5, off; 5/9, 4.3 cfs; 5/11, 7.05 cfs; 5/26, 7.0 cfs (arrive), 4.3 cfs (depart); 6/6, 4.5 cfs (est); 6/15, 4.2 cfs (est); 6/26, 8/21, 8/26, 9/2, 9/9, 9/30, off.
1995: 10/26/94, 2.5 cfs (est); 4/13, 10.9 cfs; 4/18, 12.0 cfs (arrive), off (depart); 4/25, 1.0 cfs (est) (arrive), off (depart); 4/27, off; 5/1, 3.6 cfs (arrive), 5.6 cfs (est) (depart); 5/5, 8.1 cfs (arrive), 5.0 cfs (est) (depart); 5/11, 5/18, off; 5/22, 5 cfs (est) (arrive), off (depart); 5/23, off (arrive), 10 cfs (est) (depart); 5/24, 12.5 cfs (est); 5/25, 8.5 cfs (est); 5/29, 6 cfs (est); 6/2, 10 cfs (est); 6/9, 10 cfs (est) (arrive), 15 cfs (est) (depart); 6/12, 15 cfs (est) (arrive), 7 cfs (est) (depart); 6/16, 14 cfs (est) (arrive), 16 cfs (est) (depart); 6/23, 24 cfs (est) (arrive), 6/23, 23 cfs (est) (depart); 6/26, 27.3 cfs (arrive), 14 cfs (est) (depart); 6/30, 15 cfs (est); 7/3, 15 cfs (est); 7/14, 15 cfs (est); 8/24, 4 cfs (est); 9/28, 5.0 cfs (est); 10/5, 8 cfs (est).
1997: 5/5, 3 cfs (est); 7/22, 5.5 cfs; 9/24, 2.5 cfs (est).
1998: 5/12, 11.3 cfs; 6/1, 20 cfs (est); 8/6, 3.5 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Fleming Ditch, North Piney Creek

Diversion Description: Diversion consists of a single 24" diameter Waterman slide gate mounted on a concrete structure.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 22, 31, 113

Conveyance Description: Open Channel Canal, approximately 1 mile in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
06-29-1899	2189	Irrigation	625.00	8.91	8.92	
05-17-1902	832E	Irrigation	449.00	6.41	15.33	

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to North Piney Creek at Fleming Slough.[2]

Other Operational Information: The canal is typically turned on the first of May and off in late July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Fleming Ditch, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981					3.39	208.44				
1982	8.31	510.96	35.62	2,119.54	31.92	1,962.68	16.12	991.18	4.64	276.10
1983			26.08	1,551.87	20.17	1,240.20	3.21	197.38	1.97	117.22
1984			22.46	1,336.46	16.84	1,035.45	0.54	33.20	0.00	0.00
1985					2.39	146.96	0.54	33.20		
1986										
1987			3.14	186.57						
1988										
1989					9.10	559.54	0.04	2.46		
1990	3.84	236.11	7.29	433.79	5.43	333.88				
1991	2.40	147.57	8.72	518.88	6.46	397.21	3.95	242.88	1.82	108.30
1992	6.01	369.54	0.92	54.74	0.43	26.44	1.96	120.52		
1993					9.06	557.08	6.14	377.53	3.61	214.81
1994	5.68	349.25	7.38	439.14	1.73	106.37	1.62	99.61	1.12	66.64
1995	1.51	92.59					1.15	70.71		
1996					5.06	311.13				
1997										
1998	3.98	244.72	12.30	731.90	8.64	531.25	1.01	62.10		
Averages:	4.53	278.68	13.77	819.21	9.28	570.51	3.30	202.30	2.19	130.51

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Fleming Ditch, North Piney Creek, Diversion Data

Data:

1981: 6/22, 9 cfs; 6/26, 9 cfs; 7/8, 8 cfs; 7/9, 8.5 cfs; 7/13, off; 7/15, 1.25 cfs; 7/21, 1.50 cfs; 7/28, 2.0 cfs.
1982: 5/14, 11.3 cfs; 5/21, 15.9 cfs; 6/3, 13.2 cfs; 6/18, 48.4 cfs; 7/21, 29.1 cfs; 8/12, 18.3 cfs; 9/7, 5.67 cfs; 10/7, 1.54 cfs; 10/22, 1.17 cfs.
1983: 5/20, 10.9 cfs; 6/7, 24.7 cfs; 7/12, 31.4 cfs; 7/28, 3.35 cfs; 8/12, 3.69 cfs; 9/13, 1.54 cfs; 10/12, 2.98 cfs; 11/16, 3.00 cfs.
1984: 5/18, 14 cfs; 5/30, 14 cfs; 6/14, 12 cfs; 6/28, 43 cfs; 7/17, 12 cfs; 8/9, 9/5, 10/2, off.
1985: 7/1, 6.0 cfs (est); 7/3, 3.0 cfs (est); 7/15, 1.0 cfs (est); 7/18, 9.0 cfs (est); 8/21, 1.5 cfs (est).
1986: 5/14, 2 cfs (est); 7/16, 3.5 cfs; 8/6, off.
1987: 5/28, 8 cfs (est); 6/25, off (rotated).
1989: 4/25, 4.1 cfs; 5/19, 11.2 cfs; 7/6, 14.5 cfs; 7/17, 9.0 cfs (est); 7/24, 6.0 cfs (est); 8/3, 8/16, 8/30, off.
1990: 5/3, 6.7 cfs; 5/17, 4.5 cfs (est); 5/29, off; 6/1, 9.0 cfs (est); 7/6, 5.0 cfs; 7/18, 5.6 cfs; 7/31, 5.6 cfs; 8/14, 4.5 cfs (est).
1991: 5/15, 3.0 cfs(est); 5/20, 4.0 cfs (est); 6/5, 6.0 cfs (est); 6/11, 8.5 cfs (est); 7/1, 11.0 cfs; 7/15, 5.7 cfs; 8/2, 4.0 cfs (est); 8/19, 4.0 cfs (est); 9/16, 3.5 cfs (est).
1992: 4/23, off; 5/13, 4.5 cfs (est); 5/16, 8.0 cfs (est); 5/19, 8.8 cfs; 5/26, 8.8 cfs; 6/11, 6/12, 6/18, 7/7, 7/14, 7/16, off; 8/4, 2.0 cfs (est); 8/26, 2.0 cfs (est); 9/8, 1.5 cfs (est).
1993: 5/18, 14.0 cfs (est); 7/8, 13.0 cfs (est); 7/11, 8.5 cfs (est); 7/19, 4.6 cfs; 7/21, 8.5 cfs; 7/23, 8.0 cfs; 7/28, 8.5 cfs; 8/10, 8.5 cfs; 8/18, 4.5 cfs (est); 9/27, 4.0 cfs (est).
1994: 5/5, 5.0 cfs (est); 5/20, 4.5 cfs (est); 5/25, 9.0 cfs; 6/3, 12.0 cfs; 6/7, 8.7 cfs (arrive); 12.0 cfs (depart); 6/13, 12.0 cfs (est) (arrive), 8.9 cfs (depart); 6/20, 8.9 cfs; 6/22, 9.0 cfs (arrive), off (depart); 6/24, 4.5 cfs (est) (arrive), off (depart); 6/25, 6/27, 6/28, 7/1, 7/11, 7/15, off; 7/28, 5.5 cfs; 8/4, 2.0 cfs (est); 8/11, 2.0 cfs (est); 8/17, 1.5 cfs (est); 8/26, 1.0 cfs (est); 9/23, 1.5 cfs (est); 9/27, 1.0 cfs (est).
1995: 10/26/94, off; 4/20, 1.5 cfs (est); 5/8, 1.0 cfs (est); 5/22, 2.5 cfs (est); 5/24, 3.5 cfs (est); 5/26, 5 cfs (est); 7/17, 8.3 cfs; 8/3, 1 cfs (est); 8/11, 2 cfs (est); 8/25, 0.5 cfs (est); 9/12, 0.25 cfs (est).
1996: 4/30, 0.5 cfs (est); 6/13, 20 cfs (est); 7/12, 7 cfs (est); 7/19, 2 cfs (est); 8/14, 0.5 cfs (est); 9/27, off.
1997: 5/1, 1 cfs (est); 8/8, 6 cfs (est); 9/12, 3.0 cfs (est).
1998: 5/12, 3 cfs (est); 6/10, 12.2 cfs; 6/19, 14.0 cfs; 7/27, 6.7 cfs; 8/14, 8/28, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Fredell Ditch, South Cottonwood Creek

Diversion Description: Diversion consists of two 48" steel panels. A rock diversion dam exists.[1]

Diversion Location:

Source: South Cottonwood Creek, Trib. Cottonwood (or Marsh) Creek, Trib. Green River
Section, Township, Range: 35, 33, 114

Conveyance Description: Open Channel Canal, approximately 7 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
08-06-1900	2753	Irrigation	1,305.00	18.63	18.63	
06-04-1904	1230E	Irrigation	320.00	4.57	23.20	

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Killpecker Creek above Cottonwood Creek.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Fredell Ditch, South Cottonwood Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981			46.00	2,737.19						
1982										
1983										
1984			30.44	1,811.31						
1985										
1986			35.33	2,102.44	7.37	453.22				
1987										
1988										
1989										
1990										
1991										
1992					2.23	136.86				
1993							0.00	0.00		
1994										
1995										
1996										
1997										
1998										
Averages:			37.26	2,216.98	4.80	295.44	0.00	0.00		

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Fredell Ditch, South Cottonwood Creek, Diversion Data

Data:
1981: 6/8, 70 cfs; 7/1, 50 cfs.
1984: 5/29, 38 cfs; 6/13, 37 cfs; 6/27, 17 cfs; 7/10, 47 cfs; 9/10, off.
1986: 5/21, off; 6/13, 50 cfs (est); 7/3, 15 cfs (est); 7/29, off; 8/11, off.
1987: 4/29, off; 7/7, 2 cfs (est).
1988: 7/29, off.
1992: 4/24, 11.0 cfs (est); 6/22, 7/1, off; 7/8, 6.0 cfs (est); 7/24, off.
1993: 8/4, 8/30, off.
1994: 7/6, 11.0 cfs (est); 8/25, 4.5 cfs (est).
1995: 6/4, 19.5 cfs (est).
1997: 5/15, 5/28, off; 7/16, 41 cfs.
1998: 6/16, 40 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Green River Island Ditch, Green River

Diversion Description: Diversion consists of three 5' by 5' slide gates mounted on a concrete structure. A concrete rubble diversion dam exists.[1]

Diversion Location:

Source: Green River
Section, Township, Range: 13-28-112

Conveyance Description: Open Channel Canal, approximately 5 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
Spring 1889	Terr.	Irrigation	130.00	1.84	1.84	
10-00-1890	Terr.	Irrigation	932.00	13.31	15.15	
01-26-1903	5294	Irrigation	104.00	1.48	16.63	
06-01-1925	4461E	Irrigation	352.00	5.02	21.65	
04-04-1963	6149E	Irrigation, Stock	31.00	0.44	22.09	Supplementary Supply for 1.00 acre with Original Supply from Dry Piney Creek.

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to the Green River.

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Green River Island Ditch, Green River, Diversion Data

Data:
1992: 5/1, off; 6/16, 38.0 cfs; 7/16, 36.6 cfs; 8/14, off.
1993: 7/6, 38.0 cfs (est); 8/23, 9/3, off.
1995: 6/29, 128 cfs; 7/25, 8/22, off.
1996: 7/15, 120 cfs (est); 7/26, 2 cfs (est).
1997: 4/30, off; 5/30, 95.5 cfs; 7/24, off.
1998: 6/5, 68.9 cfs; 6/24, 120 cfs (est); 7/21, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Guthrie Number 2 Ditch, North Cottonwood Creek

Diversion Description: Diversion consists of a 48" wood gate. No diversion dam exists.[1]

Diversion Location:

Source: North Cottonwood Creek, Trib. Cottonwood (or Marsh) Creek, Trib. Green River
Section, Township, Range: 14, 33, 114

Conveyance Description: Open Channel Canal, approximately 3½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
12-09-1909	9491	Irrigation	259.00	3.70	3.70	
11-19-1913	2879E	Irrigation	320.00	4.57	8.27	
05-26-1916	3641E	Irrigation	444.00	6.33	14.60	

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Cottonwood Creek at Ryegrass Junction.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Guthrie Number 2 Ditch, North Cottonwood Creek, Diversion Data

Data:
1993: 5/19, off.
1997: 5/15, off; 7/16, 12 cfs (est); 8/7, off.
1998: 6/16, 12 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

H. McKay Ditch, North Piney Creek

Diversion Description: Diversion consists of two 36" Waterman slide gates.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 4, 30, 112

Conveyance Description: Open Channel Canal, approximately 8 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
11-12-1885	Terr.	Irrigation	595.00	8.50	8.50	
02-20-1902	3731	Irrigation	312.00	4.44	12.94	POD/MOC change from a portion of Bench Ditch
05-16-1902	836E	Irrigation	320.00	4.56	17.50	POD/MOC change from a portion of Bench Ditch
04-09-1970	6375E	Irrigation	65.00	0.93	18.43	

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Approximately 60% of the return flows are delivered to Meadow Canyon, and 40% to North Piney Creek near Marbleton.[1]

Other Operational Information: The canal is typically turned on the first of May and off in late July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

H. McKay Ditch, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985					11.42	702.19	1.77	108.83		
1986										
1987										
1988					11.74	721.86	5.82	357.86		
1989			16.81	1,000.26	12.09	743.39	3.26	200.45		
1990			11.42	679.54	10.01	615.49				
1991	4.00	245.95	18.85	1,121.65	9.78	601.35	0.00	0.00		
1992	4.31	265.01	8.45	502.81	3.77	231.81	0.00	0.00		
1993	14.00	860.83	35.76	2,127.87	20.14	1,238.36	2.11	129.74	0.00	0.00
1994	6.12	376.30	12.53	745.59	9.88	607.50	0.84	51.65	0.00	0.00
1995										
1996			22.05	1,312.07	22.96	1,411.76				
1997	7.05	433.49	12.01	714.64						
1998	6.19	380.61	24.50	1,457.85	20.63	1,268.49				
Averages:	6.95	427.03	18.04	1,073.59	13.24	814.22	1.97	121.22	0.00	0.00

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

H. McKay Ditch, North Piney Creek, Diversion Data

Data:

1985: 6/21, 27.4 cfs; 6/21, 25.0 cfs (est); 7/4, 15.6 cfs; 8/19, off.
1986: 5/14, 3 cfs (est); 6/4, 40.2 cfs; 8/6, off.
1987: 6/26, 18 cfs (est) (rotated); 7/28, off.
1988: 7/5, 11.0 cfs (est); 7/7, 10.6 cfs; 7/13, 18.0 cfs; 9/2, off.
1989: 5/30, 18.8 cfs; 7/10, 14.0 cfs (est); 7/17, 12.5 cfs (est); 8/25, off; 8/30, 3.5 cfs (est).
1990: 5/29, 7.0 cfs (est); 6/6, 7.3 cfs; 6/13, 12.5 cfs (est); 6/22, 12.5 cfs (est); 6/27, 14.6 cfs; 7/11, 16.5 cfs (est); 7/12, 12.0 cfs; 7/18, 12.0 cfs; 7/30, off.
1991: 5/9, 5/15, off; 6/5, 18.0 cfs; 7/1, 20.5 cfs; 7/5, 12.5 cfs; 7/15, 12.5 cfs; 8/2, 9/6, off.
1992: 4/23, 5/13, off; 5/19, 8.5 cfs; 5/26, 8.5 cfs; 5/29, 7.9 cfs; 6/8, 8.5 cfs; 6/12, 8.5 cfs; 6/18, 8.5 cfs; 7/1, 8.5 cfs; 7/7, 8.5 cfs; 7/14, 8.0 cfs; 7/16, 8/4, 8/28, dry.
1993: 4/30, off; 5/7, 9.0 cfs (est); 5/14, 6.5 cfs (est); 5/18, 12.0 cfs (est); 5/28, 28.4 cfs; 6/2, 26.0 cfs; 6/6, 36.0 cfs (est); 6/17, 42.0 cfs (est); 6/30, 29.5 cfs; 7/11, 17.2 cfs; 7/12, 17.0 cfs; 7/13, 18.3 cfs; 7/14, 18.3 cfs; 7/16, 18.0 cfs; 7/19, 18.3 cfs; 7/21, 18.0 cfs; 7/23, 18.5 cfs; 7/26, 24.0 cfs; 7/28, 21.0 cfs; 8/10, 8/18, 9/27, off.
1994: 4/19, 5/5, off; 5/25, 8.5 cfs; 5/29, 17 cfs; 5/31, 18.0 cfs; 6/3, 22.0 cfs (arrive), 17.5 cfs (depart); 6/9, 15.0 cfs (est) (arrive), 12.0 cfs (depart); 6/20, 12.0 cfs (est) (arrive), 8.5 cfs (depart); 6/22, 13.0 cfs (arrive), 8.5 cfs (depart); 6/28, 10.5 cfs (arrive), 8.5 cfs (depart); 7/15, 12.0 cfs (rotated); 7/21, 11.0 cfs; 8/11, 9/23, 9/27, off.
1995: 5/8, off; 5/22, 2.5 cfs (est); 5/26, 3.5 cfs (est); 7/27, 8/21, off.
1996: 5/21, 1.7 cfs; 5/31, 4 cfs (est); 6/13, 25 cfs (est); 7/12, 30 cfs (est); 7/24, 17 cfs (est); 8/14, off.
1997: 4/28, 1 cfs (est); 6/19, 18 cfs (est); 6/23, 26.6 cfs.
1998: 5/14, 6 cfs (est); 6/10, 20 cfs (est); 7/8, 39.8 cfs; 7/27, 8/4, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Hanna Ditch, Green River

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Green River
Section, Township, Range: 34, 31, 110

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
12-18-1896	1412	Irrigation	769.18	10.99	10.99	
04-14-1960	6035E	Irrigation, Stock	227.19	3.24	14.23	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Green River at New Fork River[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Hanna Ditch, Green River, Diversion Data

Data:
1997: 6/11, 23.3 cfs.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, slightly below average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Highline Ditch, Green River

Diversion Description: Diversion consists of two 5 slide gates.[1]

Diversion Location:

Source: Green River
Section, Township, Range: Lot 6, 2, 29, 111

Conveyance Description: Open Channel Canal, approximately 11 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
01-19-1899	2029	Irrigation	1,128.00	15.11	15.11	POD/MOC change from Lincecum Ditch.
12-22-1900	607E	Irrigation	92.00	1.33	16.44	POD/MOC change from Lincecum Ditch.
12-11-1901	3582	Irrigation	400.66	5.83	22.27	POD/MOC change from Landers Ditch.
01-09-1904	5773	Irrigation	72.00	1.03	23.30	POD/MOC change from Facile Ditch.
10-09-1905	1447E	Irrigation	608.95	7.88	31.18	POD/MOC change from Landers Ditch.
10-20-1905	1453E	Irrigation	20.00	0.29	31.47	
11-12-1906	1708E	Irrigation	619.98	8.86	40.33	POD/MOC change from Landers Ditch.
01-17-1912	11138	Domestic, Irrigation	305.00	4.35	44.68	
05-03-1916	3632E	Irrigation	215.00	3.07	47.75	POD/MOC change from Facile Ditch.
08-19-1968	6417E	Irrigation, Stock	304.29	3.84	51.59	

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows:

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Highline Ditch, Green River

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.

Highline Ditch, Green River, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989										
1990										
1991										
1992					34.06	2,094.55				
1993										
1994										
1995										
1996										
1997							0.42	25.71		
1998										
Averages:					34.06	2,094.55	0.42	25.71		

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Highline Ditch, Green River, Diversion Data

Data:
1992: 5/1, off; 6/16, 72.0 cfs (est); 7/23, 25.0 cfs (est); 8/14, off.
1993: 7/6, 52.0 cfs (est); 9/3, off.
1994: 5/26, 60 cfs (est).
1996: 7/15, 152.4 cfs; 8/1, off.
1997: 6/24, 106.7 cfs; 8/14, off; 9/8, 2 cfs (est).
1998: 7/1, 150 cfs (est); 7/27, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Hill Ditch, Green River

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Green River
Section, Township, Range: 16, 32, 110

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
10-15-1897	1625	Irrigation	723.00	10.32	10.32	
04-10-1902	812E	Irrigation	446.00	6.37	16.69	
06-30-1908	1913E	Domestic, Irrigation	450.00	6.43	23.12	
11-05-1934	4992E	Domestic, Irrigation	146.00	2.08	25.20	
05-07-1971	6423E	Irrigation	218.00	3.11	28.31	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Approximately 65% of the return flows are delivered to Green River at Crandall Ditch, and approximately 35% to Green River at New Fork River.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Hill Ditch, Green River, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989										
1990										
1991										
1992					9.69	595.81				
1993					11.22	689.89	0.00	0.00	0.00	0.00
1994										
1995					9.80	602.60				
1996			17.58	1,046.36						
1997							0.00	0.00		
1998			27.00	1,606.61						
Averages:			18.79	1,326.49	10.24	629.43	0.00	0.00	0.00	0.00

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Hill Ditch, Green River, Diversion Data

Data:
1992: 4/30, off; 6/17, 29.0 cfs (est); 7/17, 12.0 cfs (est); 7/23, 8/14, off.
1993: (all est): 5/27, 27.0 cfs; 7/2, 24.0 cfs; 7/29, 8/23, 9/27, off.
1994: 7/25, off.
1995: 5/11, 12.5 cfs (est); 7/12, 29 cfs (est); 8/2, off; 9/18, 9.5 cfs (est).
1996: 6/13, 30 cfs (est); 7/9, 28 cfs (est).
1997: 6/6, 28 cfs (est); 6/11, 250 cfs (est); 7/28, 8/19, off.
1998: 6/12, 30 cfs (est); 6/30, 60 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Homestake Ditch, South Piney Creek

Diversion Description: Diversion consists of two 4' slide gates mounted on a concrete structure. One of the gates is inoperable.[1]

Diversion Location:

Source: South Piney Creek, Trib. Green River
Section, Township, Range: 9, 29, 112

Conveyance Description: Open Channel Canal, approximately 3 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
06-01-1884	Terr.	Irrigation	39.00	0.55	0.55	POD/MOC change from a portion of Swan No. 1 Ditch
05-01-1885	Terr.	Irrigation	240.00	3.40	3.95	POD/MOC change from Last Chance Ditch
06-00-1885	Terr.	Irrigation	37.00	0.54	4.49	POD/MOC change from Swan No. 3 Ditch
11-15-1885	Terr.	Irrigation	2.00	0.03	4.52	POD/MOC change from a portion of Leifer No. 2 Ditch (Middle Piney Creek)
- 1885	Terr.	Irrigation	225.00	3.21	7.73	POD/MOC change from Leifer Ditch
- 1885	Terr.	Irrigation	164.00	2.35	10.08	POD/MOC change from Swan No. 2 Ditch
- 1888	Terr.	Irrigation	10.00	0.15	10.23	POD/MOC change from a portion of Black No. 3 Ditch (Middle Piney Creek)
03-25-1894	675	Irrigation	165.00	2.21	12.44	POD/MOC change from a portion of Black No. 1 Ditch (Middle Piney Creek)
10-12-1896	1429	Irrigation	480.00	6.84	19.28	
10-23-1896	1353	Irrigation	74.00	1.06	20.34	POD/MOC change from Champion Ditch

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments

Homestake Ditch, South Piney Creek

09-26-1898	1957	Irrigation	108.00	1.54	21.88	POD/MOC change from a portion of Swan No. 1 Ditch
05-13-1901	3177	Irrigation	55.00	0.79	22.67	POD/MOC change from Bolinger Ditch.
05-26-1911	10714	Irrigation	82.00	1.17	23.84	POD/MOC change from May Ditch.
05-26-1911	2476E	Irrigation	40.00	0.57	24.41	
05-26-1911	2477E	Irrigation	18.00	0.26	24.67	POD/MOC change from Champion Ditch
09-20-1969	6320E	Irrigation	247.33	3.53	28.20	Supplementary Supply for 380.00 acres with Original Supply from Middle Piney Creek and Spring Creek (trib. South Piney Creek).

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Approximately 75% of the return flows are delivered to Middle Piney Creek above North Channel, and 25% to North Piney Creek at West Meadow Canyon.[2]

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Homestake Ditch, South Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981	9.94	611.19	17.73	1,055.01						
1982			96.12	5,719.54	64.82	3,985.63				
1983	31.86	1,959.00	97.24	5,786.18	66.41	4,083.39	17.22	1,058.82		
1984	56.68	3,485.12	69.92	4,160.53	52.85	3,249.62	32.85	2,019.87	14.80	880.66
1985	24.07	1,480.01	29.05	1,728.60	6.73	413.81				
1986										
1987	23.95	1,472.63	14.44	859.24						
1988	19.06	1,171.95	20.22	1,203.17	0.91	55.95	0.00	0.00	0.00	0.00
1989	22.33	1,373.02	35.23	2,096.33	21.75	1,337.36	0.00	0.00	0.00	0.00
1990	21.47	1,320.14	22.77	1,354.91	17.62	1,083.41	7.84	482.06		
1991	16.29	1,001.63	26.66	1,586.38	6.94	426.72	0.00	0.00	0.00	0.00
1992	4.84	297.60	5.66	336.79	2.62	161.10	0.29	17.83	0.00	0.00
1993	23.84	1,465.86	33.19	1,974.94	22.10	1,358.88	8.64	531.25	6.75	401.65
1994	18.40	1,131.37	19.68	1,171.04	6.10	375.07	3.16	194.30	0.03	1.79
1995	13.09	804.87	44.41	2,642.58	37.70	2,318.08	12.53	770.44	3.28	195.17
1996	11.48	705.88	46.06	2,740.76	47.19	2,901.60	11.48	705.88		
1997							3.97	244.11	2.19	130.31
1998	6.58	404.59	17.35	1,032.40	13.86	852.22				
Averages:	20.26	1,245.66	37.23	2,215.52	26.26	1,614.49	8.17	502.05	3.01	178.84

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Homestake Ditch, South Piney Creek, Diversion Data

Data:

1981: 5/4, 10 cfs; 6/1, 12 cfs; 6/11, 25 cfs; 6/22, 13 cfs; 6/25, 13 cfs; 7/7, 27 cfs; 7/9, 24 cfs; 7/13, off.

1982: 5/28, 104 cfs; 6/10, 48.4 cfs; 6/23, 144 cfs; 7/15, 56.1 cfs; 8/17, 28.4 cfs; 8/31, 13.8 cfs; 9/20, 6.88 cfs; 10/11, 5.69 cfs.

1983: 5/4, 5.10 cfs; 5/27, 62.9 cfs; 6/2, 12.1 cfs; 6/10, 130 cfs; 7/18, 61.5 cfs; 8/5, 41.6 cfs; 8/8, 9.60 cfs; 9/27, 18.5 cfs; 10/3, 19.5 cfs; 11/2, 16.9 cfs.

1984: 5/9, 24 cfs; 5/25, 112 cfs; 6/7, 84 cfs; 6/18, 57 cfs; 6/25, 60 cfs; 7/6, 66 cfs; 7/11, 54 cfs; 8/6, 40 cfs; 8/16, 33 cfs; 9/18, 12 cfs; 10/9, 10 cfs.

1985: 5/7, off; 5/13, 38.3 cfs; 5/13, 28 cfs; 5/24, 45.5 cfs; 5/24, 28 cfs; 6/17, 30.2 cfs; 6/25, 35.1 cfs; 6/27, 28 cfs; 7/2, 22.6 cfs; 7/4, 16.3 cfs; 7/22, 8/8, off; 9/25, 2.0 cfs (est).

1986: 5/9, 31 cfs; 8/15, 8 cfs (est).

1987: 5/5, 15 cfs (est); 5/6, 21.2 cfs; 5/12, 27 cfs (est); 5/13, 25 cfs (est); 5/16, 22 cfs; 5/18, 37 cfs (est); 5/26, 32 cfs (est); 6/2, 15 cfs; 6/5, 15 cfs (est); 6/10, 22 cfs (est); 6/12, 20 cfs; 6/17, 16.5 cfs; 6/22, 15 cfs (est); 7/1, off.

1988: 5/12, 32.6 cfs; 6/20, 20.7 cfs; 7/8, 7/15, 8/12, 9/30, off.

1989: 4/13, 1.5 cfs (est); 5/3, 7.0 cfs; 5/6, 8.0 cfs; 5/8, 30.0 cfs; 5/8, 26.0 cfs; 5/22, 23.7 cfs; 6/8, 35.0 cfs; 6/15, 38.0 cfs; 7/13, 30.3 cfs; 7/17, 25.6 cfs; 7/31, 8/7, 8/14, 9/1, 9/18, off.

1990: 4/16, 16.0 cfs (est); 4/23, 12.3 cfs; 5/4, 12.5 cfs; 5/8, 23.4 cfs; 5/18, 23.4 cfs; 5/28, 22.9 cfs; 6/5, 22.0 cfs; 5/10, 23.0 cfs; 6/18, 23.6 cfs; 6/29, 22.0 cfs; 7/6, 23.8 cfs; 7/9, 22.0 cfs; 7/31, 10.0 cfs (est); 8/13, 7.0 cfs (est); 8/15, 9.4 cfs; 8/30, 7.4 cfs.

1991: 5/8, 5.3 cfs; 5/13, 5.5 cfs; 5/16, 20.3 cfs; 5/23, 26.0 cfs; 5/28, 33.2 cfs; 6/4, 30.0 cfs; 6/13, 25.0 cfs; 6/28, 26.5 cfs; 7/3, 20.3 cfs; 7/8, 20.2 cfs; 7/15, 7/22, 8/14, 9/6, 9/18, off.

1992: 4/10, 5.0 cfs (est); 4/13, 5.0 cfs (est); 4/20, 5.0 cfs (est); 5/1, 0.50 cfs (est); 5/11, 3.5 cfs (est); 5/20, 3.6 cfs; 5/26, 10.5 cfs; 6/9, 5.0 cfs; 6/26, 6.0 cfs; 7/1, 3.5 cfs (est); 7/15, 3.0 cfs (est); 7/20, 2.0 cfs (est); 8/4, 2.0 cfs (est); 8/7, 8/21, 9/15, 9/21, off.

1993: 4/19, 16.5 cfs; 4/19, 12.0 cfs; 4/20, 12.0 cfs; 4/23, 12.0 cfs; 4/27, 12.3 cfs; 4/29, 12.3 cfs; 5/4, 12.5 cfs; 5/5, 19.0 cfs (est); 5/10, 13.5 cfs; 5/10, 12.0 cfs; 5/11, 12.0 cfs; 5/12, 12.0 cfs; 5/14, 18.0 cfs; 5/14, 26.2 cfs; 5/17, 36.0 cfs; 5/20, 36.0 cfs; 5/24, 29.0 cfs; 5/26, 29.0 cfs; 5/27, 29.0 cfs; 5/27, 25.0 cfs; 5/28, 27.0 cfs; 5/30, 27.0 cfs; 5/31, 27.0 cfs; 6/1, 24.0 cfs; 6/1, 29.0 cfs; 6/6, 38.0 cfs; 6/6, 44.3 cfs; 6/9, 38.0 cfs; 6/9, 30.0 cfs; 6/14, 27.3 cfs; 6/18, 36.0 cfs; 6/24, 36.5 cfs; 6/30, 27.0 cfs; 7/6, 27.0 cfs; 7/7, 28.0 cfs; 7/7, 24.0 cfs; 7/23, 21.0 cfs (est); 8/5, 12.5 cfs (est); 8/9, 7.5 cfs (est); 8/17, 7.5 cfs (est); 8/18, 7.5 cfs (est); 8/20, 7.5 cfs (est); 8/26, 7.5 cfs (est); 9/2, 7.5 cfs (est); 9/7, 7.5 cfs (est); 9/9, 7.5 cfs (est); 9/14, 7.5 cfs (est); 9/17, 7.5 cfs (est); 9/20, 7.5 cfs (est); 9/28, 7.5 cfs (est).

1994: 4/7, 4/8, 4/13, off; 4/14, 12.0 cfs (est); 4/15, 15.4 cfs (arrive), 12.0 cfs (depart); 4/18, 12.5 cfs (arrive), 18.0 cfs (depart); 4/22, 21.7 cfs; 4/24, 22.5 cfs; 5/2, 23.1 cfs; 5/9, 13.0 cfs; 6/17, 31.0 cfs (est) (arrive), 18.0 cfs (depart); 6/20, 11.3 cfs; 6/26, 11.0 cfs; 6/29, 7.5 cfs; 7/1, 7.5 cfs (arrive), off (depart) (rotated); 7/2, 7/3, off (rotated); 7/10, 11.9 cfs; 7/15, 4.5 cfs; 7/18, 17 cfs (est) (arrive), 9.5 cfs (depart); 7/21, 6.5 cfs; 7/26, 4.0 cfs; 8/2, 4.0 cfs (arrive), 8/2, 6.0 cfs (est); 8/4, 8.0 cfs (est); 8/11, 5.5 cfs (est); 8/16, 4.0 cfs (est); 8/19, 8/21, 8/22, 8/25, 8/29, off; 9/1, 2.0 cfs (est); 9/2, 9/7, 9/15, 9/21, 9/30, off.

1995: 10/26/94, off; 4/5, 13.8 cfs; 4/13, 8.3 cfs; 4/18, 4.6 cfs; 4/19, 8.4 cfs; 4/24, 6.0 cfs (est); 5/1, 7.5 cfs (est); 5/4, 9.0 cfs (est); 5/8, 5.5 cfs (est); 5/15, 11 cfs (est); 5/16, 10.4 cfs; 5/18, 10.4 cfs; 5/19, 10.4 cfs (arrive), 16.7 cfs (est) (depart); 5/22, 16 cfs (est); 5/23, 17.5 cfs (est); 5/24, 17.3 cfs (arrive), 25 cfs (est) (depart); 5/28, 22 cfs (est); 5/29, 22 cfs (est) (arrive), 5/29, 17.5 cfs (est) (depart); 5/30, 17 cfs (est); 6/1, 19 cfs (est); 6/2, 22 cfs (est) (arrive), 19.5 cfs (est) (depart); 6/4, 25 cfs (est) (arrive), 35 cfs (est) (depart); 6/5, 35 cfs (est); 6/6, 59.5 cfs (arrive), 40 cfs (est) (depart); 6/8, 40 cfs (est); 6/9, 100 cfs (est); 6/13, 50 cfs; 6/16, 40 cfs (est); 6/20, 40 cfs (est); 6/22, 32 cfs; 6/23, 34 cfs (est) (arrive), 36 cfs (est) (depart); 6/26, 40 cfs (est); 6/29, 45.8 cfs; 7/3, 47 cfs; 7/5, 42.8 cfs; 7/6, 36 cfs; 7/10, 37 cfs (arrive), 40 cfs (est) (depart); 7/13, 45 cfs (est); 7/25, 35 cfs (est); 7/31, 22 cfs; 8/11, 16 cfs; 8/21, 10.3 cfs; 8/28, 4.5 cfs; 9/12, 4 cfs (est); 10/5, 1 cfs (est).

1996: 10/5/95, 1 cfs (est); 4/23, 2.4 cfs; 4/29, 2.3 cfs; 5/6, 2.4 cfs; 5/31, 23.2 cfs; 7/5, 73.2 cfs; 7/18, 38 cfs; 7/23, 38 cfs; 7/25, 32.4 cfs; 8/13, 10.3 cfs; 9/5, 4.3 cfs.

1997: 5/28, 24.7 cfs; 8/4, 4.5 cfs; 8/12, 4.5 cfs; 9/17, 4 cfs (est).

1998: 4/24, 1.5 cfs (est); 5/4, 3 cfs (est); 5/11, 3 cfs (est); 5/19, 5.0 cfs (est); 5/21, 10 cfs (est); 6/1, 13.2 cfs; 6/26, 20.8 cfs; 6/29, 18.3 cfs; 7/14, 19.1 cfs; 7/27, 5.7 cfs; 8/10, 1.5 cfs (est).

Homestake Ditch, South Piney Creek, Diversion Data

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Hope Ditch, South Cottonwood Creek

Diversion Description: Diversion consists of a 36" Waterman slide gate. No diversion dam exists.[1]

Diversion Location:

Source: South Cottonwood Creek, Trib. Cottonwood (or Marsh) Creek, Trib. Green River
Section, Township, Range: 35, 33, 112

Conveyance Description: Open Channel Canal, approximately 8½ miles in length. Note: only ½ mile of the canal is active.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
09-04-1901	3394	Irrigation	403.00	5.75	5.75	
12-06-1954	5769E	Irrigation, Stock	493.00	7.04	12.79	Supplementary Supply for 243.00 acres with Original Supply from Killpecker Creek

Storage Rights: None.

Estimated Canal Losses: Higher than typical losses are experienced.[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Cottonwood Creek at South Cottonwood Creek.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Hope Ditch, South Cottonwood Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989										
1990										
1991			3.14	186.84	0.69	42.43				
1992										
1993										
1994										
1995										
1996										
1997										
1998										
Averages:			3.14	186.84	0.69	42.43				

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Hope Ditch, South Cottonwood Creek, Diversion Data

Data:
1986: 5/23, 15 cfs (est).
1991: 5/28, 3.5 cfs (est); 6/16, 3.5 cfs (est); 7/22, 8/9, 9/4, off.
1992: 4/24, 6/22, 6/27, 7/1, 7/8, 7/28, off.
1994: 7/6, off.
1995: 8/7, 1 cfs (est).
1996: 7/16, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Hughes Ditch, North Piney Creek

Diversion Description: Diversion consists of a single 40" slide gate mounted on a concrete structure.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 26, 31, 113

Conveyance Description: Open Channel Canal, approximately 2½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
02-12-1894	649	Irrigation	248	3.52		
12-01-1898	391E	Irrigation	320	4.84		
07-08-1904	6099	Irrigation, Res. Supply	1,699.00	24.27		Supply Ditch for 67 Reservoir
07-08-1904	3231E	Irrigation	311	4.44		Permitted Source: 67 Reservoir
07-12-1915	3231E	Domestic, Irrigation, Stock				Secondary Supply stored in 67 Reservoir (535R and 2878R) (1,729.00 acres served)
07-13-1954	5740E	Irrigation				Secondary Supply stored in 67 Reservoir (5424R) (259.00 acres served)

Storage Rights: 67 Reservoir.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to North Piney Canal at the confluence of the east and west channels.[2]

Other Operational Information: The canal is typically turned on the first of May and off in late July.[1]

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Hughes Ditch, North Piney Creek

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Hughes Ditch, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1972			*2.95*	*175.48*	*1.91*	*117.72*	*2.36*	*145.31*	*1.89*	*112.54*
1975	*1.51*	*92.85*	*2.85*	*169.59*	*2.69*	*165.40*	*3.25*	*199.83*		
1980										
1981										
1982	6.25	384.30	19.39	1,153.79	7.85	482.68	1.24	76.24	0.61	36.30
1983										
1984			15.05	895.54	15.49	952.44				
1985					4.39	269.93	1.79	110.06		
1986										
1987			2.71	161.26	2.71	166.63				
1988					1.30	79.93	3.02	185.69		
1989	12.23	751.99	20.57	1,224.00	9.29	571.22	7.29	448.24		
1990	8.96	550.93	10.43	620.63	7.28	447.63				
1991	4.07	250.25	10.59	630.15	8.26	507.89	6.81	418.73	3.73	221.95
1992	6.06	372.61	5.54	329.65	3.71	228.12				
1993	11.21	689.28	17.42	1,036.56	9.75	599.50	7.02	431.64	4.46	265.39
1994	9.36	575.52	7.54	448.42	0.65	39.97	1.00	61.49	0.00	0.00
1995	3.35	205.98	5.92	352.26	1.36	83.62				
1996	20.69	1,272.18	30.17	1,795.24	15.78	970.27	5.65	347.40	1.54	91.64
1997	11.19	688.05	13.80	821.16	10.60	651.77	0.46	28.28	0.00	0.00
1998	6.70	411.97	18.41	1,095.47	23.85	1,466.48				
Averages:	8.47	520.49	12.22	727.28	7.46	458.89	3.63	222.99	1.75	103.97

Data in italics from USGS gaging station 002290.00, see attached data sheets.
Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Hughes Ditch, North Piney Creek, Diversion Data

Data:

1981: 6/22, 10 cfs; 6/26, 10 cfs; 7/8, 8.3 cfs; 7/9, 8.3 cfs; 7/13, 8.3 cfs; 7/15, 8.3 cfs.
1982: 5/14, 4.82 cfs; 5/21, 11.4 cfs (est); 6/3, 13.9 cfs; 6/18, 24.5 cfs; 7/21, 4.14 cfs; 8/12, 1.06 cfs; 9/7, 0.68 cfs; 10/7, 0.42 cfs; 10/22, 0.29 cfs.
1983: 5/20, off; 6/7, 18.0 cfs; 7/12, 26.7 cfs; 7/28, 3.21 cfs; 8/12, 9/13, 10/12, off.
1984: 5/18, 1 cfs; 5/30, 2 cfs; 6/14, 9 cfs; 6/28, 31 cfs; 7/17, 14 cfs; 8/9, 9/5, 10/2, off.
1985: 6/20, 7.3 cfs; 6/20, 8.4 cfs; 7/1, 5.1 cfs; 7/15, 5.1 cfs; 7/26, 3.2 cfs (est); 8/19, 3.0 cfs (est).
1986: 4/22, 5/2, off; 8/6, 5 cfs (est).
1987: (all est): 5/28, 1 cfs; 6/25, 3.5 cfs; 6/29, 4 cfs; 7/6, 4 cfs; 7/22, 4 cfs.
1988: 7/5, 4.0 cfs; 7/15, off; 8/9, 3.5 cfs (est); 8/29, 3.5 cfs.
1989: 4/25, 9.0 cfs (est); 5/9, 15.6 cfs; 5/12, 18.0 cfs; 5/19, 15.6 cfs; 6/6, 21.2 cfs; 6/15, 32.0 cfs; 6/27, 13.1 cfs; 7/6, 15.0 cfs; 7/10, 12.0 cfs; 7/17, 11.0 cfs (est); 7/24, 10.0 cfs; 8/3, 10.0 cfs; 8/10, 9.0 cfs (est); 8/16, 7.5 cfs; 8/25, 7.5 cfs; 8/30, 9.5 cfs.
1990: 4/20, 10.0 cfs (est); 5/3, 11.3 cfs; 5/17, 8.1 cfs; 5/29, 7.8 cfs; 6/1, 8.4 cfs; 6/22, 12.4 cfs; 7/6, 6.5 cfs (est); 7/11, 6.7 cfs; 7/31, 8.0 cfs; 8/14, 5.0 cfs (est).
1991: 5/9, 4.5 cfs (est); 5/15, 3.5 cfs (est); 5/20, 7.1 cfs; 6/5, 5.0 cfs (est); 6/11, 12.5 cfs; 7/1, 11.9 cfs; 7/15, 6.8 cfs; 8/2, 8.0 cfs (est); 8/19, 6.0 cfs (est); 9/16, 8.0 cfs (est).
1992: 4/23, dry; 5/13, 6.0 cfs (est); 5/16, 2.0 cfs (est); 5/19, 8.4 cfs; 5/26, 8.0 cfs; 6/8, 8.0 cfs; 6/12, 8.0 cfs; 6/18, 3.8 cfs; 6/19, 2.5 cfs; 6/24, 3.5 cfs; 7/1, 3.5 cfs; 7/14, 3.4 cfs; 7/16, 6.5 cfs; 8/4, 8/28, dry.
1993: 4/30, off; 5/7, 2.5 cfs (est); 5/18, 16.0 cfs (est); 6/2, 18.0 cfs (est); 6/15, 18.0 cfs (est); 6/30, 16.0 cfs (est); 7/8, 12.0 cfs (est); 7/11, 8.6 cfs; 7/13, 8.2 cfs; 7/19, 8.2 cfs; 7/21, 8.4 cfs; 7/23, 8.4 cfs; 7/26, 8.4 cfs (est); 7/28, 8.5 cfs; 8/10, 8.0 cfs (est); 8/18, 6.5 cfs (est); 9/27, 4.5 cfs (est).
1994: 4/21, 9.5 cfs (est); 5/5, 8.0 cfs (est); 5/25, 8.4 cfs; 5/29, 16.0 cfs; 6/3, 12.0 cfs (arrive), 8.4 cfs (depart); 6/13, 8.4 cfs; 6/20, 8.4 cfs; 6/24, 8.4 cfs (arrive), 3.4 cfs (arrive); 6/25, 3.4 cfs; 6/27, 3.4 cfs; 7/6, 3.52 cfs (arrive), off (depart) (rotated); 7/15, off (rotated); 7/28, off; 8/4, 2.5 cfs (est); 8/11, 2.5 cfs (est); 8/17, 8/26, 9/23, 9/27, dry.
1995: 10/26/94, 3.0 cfs (est); 4/19, 6.0 cfs (est); 5/8, 1.5 cfs (est); 5/22, 5.5 cfs (est) (arrive), 3.5 cfs (est) (depart); 5/24, 4.0 cfs (est); 5/26, 3 cfs (est); 6/7, 7.1 cfs; 6/22, 5.8 cfs; 7/11, 2.2 cfs; 7/14, 1.5 cfs (est); 7/20, 0.1 cfs (est); 7/27, 8/11, 8/25, off; 9/12, 5 cfs (est).
1996: 4/30, 1.9 cfs; 5/17, 25.9 cfs; 6/10, 30 cfs (est); 7/2, 31.2 cfs; 7/19, 9.5 cfs (est); 8/14, 6 cfs; 9/27, off.
1997: 4/28, 3 cfs (est); 5/23, 17.6 cfs; 7/18, 12.2 cfs; 8/8, 9/12, off.
1998: 5/12, 6.7 cfs; 6/10, 17.4 cfs; 6/19, 14.5 cfs; 7/7, 37.8 cfs; 7/27, 10.6 cfs; 8/14, 8.9 cfs.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Hughes Ditch, North Piney Creek, Diversion Data

HUGHES DITCH STATION NO. 002290.00
LATITUDE 0-00-00 LONGITUDE 0-00-00
SECTION 0 TOWNSHIP 0 ,RANGE 0 P.M.
ELEVATION UNKNOWN DRAINAGE AREA UNKNOWN
NONCONTRIBUTING AREA UNKNOWN BASIN UNKNOWN
DATA FROM WATER COMMISSIONERS (P)

MEAN DAILY FLOW IN CFS BY WATER YEAR

1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	DAY
1	**	**	**	**	**	**	**	**	2.24	3.39	2.03	0.99	1
2	**	**	**	**	**	**	**	**	2.24	3.39	2.03	0.99	2
3	**	**	**	**	**	**	**	**	2.24	4.05	2.03	0.99	3
4	**	**	**	**	**	**	**	**	2.24	4.05	2.03	0.99	4
5	**	**	**	**	**	**	**	**	4.05	2.40	2.03	2.03	5
6	**	**	**	**	**	**	**	**	2.22	2.40	2.03	2.03	6
7	**	**	**	**	**	**	**	**	2.22	2.21	2.03	2.03	7
8	**	**	**	**	**	**	**	**	2.22	2.40	2.03	2.03	8
9	**	**	**	**	**	**	**	**	2.22	2.40	1.86	2.03	9
10	**	**	**	**	**	**	**	**	2.22	1.38	2.78	2.03	10
11	**	**	**	**	**	**	**	**	2.22	1.38	2.98	2.03	11
12	**	**	**	**	**	**	**	**	2.59	1.38	2.98	2.03	12
13	**	**	**	**	**	**	**	**	3.39	1.38	2.98	2.03	13
14	**	**	**	**	**	**	**	**	3.39	1.38	2.98	2.03	14
15	**	**	**	**	**	**	**	**	3.39	1.38	2.98	2.03	15
16	**	**	**	**	**	**	**	**	3.39	1.38	2.57	2.03	16
17	**	**	**	**	**	**	**	**	3.39	1.38	2.57	2.03	17
18	**	**	**	**	**	**	**	**	3.39	1.38	2.21	2.03	18
19	**	**	**	**	**	**	**	**	3.39	1.38	2.21	2.03	19
20	**	**	**	**	**	**	**	**	2.98	1.23	2.21	2.03	20
21	**	**	**	**	**	**	**	**	2.73	1.23	1.95	2.03	21
22	**	**	**	**	**	**	**	**	2.73	1.23	1.95	2.03	22
23	**	**	**	**	**	**	**	**	3.18	1.23	1.95	2.03	23
24	**	**	**	**	**	**	**	**	3.18	1.23	2.98	2.03	24
25	**	**	**	**	**	**	**	**	3.18	1.53	2.98	2.03	25
26	**	**	**	**	**	**	**	**	3.39	1.53	2.98	2.03	26
27	**	**	**	**	**	**	**	**	4.28	1.53	2.98	2.03	27
28	**	**	**	**	**	**	**	2.24	3.39	2.03	2.98	2.03	28
29	**	**	**	**	**	**	**	2.24	3.39	2.03	2.98	2.03	29
30	**	**	**	**		**	**	2.24	3.39	2.03	0.99	2.03	30
31	**		**	**		**		2.24		2.03	0.99		31
TOTAL	**	**	**	**	**	**	**	8.96*	88.47	59.35	73.26	56.74	
MEAN	**	**	**	**	**	**	**	2.24*	2.95	1.91	2.36	1.89	
AC-FT	**	**	**	**	**	**	**	17.77*	175.48	117.72	145.31	112.54	

** INDICATES MISSING DATA

* INDICATES COMPUTED FROM INCOMPLETE DATA

E INDICATES ESTIMATED VALUE

Hughes Ditch, North Piney Creek, Diversion Data

HUGHES DITCH STATION NO. 002290.00
LATITUDE 0-00-00 LONGITUDE 0-00-00
SECTION 0 TOWNSHIP 0 ,RANGE 0 P.M.
ELEVATION UNKNOWN DRAINAGE AREA UNKNOWN
NONCONTRIBUTING AREA UNKNOWN BASIN UNKNOWN
DATA FROM WATER COMMISSIONERS (P)

MEAN DAILY FLOW IN CFS BY WATER YEAR

1975

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	DAY
1	**	**	**	**	**	**	**	**	**	**	**	**	1
2	**	**	**	**	**	**	**	**	3.38	**	**	**	2
3	**	**	**	**	**	**	**	**	1.53	2.86	**	**	3
4	**	**	**	**	**	**	**	**	6.79	**	2.03	**	4
5	**	**	**	**	**	**	**	**	5.48	**	**	**	5
6	**	**	**	**	**	**	**	**	2.78	**	2.98	**	6
7	**	**	**	**	**	**	**	**	**	1.08	**	**	7
8	**	**	**	**	**	**	**	**	**	1.86	**	**	8
9	**	**	**	**	**	**	**	**	2.40	5.56	**	**	9
10	**	**	**	**	**	**	**	2.40	**	**	**	**	10
11	**	**	**	**	**	**	**	**	**	3.61	4.05	**	11
12	**	**	**	**	**	**	**	**	**	**	**	**	12
13	**	**	**	**	**	**	**	**	**	**	**	**	13
14	**	**	**	**	**	**	**	**	**	3.61	4.06	**	14
15	**	**	**	**	**	**	**	**	**	4.51	**	**	15
16	**	**	**	**	**	**	**	**	**	2.40	**	**	16
17	**	**	**	**	**	**	**	**	**	**	**	**	17
18	**	**	**	**	**	**	**	**	**	**	3.83	**	18
19	**	**	**	**	**	**	**	1.53	**	**	**	**	19
20	**	**	**	**	**	**	**	**	**	**	4.99	**	20
21	**	**	**	**	**	**	**	**	**	3.83	**	**	21
22	**	**	**	**	**	**	**	**	**	2.78	**	**	22
23	**	**	**	**	**	**	**	1.53	**	**	**	**	23
24	**	**	**	**	**	**	**	1.69	**	**	**	**	24
25	**	**	**	**	**	**	**	1.69	**	**	**	**	25
26	**	**	**	**	**	**	**	1.69	**	**	**	**	26
27	**	**	**	**	**	**	**	1.69	**	**	3.39	**	27
28	**	**	**	**	**	**	**	3.38	**	**	**	**	28
29	**	**	**	**		**	**	3.38	**	1.23	3.19	**	29
30	**	**	**	**		**	**	3.38	**	**	**	**	30
31	**		**	**		**		3.61		**	**		31
TOTAL	**	**	**	**	**	**	**	25.97*	22.36*	33.33*	28.52*	**	
MEAN	**	**	**	**	**	**	**	2.36*	3.73*	3.03*	3.57*	**	
AC-FT	**	**	**	**	**	**	**	51.51*	44.35*	66.11*	56.57*	**	

** INDICATES MISSING DATA

* INDICATES COMPUTED FROM INCOMPLETE DATA

E INDICATES ESTIMATED VALUE

Source: Wyoming Water Resources Data System, March 20, 2000.

Lawrence Ditch, Cottonwood Creek

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Cottonwood (or Marsh) Creek, Trib. Green River
Section, Township, Range: 36, 33, 112

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
09-04-1901	3395	Irrigation	1,174.00	16.75	16.75	
01-31-1906	1505E	Irrigation	198.00	2.83	19.58	
01-10-1949	5478E	Irrigation, Stock	739.00	10.55	30.13	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Cottonwood Creek near Big Piney.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Lawrence Ditch, Cottonwood Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984			31.15	1,853.55						
1985										
1986										
1987			28.76	1,711.34						
1988										
1989										
1990			10.80	642.64	3.48	214.21	0.00	0.00		
1991			12.85	764.81	3.16	194.38	0.00	0.00		
1992					0.00	0.00				
1993										
1994										
1995					6.91	424.62				
1996					7.46	458.85				
1997										
1998										
Averages:			20.89	1,238.59	4.20	258.41	0.00	0.00		

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Lawrence Ditch, Cottonwood Creek, Diversion Data

Data:
1984: 5/16, 44 cfs; 5/29, 30 cfs; 6/13, 31 cfs; 6/27, 32 cfs; 7/10, 29 cfs; 9/10, off.
1986: 5/20, 7 cfs (est); 5/23, 33.5 cfs; 7/18, 7/29, 8/11, off.
1987: 4/29, 14.7 cfs; 6/11, 40 cfs (est); 7/7, off.
1990: 6/15, 27.0 cfs; 7/17, 8/29, off.
1991: 5/28, 8.5 cfs (est); 6/16, 16.0 cfs (est); 7/22, 8/9, 9/4, off.
1992: 4/24,6/22, 6/27, 7/1, 7/8, 7/28, off.
1994: 6/21, 5.5 cfs (est); 7/6, 8/25, off.
1995: 6/27, 23 cfs (est); 7/27, off.
1996: 6/27, 15 cfs (est); 7/26, 4.9 cfs.
1997: 7/14, 2 cfs (est).
1998: 7/2, 25 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Martin Ditch, South Beaver Creek

Diversion Description: Information not available at time of report.

Diversion Location:

Source: South Beaver Creek, Trib. Beaver Creek, Trib. South Piney Creek, Trib. Green River
Section, Township, Range: 2, 35, 113

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
03-09-1912	11192	Irrigation	623.00	8.92	8.92	
12-24-1914	3102E	Irrigation	160.00	2.28	11.20	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use:

Return Flows: Return flows are delivered to South Beaver Creek between Chall Creek and Beaver Creek.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Martin Ditch, South Beaver Creek, Diversion Data

No Diversion Data Available.

McCaulley-Sargent Ditch, South Beaver Creek

Diversion Description: Information not available at time of report.

Diversion Location:

Source: South Beaver Creek, Trib. Beaver Creek, Trib. South Piney Creek, Trib. Green River
Section, Township, Range: 17, 35, 113

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
09-05-1901	3391	Irrigation	320.00	4.57	4.57	
07-03-1908	1953E	Irrigation	315.00	4.50	9.07	
03-09-1915	3160E	Irrigation	320.00	4.57	13.64	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to South Beaver Creek between Chall Creek and Beaver Creek.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

McCaulley-Sargent Ditch, South Beaver Creek, Diversion Data

No Diversion Data Available.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Midmermac Ditch, South Piney Creek

Diversion Description: Diversion consists of two 4' by 4' slide gates mounted on a concrete structure.[1]

Diversion Location:
Source: South Piney Creek, Trib. Green River
Section, Township, Range: 5, 29, 111

Conveyance Description: Open Channel Canal, approximately 3½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
- 1886	Terr.	Irrigation	9.00	0.13	0.13	POD/MOC change from a portion of Oman Ditch.
05-00-1887	Terr.	Irrigation	160.00	2.28	2.41	POD/MOC change from a portion of Tarter Ditch.
06-23-1898	1896	Irrigation	217.00	3.10	5.51	POD/MOC change from a portion of Merrill Ditch.
04-24-1902	822E	Domestic, Irrigation	235.00	3.36	8.87	POD/MOC change from a portion of Merrill Ditch.
08-28-1914	3035E	Irrigation	42.00	0.60	9.47	POD/MOC change from a portion of Merrill Ditch.
11-03-1969	23294	Irrigation	153.15	2.19	11.66	

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to Green River at Tarter Gulch.[2]

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Midmermac Ditch, South Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982			18.76	1,116.30	24.61	1,513.21	3.03	186.31		
1983										
1984	14.35	882.35	22.46	1,336.46	11.47	705.26	0.20	12.30	0.00	0.00
1985			14.68	873.52	7.11	437.18				
1986	23.43	1,440.65	46.60	2,772.89	26.30	1,617.12				
1987	15.37	945.06	5.57	331.44						
1988	17.74	1,090.79	13.91	827.70	4.61	283.46				
1989	10.56	649.31	17.49	1,040.73	6.01	369.54	7.74	475.91		
1990	6.26	384.91	8.40	499.83	2.97	182.62	5.23	321.58		
1991	9.23	567.53	13.69	814.61	3.69	226.89	0.00	0.00	3.97	236.23
1992	4.56	280.38	2.41	143.40	1.33	81.78	1.87	114.98	1.92	114.25
1993	11.18	687.43	14.33	852.69	7.86	483.29	11.79	724.94	6.70	398.68
1994	5.45	335.11	4.19	249.32	3.59	220.74	2.94	180.77	2.34	139.24
1995	10.31	633.94	18.36	1,092.50	20.75	1,275.87	0.00	0.00	0.00	0.00
1996	15.30	940.76	26.26	1,562.58	22.91	1,408.68	0.88	54.11	0.38	22.61
1997	12.04	740.31	27.87	1,658.38	28.53	1,754.24	3.53	217.05	0.00	0.00
1998	2.70	166.02	28.22	1,679.21	29.92	1,839.71	17.11	1,052.05		
Averages:	11.32	696.04	17.70	1,053.22	13.44	826.64	4.53	278.33	1.91	113.88

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Midmermac Ditch, South Piney Creek, Diversion Data

Data:

1982: 5/20, 11.0 cfs; 6/9, 4.42 cfs; 6/16, 20.0 cfs; 7/2, 38.7 cfs; 7/15, 25.2 cfs; 7/22, 19.1 cfs; 8/17, off.
1983: 5/6, 5/23, off; 6/10, 24.6 cfs; 7/22, 8/4, 9/15, 10/18, 11/2, off.
1984: 5/11, 11 cfs; 5/22, 25 cfs; 6/7, 24 cfs; 6/22, 23 cfs; 6/25, 18 cfs; 7/6, 22 cfs; 7/11, 13 cfs; 8/6, 8/16, 9/18, off.
1985: 5/28, 16.8 cfs; 6/12, 14.7 cfs; 6/24, 5 cfs (est); 6/27, 31 cfs (est); 6/29, 23 cfs (est); 7/22, off; 9/25, 6.8 cfs.
1986: 5/9, 27.2 cfs; 5/22, 28 cfs; 6/1, 45.5 cfs; 7/5, 48 cfs; 7/31, off; 9/2, off.
1987: 4/23, off; 5/4, 10 cfs (est); 5/5, 10.4 cfs; 5/11, 8 cfs; 5/13, 7 cfs; 5/16, 4 cfs (est); 5/17, 25.1 cfs; 5/18, 35 cfs (est); 5/19, 17 cfs (est); 5/20, 15 cfs (est); 5/26, 30 cfs; 6/1, 14 cfs; 6/2, 5 cfs (est); 6/2, 8 cfs (est); 6/3, 10 cfs (est); 6/5, 5 cfs (est); 6/9, 9 cfs (est); 6/10, 18 cfs (est); 6/12, 6 cfs (est); 6/17, 7.2 cfs; 6/19, 10 cfs (est); 6/21, 8 cfs.
1988: 4/20, 9.4 cfs; 5/20, 20.2 cfs; 6/20, 15.4 cfs; 6/26, 3.0 cfs; 7/1, 13.6 cfs; 7/22, 8/11, off.
1989: 5/3, 7.1 cfs; 5/6, 11.0 cfs (est); 5/15, 15.6 cfs; 5/26, 7.5 cfs; 6/8, 13.5 cfs; 6/15, 22.9 cfs; 6/26, 20.0 cfs (est); 7/3, 7.8 cfs; 7/5, 10.2 cfs; 7/10, 10.0 cfs (est); 7/11, 10.1 cfs; 7/17, 11.0 cfs (est); 7/20, 7/25, off; 8/24, 11.0 cfs; 9/1, 10.0 cfs.
1990: 4/16, 20.6 cfs; 5/9, 4.0 cfs; 5/11, 5.1 cfs; 5/16, 4.9 cfs; 5/18, 6.4 cfs; 5/28, 7.0 cfs; 5/31, 6.0 cfs (est); 6/1, 8.0 cfs; 6/4, 5.1 cfs; 6/6, 6.3 cfs; 6/10, 4.5 cfs; 6/12, 8.5 cfs; 6/18, 13.2 cfs; 6/29, 6.5 cfs; 7/9, 6.0 cfs; 7/13, 5.5 cfs; 7/20, 7/31, off; 8/13, 7.0 cfs; 8/15, 6.5 cfs; 8/30, 7.3 cfs.
1991: 5/8, off; 5/14, 5.0 cfs (est); 5/17, 8.7 cfs; 5/21, 6.2 cfs; 5/23, 22.2 cfs; 6/4, 20.0 cfs; 6/6, 18.5 cfs; 6/13, 10.5 cfs; 6/25, 12.0 cfs; 6/28, 13.5 cfs; 7/5, 7.6 cfs; 7/8, 5.5 cfs; 7/15, 5.5 cfs; 7/22, 8/12, 8/23, 9/6, off; 9/18, 14.0 cfs (est).
1992: 4/12, 2.0 cfs (est); 4/13, 7.5 cfs; 4/14, 8.7 cfs; 4/27, 8.5 cfs; 5/1, 8.0 cfs; 5/11, 6.5 cfs; 5/20, 2.4 cfs; 5/26, 2.4 cfs; 5/26, 2.4 cfs; 6/9, 2.5 cfs; 6/26, 2.5 cfs; 7/1, 1.5 cfs; 7/14, 2.0 cfs; 7/20, 1.0 cfs (est); 8/4, 0.5 cfs (est); 8/7, 2.0 cfs; 8/21, 2.0 cfs; 9/15, 3.0 cfs (est); 9/21, 3.5 cfs.
1993: 4/19, 2.5 cfs (est); 4/20, 2.5 cfs; 4/23, 1.5 cfs (est); 4/27, 3.5 cfs; 4/29, 2.5 cfs (est); 5/4, 4.5 cfs; 5/5, 15.0 cfs (est); 5/7, 12.0 cfs (est); 5/10, 3.5 cfs; 5/11, 3.5 cfs; 5/12, 6.0 cfs (est); 5/14, 18.0 cfs; 5/17, 26.0 cfs (est); 5/18, 22.0 cfs; 5/19, 16.0 cfs; 5/20, 8.0 cfs (est); 5/24, 11.0 cfs; 5/26, 12.5 cfs; 5/27, 6.0 cfs; 5/28, 11.5 cfs (est); 5/30, 11.5 cfs (est); 5/31, 11.5 cfs (est); 6/1, 18.0 cfs; 6/2, 12.0 cfs; 6/3, 24.0 cfs; 6/6, 24.0 cfs; 6/9, 11.0 cfs; 6/11, 7.1 cfs; 6/14, 9.5 cfs; 6/18, 21.0 cfs; 6/21, 12.0 cfs; 6/24, 12.5 cfs; 6/27, 9.5 cfs; 6/30, 14.0 cfs; 7/6, 11.0 cfs; 7/7, 8.5 cfs; 7/8, 8.5 cfs; 7/11, 5.5 cfs; 7/12, 8.5 cfs; 7/13, 7.5 cfs; 7/16, 5.5 cfs; 7/19, 5.0 cfs; 7/23, 5.0 cfs; 7/26, 16.0 cfs (est); 7/28, 7.0 cfs; 7/30, 3.5 cfs (est); 8/2, 5.0 cfs; 8/5, 7.0 cfs; 8/9, 26.0 cfs (est); 8/10, 20.0 cfs; 8/17, 11.5 cfs; 8/18, 11.0 cfs; 8/20, 11.0 cfs; 8/26, 11.0 cfs; 9/2, 2.5 cfs (est); 9/3, 8.5 cfs; 9/7, 8.0 cfs (est); 9/9, 7.5 cfs; 9/14, 7.5 cfs; 9/17, 7.5 cfs; 9/20, 8.5 cfs; 9/28, 6.5 cfs.
1994: 4/8, 4/13, off; 4/14, 3.5 cfs (est); 4/15, 2.0 cfs (est); 4/17, 5.0 cfs (est); 4/18, 4.5 cfs (est); 4/19, 4.5 cfs (est); 4/21, 5.5 cfs; 4/22, 10.7 cfs; 4/24, 10.5 cfs; 5/2, 4.5 cfs; 5/5, 4.5 cfs; 5/9, 7.09 cfs; 5/19, 4.37 cfs; 6/1, 6.4 cfs; 6/8, 5.0 cfs (est); 6/15, 6.0 cfs (est); 6/17, 4.5 cfs (est); 6/22, 3.0 cfs (est); 6/26, 1.5 cfs (est); 7/2, 2.3 cfs; 7/3, 2.0 cfs (est); 7/15, 5.5 cfs; 7/18, 4.0 cfs; 7/21, 2.5 cfs; 7/26, 3.5 cfs; 8/4, 4.5 cfs; 8/11, 3.5 cfs (est); 8/16, 1.0 cfs (est); 8/19, 1.2 cfs; 8/21, dry; 8/22, 2.0 cfs (est); 8/25, 3.0 cfs (est); 8/29, 4.5 cfs (est); 8/30, 3.5 cfs; 9/1, 3.5 cfs; 9/2, 3.5 cfs (est); 9/7, 3.5 cfs (est); 9/9, 3.5 cfs (est); 9/15, 3.0 cfs (est); 9/21, 2.0 cfs (est); 9/29, 0.5 cfs (est).
1995: 10/26/94, 2.5 cfs (est); 4/5, 4/12, off; 5/8, 4.5 cfs (est); 5/23, 15 cfs (est); 6/3, 18 cfs (est); 6/5, 12 cfs (est); 6/20, 22 cfs (est); 6/22, 19.2 cfs; 7/9, 26 cfs (est); 7/10, 45 cfs (est), 7/21, 22 cfs; 7/25, 8/11, 8/21, 9/12, off.
1996: 5/3, 4 cfs (est); 5/7, 3.8 cfs; 5/21, 24 cfs; 6/3, 24 cfs; 6/17, 28 cfs; 7/5, 25 cfs (est); 7/12, 21.8 cfs; 7/23, 28 cfs; 8/6, 0.1 cfs (est); 8/26, off; 9/19, 1 cfs (est).
1997: 5/9, 12.7 cfs; 5/14, 10.8 cfs; 6/12, 32.3 cfs; 6/27, 24.3 cfs; 7/18, 35 cfs (est); 8/14, 9/17, off.
1998: 4/24, 5/4, 5/19, off; 5/28, 10.1 cfs; 6/1, 9 cfs (est); 6/3, 7.9 cfs; 6/12, 37.5 cfs; 6/26, 31.4 cfs; 7/1, 25.8 cfs; 7/14, 22.8 cfs; 7/27, 40 cfs (est); 7/30, 41.3 cfs; 8/11, 34.7 cfs; 8/20, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Munn Ditch, South Cottonwood Creek

Diversion Description: Diversion consists of a 6' steel headgate. A rock diversion dam exists.[1]

Diversion Location:

Source: South Cottonwood Creek, Trib. Cottonwood (or Marsh) Creek, Trib. Green River
Section, Township, Range: 35, 33, 114

Conveyance Description: Open Channel Canal, approximately 6 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
04-29-1902	3854	Irrigation	800.00	11.42	11.42	
07-10-1902	880E	Irrigation	640.00	9.14	20.56	
11-28-1902	956E	Irrigation	480.00	6.85	27.41	
05-15-1957	5912E	Irrigation, Stock	153.00	2.19	29.60	
11-18-1957	5913E	Irrigation, Stock	500.00	7.14	36.74	

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Killpecker Creek above Cottonwood Creek.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Munn Ditch, South Cottonwood Creek

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981			17.25	1,026.45						
1982										
1983							0.27	16.58	0.75	44.83
1984			26.01	1,547.70						
1985										
1986			26.17	1,557.22	5.88	361.55				
1987										
1988										
1989										
1990										
1991										
1992					4.82	296.37				
1993					15.24	936.78	0.13	8.27	3.02	179.57
1994					3.74	229.75	2.15	132.23		
1995										
1996										
1997	4.61	283.64								
1998										
Averages:	4.61	283.64	23.14	1,377.12	7.42	456.11	0.85	52.36	1.89	112.20

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Munn Ditch, South Cottonwood Creek

Data:
1981: 6/8, 30 cfs; 7/1, 15 cfs.
1983: 6/9, 0.30 cfs (est); 7/27, 0.50 cfs (est); 8/10, off; 9/14, 1.00 cfs (est); 10/13, off; 11/3, off.
1984: 5/29, 24 cfs; 6/13, 26 cfs; 6/27, 26 cfs; 7/10, 42 cfs; 9/10, off.
1986: 5/21, off; 6/13, 35 cfs (est); 7/13, 12 cfs (est); 7/29, off; 8/11, off.
1987: 4/29, 8 cfs (est); 7/7, 3 cfs (est).
1992: 4/24, 16.5 cfs (est); 6/22, 7/1, off; 7/8, 6.5 cfs (est); 7/24, off.
1993: 7/1, 28.0 cfs (est); 8/4, off; 8/30, off; 9/27, 6.5 cfs (est).
1994: 7/6, 10.0 cfs (est); 7/29, off; 8/25, 5.0 cfs (est).
1995: 6/4, 22 cfs (est).
1996: 7/25, 0.5 cfs (est).
1997: 5/15, off; 5/28, 22 cfs (est); 7/16, 1 cfs (est).
1998: 6/16, 52.5 cfs.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Musselman Ditch, North Piney Creek

Diversion Description: Diversion consists of a single 36" Waterman slide gate.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 26, 31, 113

Conveyance Description: Open Channel Canal, approximately 2½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
04-10-1889	Terr.	Irrigation	294.00	4.19	4.19	
04-10-1890	Terr.	Irrigation	45.00	0.64	4.83	POD/MOC change from Renshaw Ditch.
05-00-1890	Terr.	Irrigation	160.00	2.28	7.11	POD/MOC change from Fish No. 1 Ditch.
06-12-1899	437E	Irrigation	115.00	1.65	8.76	
10-12-1899	472E	Irrigation	90.00	1.36	10.12	POD/MOC change from Renshaw Ditch.
07-06-1918	3921E	Irrigation	140.00	2.00	12.12	
03-09-1959	6003E	Irrigation, Stock	172.00	2.45	14.57	Supplementary Supply for 135.00 acres with Original Supply from Spring Creek (Trib. Fleming Slough)

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to North Piney Creek at Fleming Slough.[2]

Other Operational Information: The canal is typically turned on the first of May and off in late July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Musselman Ditch, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981					5.68	349.25				
1982	6.89	423.65	8.84	526.02	6.51	400.28	1.27	78.09		
1983			5.27	313.59	3.32	204.14	3.62	222.59	1.37	81.52
1984	7.06	434.10	7.35	437.36	0.22	13.53	2.84	174.62	5.16	307.04
1985			6.11	363.57	5.96	366.47	2.76	169.71		
1986										
1987										
1988					7.37	453.16	3.94	242.26		
1989	12.61	775.36	6.41	381.42	2.34	143.88	4.00	245.95		
1990	5.68	349.25	8.74	520.07	4.27	262.55				
1991	5.37	330.19	28.31	1,684.56	8.52	523.87	0.01	0.61	0.00	0.00
1992	4.40	270.55	12.31	732.50	5.54	340.64	0.05	3.07		
1993	12.55	771.67	34.15	2,032.07	8.98	552.16	4.00	245.95	2.88	171.37
1994	8.38	515.27	9.76	580.76	5.18	318.51	2.15	132.20	1.46	86.88
1995	3.50	215.21	19.56	1,163.90	18.48	1,136.29	5.67	348.63		
1996	9.94	611.19	12.76	759.27	1.67	102.68	0.63	38.74	0.13	7.74
1997	11.92	732.93								
1998	6.40	393.52	9.43	561.12	5.96	366.47	1.46	89.77		
Averages:	7.89	485.24	13.00	773.55	6.00	368.93	2.49	153.25	1.83	109.09

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Musselman Ditch, North Piney Creek, Diversion Data

Data:

1981: 6/22, 7.2 cfs; 6/26, 7.2 cfs; 7/8, 7.2 cfs; 7/9, 9.0 cfs; 7/13, 7.0 cfs; 7/15, 7.0 cfs; 7/28, 4 cfs.
1982: 5/14, 4.5 cfs; 5/21, 14.2 cfs (est); 6/3, 12.5 cfs; 6/18, 6.77 cfs; 7/1, 7.9 cfs; 7/21, 6.60 cfs; 8/12, 0.84 cfs; 9/7, 0.52 cfs.
1983: 5/20, 8.3 cfs; 6/7, 5.81 cfs; 7/12, 3.55 cfs; 7/28, 2.55 cfs; 8/12, 4.50 cfs; 9/13, 1.40 cfs; 10/12, 11/16, off.
1984: 5/18, 14 cfs; 5/30, 17 cfs; 6/14, 8 cfs; 6/28, 1 cfs; 7/17, 8/9, off; 9/5, 9 cfs; 10/2, off.
1985: 6/7, 7.8 cfs; 6/21, 6.4 cfs; 6/21, 5.8 cfs; 6/25, 19 cfs (est); 6/25, 5.8 cfs; 7/15, 5.4 cfs; 7/18, 9.0 cfs; 7/26, 5.0 cfs (est); 8/19, 4.6 cfs.
1986: 4/22, 17.1 cfs; 5/2, 16.2 cfs; 6/4, off; 8/6, off.
1987: 5/28, 15 cfs (est); 6/25, 10.7 cfs (rotated); 6/29, 10 cfs (rotated); 7/1, 11 cfs (rotated); 7/6, 10 cfs (rotated); 7/22, 9 cfs (est); 7/29, 6 cfs (est).
1988: 7/5, 5.8 cfs; 7/7, 10.6 cfs; 8/9, 5.0 cfs (est); 8/19, 4.0 cfs; 8/23, 3.4 cfs; 9/2, off.
1989: 4/25, 2.5 cfs (est); 5/12, 16.1 cfs; 5/19, 12.5 cfs (est); 6/6, 12.4 cfs; 6/27, 7/6, off; 7/10, 6.5 cfs (est); 7/18, 2.5 cfs (est); 7/24, off; 8/3, 5.0 cfs (est); 8/10, 10.0 cfs (est); 8/16, 3.5 cfs (est); 8/25, off; 8/30, 2.5 cfs (est).
1990: 4/20, 7.5 cfs (est); 5/3, 7.5 cfs (est); 5/29, 3.5 cfs (est); 6/1, 8.5 cfs; 6/13, 10.0 cfs (est); 6/22, 8.5 cfs; 7/6, 5.5 cfs; 7/11, 4.0 cfs (est); 7/31, 3.5 cfs (est); 8/14, 2.7 cfs.
1991: 5/9, off; 5/15, 2.0 cfs (est); 5/21, 6.0 cfs (est); 6/5, 23.5 cfs; 6/11, 30.0 cfs; 6/19, 35.2 cfs; 7/1, 22.0 cfs (est); 7/15, 6.9 cfs; 8/2, 8/19, 9/16, off.
1992: 4/23, dry; 5/13, off; 5/16, 1.0 cfs (est); 5/19, 9.0 cfs (est); 5/26, 8.3 cfs; 6/8, 15.1 cfs; 6/12, 15.1 cfs; 6/18, 13.1 cfs; 7/1, 7.1 cfs; 7/7, 7.5 cfs; 7/14, 8.0 cfs (est); 7/16, 6.4 cfs; 8/4, 8/28, dry.
1993: 4/30, off; 5/7, dry; 5/18, 16.4 cfs; 6/2, 27.0 cfs (est); 6/15, 40.0 cfs (est); 6/30, 31.0 cfs; 7/8, 14.0 cfs (est); 7/11, 12.0 cfs; 7/13, 9.5 cfs; 7/19, 9.0 cfs; 7/21, 7/23, 7/26, off (rotated); 7/28, off; 8/10 5.5 cfs (est); 8/18, 4.0 cfs (est); 9/27, 3.0 cfs (est).
1994: 4/21, 2.5 cfs (est); 5/25, 9.5 cfs; 5/29, 16.0 cfs; 5/31, 12.0 cfs; 6/3, 12.5 cfs (arrive), 10.2 cfs (depart); 6/13, 9.8 cfs; 6/20, 10.2 cfs; 6/22, 8.5 cfs; 6/24, 7.5 cfs (est) (arrive), 12.5 cfs (depart); 6/25, 11.9 cfs (rotated); 6/27, 12.0 cfs (arrive), 6.5 cfs (depart); 7/1, 7.1 cfs; 7/11, 6.8 cfs; 7/15, 7.1 cfs; 7/21, 2.5 cfs; 7/28, 3.5 cfs (est); 8/17, 2.0 cfs (est); 8/26, 1.5 cfs (est); 9/23, 2.0 cfs (est); 9/27, dry.
1995: 10/26/94, 4/19, 5/8, off; 5/22, 3.5 cfs (est); 5/24, 9.0 cfs (est); 5/26, 6 cfs (est); 6/7, 19.6 cfs; 6/20, 18.0 cfs; 6/29, 25 cfs (est); 7/14, 38 cfs; 7/20, 0.1 cfs (est); 8/11, 11.3 cfs; 8/25, 0.5 cfs (est); 9/12, 2 cfs (est).
1996: 4/30, off; 6/6, 22.3 cfs; 7/1, off; 7/12, 2.5 cfs (est); 8/14, 0.5 cfs; 9/27, off.
1997: 4/28, off; 5/23, 30 cfs (est); 7/18, 9/12, off.
1998: 5/12, 8.5 cfs (est); 6/10, 12.6 cfs; 6/19, 9 cfs (est); 7/1, 4.0 cfs; 7/8, 8.0 cfs; 7/27, 4.8 cfs; 8/14, 0.8 cfs; 8/28, 1.5 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Noble Number 11 Ditch, Middle Piney Creek

Diversion Description: Diversion consists of a 18" Waterman slide gate mounted on a CMP culvert. No diversion dam exists.[1]

Diversion Location:

Source: Middle Piney Creek, Trib. Green River
Section, Township, Range: 8, 29, 112

Conveyance Description: Open Channel Canal, approximately 3½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
06-00-1885	Terr.	Irrigation	278.00	3.97	3.97	POD/MOC change from a portion of Otto Leifer Ditch
11-15-1885	Terr.	Irrigation	149.00	2.13	6.10	POD/MOC change from a portion of Leifer No. 1 Ditch
11-15-1885	Terr.	Irrigation	68.00	0.97	7.07	POD/MOC change from a portion of Leifer No. 2 Ditch
11-15-1885	Terr.	Irrigation	24.00	0.34	7.41	POD/MOC change from a portion of Leifer No. 4 Ditch
-1885	Terr.	Irrigation	265.00	3.76	11.17	POD/MOC change from Noble No. 1 Ditch
09-30-1969	23252	Irrigation	35.00	0.50	11.67	
09-30-1969	6315E	Irrigation	4.00	0.06	11.73	POD/MOC change from a portion of Otto Leifer Ditch

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Middle Piney Creek above North Channel.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Noble Number 11 Ditch, Middle Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987	5.30	325.88	2.13	126.74						
1988										
1989			9.93	591.20	15.37	945.10	4.82	296.61		
1990			3.79	225.52	5.09	312.97				
1991					3.10	190.61	0.00	0.00		
1992	1.12	68.74	1.07	63.76	0.02	1.38				
1993			9.01	536.13	5.42	333.26	0.04	2.46		
1994										
1995										
1996			20.09	1,195.44	10.08	619.80				
1997	7.02	431.64								
1998										
Averages:	4.48	275.42	7.67	456.47	6.51	400.52	1.62	99.69		

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Noble Number 11 Ditch, Middle Piney Creek, Diversion Data

Data:

1986: 8/14, off. (Located and labelled after irrigation season.)
1987: 4/28, off; 5/20, 8 cfs (est); 6/5, 4 cfs (est); 6/28, off.
1989: 6/14, 18.0 cfs (est); 7/20, 16.0 cfs (est); 8/28, 9/14, off.
1990: 6/6, 2.5 cfs (est); 6/25, 5.7 cfs; 7/11, 7.0 cfs (est); 8/8, 8/31 off.
1991: 6/17, 4.0 cfs (est); 7/2, 4.0 cfs (est); 7/15, 5.5 cfs (est); 7/26, 8/12, 9/6, off.
1992: 5/13, 2.0 cfs (est); 6/9, 1.5 cfs (est); 7/6, 8/5, dry.
1993 (all est): 5/20, 5.5 cfs; 6/1, 6.0 cfs; 6/21, 11.0 cfs; 7/14, 6.5 cfs; 8/4, 8/20, off.
1994: 7/1, dry; 8/16, 8/19, off.
1995: 4/27, off; 6/19, 15 cfs (est); 7/7, 26.4 cfs.
1996: 6/7, 25.2 cfs; 7/3, 25 cfs (est); 7/24, off.
1997: 5/2, off; 6/2, 15 cfs (est); 8/29, off.
1998: 4/24, off; 6/2, 6 cfs (est); 7/24, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

North Piney Canal, North Piney Creek

Diversion Description: Diversion consists of four 6' ratchet-style slide gates mounted on a concrete structure. A diversion dam consisting of discarded car bodies exists.[1]

Diversion Location:
Source: North Piney Creek, Trib. Green River
Section, Township, Range: 19, 31, 113

Conveyance Description: Open Channel Canal, approximately 10 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
08-06-1898	1919	Irrigation	480.00	6.86	6.86	POD/MOC change from Meadow Canyon Ditch
10-03-1900	582E	Irrigation	590.00	8.43	15.29	POD/MOC change from Meadow Canyon Ditch
12-28-1903	1142E	Irrigation	120.00	1.71	17.00	POD/MOC change from Meadow Canyon Ditch
12-22-1908	8798	Irrigation	1,020.00	14.56	31.56	
01-27-1917	3752E	Irrigation	81.00	1.15	32.71	POD/MOC change from Meadow Canyon Ditch
01-27-1917	3753E	Irrigation	73.00	1.04	33.75	POD/MOC change from Meadow Canyon Ditch
02-06-1917	3754E	Irrigation	35.00	0.50	34.25	POD/MOC change from Meadow Canyon Ditch
02-06-1917	3577E	Irrigation	144.00	2.05	36.30	POD/MOC change from Meadow Canyon Ditch
02-09-1917	3757E	Domestic, Irrigation, Stock	12.00	0.17	36.47	POD/MOC change from Meadow Canyon Ditch
04-02-1919	3996E	Irrigation	122.00	1.74	38.21	POD/MOC change from Meadow Canyon Ditch
Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments

North Piney Canal, North Piney Creek

02-20-1930	4659E	Irrigation	58.00	0.83	39.04	POD/MOC change from Meadow Canyon Ditch
04-19-1930	4660E	Irrigation	92.00	1.31	40.35	POD/MOC change from Meadow Canyon Ditch
06-15-1932	4805E	Domestic, Irrigation, Stock	371.60	5.30	45.65	POD/MOC change from Meadow Canyon Ditch

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Approximately 70% of the return flows are delivered to West Meadow Canyon, and 30% to Meadow Canyon Creek.[2]

Other Operational Information: The canal is typically turned on the first of May and off in late July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

North Piney Canal, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981*					4.64	285.30				
1982*	17.75	1,091.40	69.23	4,119.47	38.84	2,388.18	6.71	412.58		
1983*			32.93	1,959.47	28.88	1,775.76	8.41	517.11	5.14	305.85
1984			27.33	1,626.25	22.16	1,362.57				
1985			20.42	1,215.07	6.48	398.44	3.04	186.92		
1986			75.07	4,466.98	46.26	2,844.42				
1987			16.6	987.77	6.32	388.76				
1988					3.94	241.98				
1989					28.74	1,767.15	7.38	453.78		
1990			23.47	1,443.11	16.22	997.33	16.15	993.02		
1991			35.97	2,211.71	21.44	1,318.29	18.55	1,140.60	8.76	538.63
1992	12.73	782.74	6.32	388.60	7.20	442.71	10.88	668.99	6.52	400.90
1993					25.27	1,553.79	26.58	1,634.34	19.33	1,188.56
1994			11.56	710.80	6.86	421.80	10.24	629.63		
1995			27.12	1,667.54	25.26	1,553.18	19.59	1,204.54	5.94	365.24
1996	9.69	595.81	27.59	1,696.44	41.28	2,538.21	27.96	1,719.19	16.66	1,024.38
1997	22.50	1,383.47	38.92	2,393.10	40.35	2,481.02	17.28	1,062.51		
1998	12.97	797.36			15.22	935.80	22.49	1382.58	15.36	944.45
Averages:	14.47	889.85	31.73	1,914.33	21.3	1,316.37	15.02	923.50	11.10	681.14

* = Meadow Canyon Ditch included in total.
Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

North Piney Canal, North Piney Creek, Diversion Data

Data:

1984: 6/15, 61 cfs; 6/29, 44 cfs; 7/18, 16 cfs; 9/14, 3 cfs.
1985: 6/8, 23.7 cfs; 6/11, 37.7 cfs; 6/20, 30.3 cfs; 6/28, 17.0 cfs; 7/3, 14.6 cfs; 7/3, 13.0 cfs; 7/18, 4.0 cfs (est); 8/21, 5.0 cfs (est).
1986: 5/21, 35.4 cfs; 5/21, 84.2 cfs; 6/4, 40 cfs; 6/4, 104 cfs (est); 6/24, 64 cfs; 7/16, 55 cfs; 8/6, 3 cfs (est).
1987: 5/28, 35 cfs; 6/25, 7 cfs (est); 6/29, 7 cfs (est) (rotation); 7/29, 7 cfs (est)(rotation).
1988: 7/5, 17.0 cfs (est); 7/7, 7.0 cfs (est); 7/21, 7.0 cfs (est); 9/2, 2.5 cfs (est).
1989: 4/25, 12.0 cfs (est); 6/27, 51.4 cfs; 7/10, 46.0 cfs; 7/17, 20.0 cfs; 8/3, 9.3 cfs; 8/16, 9.0 cfs; 8/25, 11.0 cfs.
1990: 5/17, 19.0 cfs (est); 5/29, 15.0 cfs (est); 6/6, 15.3 cfs; 6/13, 28.0 cfs; 7/12, 15.0 cfs (est); 7/31, 16.0 cfs (est); 8/14, 18.5 cfs, 9/6, 10.3 cfs.
1990: 5/17, 19.0 cfs (est); 5/29, 15.0 cfs (est); 6/6, 15.3 cfs; 6/13, 28.0 cfs; 7/12, 15.0 cfs (est); 7/31, 16.0 cfs (est); 8/14, 18.5 cfs, 9/6, 10.3 cfs.
1991: 5/20, 31.1 cfs; 6/11, 35.0 cfs; 7/1, 39.8 cfs; 7/15, 16.0 cfs; 8/2, 20.0 cfs; 8/19, 18.0 cfs (est); 9/4, 18.0 cfs (est); 9/16, 16.8 cfs.
1992: 4/15, 8.0 cfs (est); 5/13, 16.5 cfs (est); 5/16, 14.0 cfs; 5/19, 15.2 cfs; 5/26, 8.5 cfs; 6/4, 6.0 cfs; 6/11, 6.0 cfs; 6/18, 6.5 cfs; 7/7, 6.5 cfs; 7/14, 6.5 cfs; 8/28, 12.5 cfs; 9/22, 7.0 cfs (est).
1993: 5/5, off (washed out); 7/1, 43.2 cfs; 7/8, 38.0 cfs (est); 7/11, 17.7 cfs; 7/19, 15.0 cfs; 7/21, 41.0 cfs (est); 7/21, 18.0 cfs (est); 7/21, 18.0 cfs; 7/28, 15.0 cfs (est); 7/28, 28.0 cfs (est); 8/10, 30.0 cfs (est); 8/18, 25.0 cfs (est); 9/27, 21.0 cfs (est).
1994: 5/20, 22.0 cfs (est); 5/25, 15.3 cfs; 5/31, 23.4 cfs; 6/10, 17 cfs (arrive); 15.2 cfs (depart); 6/13, 15.3 cfs (arrive), 6.8 cfs (depart); 6/20, 6.8 cfs; 6/24, 6.9 cfs; 6/25, 6.7 cfs; 6/30, 6.8 cfs; 7/11, 7/15, off; 7/28, 17.5 cfs (est); 8/12, 14.0 cfs (est); 8/17, 12.4 cfs; 8/18, 10.0 cfs (est); 8/26, 8.0 cfs (est).
1995: 6/2, 25 cfs (est) (arrive), 15 cfs (depart); 6/26, 37.8 cfs; 7/17, 22.7 cfs; 8/10, 20 cfs (est); 8/18, 25.4 cfs; 8/29, 12 cfs (est); 9/12, 10 cfs (est); 9/19, 7 cfs (est).
1996: 5/2, 4.7 cfs; 5/22, 11 cfs (est); 6/13, 25.7 cfs; 7/2, 38 cfs; 7/19, 45.5 cfs; 8/14, 27.3 cfs; 9/26, 17 cfs.
1997: 5/15, 42.1 cfs; 6/23, 37.2 cfs; 7/10, 48.4 cfs; 8/7, 22.6 cfs; 8/25, 20 cfs (est).
1998: 5/14, 30.5 cfs; 5/26, 36.5 cfs; 7/9, 28.5 cfs; 7/30, 13.7 cfs; 8/19, 26.7 cfs; 9/25, 15.6 cfs.

Meadow Canyon Ditch:

1981: 6/22, 14.3 cfs; 7/13, 6.5 cfs; 7/19, 6.5 cfs.
1982: 5/19, 10.2 cfs (est); 5/27, 55.7 cfs; 6/11, 65.6 cfs; 6/26, 79.0 cfs; 7/22, 25.7 cfs; 8/13, 5.98 cfs; 9/2, 1.32 cfs.
1983: 6/1, 32.8 cfs; 7/19, 33.2 cfs; 8/3, 9.67 cfs; 9/6, 6.27 cfs; 10/6, 2.89 cfs.
Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Olson-Murdock-Hanna Ditch, Green River

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Green River
Section, Township, Range: 9, 30, 110

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
12-18-1896	1412	Irrigation	767.28	10.96	10.96	POD/MOC change from a portion of Hanna Ditch
07-29-1912	2656E	Irrigation	86.00	1.23	12.19	POD/MOC change from a portion of Hanna Ditch
04-14-1960	22258	Irrigation, Stock	183.00	2.71	14.90	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Green River at Crandell Ditch.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Olson-Murdock-Hanna Ditch, Green River, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989										
1990										
1991										
1992										
1993										
1994										
1995										
1996			10.63	632.53						
1997										
1998			12.35	734.88	18.39	1,130.76				
Averages:			11.49	683.71	18.39	1,130.76				

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Olson-Murdock-Hanna Ditch, Green River, Diversion Data

Data:
1996: 6/13, 35 cfs (est); 6/27, 6 cfs (est); 7/9, 18 cfs (est); 7/15, 29 cfs (est).
1997: 5/27, 18 cfs (est); 6/6, 24 cfs (est); 7/28, off.
1998: 6/12, 19 cfs (est); 7/1, 20 cfs (est); 7/16, 30 cfs (est); 7/29, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Osterhout-Edwards Ditch, North Piney Creek

Diversion Description: Diversion consists of two 48" Waterman slide gates mounted on a CMP culvert. A concrete rubble diversion dam exists.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 9, 30, 112

Conveyance Description: Open Channel Canal, approximately 12 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
11-18-1901	3544	Irrigation	528.00	7.53	7.53	
04-03-1903	1013E	Irrigation	320.00	4.57	12.10	
01-18-1955	5779E	Irrigation, Stock	105.00	1.50	13.60	

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to North Piney Creek at channel split.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Osterhout-Edwards Ditch, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981					0.82	50.21				
1982										
1983										
1984										
1985					3.03	186.31	0.00	0.00		
1986	16.27	1,000.18								
1987					6.70	411.87				
1988										
1989					6.94	426.72	1.43	87.93		
1990			9.88	587.90	6.55	402.74				
1991	4.48	275.46	35.35	2,103.47	18.49	1,136.91	10.53	647.46		
1992	1.61	99.00	0.00	0.00	0.85	52.26	0.00	0.00		
1993	14.56	895.26	54.33	3,232.86	23.31	1,433.28	2.81	172.78	0.00	0.00
1994	8.91	547.85	2.05	121.98	0.00	0.00	0.00	0.00	0.20	11.90
1995	5.09	312.97	30.19	1,796.43	24.41	1,500.91				
1996			18.00	1,071.07	22.32	1,372.40				
1997	6.97	428.57	12.01	714.64						
1998	5.85	359.70	19.15	1,139.50	16.97	1,043.44				
Averages:	7.97	489.87	20.11	1,196.43	10.87	668.09	2.46	151.36	0.10	5.95

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Osterhout-Edwards Ditch, North Piney Creek, Diversion Data

Data:

1981: 6/24, 10 cfs; 7/10, 7/28, off.
1985: 6/21, 14.4 cfs; 6/21, 12.1 cfs (est); 7/4, 9.3 cfs; 7/18, off; 8/19, off.
1986: 5/14, 2 cfs (est); 6/4, 62.7 cfs; 8/6, off.
1987: 6/26, 8 cfs (est) (rotated); 7/6, 13.4 cfs; 7/28, off.
1988: 7/7, 6.0 cfs (est); 7/10, 15.0 cfs (est); 7/13, 16.0 cfs; 9/2, off.
1989: 5/30, 18.1 cfs; 7/10, 9.0 cfs (est); 7/17, 6.0 cfs (est); 8/25, 8/30, off.
1990: 5/29, 7.5 cfs (est); 6/6, 7.5 cfs; 6/13, 10.5 cfs; 6/22, 10.0 cfs (est); 6/27, 12.5 cfs; 7/11, 22.0 cfs (est); 7/12, 7.5 cfs; 7/18, off.
1991: 5/9, 5/15, off; 6/5, 20.2 cfs; 6/19, 42.0 cfs; 7/1, 50.0 cfs; 7/5, 23.0 cfs; 7/15, 12.0 cfs; 8/2, 18.0 cfs; 9/6, off.
1992: 4/23, 5/13, off; 5/19, 7.5 cfs; 5/21, off; 5/26, 5.0 cfs (est); 5/29, 6/8, 6/12, 6/18, 7/1, off; 7/14, 3.5 cfs (est); 7/16, 8/4, 8/28, dry.
1993: 4/30, 5/7, off; 5/14, 5.0 cfs (est); 5/18, 6.0 cfs (est); 5/28, 42.3 cfs; 6/2, 43.0 cfs; 6/6, 47.0 cfs (est); 6/17, 63.0 cfs (est); 6/30, 52.6 cfs; 7/11, 10.0 cfs; 7/13, 19.8 cfs; 7/13, 14.0 cfs; 7/19, 12.0 cfs (est); 7/21, 23.0 cfs (rotated); 7/23, 23.2 cfs (rotated); 7/26, 33.0 cfs (rotated); 7/28, 28.0 cfs (rotated); 8/10, 8/18, off (rotated); 9/27, off.
1994: 4/19, 5/5, off; 5/20, 15.0 cfs (est); 5/29, 12.0 cfs; 6/3, 19.0 cfs (est) (arrive), 7.5 cfs (depart); 6/10, 6/20, 6/22, 6/28, 7/15, 8/11, 9/23, off; 9/27, 3.0 cfs (est) (arrive), off (depart).
1995: 10/26/94, 5.0 cfs (est); 4/19, 11.5 cfs (est); 5/8, 3.0 cfs (est); 5/22, 3.0 cfs (est); 5/26, 7 cfs (est); 6/20, 37.6 cfs; 7/14, 37 cfs; 7/20, 25 cfs (est); 7/27, off.
1996: 5/21, 4.5 cfs; 5/31, 8 cfs (est); 6/6, 23.1 cfs; 6/13, 10 cfs (est); 7/1, 27.8 cfs; 7/12, 20 cfs (est); 7/15, 28.1 cfs; 7/24, 21 cfs; 8/14, off.
1997: 4/28, 1 cfs (est); 5/19, 6.9 cfs; 6/23, 26.7 cfs.
1998: 4/24, 5/14, off; 6/8, 28.0 cfs; 6/19, 21.9 cfs; 7/9, 27.5 cfs; 7/21, 19.8 cfs; 8/4, 8/14, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Pearson Ditch, Green River

Diversion Description: Information not available at time of report.

Diversion Location:

Source: Green River
Section, Township, Range: 32, 35, 111

Conveyance Description: Open Channel Canal.

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
07-18-1898	1885	Irrigation	614.00	8.77	8.77	POD/MOC change from a portion of Scott Ditch
05-18-1903	1057E	Irrigation	25.00	0.36	9.13	POD/MOC change from a portion of Scott Ditch
12-03-1908	1991E	Irrigation	70.00	1.00	10.13	POD/MOC change from a portion of Scott Ditch
03-25-1986	6820E	Irrigation	24.00	0.34	10.47	POD/MOC change from a portion of Scott Ditch

Storage Rights: None.

Estimated Canal Losses: Information not available at time of report.

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Green River at Forty Rod Creek.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Pearson Ditch, Green River, Diversion Data

No Diversion Data Available.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Ray Ditch, South Cottonwood Creek

Diversion Description: Diversion consists of two 36" Waterman slide gates. A rock diversion dam exists.[1]

Diversion Location:

Source: South Cottonwood Creek, Trib. Cottonwood (or Marsh) Creek, Trib. Green River
Section, Township, Range: 11, 23, 114

Conveyance Description: Open Channel Canal, approximately 4½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
09-14-1901	3424	Irrigation	650.00	7.55	7.55	
04-30-1903	1033E	Irrigation	256.00	3.65	11.20	
10-10-1913	2854E	Irrigation	40.00	0.57	11.77	

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to South Cottonwood Creek at Little Cottonwood Creek.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Ray Ditch, South Cottonwood Creek, Diversion Data

Data:

1986: 5/15, 8 cfs (est); 5/21, 6 cfs (est); 6/13, 15 cfs (est); 7/3, 3 cfs (est); 7/29, 8/11, off.
1987: 4/29, 1 cfs (est); 7/7, 0.5 cfs (est).
1990: 6/15, 8.0 cfs (est); 7/17, 8.0 cfs (est); 8/29, off.
1991: 5/28, 10.0 cfs (est); 6/16, 9.5 cfs (est); 7/22, 8/9, 9/4, off.
1992: 6/22, 7/1, off; 7/8, 3.0 cfs (est); 7/24, off.
1993: 6/16, 22.0 cfs (est).
1994: 7/6, 7.0 cfs (est); 8/25, 1.5 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Reardon Ditch, South Piney Creek

Diversion Description: Diversion consists of a single 5' by 4' slide gate mounted on a section of culvert. A rock and concrete diversion dam exists.[1]

Diversion Location:
Source: South Piney Creek, Trib. Green River
Section, Township, Range: 10, 29, 112

Conveyance Description: Open Channel Canal, approximately 4½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
05-00-1887	Terr.	Irrigation	330.00	4.72	4.72	POD/MOC change from a portion of Tarter Ditch.
06-14-1897	1509	Irrigation	503.00	7.16	11.88	
06-23-1898	1896	Irrigation	13.00	0.18	12.06	POD/MOC change from a portion of Merrill Ditch.
11-05-1898	2005	Irrigation	283.00	4.03	16.09	POD/MOC change from Midway Ditch.
10-12-1899	475E	Irrigation	629.36	9.00	25.09	
02-02-1900	496E	Irrigation	36.00	0.51	25.60	POD/MOC change from Midway Ditch.
06-10-1903	1071E	Irrigation	75.00	1.07	26.67	POD/MOC change from a portion of Tarter Ditch.
11-23-1911	11079	Domestic, Irrigation	307.00	4.38	31.05	POD/MOC change from a portion of O'Neil Ditch.
11-23-1916	3748E	Irrigation	149.00	2.13	33.18	
01-15-1919	15349	Domestic, Irrigation, Stock	404.82	5.78	38.96	POD/MOC change from a portion of MacGlashan Ditch.
11-03-1969	23294	Irrigation	83.40	1.19	40.15	POD/MOC change from a portion of Midmermac Ditch. Supplementary Supply for 10.00 acres with Original Supply from New Spring Gulch.

Storage Rights: None.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Reardon Ditch, South Piney Creek

Estimated Canal Losses: Typical losses (10%) are experienced.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Approximately 140 acres are alfalfa; remaining lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to Green River at Tarter Gulch.[2]

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Reardon Ditch, South Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981	9.95	611.80	13.67	813.42	8.37	514.65	10.99	675.75	0.00	0.00
1982	22.52	1,384.70	39.94	2,376.60	28.28	1,738.87				
1983	22.38	1,376.09	40.49	2,409.32	24.88	1,529.81	7.49	460.54	0.00	0.00
1984	28.36	1,743.79	43.21	2,571.17	27.13	1,668.16	2.87	176.47	0.00	0.00
1985	19.70	1,211.31	29.71	1,767.87	20.16	1,239.59	8.40	516.50	4.60	273.72
1986	23.72	1,458.49	75.07	4,466.98	46.26	2,844.42	1.48	91.00	0.00	0.00
1987	34.27	2,107.18	20.57	1,224.00	20.97	1,289.40	6.11	375.69	2.50	148.76
1988	25.22	1,550.72	25.50	1,517.36	10.48	644.39	4.98	306.21	3.46	205.88
1989	24.17	1,486.16	47.08	2,801.45	25.77	1,584.54	13.43	825.78	1.30	77.36
1990										
1991	25.57	1,572.24	39.88	2,373.02	23.69	1,456.64	0.47	28.90	0.00	0.00
1992	13.57	834.39	7.15	425.45	4.24	260.71	1.84	113.14	0.89	52.96
1993	25.33	1,557.48	41.01	2,440.26	29.56	1,817.57	9.64	592.74	18.54	1,103.21
1994	22.25	1,368.10	13.67	813.42	4.62	284.07	3.35	205.98	2.53	150.55
1995	22.68	1,394.54	54.32	3,232.26	21.02	1,292.47	12.13	745.84	3.34	198.74
1996	30.21	1,857.54	42.02	2,500.36	15.69	964.74	16.16	993.64	8.95	532.56
1997	19.09	1,173.80	40.87	2,431.93	21.43	1,317.68	6.73	413.81	7.11	423.07
1998	36.32	2,233.23	30.00	1,785.12	28.73	1,766.54	2.47	151.87	0.06	3.57
Averages:	23.84	1,465.97	35.54	2,114.71	21.25	1,306.72	6.78	417.12	3.33	198.15

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Reardon Ditch, South Piney Creek, Diversion Data

Data:

1980: 5/2, off; 5/22, 25 cfs; 7/30, off; 9/25, 5 cfs.

1981: 4/16, 2 cfs (est); 5/4, 7 cfs (est); 6/11, 16 cfs; 6/22, 12 cfs; 6/25, 11 cfs; 7/7, 16 cfs; 7/10, 11 cfs; 7/13, 11 cfs; 7/16, 8 cfs; 7/20, 5 cfs; 7/28, 3 cfs (est); 8/18, off.

1982: 5/13, 20.1 cfs; 5/20, 35.0 cfs; 5/28, 46.6 cfs; 6/9, 35.5 cfs; 6/15, 35.8 cfs; 6/23, 44.3 cfs; 7/15, 41.4 cfs; 7/22, 39.8 cfs.

1983: 5/6, 5.56 cfs; 5/27, 40.2 cfs; 6/2, 46.1 cfs; 6/10, 43.4 cfs; 6/21, 40.7 cfs; 7/22, 23.0 cfs; 8/8, 9/15, 10/18, 11/3, off.

1984: 5/3, 4 cfs; 5/14, 38 cfs; 5/22, 33 cfs; 6/7, 44 cfs; 6/25, 44 cfs; 7/6, 37 cfs; 7/11, 37 cfs; 8/6, 8/16, 9/18, off.

1985: 5/9, 35.2 cfs; 5/15, 19.5 cfs; 6/6, 37.0 cfs; 6/6, 35.2 cfs; 6/17, 30.4 cfs; 6/17, 25.6 cfs; 6/24, 18.2 cfs; 6/27, 31.0 cfs; 6/29, 33.6 cfs; 7/8, 18.5 cfs; 7/23, 26.3 cfs; 8/8, 11 cfs (est); 9/25, 4 cfs (est).

1986: 4/14, off; 4/28, 2 cfs (est); 5/9, 4 cfs (est); 5/13, 32.8 cfs; 5/22, 41 cfs; 7/2, 46 cfs; 7/31, 12 cfs (est); 8/22, off.

1987: 4/23, 14.9 cfs; 5/4, 30 cfs (est); 5/12, 36.3 cfs; 5/12, 33 cfs (est); 5/16, 26 cfs; 5/18, 42 cfs; 5/20, 40 cfs; 5/26, 40 cfs; 6/2, 24 cfs; 6/5, 23 cfs; 6/10, 30 cfs (est); 6/12, 20 cfs (est); 6/17, 27.1 cfs; 6/21, 20 cfs (est); 6/22, 18 cfs; 6/24, 14 cfs; 6/28, 8 cfs (est); 6/30, 10 cfs (est); 7/2, 26 cfs; 7/6, 20 cfs; 7/9, 25 cfs; 7/13, 28 cfs (est); 7/22, 20 cfs (est); 7/24, 16 cfs (est); 8/4, 10 cfs (est); 8/25, 3 cfs (est); 10/8, 2 cfs (est).

1988: 17.4 cfs; 5/10, 34.1 cfs; 5/12, 21.4 cfs; 6/20, 26.3 cfs; 6/26, 26.6 cfs; 7/1, 25.1 cfs; 7/15, 6.5 cfs; 9/30, 2.9 cfs.

1989: 4/13, 7.0 cfs (est); 5/3, 15.6 cfs; 5/6, 23.9 cfs; 5/22, 24.2 cfs; 5/26, 25.0 cfs; 6/7, 42.7 cfs; 6/16, 48.0 cfs; 6/20, 49.5 cfs; 6/26, 60.0 cfs; 7/3, 32.6 cfs; 7/5, 38.0 cfs; 7/9, 24.1 cfs; 7/9, 30.0 cfs (est); 7/17, 31.0 cfs; 7/24, 18.6 cfs; 7/31, 16.0 cfs (est); 8/7, 16.0 cfs (est); 8/14, 25.6 cfs; 8/21, 7.0 cfs (est); 9/1, 4.0 cfs (est); 9/6, 2.0 cfs (est); 9/18, 2.0 cfs (est).

1991: 4/29, 11.5 cfs; 5/8, 27.0 cfs (est); 5/9, 27.6 cfs; 5/13, 23.2 cfs; 5/15, 28.7 cfs; 5/16, 14.4 cfs; 5/23, 28.8 cfs; 5/28, 33.0 cfs; 6/4, 38.0 cfs; 6/6, 43.4 cfs; 6/13, 37.8 cfs; 6/25, 43.0 cfs; 7/5, 30.3 cfs; 7/8, 25.2 cfs; 7/15, 25.5 cfs; 7/22, 25.5 cfs; 8/5, 9/6, 9/18, 9/30, off.

1992: 4/10, 12.0 cfs; 4/13, 20.1 cfs; 4/14, 23.5 cfs; 4/20, 24.7 cfs; 5/1, 25.0 cfs; 5/11, 18.8 cfs; 5/13, 10.5 cfs; 5/20, 10.5 cfs; 5/26, 7.5 cfs; 6/9, 7.5 cfs; 6/26, 7.0 cfs; 7/1, 5.5 cfs; 7/15, 6.2 cfs; 7/20, 3.5 cfs; 8/4, 1.7 cfs; 8/7, 2.0 cfs (est); 8/21, 2.0 cfs (est); 9/15, 1.5 cfs (est); 9/21, off.

1993: 4/19, 2.0 cfs (est); 4/20, 5.1 cfs; 4/23, 4.5 cfs (est); 4/27, 5.0 cfs; 4/29, 5.5 cfs; 5/4, 5.5 cfs; 5/5, 7.0 cfs (est); 5/6, 16.1 cfs; 5/7, 16.1 cfs; 5/10, 6.5 cfs (est); 5/10, 5.0 cfs; 5/11, 5.0 cfs; 5/12, 5.0 cfs; 5/14, 6.5 cfs (est); 5/14, 28.2 cfs; 5/17, 37.2 cfs; 5/19, 39.3 cfs; 5/20, 39.0 cfs; 5/24, 39.0 cfs; 5/26, 39.0 cfs; 5/27, 36.5 cfs; 5/28, 39.1 cfs; 5/30, 39.1 cfs; 5/31, 39.1 cfs; 6/1, 38.5 cfs; 6/2, 39.0 cfs; 6/3, 38.5 cfs; 6/3, 44.0 cfs; 6/6, 44.0 cfs; 6/6, 48.0 cfs; 6/9, 36.0 cfs; 6/9, 39.0 cfs; 6/11, 32.4 cfs; 6/14, 41.0 cfs; 6/15, 39.0 cfs; 6/18, 46.0 cfs; 6/19, 46.0 cfs; 6/21, 42.0 cfs; 6/24, 43.0 cfs; 6/27, 40.0 cfs; 6/30, 40.0 cfs; 7/6, 38.0 cfs; 7/7, 40.0 cfs; 7/7, 35.0 cfs; 7/8, 33.0 cfs; 7/11, 33.0 cfs; 7/11, 27.0 cfs; 7/12, 27.2 cfs; 7/13, 27.0 cfs; 7/13, 23.5 cfs; 7/16, 26.0 cfs; 7/23, 25.7 cfs; 7/26, 25.0 cfs; 7/26, 30.3 cfs; 7/28, 29.0 cfs; 7/30, 25.0 cfs; 8/2, 27.0 cfs; 8/5, 28.4 cfs; 8/9, 3.5 cfs (est); 8/10, 3.5 cfs (est); 8/17, 3.0 cfs (est); 8/18, 3.0 cfs (est); 8/20, 3.0 cfs (est); 8/26, 3.0 cfs (est); 9/2, 24.0 cfs; 9/3, 24.0 cfs; 9/3, 25.5 cfs; 9/7, 25.0 cfs; 9/9, 25.0 cfs; 9/14, 24.0 cfs; 9/17, 24.0 cfs; 9/20, 23.3 cfs; 9/28, off.

1994: 4/7, 1.5 cfs (est); 4/8, 2.5 cfs; 4/13, 7.5 cfs (est); 4/14, 8.5 cfs (est) (arrive), 12.0 cfs (est) (depart); 4/15, 11.1 cfs (arrive), 8.5 cfs (depart); 4/17, 9.0 cfs; 4/18, 9.0 cfs (arrive), 14.0 cfs (depart); 4/21, 14.5 cfs; 4/22, 14.8 cfs (arrive), 16.1 cfs (depart); 4/24, 16.1 cfs (arrive), 24.8 cfs (depart); 5/2, 24.9 cfs; 5/5, 25.0 cfs; 5/9, 25.0 cfs; 5/11, 16.0 cfs; 5/16, 20.3 cfs (arrive), 26.6 cfs (depart); 5/19, 26.6 cfs (arrive), 24.6 cfs (depart); 6/6, 15.8 cfs; 6/8, 18.0 cfs; 6/13, 15.0 cfs; 6/15, 18 cfs; 6/17, 11.0 cfs; 6/20, 12.0 cfs; 6/21, 15.0 cfs; 6/22, 17 cfs; 6/23, 16.0 cfs; 6/26, 12.5 cfs (arrive), 4.7 cfs (depart), 6/27, 4.7 cfs; 7/2, 4.7 cfs; 7/3, 4.7 cfs; 7/11, 5.0 cfs (arrive), 4.7 cfs (depart); 7/15, 5.0 cfs; 7/18, 2.0 cfs (est); 7/21, 4.9 cfs; 7/26, 4.7 cfs; 8/4, 6.0 cfs; 8/8, 4.7 cfs; 8/11, 4.7 cfs; 8/16, 4.0 cfs; 8/19, 4.7 cfs; 8/21, 4.5 cfs (est) (arrive), 2.0 cfs (est) (depart); 8/25, off; 8/29, off; 9/1, 2.0 cfs (est); 9/2, 2.0 cfs (est); 9/7, 1.5 cfs (est); 9/9, 1.5 cfs (est); 9/15, 3.0 cfs (est); 9/21, 3.0 cfs (est); 9/29, 4.0 cfs (est) (arrive), 2.5 cfs (est) (depart); 9/30, 2.5 cfs (est).

1995: 10/26/94, 7.0 cfs (est); 4/5, 1.5 cfs (est); 4/12, 2.42 cfs; 4/13, 2.5 cfs (est); 4/18, 10.0 cfs (est) (arrive), 8.0 cfs (est) (depart); 4/20, 11.3 cfs; 4/24, 13.0 cfs; 4/25, 13.0 cfs; 4/27, 12.0 cfs (est) (arrive), 14.0 cfs (est) (depart); 4/28, 15.9 cfs; 5/1, 17 cfs (est); 5/2, 15.9 cfs (arrive), 17 cfs (est) (depart); 5/4, 20.9 cfs; 5/5, 22.0 cfs (est); 5/8, 18.5 cfs (est); 5/9, 9.0 cfs (est); 5/11, 26 cfs (est); 5/12, 27.2 cfs; 5/15, 11.0 cfs (est); 5/16, 16 cfs (est); 5/18, 20 cfs (est) (arrive), 16.1 cfs (est) (depart); 5/19, 20.1 cfs; 5/22, 20.1 cfs; 5/23, 40 (est); 5/25, 35 cfs (est); 5/26, 40 cfs (est); 5/28, 27 cfs; 5/29, 23 cfs (est); 5/30, 20 cfs (est); 6/1, 30 cfs (est); 6/2, 24.39 cfs (arrive), 30 cfs (est) (depart); 6/4, 40 cfs (est) (arrive), 45 cfs (est) (depart); 6/5, 40 cfs 6/6, 45 cfs; 6/7, 62.2 cfs; 6/8, 62 cfs (arrive), 72 cfs (depart); 6/9, 64 cfs; 6/12, 50 cfs; 6/13, 59 cfs; 6/16, 60 cfs; 6/19, 57 cfs; 6/20, 54 cfs; 6/22, 57 cfs; 6/23, 57 cfs; 6/26, 57 cfs; 6/30, 59 cfs; 7/3, 51.7 cfs; 7/5, 52.8 cfs;

Reardon Ditch, South Piney Creek, Diversion Data

7/6, 45 cfs; 7/9, 40 cfs (est); 7/10, 28.8 cfs; 7/13, 25 cfs; 7/14, 25 cfs; 7/21, 3 cfs (est); 7/25, 2 cfs (est); 7/31, 2 cfs (est); 8/11, 7 cfs (est); 8/14, 7 cfs (est); 8/18, 7 cfs (est); 8/21, 24.5 cfs; 8/28, 21 cfs; 9/12, 1 cfs (est); 9/28, off; 10/5, 1 cfs (est).

1996: 10/5/95, 1 cfs (est); 4/26, 25 cfs (est); 4/29, 25.7 cfs; 5/6, 28.6; 5/22, 31.4 cfs; 5/31, 32.1 cfs; 6/10, 46.4 cfs; 6/24, 41 cfs; 7/5, 42 cfs; 7/18, 2 cfs (est); 8/6, 3 cfs (est); 8/13, 25 cfs; 9/5, 14 cfs; 9/19, 15.8 cfs.

1997: 4/14, 5 cfs (est); 5/12, 3.71 cfs; 5/16, 24.4 cfs; 6/12, 45.8 cfs; 6/27, 37.7 cfs; 8/4, 6 cfs (est); 8/12, 2 cfs (est); 9/5, 15.8 cfs; 9/17, 10 cfs (est).

1998: 4/16, 2 cfs (est); 4/24, 2.4 cfs; 5/4, 36.8 cfs; 5/11, 43.4 cfs; 5/19, 36 cfs (est); 5/21, 39.8 cfs; 6/1, 25.1 cfs; 6/12, 25.4 cfs; 6/26, 37.6 cfs; 6/29, 35.7 cfs; 7/14, 35.3 cfs; 8/10, 1 cfs (est); 6/29, 35.7 cfs; 7/14, 35.3 cfs; 8/10, 1 cfs (est); 8/20, 0.5 cfs (est); 9/3, 1 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Redan Ditch, Middle Piney Creek

Diversion Description: Diversion consists of a single 40" slide gate mounted on a CMP culvert. A rock diversion dam exists.[1]

Diversion Location:

Source: Middle Piney Creek, Trib. Green River
Section, Township, Range: 32, 30, 113

Conveyance Description: Open Channel Canal, approximately 6½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
06-24-1899	2185	Irrigation	396.00	5.62	5.62	
05-02-1901	655E	Irrigation	370.00	5.28	10.90	
03-30-1953	5667E	Irrigation	178.00	2.54	13.44	
12-07-1953	5710E	Irrigation	112.00	1.23	14.67	

Storage Rights: None.

Estimated Canal Losses: Typical losses (10%) are experienced in the first 3 miles of the canal; higher than typical (20%) are experienced in remainder of canal.[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Middle Piney Creek near Noble ditches.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Redan Ditch, Middle Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981					6.28	386.14				
1982			20.81	1,238.28	29.10	1,789.29	5.10	313.59	3.21	191.01
1983	2.23	136.94		11.32	696.00	0.00	0.00	0.00	0.00	0.00
1984	7.42	456.24	12.80	761.65	8.41	517.25			0.00	0.00
1985			13.69	814.61	7.85	482.68				
1986	15.38	945.72					0.00	0.00		
1987	6.12	376.30	6.14	365.36	1.68	103.30				
1988					2.85	175.24	0.33	20.29	0.12	7.14
1989	3.17	194.92	12.43	739.64	13.69	841.77	5.31	326.50		
1990	3.11	191.23	5.97	355.24	5.49	337.57	0.53	32.59		
1991	1.59	97.77	13.28	790.21	12.71	781.51	1.23	75.63		
1992	0.74	45.50	2.59	154.12	1.29	79.32				
1993	6.71	412.58	11.13	662.15			0.00	0.00	0.00	0.00
1994							0.00	0.00		
1995					16.83	1,034.84				
1996			15.84	942.55	12.09	743.39				
1997			22.46	1,336.46	15.01	922.93				
1998										
Averages:	5.16	317.47	12.47	741.83	10.33	635.09	1.39	85.40	0.67	39.63

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Redan Ditch, Middle Piney Creek, Diversion Data

Data:

1981: 6/29, 9.22 cfs; 7/7, 10.5 cfs; 7/14, 10.25 cfs; 7/20, 10.4 cfs.
1982: 6/2, 13.2 cfs; 6/17, 16.5 cfs; 6/29, 37.9 cfs; 7/14, 33.0 cfs; 8/19, off; 10/13, 6.30 cfs.
1983: 5/10, off; 5/26, 8.63 cfs; 7/7, 31.9 cfs; 7/29, 8/9, 9/8, 10/17, off.
1984: 5/2, 6 cfs; 5/17, 8 cfs; 6/8, 9 cfs; 6/20, 16 cfs; 7/6, 15 cfs; 7/16, 22 cfs; 8/27, 9/17, off.
1985: 6/1, 20.3 cfs; 6/1, 16.4 cfs; 6/19, 12.5 cfs; 6/19, 10.9 cfs; 6/26, 13.5 cfs; 7/9, 11.0 cfs; 8/6, off.
1986: 5/12, 20.4 cfs; 5/28, 39.2 cfs; 7/30, 8/22, off.
1987 (all est): 4/28, off; 5/4, 8 cfs; 5/15, 6 cfs; 6/4, 5 cfs; 6/8, 11 cfs; 6/22, 4 cfs; 7/2, 3 cfs; 8/4, off.
1988: 6/24, 13.3 cfs; 7/12, 2.0 cfs (est); 8/15, off; 8/31, 0.5 cfs (est); 9/16, off.
1989: 5/11, 1.5 cfs (est); 7/7, 18.8 cfs; 7/19, 10.0 cfs (est); 7/28, 12.0 cfs (est); 9/1, 9/7, off.
1990: 4/30, 2.0 cfs (est); 5/11, 2.0 cfs (est); 6/18, 7.0 cfs (est); 7/3, 4.5 cfs (est); 7/26, 8.7 cfs; 8/8, 8/31, off.
1991: 5/10, off; 5/24, 3.0 cfs (est); 6/4, 4.5 cfs (est); 6/13, 14.5 cfs (est); 6/24, 18.1 cfs; 7/16, 12.8 cfs; 7/24, 12.0 cfs (est); 8/12, 9/6, off.
1992: 5/1, 5/11, off; 6/9, 3.0 cfs (est); 7/6, 2.0 cfs (est); 8/5, off.
1993: 4/20, 2.0 cfs (est); 5/3, 2.5 cfs (est); 5/10, 5.5 cfs (est); 5/26, 8.5 cfs (est); 6/9, 18.0 cfs (est); 6/14, 11.0 cfs (est); 6/23, 19.9 cfs; 8/2, 8/20, 9/3, 9/20, 10/1, off.
1994: 4/19, off; 5/11, 5.0 cfs (est); 7/21, 8/16, off.
1995: 10/26/94, 3.0 cfs (est); 6/23, 20 cfs (est); 7/3, 24.8 cfs; 7/21, 20 cfs (est); 7/28, off.
1996: 6/7, 15 cfs (est); 7/2, 25 cfs (est); 7/30, 8/22, off.
1997: 5/27, 17 cfs (est); 6/26, 25.6 cfs; 7/25, 15 cfs (est).
1998: 6/2, 2.6 cfs; 6/15, 25.1 cfs; 7/28, 27.1 cfs.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

S. McKay Number 2, North Piney Creek

Diversion Description: Diversion consists of two 48" headgates. A rock diversion dam exists.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 15, 30, 112

Conveyance Description: Open Channel Canal, approximately 8 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
07-01-1890	Terr.	Irrigation	250.00	3.55	3.55	
10-18-1897	1626	Irrigation	284.58	4.07	7.62	POD/MOC change from Bitter Root Ditch
02-18-1898	319E	Irrigation	809.00	11.52	19.14	POD/MOC change from F.W. Armstrong Ditch
05-10-1902	826E	Irrigation	320.00	4.56	23.70	POD/MOC change from F.W. Armstrong Ditch
06-20-1955	5901E	Irrigation, Stock	269.00	3.84	27.54	

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to North Piney Creek at West Meadow Canyon.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

S. McKay Number 2, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988							3.21	197.38		
1989			15.79	939.57	7.06	434.10	1.44	88.54		
1990			6.65	395.70	2.61	160.48				
1991	1.10	67.64	9.96	592.66	14.40	885.42				
1992	10.76	661.61	15.71	934.81	1.36	83.62	0.00	0.00		
1993	12.03	739.70	31.69	1,885.69	18.74	1,152.28	1.31	80.55	0.00	0.00
1994										
1995	3.42	210.29	28.22	1,679.21	27.14	1,668.77				
1996	6.34	389.83	23.98	1,426.91	10.55	648.69	4.70	288.99	4.25	252.89
1997			21.40	1,273.39	4.08	250.87	8.35	513.42		
1998	4.39	269.93	9.60	571.24	9.57	588.44				
Averages:	6.34	389.83	18.11	1,077.69	10.61	652.52	3.17	194.81	2.13	126.45

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

S. McKay Number 2, North Piney Creek, Diversion Data

Data:

1986: 8/20, off. (Located and labelled after irrigation season.)
1987: 6/25, 1.5 cfs (est); 6/30, 8 cfs (est) (rotated); 7/30, off.
1988: 8/8, 7.5 cfs; 9/2, 0.5 cfs (est).
1989: 6/6, 10.5 cfs (est); 6/21, 26.3 cfs; 7/10, 1.5 cfs (est); 7/17, 5.0 cfs (est); 7/24, 17.0 cfs (est); 7/27, 4.5 cfs (est); 8/25, off.
1990: 5/29, off; 6/1, 12.7 cfs; 6/4, 14.0 cfs; 6/13, 20.0 cfs (est); 6/22, 19.5 cfs; 6/27, 36.1 cfs; 7/16, 10.0 cfs (est); 7/30, off.
1991: 5/15, 2.0 cfs (est); 6/5, 2.0 cfs (est); 6/19, 21.3 cfs; 7/1, dry; 7/5, 23.0 cfs; 7/12, 21.3 cfs; 7/15, 16.0 cfs (est); 8/12, 9/6, off.
1992: 4/15, 6.0 cfs (est); 4/23, 6.0 cfs (est); 5/20, 6.0 cfs (est); 5/22, 14.8 cfs; 5/26, 23.5 cfs; 6/8, 10.0 cfs (est); 6/10, 12.0 cfs (est); 6/12, 26.2 cfs; 6/18, 20.5 cfs; 6/18, 20.5 cfs; 7/1, 6.5 cfs (est); 7/14, 8/4, 8/28, dry.
1993: 4/30, off; 5/7, 6.3 cfs (est); 5/14, 4.0 cfs (est); 5/18, 9.0 cfs (est); 5/28, 28.4 cfs; 6/2, 8.5 cfs (est); 6/6, 38.0 cfs (est); 6/17, 32.0 cfs (est); 6/30, 34.0 cfs (est); 7/12, 12.0 cfs (est); 7/13, 17.0 cfs; 7/14, 23.0 cfs (est); 7/16, 19.8 cfs; 7/19, 15.0 cfs (est); 7/26, 22.0 cfs; 7/28, 13.0 cfs (est); 8/10, 8/18, 9/27, off.
1995: 5/11, 0.5 cfs (est); 5/22, dry; 6/9, 37.2 cfs; 6/12, 11 cfs (est); 6/22, 25.5 cfs; 6/29, 50 cfs (est); 7/14, 20.5 cfs; 7/20, 30 cfs (est); 8/10, off.
1996: 10/2/95, 4/30, 5/17, off; 5/31, 15 cfs (est); 6/4, 28.4 cfs; 7/1, 19.7 cfs; 7/15, 15.9 cfs; 7/24, off; 9/5, 8.6 cfs; 9/27, off.
1997: 5/19, 37.3 cfs; 6/16, 21.9 cfs; 7/18, off; 9/9, 15 cfs (est).
1998: 4/24, off; 5/28, 6.3 cfs; 6/8, 17.7 cfs; 6/19, off; 7/8, 24.3 cfs; 7/21, 8/4, off.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Sheep Ditch, Green River

Diversion Description: Diversion consists of a headgate located on a side channel of the river. Therefore, no diversion dam exists.[1]

Diversion Location:

Source: Trib. Green River
Section, Township, Range: 21, 31, 110

Conveyance Description: Open Channel Canal, approximately 10 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
09-18-1899	2273	Irrigation	120.00	1.71	1.71	
06-29-1901	3271	Irrigation	181.00	2.57	4.28	POD/MOC change from a portion of Luce No. 1 Ditch
10-03-1902	975E	Irrigation	147.00	2.10	6.38	
11-17-1902	943E	Irrigation	34.00	0.49	6.87	
11-18-1903	1125E	Irrigation	312.00	4.45	11.32	
05-31-1904	1193E	Irrigation	308.29	4.40	15.72	
12-14-1907	1864E	Irrigation	540.00	7.71	23.43	
07-02-1951	5585E	Irrigation, Stock	169.00	2.41	25.84	

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Green River at New Fork River.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Sheep Ditch, Green River, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989										
1990										
1991										
1992			7.53	448.07	10.98	675.13				
1993					9.35	574.91	0.00	0.00	0.00	0.00
1994										
1995					15.87	975.81	0.02	1.23	0.00	0.00
1996			11.80	702.15	14.19	872.51				
1997							0.92	56.57		
1998			39.90	2,374.21	74.84	4,601.73				
Averages:			19.74	1,174.81	25.05	1,540.02	0.31	19.27	0.00	0.00

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Sheep Ditch, Green River, Diversion Data

Data:

1992: 6/17, 18.0 cfs (est); 7/17, 10.0 cfs (est); 7/23, 10.0 cfs (est); 8/14, 8.0 cfs (est).
1993: (all est): 5/27, 12.0 cfs; 7/2, 20.0 cfs; 7/29, 8/23, 9/27, off.
1994: 7/25, 26.0 cfs (est).
1995: 5/11, off; 7/12, 24 cfs (est); 8/2, 9/18, off.
1996: 6/13, 26 cfs (est); 6/21, 25 cfs (est); 6/27, 15 cfs (est); 7/9, 22 cfs (est); 7/15, 26 cfs (est); 7/31, 8/9, off.
1997: 5/27, 26 cfs (est); 6/6, 28 cfs (est); 6/9, 77.8 cfs; 7/28, 1 cfs (est); 8/19, 2 cfs (est).
1998: (all est): 6/8, 20 cfs; 6/12, 18 cfs; 7/1, 100 cfs; 7/30, 60 cfs.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Smith Ditch, LaBarge Creek

Diversion Description: Diversion consists of a 60" wood headgate. No diversion dam exists.[1]

Diversion Location:

Source: LaBarge Creek, Trib. Green River
Section, Township, Range: Lot 44, 27, 26, 113

Conveyance Description: Open Channel Canal, approximately 4 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
07-06-1889	Terr.	Irrigation	48.05	0.69	0.69	POD/MOC change from a portion of Phillips and Reel Ditch
05-05-1894	712	Irrigation	160.00	2.28	2.97	POD/MOC change from a portion of Phillips and Reel Ditch
06-14-1897	1508	Irrigation	175.00	2.50	5.47	
07-06-1903	1149E	Irrigation	299.00	4.27	9.74	POD/MOC change from a portion of Phillips and Reel Ditch
05-13-1920	15761	Irrigation	43.00	0.61	10.35	POD/MOC change from a portion of Red Gap Ditch
05-23-1952	5630E	Irrigation, Stock	192.52	2.75	13.10	

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Horse Creek at South Horse Creek.[1]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Smith Ditch, LaBarge Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989										
1990										
1991										
1992										
1993										
1994										
1995										
1996			8.70	517.69	1.45	89.16				
1997										
1998					3.75	230.58	0.11	6.76	0.30	17.85
Averages:			8.70	517.69	2.60	159.87	0.11	6.76	0.30	17.85

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Smith Ditch, LaBarge Creek, Diversion Data

Data:
1987: 5/25, 8 cfs (est).
1995: 7/20, 0.1 cfs (est); 9/12, off.
1996: 5/9, off; 6/14, 6 cfs (est); 6/21, 20 cfs (est); 6/27, 7 cfs (est); 7/17, 7/30, off.
1997 (all est): 6/1, 25 cfs; 6/3, 14 cfs.
1998: 4/28, 0.5 cfs (est); 6/22, 22.4 cfs; 7/16, 0.5 cfs (est); 8/19, off; 9/28, 0.5 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Soap Hole Ditch, Green River

Diversion Description: Diversion consists of a 40" Waterman slide gate mounted on a CMP culvert. No diversion dam exists.[1]

Diversion Location:

Source: Green River
Section, Township, Range: 10, 33, 110

Conveyance Description: Open Channel Canal, approximately 3 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
02-05-1898	1733	Irrigation	344.00	4.91	4.91	
11-27-1903	1136E	Irrigation	144.00	2.05	6.96	
02-15-1906	1500E	Irrigation	114.00	1.62	8.58	
03-09-1911	2478E	Irrigation	704.00	10.05	18.63	
05-24-1912	2596E	Irrigation	60.00	0.86	19.49	
09-10-1914	3046E	Domestic, Irrigation	144.00	2.06	21.55	

Storage Rights: None.

Estimated Canal Losses: Less than typical losses are experienced.[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to Green River near Hill Ditch.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Soap Hole Ditch, Green River, Diversion Data

Data:
1997: 7/28, off.
1998: 6/30, 66.8 cfs.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

South Piney Canal, South Piney Creek

Diversion Description: Diversion consists of two 4' by 4' slide gates mounted on a concrete structure.[1]

Diversion Location:
Source: South Piney Creek, Trib. Green River
Section, Township, Range: 10, 29, 113

Conveyance Description: Open Channel Canal, approximately 10 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
07-11-1894	763	Irrigation	840.00	11.97	11.97	
06-07-1897	259E	Irrigation	200.00	2.86	14.83	
11-07-1898	387E	Irrigation	400.00	5.71	20.54	
09-30-1969	6319E	Irrigation	56.94	0.81	21.35	Supplementary Supply for 1,125.00 acres with Original Supply from Middle Piney Creek.

Storage Rights: None.

Estimated Canal Losses: Almost no losses are experienced in the upper reach of the ditch, typical losses (10%) are experienced in the lower reach.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Approximately 90% of the return flows are delivered to North Piney Canal at the confluence of the east and west channels, and 10% to Middle Piney Creek above North Channel.[2]

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

South Piney Canal, South Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981	11.27	692.97	10.82	643.83						
1982			62.69	3,730.31	65.71	4,040.35	9.89	608.11	3.27	194.58
1983			58.81	3,499.44	35.66	2,192.65	18.20	1,119.07	3.17	188.63
1984	33.55	2,062.91	46.01	2,737.79	48.24	2,966.16				
1985										
1986										
1987										
1988			20.36	1,211.50	12.97	797.49	10.80	664.07		
1989	26.21	1,611.59	34.62	2,060.03	15.82	972.73	4.24	260.71	0.71	42.25
1990	16.20	996.10	20.50	1,219.83	12.90	793.19				
1991	15.54	955.52	28.46	1,693.49	5.94	365.24	0.00	0.00	0.00	0.00
1992	7.62	468.54	10.54	627.17	5.25	322.81	0.44	27.05	0.00	0.00
1993	18.63	1,145.51	29.36	1,747.04	18.38	1,130.14	2.08	127.89	0.00	0.00
1994	14.87	914.32	12.56	747.37	2.80	172.17	0.00	0.00	0.00	0.00
1995	17.51	1,076.65	47.90	2,850.25	31.13	1,914.11	3.01	185.08		
1996					21.68	1,333.05				
1997										
1998	25.76	1,583.92	54.36	3,234.64						
Averages:	18.72	1,150.80	33.61	2,000.21	23.04	1,416.67	5.41	332.44	1.02	60.78

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

South Piney Canal, South Piney Creek, Diversion Data

Data:

1981: 5/4, 11 cfs; 6/11, 15 cfs; 7/6, off.
1982: 6/10, 73.6 cfs; 6/24, 99.6 cfs; 7/13, 77.3 cfs; 8/10, 8.47 cfs; 8/26, 4.58 cfs; 9/20, 2.95 cfs; 10/11, 2.17 cfs.
1983: 73.6 cfs; 7/18, 33.1 cfs; 8/4, 24.8 cfs; 9/20, 10/20, off.
1984: 5/14, 42 cfs; 5/31, 72 cfs; 6/20, 38 cfs; 6/21, 29 cfs; 7/16, 66 cfs; 8/7, off.
1986: 5/30, 110 cfs (est); 6/3, headgate washed out.
1988: 5/16, 21.4 cfs; 6/24, 20.5 cfs; 7/14, 12.0 cfs (est); 9/8, 10.0 cfs (est).
1989: 5/3, 29.3 cfs; 5/22, 26.4 cfs; 6/8, 33.0 cfs; 6/30, 38.0 cfs (est); 7/3, 27.5 cfs; 7/25, 7.0 cfs (est); 7/31, 7.0 cfs (est); 8/7, 4.0 cfs (est); 8/15, 5.0 cfs (est); 9/18, off.
1990: 5/8, 41.0 cfs; 5/9, 20.5 cfs; 6/4, 20.5 cfs; 6/10, 20.5 cfs; 6/29, 20.5 cfs; 7/10, 20.5 cfs; 7/31, 8/20, off.
1991: 5/6, 7.2 cfs; 5/13, 11.5 cfs; 5/16, 15.3 cfs; 5/23, 25.0 cfs; 6/4, 28.0 cfs; 6/13, 28.0 cfs; 6/28, 30.3 cfs; 7/3, 20.0 cfs; 7/17, 8/5, 9/6, 9/18, off.
1992: 4/12, 4/20, 5/1, off; 5/12, 4.5 cfs (est); 5/20, 12.0 cfs; 5/26, 12.2 cfs; 6/9, 12.0 cfs; 6/26, 9.0 cfs; 7/1, 7.5 cfs; 7/14, 6.8 cfs; 7/15, 6.0 cfs; 7/20, 3.5 cfs (est); 8/4, 3.0 cfs (est); 8/7, 8/21, 9/15, 9/21, off.
1993: 4/19, 4/20, 4/23, 4/27, off; 4/29, 16.0 cfs (est); 4/29, 5/4, off; 5/5, 12.3 cfs; 5/10, 5/12, 5/14, off; 5/14, 22.8 cfs; 5/17, 37.8 cfs; 5/24, 28.0 cfs; 5/27, 30.0 cfs; 5/27, 25.0 cfs; 5/28, 25.0 cfs; 6/11, 38.0 cfs; 6/11, 27.2 cfs; 6/24, 27.2 cfs; 6/30, 28.0 cfs (est); 7/6, 28.0 cfs; 7/8, 27.0 cfs; 7/8, 21.0 cfs; 7/19, 15.0 cfs; 8/2, 12.0 cfs (est); 8/2, 5.5 cfs (est); 8/5, 5.5 cfs (est); 8/18, 8/26, 9/2, 9/7, 9/9, 9/20, 9/28, off.
1994: 4/7, off; 4/14, 8.5 cfs (est); 4/22, 8.5 cfs (arrive), 17.5 cfs (depart); 5/9, 16.0 cfs; 6/6, 12.0 cfs (est); 6/15, 12.5 cfs; 6/17, 15.6 cfs; 6/20, 15.5 cfs (arrive), 11.0 cfs (depart); 6/22, 12.5 cfs; 6/26, 11.0 cfs; 6/27, 11.9 cfs; 6/30, 12.5 cfs (arrive), 10.5 cfs (depart); 7/3, 16.0 cfs (arrive), 11.5 cfs (depart) (rotated); 7/8, 11.9 cfs (arrive), off (depart); 8/21, 8/26, 9/2, 9/9, 9/30, off.
1995: 10/26/94, off; 4/13, 16.5 cfs; 4/18, 10.0 cfs (est) (arrive), off (depart); 4/20, 6.5 cfs (arrive), 4/20, 12.7 cfs (depart); 4/25, 13.1 cfs; 4/27, 13.6 cfs; 5/5, 7.33 cfs (est) (arrive), 15 cfs (est) (depart); 5/9, 14.0 cfs (est); 5/11, 13.6 cfs (est) (arrive), 14.8 cfs (est) (depart); 5/12, 16.8 cfs; 5/16, 20 cfs (est); 5/19, 20 cfs (est); 5/23, 17.9 cfs (est) (arrive), 20 cfs (est) (depart); 5/29, 25 cfs (est) (arrive), 20 cfs (est) (depart); 6/5, 22 cfs (est); 6/8, 20 cfs (est) (arrive), 35 cfs (est) (depart); 6/14, 40 cfs (est) (arrive), 50 cfs (est) (depart); 6/16, 75.9 cfs; 6/23, 60 cfs (est) (arrive), 55 cfs (est) (depart); 6/30, 60 cfs (est); 7/6, 50 cfs (est); 7/13, 65 cfs (est) (arrive), 30 cfs (est) (depart); 7/27, 7 cfs (est); 8/24, 2 cfs (est).
1997: 5/5, 1 cfs (est); 7/7, 66.6 cfs; 7/22, 23 cfs (est).
1998: 5/5, 72.5 cfs; 5/12, 18.1 cfs; 5/21, 18 cfs; 6/1, 40 cfs (est); 6/12, 56.9 cfs; 7/10, 59.5 cfs; 8/6, 0.5 cfs (est).

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Summit Ditch, North Piney Creek

Diversion Description: Diversion consists of a single 48" Waterman slide gate mounted on a CMP culvert.[1]

Diversion Location:

Source: North Piney Creek, Trib. Green River
Section, Township, Range: 10, 30, 112

Conveyance Description: Open Channel Canal, approximately 3 miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
05-01-1888	Terr.	Irrigation	144.00	1.46	1.46	POD/MOC from a portion of H. McKay No. 2 Ditch
08-16-1897	1584	Irrigation	280.00	4.00	5.46	
11-19-1897	291E	Irrigation	200.00	2.84	8.30	
07-01-1904	1234E	Irrigation	180.00	2.57	10.87	
04-09-1970	6276E	Irrigation	18.00	0.26	11.13	

Storage Rights: None.

Estimated Canal Losses: Typical (10%).[1]

Irrigation Practices: Information not available at time of report.

Crop Types / Consumptive Use: Information not available at time of report.

Return Flows: Return flows are delivered to North Piney Creek at channel split.[2]

Other Operational Information: Information not available at time of report.

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Fax, June 9, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Summit Ditch, North Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989					4.86	298.83	0.64	39.35		
1990			12.50	743.80	7.01	431.03				
1991	0.67	41.20	8.30	493.88	6.04	371.39	0.00	0.00		
1992	5.69	349.86	8.03	477.82	3.75	230.58	0.02	1.23		
1993	7.02	431.64	24.16	1,437.62	13.02	800.57	1.41	86.70	0.00	0.00
1994	4.23	260.09	9.59	570.64	4.67	287.15				
1995	3.79	233.04	16.54	984.20	10.80	664.07				
1996	8.64	531.25	18.28	1,087.74	4.90	301.29	0.43	26.44	0.00	0.00
1997			3.73	221.95	6.90	424.26	3.55	218.28		
1998			10.66	634.31	10.06	618.57				
Averages:	5.01	307.85	12.42	739.11	7.20	442.77	1.01	62.00	0.00	0.00

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Summit Ditch, North Piney Creek, Diversion Data

Data:

1986: 8/20, off. (Located and labelled after irrigation season.)
1987: 6/30, 6 cfs (est) (rotated).
1989: 6/21, 13.7 cfs; 7/10, 6.0 cfs (est); 7/18, 4.5 cfs; 7/27, 2.0 cfs (est); 8/25, off.
1990: 5/29, off; 6/13, 16.0 cfs (est); 6/22, 13.3 cfs; 6/27, 15.0 cfs (est); 7/16, 8.0 cfs (est); 7/30, off.
1991: 5/9, 5/15, off; 6/5, 3.0 cfs (est); 6/19, 16.7 cfs; 7/1, dry; 7/5, 9.0 cfs; 7/15, 8.9 cfs; 8/2, 9/6, off.
1992: 4/15, off; 4/23, 6.0 cfs (est); 5/20, 3.0 cfs (est); 5/21, 8.5 cfs; 5/26, 8.5 cfs; 6/8, 8.5 cfs; 6/10, 8.0 cfs; 6/12, 8.5 cfs; 6/18, 8.5 cfs; 7/1, 8.5 cfs; 7/7, 8.5 cfs; 7/14, 3.0 cfs (est); 8/4, 8/28, off.
1993: 4/30, 4.0 cfs (est); 5/7, 4.5 cfs (est); 5/14, 3.5 cfs (est); 5/18, off; 5/28, 18.6 cfs; 6/2, 12.0 cfs (est); 6/6, 28.0 cfs (est); 6/17, 28.0 cfs (est); 6/30, 19.0 cfs (est); 7/12, 8.5 cfs; 7/13, 9.4 cfs; 7/14, 9.5 cfs; 7/16, 10.0 cfs; 7/26, 18.0 cfs (est); 7/28, 14.0 cfs (est); 8/10, 8/18, 9/27, off.
1994: 4/19, off; 5/20, 2.0 cfs (est); 5/26, 9.0 cfs; 5/29, 14.0 cfs; 5/31, 12 cfs (est); 6/3, 7.0 cfs (est) (arrive), 8.2 cfs (depart); 6/6, 8.5 cfs; 6/7, 9.0 cfs; 6/10, 8.9 cfs (arrive), 8.3 cfs (depart); 6/17, 9.5 cfs; 6/22, 16.0 cfs (est) (arrive), 9.5 cfs (depart); 6/24, 8.5 cfs; 6/28, 11.5 cfs (arrive), 9.0 cfs (depart); 6/29, 8.3 cfs; 7/3, 8.9 cfs; 7/11, 8.9 cfs; 7/15, 6.0 cfs; 7/22, 1.5 cfs (est); 9/27, off.
1995: 10/26/94, 5/8, off; 5/11, 0.5 cfs (est); 6/22, 20.6 cfs; 8/10, 1 cfs (est).
1996: 5/7, off; 6/4, 24 cfs (est); 7/24, 1 cfs (est); 9/3, 9/27, off.
1997: 5/19, off; 7/18, 8 cfs (est); 9/9, off.
1998: 5/28, 3.2 cfs; 6/8, 6.6 cfs; 6/19, 13.6 cfs; 7/8, 15.4 cfs; 7/21, 8.4 cfs; 8/4, 0.98 cfs.

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Yankee Ditch, South Piney Creek

Diversion Description: Diversion consists of a single 30" diameter Waterman slide gate mounted on a section of culvert. A diversion dam consisting of concrete rubble exists.[1]

Diversion Location:

Source: South Piney Creek, Trib. Green River
Section, Township, Range: 10, 29, 113

Conveyance Description: Open Channel Canal, approximately 4½ miles in length.[1]

Wyoming Water Rights Summary:

Priority Date (M–D–Y)	Permit Number	Permitted Use	Acres	Flow (cfs)	Cumulative Flow (cfs)	Comments
05-27-1901	3212	Irrigation	170.00	6.72	6.72	
08-07-1912	2657E	Irrigation	380.00	5.43	12.15	
12-27-1955	5842E	Irrigation, Stock	168.00	2.40	14.55	
11-08-1965	6151E	Irrigation	159.38	2.28	16.83	
11-24-1969	6330E	Irrigation	197.00	2.81	19.64	

Storage Rights: None.

Estimated Canal Losses: Greater than typical losses (25%) are experienced in the first mile of the ditch, typical losses (10%) are experienced in the lower reach.[1]

Irrigation Practices: Lands are flood irrigated.[1]

Crop Types / Consumptive Use: Lands are native grass hay and pasture.[1]

Return Flows: Return flows are delivered to Green River at Tarter Gulch.[2]

Other Operational Information: The canal is typically turned on the first of May and off in mid-July.[1]

Sources: 1) Loren Smith, Wyoming State Engineer's Office, Interview, May 5, 2000.
2) Williams, Linda I., "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering, December 1995.

Yankee Ditch, South Piney Creek, Diversion Data

Wateryear	May		June		July		August		September	
	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)	Average (cfs)	Monthly Total (AF)
1980	15.50	953.06								
1981	5.88	361.55	3.86	229.69	0.47	28.90	1.03	63.33		
1982	17.02	1,046.52	33.05	1,966.61	30.43	1,871.07	10.38	638.24	2.94	174.94
1983	4.36	268.09	24.22	1,441.19	19.13	1,176.26	23.91	1,470.17	8.82	524.83
1984	14.84	912.48	37.21	2,214.15	26.30	1,617.12	14.21	873.74	4.29	255.27
1985	10.50	645.62	6.59	392.13	3.63	223.20	10.96	673.90	3.00	178.51
1986	5.70	350.48	10.07	599.21	6.06	372.61	4.23	260.09		
1987										
1988										
1989	7.68	472.22	17.15	1,020.50	9.39	577.37	10.41	640.09	5.56	330.84
1990	3.23	198.60	5.76	342.74	3.91	240.42	6.30	387.37		
1991	2.74	168.48	11.73	697.98	6.21	381.84	11.51	707.72	6.80	404.63
1992	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1993	5.45	335.11	11.90	708.10	8.30	510.35	13.58	835.00	11.12	661.69
1994	2.71	166.63	0.85	50.58	0.00	0.00	0.00	0.00	0.00	0.00
1995	2.88	177.08	17.02	1,012.76	20.52	1,261.73	16.40	1,008.40	13.48	802.12
1996	6.64	408.28	15.50	922.31	19.54	1,201.47	13.64	838.69		
1997	15.12	929.69	20.84	1,240.07	20.63	1,268.49	22.25	1,368.10	11.20	666.45
1998	17.95	1,103.70	23.95	1,425.12	27.20	1,672.46	18.37	1,129.53		
Averages:	8.13	499.86	14.98	891.45	12.61	775.20	11.07	680.90	6.11	363.57

Blank cells are due to missing/insufficient data.
Average = Average Flow for ENTIRE month. Monthly Total = Total Volume used during month.
See Methodology section for explanations.
Spot data readings used in calculating averages in table on following pages.

Yankee Ditch, South Piney Creek, Diversion Data

Data:

1980: 5/2, 15 cfs; 5/22, 16 cfs; 7/30, 26 cfs; 9/25, 6 cfs.

1981: 4/16, 2 cfs (est); 5/4, 5 cfs; 6/1, 7 cfs; 6/5, 7 cfs; 6/11, 8 cfs; 6/22, 0.5 cfs (est); 7/7, 0.5 cfs (est); 7/22, 0.5 cfs (est); 7/28, 0.25 cfs (est); 8/18, 3 cfs (est).

1982: 5/12, 13.7 cfs; 5/20, 23.0 cfs; 5/28, 36.6 cfs; 6/9, 30.4 cfs; 6/15, 31.7 cfs; 6/23, 34.5 cfs; 6/29, 35.5 cfs; 7/15, 31.7 cfs; 7/22, 30.4 cfs; 8/17, 6.92 cfs; 8/31, 5.89 cfs; 9/15, 4.25 cfs; 9/20, 0.57 cfs; 10/11, 0.45 cfs.

1983: 5/6, off; 5/27, 7.45 cfs; 6/2, 16.9 cfs; 6/10, 26.0 cfs; 6/21, 26.8 cfs; 7/18, 16.2 cfs; 8/4, 22.1 cfs; 8/8, 25.5 cfs; 8/17, 27.7 cfs; 9/15, 8.71 cfs; 10/3, 0.62 cfs; 10/18, off.

1984: 5/11, 7 cfs; 5/14, 9 cfs; 5/22, 25 cfs; 6/7, 41 cfs; 6/18, 33 cfs; 6/25, 38 cfs; 7/6, 41 cfs; 7/11, 25 cfs; 8/6, 16 cfs; 8/16, 15 cfs; 9/18, 5 cfs.

1985: 5/7, 14.0 cfs; 5/9, 20.5 cfs; 5/10, 17.8 cfs; 5/13, 15.0 cfs; 5/15, 7.2 cfs; 5/15, 12.0 cfs; 5/16, 8.1 cfs; 5/21, 15.0 cfs; 5/24, 11.1 cfs; 6/6, 13.0 cfs; 6/17, 6.1 cfs; 6/17, 6.7 cfs (est); 6/24, off; 6/27, 1.0 cfs (est); 8/8, 15.0 cfs; 9/25, off.

1986: 4/25, 8 cfs (est); 5/9, 3 cfs (est); 5/22, 7 cfs (est); 6/30, 12 cfs (est); 7/1, 4 cfs (est); 7/31, 8 cfs (est); 9/4, off; 9/12, 1 cfs (est).

1988: 6/20, 6.9 cfs; 6/25, off.

1989: 4/13, 5.0 cfs (est); 5/3, 5.6 cfs; 6/2, 10.2 cfs; 6/7, 12.5 cfs; 6/15, 23.4 cfs; 6/23, 20.0 cfs (est); 7/3, 10.8 cfs; 7/9, 6.6 cfs; 7/17, 7.0 cfs; 7/25, 15.0 cfs; 7/31, 7.0 cfs (est); 8/7, 8.0 cfs (est); 8/14, 13.4 cfs; 8/21, 11.0 cfs (est); 9/6, 9.9 cfs; 9/18, 9.5 cfs (est); 7/9, 24.1 cfs; 7/9, 30.0 cfs (est); 7/17, 31.0 cfs; 7/24, 18.6 cfs; 7/31, 16.0 cfs (est); 8/7, 16.0 cfs (est); 8/14, 25.6 cfs; 8/21, 7.0 cfs (est); 9/1, 4.0 cfs (est); 9/6, 2.0 cfs (est); 9/18, 2.0 cfs (est).

1990: 4/16, off; 4/23, 10.8 cfs; 5/4, 11.0 cfs; 5/8, 7.4 cfs; 5/11, off; 5/18, off; 5/28, 2.0 cfs (est); 5/31, 2.5 cfs (est); 6/1, 2.5 cfs (est); 6/12, 5.0 cfs (est); 6/13, 6.9 cfs; 6/18, 7.0 cfs (est); 6/29, 7.0 cfs; 7/6, 6.5 cfs; 7/9, off; 7/31, 6.5 cfs; 8/13, 7.0 cfs (est); 8/15, 6.5 cfs; 8/30, 6.9 cfs.

1991: 5/8, 9.1 cfs; 5/13, off; 5/15, 3.8 cfs (est); 5/16, off; 5/23, off; 5/28, 8.0 cfs (est); 6/4, 12.0 cfs; 6/6, 12.3 cfs; 6/13, 12.0 cfs; 6/25, 12.2 cfs; 7/5, 7.0 cfs; 7/8, off; 7/15, 6.7 cfs; 7/22, 6.7 cfs; 8/12, 12.0 cfs; 9/6, 12.0 cfs; 9/16, 16.8 cfs.

1992: 4/10, 8.5 cfs; 4/12, 4/20, 5/1, 5/11, 5/20, 5/26, 6/9, 6/26, 7/1, 7/15, 7/20, 8/4, 8/7, 8/21, 9/15, 9/21, off.

1993: 4/19, 3.5 cfs (est); 4/19, 4/20, 4/27, 4/29, 5/4, 5/5, 5/7, 5/10, 5/11, 5/12, off; 5/14, 5/17, off (headgate blocked by landslide); 5/19, 12.2 cfs; 5/20, 12.2 cfs; 5/24, 12.0 cfs; 5/26, 12.0 cfs; 5/27, 12.0 cfs; 5/28, 12.0 cfs; 5/30, 12.0 cfs; 5/31, 12.0 cfs; 6/1, 12.0 cfs; 6/6, 12.0 cfs; 6/6, 16.0 cfs; 6/9, 12.0 cfs; 6/14, 8.0 cfs; 6/15, 11.0 cfs; 6/18, 8.5 cfs; 6/18, 12.0 cfs (est); 6/19, 12.0 cfs (est); 6/19, 17.5 cfs; 6/21, 14.0 cfs; 6/24, 12.0 cfs; 6/27, 12.0 cfs; 6/30, 12.0 cfs; 7/6, 9.5 cfs (est); 7/11, 12.0 cfs; 7/11, 7.3 cfs; 7/12, 7.5 cfs; 7/23, 7.1 cfs; 7/26, 7.0 cfs; 7/28, 7.0 cfs; 7/30, 7.0 cfs; 8/2, 7.0 cfs; 8/5, 7.5 cfs; 8/9, 7.0 cfs; 8/9, 12.5 cfs; 8/10, 12.5 cfs; 8/17, 16.5 cfs; 8/18, 16.5 cfs; 8/20, 16.5 cfs; 8/26, 15.0 cfs (est); 9/2, 22.0 cfs (est); 9/2, 12.2 cfs; 9/3, 12.2 cfs; 9/7, 12.0 cfs; 9/9, 12.0 cfs; 9/14, 12.0 cfs; 9/17, 12.0 cfs; 9/20, 12.0 cfs; 9/28, 11.9 cfs.

1994: 4/7, 18.0 cfs (est); 4/8, 16.0 cfs (est); 4/13, 8.6 cfs (est); 4/14, 9.0 cfs (est) (arrive); off (depart); 4/15, 4/17, 4/18, 4/21, 5/2, 5/5, off; 5/9, off (arrive), 5.5 cfs (est) (depart); 5/10, 6.12 cfs (arrive), 6.8 cfs (depart); 6/2, off (arrive), 4.0 cfs (est) (depart); 6/8, 4.5 cfs (arrive), off (depart); 6/15, 6/22, 6/23, 6/26, 6/27, 7/3, 7/15, 7/18, 7/21, 7/26, 8/4, 8/11, 8/16, 8/19, 8/22, 8/25, 8/29, 9/7, 9/15, 9/21, 9/29, 9/30, off.

1995: 10/26/94, off; 4/5, 9.2 cfs; 4/12, 4.0 cfs (est); 4/13, 4.5 cfs (est); 4/18, 3.0 cfs (est) (arrive), off (depart); 4/25, 4/28, 5/1, 5/2, off; 5/5, off (arrive), 4.1 cfs (est) (depart); 5/8, 2.0 cfs (est); 5/19, 5/22, off; 5/23, off (arrive), 12 cfs (est) (depart); 5/25, 10 cfs (est); 5/26, 8 cfs (est); 5/28, 6.7 cfs (est); 5/30, 8.5 cfs (arrive), 4.1 cfs (est) (depart); 6/1, 4 cfs (est) (arrive), 6.7 cfs (est) (depart); 6/2, 6.7 cfs (est); 6/4, 6 cfs (est) (arrive); 12 cfs (est) (depart); 6/5, 12 cfs (est); 6/6, 9.5 cfs (arrive), 12 cfs (est) (depart); 6/7, 12 cfs (est); 6/8, 12 cfs (est); 6/9, 15 cfs (est) (arrive), 30 cfs (depart); 6/12, 20 cfs (est) (arrive), 12 cfs (est) (depart); 6/13, 12 cfs (est) (arrive), 18 cfs (est) (depart); 6/16, 18 cfs (est) (arrive), 25 cfs (est) (depart); 6/19, 20.4 cfs; 6/22, 18 cfs (est); 7/9, 19 cfs (est); 7/10, 18 cfs (est); 7/13, 25 cfs (est); 7/21, 23 cfs (est); 7/31, 16 cfs (est); 8/11, 18 cfs (est); 8/18, 16 cfs (est); 8/21, 16 cfs (est); 9/28, 12.5 cfs (est); 10/5, 6 cfs (est).

1996: 10/5/95, 6 cfs (est); 4/26, 12 cfs (est); 4/29, 14.6 cfs; 5/31, off; 6/24, 24.5 cfs; 7/5, 24.5 cfs; 7/18, 17 cfs; 8/5, 17 cfs (est); 8/13, 13.8 cfs; 9/5, 9.9 cfs.

1997: 4/14, 1 cfs (est); 5/12, 13.1 cfs; 5/16, 19.1 cfs; 5/28, 17 cfs (est); 6/12, 22.1 cfs; 6/27, 23.4 cfs; 8/4, 18 cfs (est); 8/12, 24.5 cfs; 9/17, 20 cfs (est).

1998: 4/16, 4/24, off; 5/4, 13 cfs (est); 5/11, 20.8 cfs; 5/19, 19 cfs (est); 5/21, 20 cfs; 6/1, 17.6 cfs; 6/26, 28 cfs (est); 6/29, 27.2 cfs; 7/14, 27.2 cfs; 7/27, 27.2 cfs; 8/10, 27.2 cfs; 8/20, 10.7 cfs; 9/3, 12 cfs (est).

Yankee Ditch, South Piney Creek, Diversion Data

Supply: 1980, average; 1981, slightly below average; 1982, average; 1983, above average; 1984, above average; 1985, slightly below average; 1986, average; 1987, average; 1988, below average; 1989, below average; 1990, below average; 1991, slightly below average; 1992; below average; 1993, average; 1994, below average; 1995, slightly above average; 1996, average; 1997, average; 1998, slightly above average.

Source: State Engineer's Office, Annual Hydrographers' Reports.

Green River Basin, Wyoming; Key Structures and Diversions
Description and Operation Memorandum

Yankee Ditch, South Piney Creek, Diversion Data