

CRAZY WOMAN CREEK

**COOK DITCH DIVERSION
DEVOE NO. 1 DITCH DIVERSION
JOHN R. SMITH DITCH DIVERSION
KENNEDY DITCH DIVERSION
MITCHELL & LONG DITCH DIVERSION
MORETON DITCH DIVERSION
NORTH FORK DITCH DIVERSION
PX DITCH DIVERSION
TEDDY MILLER DITCH DIVERSION
THOMPSON & MATTHEWS DITCH DIVERSION
THOMPSON BROTHERS DITCH DIVERSION**

CRAZY WOMAN CREEK DRAINAGE INTRODUCTION

BACKGROUND

Crazy Woman Creek drains the east slope of the Big Horn Mountains in northeast Wyoming. Between the Clear Creek drainage to the north and the forks of the Powder River to the south, Crazy Woman converges the North, Middle, and South forks of Crazy Woman and Muddy Creek to meander across the Powder River Basin until it joins the Powder River south of Arvada. The Powder collects Clear Creek downstream before it enters Montana north of Spotted Horse, Wyoming.

CHARACTERISTICS

The Crazy Woman drainage represents the only court-adjudicated stream in the Northeast Wyoming and Powder/Tongue River Basins. In many cases, the court's July 5, 1889 ruling was based on assessments of ditch capacity that the diversions cannot carry. The Second Judicial District gave all the diversions priority independent of date, assigning a priority number rather than a priority date. As a result, the 31 diversions affected by the decree have priority numbers; rights granted by the State Board of Control since the decree have the priority date and a permit number that can be found elsewhere in Wyoming. In the past century, most of diversions of Middle Fork and across the Interstate have been changed to the 1 cfs per 70 acres of irrigated land used by default by the State Engineer's Office.

Since the decree, State Engineer's Office hydrographer/commissioners have attempted to bring the rights on Crazy Woman to the 1 cfs/70 acre default established in Wyoming whenever they could. As a result, many of the lands affected by the original decree keep their priority number but are watered by 1 cfs/70 acres. Hydrographer/commissioners detailed the adjudicated right and maximum diversion of recent record for this memorandum:

Little North Fork

Ditch	Right (cfs)	Max. Diversion (cfs)
Rice	.07	.07
Rice #2	.17	.17
Blue Gap	3.87	3.87
Gossett #2	.32	.32
Gossett #3	.82	.82
Cook	57.78	57.78

North Fork

Ditch	Right (cfs)	Max. Diversion (cfs)
Richter #2	.30	.30
Babcock	.68	.68
Thompson & Matthews	80	40
Klondike	.95	.95
North Fork	30	15
Kennedy	45	35
Holt	8.2	5
Harris	12.2	8
North Fork Crazy Woman	38.37	5
Mitchell & Long	16.99	16.99
John R. Smith	17.14	17.14

Middle Fork Crazy Woman

Ditch	Right (cfs)	Max. Diversion (cfs)
Northside	5.91	5.91
Mesa	7.5	7.5
Dick	12.32	5
Moreton	17.02	17.02
Teddy Miller	84.45	22
Devoe #1	14.8	14.8
Devoe #2	12.57	12.57

Muddy Creek

Ditch	Right (cfs)	Max. Diversion (cfs)
Red Bank	37.4	6
Thompson Brothers	17.3	10
PX	21.76	15

Because the Crazy Woman meanders through the Powder River Basin, it slows and silts considerably in the erodable soils there.

USAGE

Crazy Woman Creek is devoted to agricultural irrigation and industrial uses.

Losses en route from the Muddy Guard reservoirs depend on the diversion's distance from the reservoir outlets. Water commissioners charge from 10-25 percent "shrinkage" (Instream or conveyance losses) on this water. Essentially, commissioners estimate shrinkage necessary to fully serve the first right on the stream, the Smith Ditch.

Regulation

Water commissioners estimate that regulation is imposed on Crazy Woman Creek drainage diversions with the following timing:

Wet Year	Average Year	Dry Year
None or last of Aug.	2nd week of July	2nd week of June

Agriculture

Growers in the Crazy Woman drainage tend to devote approximately 50 percent of their lands to alfalfa, 25 percent to grass hay, 10 percent to grains, and 15 percent to corn. The grains (barley and oats) are used to replenish the soil after alfalfa has been grown and harvested on the field for approximately six years. Corn is used in silage operations. Irrigation practices are broken out according to significant diversion below. In many places on the drainage, a Natural Resource Conservation Service (NRCS) project in 1992 increased sprinkler usage considerably.

The typical irrigation season runs from April 15-May 1 (depending on whether the spring runoff is delayed by colder weather) to early/mid October (depending on when the first snows fall and the ground freezes). Approximately 10 percent of the irrigators using Crazy Woman water (the biggest users) practice post-season irrigation, though they usually do not use their entire right to do so.

Double Appropriation

Irrigation water rights with priority dates of March 1, 1945 or earlier are entitled to an additional 1cfs per 70 acres under Wyoming's surplus water statutes. Whenever the supply in a stream exceeds the amount required to satisfy all existing appropriations established prior to March 1, 1985, the stream is said to be in an excess flow condition and water right holders with priorities between March 2, 1945 and March 1, 1985 may use an additional 1 cfs for each 70 acres irrigated.

In Crazy Woman Creek, this practice is limited primarily by the condition of ditches. Many of the ditches are not capable of carrying all of the water an irrigator could use.

% of appropriation	% of ditches in drainage capable of flow
200	20
150	60
100-150	90
0-100	90

Permitted Uses

Permits granted for water appropriation are granted for specific uses. The following pages contain tables of permits and their associated uses. The following table provides a key to those uses:

Code	Use
Chem	Chemical
Com	Commercial
Cul	Culinary
D	Domestic
Drl	Drilling
Eng	Steam Engines
Fire	Fire Protection
Fish	Fish Propagation
F.C.	Flood Control
I	Irrigation
Ind	Industrial
I.F.	Instream Flow
Mech	Mechanical
Mfg	Manufacturing
Mil	Milling

Code	Use
Min	Mining
Misc	Miscellaneous
Mun	Municipal
Oil	Oil Refining or Production
P.C.	Pollution Control
Power	Power Development
R.R.	Railroad
Rec	Recreational
Ref	Refining
Res. Supply	Supply Facility for a Reservoir
S	Stock
T	Transportation

WATER RIGHTS

Two water rights summary tables are provided for each diversion serving irrigation referenced here. The first, included in the body of the diversion synopsis, refers to the rights on record with the State Engineer's Office and is derived from that office's *Tabulation of Adjudicated Surface Water Rights of the State of Wyoming, Water Division Number Two* (Oct. 1999).

Because this rights summary is pulled directly from the SEO *Tab*, the rights cited follow the SEO's priority order:

Hierarchy	Format of right	Example
1	Day, Month, Year	05-15-1884
2	Month and Year	05-00-1884
3	Specified Season and Year	Spring 1884
4	Year Only	1884
5	Before Year	Before 1884

Board orders or court orders may also establish a specific priority.

Irrigated Lands Water Rights Database

The second table, which follows the diversion synopsis, is taken from the irrigated lands water rights database developed for the basin plan. It can be used as a reference with the following caveats: It only lists water rights associated with the irrigated lands polygons mapped by HKM. The table does not include nonirrigation rights devoted to reservoir supply, municipal, fish propagation, etc. The rights on this table are associated only with those irrigated lands identified through the course of this study, both actively irrigated and currently idle.

Column Heading Key

PerNo	Permit Number	“Terr” denotes a territorial right.
PerSfx	Permit Suffix	D = direct flow E = enlargement R = reservoir

Facility Name		Parentheses denote the former means of conveyance for the water right.
Unit	Flow or volume	CFS = cubic feet per second AF = acre-feet GPM = gallons per minute
SupTyp	Supply Type	OS = original supply SS = supplement supply, for lands having an original supply from another source Sec = secondary supply, for water stored in a reservoir
Status	Status of adjudication	Adj = adjudicated Una = unadjudicated
Source	Source water	Parentheses denote the permit number of the related storage right.

KEY DIVERSIONS

Diversion: **COOK DITCH DIVERSION**
AKA: Cook #9, Crazy Woman #9

Date: 25 Oct. 2000

Diversion Description: Headgate consists of two 3.5 x 4-foot, rectangular steel gates in steel slides on concrete throat, raised/lowered by Waterman-type screws beside a concrete dam, all in excellent condition.



Cook Ditch Headgate

Diversion Location: The Cook Ditch diversion is located on the Little North Fork of the Crazy Woman, a tributary to Crazy Woman Creek, which itself drains to the Powder River.

Headgate:

Lat. Long.
N 44° 11' 53.7" W 106° 46' 29.1"

Weir:

Lat. Long.
N 44° 11' 52.7" W 106° 46' 22.0"



Cook Ditch Flume

Conveyance Description: Open channel canal, approximately 6 miles long.

Direct Flow Water Rights:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
9		I	115.6	1.2	1.2
9		I	354.2	3.6	4.8
9		I	495	5.03	9.83
9		I	583.2	5.9	15.73
1336E	02-27-1905	I	68.5	0.97	16.7

Associated Storage Rights: Fills Ridge Place #2 reservoir (7472R)

Irrigation Practices: Approximately 60 percent of irrigation is done by flood from a ditch; the remaining 40 percent is done with a variety of sprinkler systems.

Return Flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Crazy Woman Creek	0	2.5	2.5

Losses: Approximately 20 percent

References: Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	Cook		1548	15.73	CFS	OS	Adj	North Fork Crazy Woman Creek
Terr	D	Blue Gap (Cook)		1138	19.65	CFS	OS	Adj	North Fork Crazy Woman Creek
Terr	D	North Fork (Cook, Cross)		800	25	CFS	OS	Adj	North Fork Crazy Woman Creek
1336	E	Enl. Cook	Feb. 27, 1905	68.5	0.97	CFS	OS	Adj	North Fork Crazy Woman Creek
6886	D	Cook	Sep. 18, 1905	92	1.31	CFS	Sec	Adj	Corrall Creek (733R)
22211	D	Fort Collins (Cook)	March 20, 1961	992.4	0		SS	Adj	Little North Fork Crazy Woman Creek
22209	D	Fort Collins (Cook)	March 20, 1961	992.4	14.18	CFS	OS	Adj	North Fork Crazy Woman Creek

Cook Ditch Diversion													
Source Crazy Woman Creek													
District 2													
Data Total monthly flow in AF													
Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974							0.00	0.00	0.00	658.12	21.78	0.00	679.90
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	2052.00	1176.00	730.00	500.00	318.00	4776.00
1982							0.00	1065.55	2593.15	1655.71	896.17	314.29	6524.87
1983							0.00	0.00	1770.71	1349.16	529.08	362.13	4011.08
1984							0.00	360.80	2368.10	1636.03	741.17	325.65	5431.75
1985							405.77	1215.30	1172.05	425.89	300.50	0.00	3519.51
1986							0.00	1285.88	2252.42	896.42	569.42	343.10	5347.24
1987							0.00	2038.35	928.45	1282.76	677.46	198.89	5125.91
1988							0.00	1693.80	1359.94	320.88	18.54	0.00	3393.16
1989							0.00	1665.05	1579.56	947.76	347.18	107.71	4647.26
1990							0.00	1421.42	2565.25	989.92	524.98	39.23	5540.80
1991							0.00	748.98	1412.73	916.79	605.56	0.00	3684.06
1992							0.00	1581.61	1449.35	241.00	475.25	506.08	4253.29
1993							0.00	1102.83	1925.05	677.43	630.46	254.43	4590.20
1994							0.00	1211.12	983.22	626.00	226.29	0.00	3046.63
1995							0.00	490.98	857.34	1000.17	639.95	251.15	3239.59
1996							0.00	770.93	2080.32	1094.74	472.41	255.40	4673.80
1997							0.00	886.97	2059.24	1274.12	146.66	295.79	4662.78
1998							0.00	1122.69	2105.89	1268.27	723.35	722.83	5943.03
1999							0.00	735.17	1431.87	997.39	565.69	490.02	4220.14
Mean							20.29	1072.47	1603.53	949.43	480.60	239.24	4365.55
Max							405.77	2052.00	2593.15	1655.71	896.17	722.83	6524.87
Min							0.00	0.00	0.00	241.00	18.54	0.00	679.90

- Notes:
1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
 2. Zero flow is assumed prior to the first and after the last measurement
 3. Monthly data for 1981 is derived from published AF values in the Hydrographers Annual Reports
 4. August 1974 data includes interpolated data using WRDS records.

Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974	8-Jul	3-Aug	1
1975			
1976			
1977			
1978			
1979			
1980			
1981	1-May	30-Sep	0
1982	3-May	30-Sep	7
1983	3-Jun	23-Sep	9
1984	25-May	26-Sep	6
1985	19-Apr	29-Aug	7
1986	1-May	15-Sep	11
1987	7-May	14-Sep	8
1988	2-May	3-Aug	12
1989	1-May	14-Sep	8
1990	1-May	5-Sep	5
1991	6-May	28-Aug	4
1992	4-May	21-Sep	14
1993	7-May	29-Sep	9
1994	6-May	22-Aug	7
1995	1-May	22-Sep	29
1996	1-May	23-Sep	11
1997	15-May	29-Sep	8
1998	16-May	30-Sep	11
1999	17-May	29-Sep	51
Avg.	10-May	13-Sep	11
Earliest	19-Apr	3-Aug	0
Latest	8-Jul	30-Sep	51

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

KEY DIVERSIONS

Diversion: **DEVOE NO. 1 DIVERSION**
AKA: Dovee #1, Dove #1, Crazy Woman #21

Date: 25 Oct. 2000

Note: The Devoe No. 1 Ditch has a pump that delivers water to irrigation systems. In addition, 2.15 cfs of the Teddy Miller Ditch water was transferred to the Devoe No. 1 pump two years ago.



Devoe No. 1 headgate

Diversion Description: Headgate consists of a single, 2.5-foot round steel gate in steel slides, raised/lowered by Waterman-type screw mounted in a steel slider frame and mounted in a concrete headwall.



Devoe No. 1 flume

Diversion Location: The Devoe No. 1 Ditch diverts from the South Fork of Crazy Woman Creek.

Headgate:

Lat.	Long.
N 44° 3' 45.9"	W 106° 40' 44.5"

Flume:

Lat.	Long.
N 44° 3' 50.2"	W 106° 40' 45.6"

Conveyance Description: Open channel canal, approximately 5.0 miles long.

Direct Flow Water Rights: The direct-flow rights permitted for Devoe No. 1 are summarized here:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
21		I	51.7	0.74	0.74
21		I	435.1	6.21	6.95
21		I	923.08	27.74	34.69

See Note above; 2.14 cfs transferred to Devoe No. 1 for pumping.

Associated Storage Rights: None

Irrigation Practices: Of the land under irrigation from the Devoe No. 1 Ditch, 40 percent sprinklers and 60 percent ditch-flood.

Return Flows: Estimated percentage of total diversion developing into return flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Crazy Woman Creek	22	17	13

Losses: Percent loss by the end of the ditch:

Wet Yr.	Avg. Yr.	Dry Yr.
27	22	18

References:

Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	Devoe No. 1		1409.88	34.69	CFS	OS	Adj	Middle Fork Crazy Woman Creek
Terr	D	Teddy Miller (Devoe No. 1 and No. 2)		355	5.07	CFS	OS	Adj	Middle Fork Crazy Woman Creek
23740	D	Devoe No. 1	Dec. 30, 1969	361	0		Sec	Adj	Colorado Flats Draw (7285R)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974							0.00	0.00	0.00	461.57	439.16	0.00	900.73
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	814.00	668.00	404.00	399.00	336.00	2621.00
1982							0.00	460.26	859.57	611.35	295.74	58.34	2285.26
1983							0.00	252.95	1037.56	535.28	459.96	249.88	2535.63
1984							0.00	250.39	1069.11	720.64	662.71	265.35	2968.20
1985							415.23	962.73	453.89	274.49	123.97	0.00	2230.31
1986							0.00	1371.03	987.63	537.42	305.28	0.00	3201.36
1987							0.00	822.90	883.22	481.15	651.10	0.00	2838.37
1988							0.00	1240.88	734.40	322.94	0.00	0.00	2298.22
1989							0.00	724.88	550.30	509.88	194.89	0.00	1979.95
1990							0.00	564.11	955.45	702.35	231.93	0.00	2453.84
1991							0.00	839.20	548.09	551.82	377.41	0.00	2316.52
1992							0.00	767.53	478.72	65.98	183.87	149.02	1645.12
1993							0.00	863.14	844.90	313.85	405.09	304.93	2731.91
1994							0.00	851.60	471.73	233.64	317.19	68.64	1942.80
1995							0.00	708.50	726.73	107.86	523.06	310.85	2377.00
1996							0.00	731.07	884.72	91.83	26.58	0.00	1734.20
1997							0.00	615.94	921.35	248.61	4.71	0.00	1790.61
1998							0.00	454.91	818.06	290.10	360.77	16.04	1939.88
1999							0.00	228.07	731.83			119.60	
Mean							20.76	676.20	731.26	392.88	313.81	93.93	2252.15
Max							415.23	1371.03	1069.11	720.64	662.71	336.00	3201.36
Min							0.00	0.00	0.00	65.98	0.00	0.00	900.73

- Notes:
1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
 2. Zero flow is assumed prior to the first and after the last measurement
 3. Monthly data for 1981 is derived from published AF values in the Hydrographers Annual Reports.

Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974	8-Jul	28-Aug	0
1975			
1976			
1977			
1978			
1979			
1980			
1981	1-May	30-Sep	0
1982	12-May	10-Sep	7
1983	23-May	14-Sep	8
1984	25-May	26-Sep	10
1985	16-Apr	14-Aug	7
1986	1-May	22-Aug	11
1987	7-May	28-Aug	5
1988	2-May	26-Jul	5
1989	1-May	18-Aug	5
1990	1-May	27-Aug	5
1991	1-May	28-Aug	7
1992	4-May	23-Sep	49
1993	3-May	27-Sep	17
1994	2-May	21-Sep	9
1995	1-May	22-Sep	20
1996	1-May	5-Aug	17
1997	16-May	4-Aug	8
1998	16-May	8-Sep	26
1999	17-May	10-Sep	57
Avg.	9-May	2-Sep	14
Earliest	16-Apr	26-Jul	0
Latest	8-Jul	30-Sep	57

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

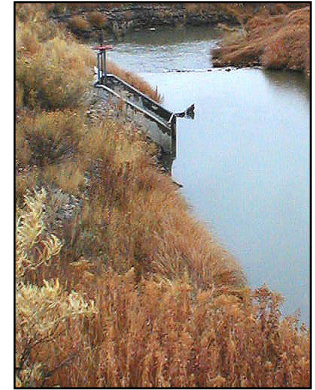
KEY DIVERSIONS

Diversion: **JOHN R. SMITH DITCH DIVERSION**
AKA: Crazy Woman #2

Date: 25 Oct. 2000

Note: This ditch normally dries up Crazy Woman Creek below its headgate.

Diversion Description: Headgate consists of a single, 3.5 x 3.5-foot, round steel headgate in excellent condition, raised/lowered by Waterman-type screw mounted in a steel slider frame and mounted in a concrete headwall. The downstream dam appears to consist of piled rock.



John R. Smith headgate

Diversion Location: The John R. Smith Ditch diverts from the North Fork of Crazy Woman, a tributary of Crazy Woman Creek, which in turn joins the Powder River.



John R. Smith flume

Headgate:

	Lat.	Long.
	N 44° 4' 12.0"	W 106° 36' 20.1"

Flume: (approximately ½ mi. from headgate)

	Lat.	Long.
	N 44° 4' 40.6"	W 106° 37' 54.2"

Conveyance Description: Open channel canal, approximately 5 miles long.

Direct Flow Water Rights:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
2		I	1200	17.14	17.14
5149E	05-08-1935	I	350	5	22.14

Associated Storage Rights: None

Irrigation Practices: All of the land irrigated by this ditch is under ditch-flood irrigation.

Return Flows: Estimated percentage of total diversion developing into return flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Crazy Woman Creek	10	15	20

Losses: Approximately 20 percent

References: Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	John R. Smith		1200	17.14	CFS	OS	Adj	Crazy Woman Creek
Terr	D	Mitchell & Long (John R. Smith)		1200	20	CFS	OS	Adj	Crazy Woman Creek
5149	E	Enl. John R. Smith	May 8, 1935	350	5	CFS	OS	Adj	Crazy Woman Creek
5150	E	Enl. John R. Smith	May 8, 1935	350	0		SS	Adj	Stage Draw or School Section Draw

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974							0.00	0.00	0.00	252.10	764.37	0.00	1016.47
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	612.00	1863.00	815.00	579.00	132.00	4001.00
1982							0.00	1277.05	1855.95	1278.28	583.76	0.00	4995.04
1983							0.00	2890.98	1801.57	1355.78	608.53	0.00	6656.86
1984							0.00	1079.28	1635.68	1586.17	1114.18	797.17	6212.48
1985							1243.96	1119.46	1015.99	659.79	828.05	1848.62	6715.87
1986							0.00	1271.21	1243.56	716.67	681.29	280.47	4193.20
1987							0.00	1245.66	1302.76	1084.31	681.81	307.05	4621.59
1988							0.00	1117.50	850.11	465.64	766.49	397.15	3596.89
1989							0.00	1143.00	1490.10	576.15	480.44	27.62	3717.31
1990							0.00	974.00	1021.58	766.95	950.18	124.22	3836.93
1991							0.00	1130.38	892.93	942.92	584.70	0.00	3550.93
1992							0.00	905.93	1429.70	818.10	766.58	384.11	4304.42
1993							0.00	1601.75	351.02	369.53	917.64	35.91	3275.85
1994							0.00	1410.50	967.20	757.49	455.35	419.13	4009.67
1995							0.00	1320.60	1297.59	505.50	839.88	334.59	4298.16
1996							0.00	1534.65	731.41	1125.43	1078.26	224.43	4694.18
1997							0.00	759.14	330.60	265.70	124.26	38.08	1517.78
1998							0.00	1008.32	592.24	575.36	1205.14	19.41	3400.47
1999							0.00	770.61	867.59	708.60	590.52	348.30	3285.62
Mean							62.20	1158.60	1077.03	781.27	730.02	285.91	4095.04
Max							1243.96	2890.98	1863.00	1586.17	1205.14	1848.62	6715.87
Min							0.00	0.00	0.00	252.10	124.26	0.00	1016.47

- Notes:
1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
 2. Zero flow is assumed prior to the first and after the last measurement
 3. Monthly data for 1981 is derived from published AF values in the Hydrographers Annual Reports.

Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974	11-Jul	30-Aug	0
1975			
1976			
1977			
1978			
1979			
1980			
1981	1-May	11-Sep	0
1982	3-May	13-Aug	7
1983	1-May	19-Aug	15
1984	9-May	24-Sep	6
1985	4-Apr	30-Sep	8
1986	1-May	15-Sep	11
1987	7-May	14-Sep	10
1988	2-May	15-Sep	6
1989	1-May	5-Sep	5
1990	1-May	5-Sep	5
1991	1-May	28-Aug	11
1992	4-May	23-Sep	24
1993	3-May	3-Sep	7
1994	2-May	30-Sep	14
1995	1-May	22-Sep	35
1996	1-May	30-Sep	24
1997	16-May	15-Sep	44
1998	16-May	2-Sep	7
1999	17-May	29-Sep	51
Avg.	6-May	11-Sep	15
Earliest	4-Apr	13-Aug	0
Latest	11-Jul	30-Sep	51

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

Name Kennedy Ditch Diversion													
Source Crazy Woman Creek													
District 2													
Data Total monthly flow in AF													
Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974							0.00	0.00	0.00	231.61	125.39	0.00	357.00
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	1062.00	1066.00	973.00	470.00	360.00	3931.00
1982							0.00	72.02	1209.56	959.09	933.90	210.54	3385.11
1983							0.00	51.86	1257.87	1102.25	760.71	118.03	3290.72
1984							0.00	363.08	1315.41	410.65	1396.31	548.03	4033.48
1985							147.63	737.24	808.99	296.01	256.04	0.00	2245.91
1986							0.00	1126.44	1149.97	672.98	489.22	28.56	3467.17
1987							0.00	494.82	630.80	505.77	574.43	126.21	2332.03
1988							0.00	587.20	500.97	483.47	95.88	0.00	1667.52
1989							0.00	641.30	534.79	366.55	396.80	53.37	1992.81
1990							0.00	348.83	784.37	739.64	583.16	62.08	2518.08
1991							0.00	141.67	980.19	370.11	644.26	0.00	2136.23
1992							0.00	792.29	673.81	509.84	505.50	166.38	2647.82
1993							0.00	623.13	274.68	301.95	697.47	244.19	2141.42
1994							0.00	445.77	756.52	356.77	338.77	176.92	2074.75
1995							0.00	93.83	291.10	723.26	749.55	418.79	2276.53
1996							0.00	582.53	1204.71	675.50	438.60	125.27	3026.61
1997							0.00	674.57	736.74	581.18	417.54	580.78	2990.81
1998							0.00	446.66	1029.33	823.34	726.93	372.08	3398.34
1999							0.00	176.73	1041.07	631.64	780.05	310.41	2939.90
Mean							7.38	473.10	812.34	585.73	569.03	195.08	2642.66
Max							147.63	1126.44	1315.41	1102.25	1396.31	580.78	4033.48
Min							0.00	0.00	0.00	231.61	95.88	0.00	357.00

- Notes:
1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
 2. Zero flow is assumed prior to the first and after the last measurement
 3. Monthly data for 1981 is derived from published AF values in the Hydrographers Annual Reports.

Name	Kennedy Ditch Diversion		
Source	Crazy Woman Creek		
District	2		
Data	First & Last Dates, Max. Days		
Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974	8-Jul	30-Aug	0
1975			
1976			
1977			
1978			
1979			
1980			
1981	1-May	30-Sep	0
1982	3-May	17-Sep	10
1983	23-May	14-Sep	8
1984	22-May	26-Sep	7
1985	19-Apr	29-Aug	17
1986	1-May	15-Sep	11
1987	7-May	14-Sep	8
1988	2-May	15-Aug	6
1989	1-May	14-Sep	8
1990	1-May	5-Sep	15
1991	28-May	28-Aug	10
1992	4-May	23-Sep	7
1993	3-May	22-Sep	12
1994	11-May	30-Sep	9
1995	15-May	22-Sep	29
1996	10-May	23-Sep	9
1997	15-May	26-Sep	8
1998	16-May	30-Sep	7
1999	17-May	29-Sep	51
Avg.	11-May	15-Sep	12
Earliest	19-Apr	15-Aug	0
Latest	8-Jul	30-Sep	51

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

Name Mitchell & Long Ditch Diversion													
Source Crazy Woman Creek													
District 2													
Data Total monthly flow in AF													
Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974							0.00	0.00	0.00	27.07	443.01	0.00	470.08
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	1059.00	1564.00	664.00	267.00	130.00	3684.00
1982							0.00	794.38	794.80	698.22	796.40	126.20	3210.00
1983							0.00	653.68	476.70	1000.25	717.01	128.50	2976.14
1984							0.00	615.52	550.91	543.56	300.48	463.80	2474.27
1985							432.90	507.00	291.93	300.35	123.97	0.00	1656.15
1986							0.00	384.51	549.71	525.26	194.12	176.05	1829.65
1987							0.00	293.68	601.59	550.66	410.50	46.59	1903.02
1988							0.00	586.85	249.84	211.58	7.11	0.00	1055.38
1989							0.00	481.13	851.59	369.36	356.08	72.55	2130.71
1990							0.00	490.96	501.12	534.32	97.06	0.00	1623.46
1991							0.00	632.37	727.75	445.76	229.59	0.00	2035.47
1992							0.00	478.02	680.14	428.68	90.77	0.00	1677.61
1993							0.00	508.89	229.30	268.60	376.78	106.36	1489.93
1994							0.00	435.48	184.83	381.07	103.46	0.00	1104.84
1995							0.00	333.02	711.47	360.71	548.72	280.96	2234.88
1996							0.00	1009.76	320.12	336.43	725.51	52.60	2444.42
1997							0.00	713.60	387.66	1207.58	0.00	0.00	2308.84
1998							0.00	770.26	99.71	1319.59	1235.41	246.14	3671.11
1999							0.00	523.64	408.06	779.44	638.39	90.55	2440.08
Mean							21.65	563.59	509.06	547.62	383.07	96.02	2121.00
Max							432.90	1059.00	1564.00	1319.59	1235.41	463.80	3684.00
Min							0.00	0.00	0.00	27.07	0.00	0.00	470.08

- Notes:
1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
 2. Zero flow is assumed prior to the first and after the last measurement
 3. Monthly data for 1981 is derived from published AF values in the Hydrographers Annual Reports.

Name	Mitchell & Long Ditch Diversion		
Source	Crazy Woman Creek		
District	2		
Data	First & Last Dates, Max. Days		
Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974	11-Jul	28-Aug	0
1975			
1976			
1977			
1978			
1979			
1980			
1981	1-May	30-Sep	0
1982	3-May	16-Sep	7
1983	16-May	23-Sep	25
1984	14-May	26-Sep	18
1985	4-Apr	14-Aug	14
1986	1-May	12-Sep	20
1987	19-May	8-Sep	9
1988	2-May	3-Aug	6
1989	1-May	14-Sep	9
1990	1-May	6-Aug	5
1991	1-May	28-Aug	5
1992	4-May	7-Aug	14
1993	3-May	13-Sep	16
1994	6-May	8-Aug	15
1995	10-May	22-Sep	35
1996	1-May	3-Sep	21
1997	16-May	30-Jul	44
1998	16-May	14-Sep	9
1999	17-May	7-Sep	51
Avg.	8-May	1-Sep	16
Earliest	4-Apr	30-Jul	0
Latest	11-Jul	30-Sep	51

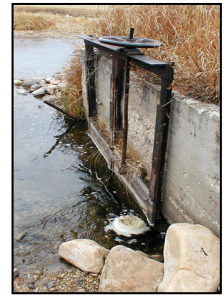
Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

KEY DIVERSIONS

Diversion: **MORETON DITCH DIVERSION**
AKA: Merton, Morton, Crazy Woman #8

Date: 25 Oct. 2000

Diversion Description: Headgate consists of a single, 3.3 x 2.3-foot rectangular steel gate in steel slides, raised/lowered by a Waterman-type screw mounted in a steel slider frame and mounted in a concrete headwall.



Moreton Ditch headgate

Diversion Location: The Moreton Ditch diverts from the Middle Fork of Crazy Woman, a tributary of Crazy Woman Creek, which in turn joins the Powder River.

Headgate:

Lat.	Long.
N 44° 3' 0.5"	W 106° 44' 38.8"

Flume: (approximately ½ mi. from headgate)

Lat.	Long.
N 44° 2' 57.4"	W 106° 44' 21.6"



Moreton Ditch flume

Conveyance Description: Open channel canal, approximately 1.5 miles long, to pressurized pipes.

Direct Flow Water Rights:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
8		I	252	14.02	14.02
25 1/2		S	0	3	17.02

Associated Storage Rights: The Moreton fills Case and Glen Means reservoirs (5886R and 9697R).

Irrigation Practices: All of the land irrigated by this ditch is under side-roll sprinkler irrigation.

Return Flows: Estimated percentage of total diversion developing into return flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Crazy Woman Creek	0	5	5

Losses: Approximately 10 percent

References: Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	Moreton		252	14.02	CFS	OS	Adj	Middle Fork Crazy Woman Creek

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974							0.00	0.00	16.07	112.84	0.00	0.00	128.91
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	139.70	377.26	173.50	231.20	23.08	944.74
1982							0.00	442.46			289.33	108.41	
1983							0.00	1109.61	220.30	146.22	455.29	0.00	1931.42
1984													
1985							251.42	380.38	395.19	315.84	465.28	0.00	1808.11
1986							0.00	191.20	437.76	347.35	323.14	217.06	1516.51
1987							0.00	624.75	197.52	159.15	208.21	33.18	1222.81
1988							0.00	572.36	248.51	242.62	0.00	0.00	1063.49
1989							0.00	357.95	336.35	137.17	166.58	100.47	1098.52
1990							0.00	246.62	556.76	486.03	221.93	12.50	1523.84
1991							0.00	232.82	279.93	196.32	189.51	0.00	898.58
1992							0.00	424.92	35.01	53.76	352.28	193.29	1059.26
1993							0.00	230.96	131.09	149.39	209.47	460.76	1181.67
1994							0.00	216.14					
1995							0.00	113.67	29.02	25.65	63.06	0.00	231.40
1996							0.00	173.90	256.33	272.56	0.00	0.00	702.79
1997							0.00	70.15	410.73	300.19	172.80	393.10	1346.97
1998							0.00	17.38	118.20	308.32	279.68	111.04	834.62
1999							0.00	30.82	224.99	225.92	79.09	0.00	560.82
Mean							13.23	293.46	251.24	214.87	205.94	91.83	1062.03
Max							251.42	1109.61	556.76	486.03	465.28	460.76	1931.42
Min							0.00	0.00	16.07	25.65	0.00	0.00	128.91

- Notes: 1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
2. Zero flow is assumed prior to the first and after the last measurement

Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974	28-Jun	31-Jul	0
1975			
1976			
1977			
1978			
1979			
1980			
1981	13-May	11-Sep	30
1982	3-May	30-Sep	57
1983	1-May	29-Aug	17
1984	4-Jun	29-Aug	56
1985	19-Apr	29-Aug	7
1986	1-May	15-Sep	22
1987	7-May	14-Sep	9
1988	4-May	22-Jul	20
1989	1-May	14-Sep	28
1990	1-May	5-Sep	10
1991	20-May	28-Aug	23
1992	4-May	23-Sep	49
1993	3-May	29-Sep	21
1994	6-May	30-Sep	84
1995	1-May	21-Aug	26
1996	10-May	15-Jul	17
1997	16-May	29-Sep	40
1998	16-May	30-Sep	20
1999	17-May	1-Sep	51
Avg.	10-May	4-Sep	29
Earliest	19-Apr	15-Jul	0
Latest	28-Jun	30-Sep	84

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

KEY DIVERSIONS

Diversion: **NORTH FORK DITCH DIVERSION**
AKA: North Fork #3, Crazy Woman #3

Date: 25 Oct. 2000

Diversion Description: Headgate consists of a single, 3.5 x 2-foot rectangular steel gate set in steel slides in a sheet metal and wood-reinforced headwall, all protected by a welded steel trash rack.



North Fork Diversion Headgate

Diversion Location: The North Fork Ditch diverts from the North Fork of Crazy Woman, a tributary of Crazy Woman Creek, which in turn joins the Powder River.



North Fork Diversion Flume

Headgate:

Lat.	Long.
N 44° 10' 19.2"	W 106°44' 48.0"

Flume:

Lat.	Long.
N 44° 10' 19.5"	W 106°44' 49.1"

Conveyance Description: Open channel canal, approximately 1.5 miles long.

Direct Flow Water Rights:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
3		I	800	30	30
10		I	300	38	68
20 1/2		I	800	25	93
6193E	11-23-1962	I	25.9	0.37	93.37
6356E	04-06-1970	I	60.5	0.87	94.24

Associated Storage Rights: Fills reservoirs 7305R and 6417R. Irrigators on the North Fork Ditch also use Muddy Guard No. 2 reservoir water.

Irrigation Practices: Irrigators use approximately one-third side-roll and pivot sprinklers, one-third gated pipe, and one-third ditch flood irrigation.

Return Flows: Estimated percentage of total diversion developing into return flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Crazy Woman Creek	10	15	20

Losses: Approximately 10 percent

References: Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	North Fork (Cook, Cross)		800	30	CFS	OS	Adj	North Fork Crazy Woman Creek
Terr	D	North Fork		800	30	CFS	OS	Adj	North Fork Crazy Woman Creek
Terr	D	North Fork		300	30	CFS	OS	Adj	North Fork Crazy Woman Creek
6193	E	Enl. North Fork Crazy Woman	Nov. 23, 1962	25.9	0.37	CFS	OS	Adj	North Fork Crazy Woman Creek
6356	E	Enl. North Fork	April 6, 1970	60.5	0.87	CFS	OS	Adj	North Fork Crazy Woman Creek

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974								0.00	0.00	0.00	383.46	0.00	383.46
1975													
1976													
1977													
1978													
1979													
1980													
1981								273.61	550.51	294.26	64.05	0.00	1182.43
1982								0.00	68.46	224.15	137.00	35.15	464.76
1983								0.00	261.13	277.61	232.71	211.31	982.76
1984								112.77	286.67	216.48	210.81	0.00	826.73
1985								313.02	302.22	287.28	291.69	357.84	1552.05
1986								215.53	165.60	423.47	241.96	132.11	1178.67
1987								36.02	128.99	198.86	78.55	0.00	442.42
1988								0.00	0.00	269.25	186.38	62.38	518.01
1989								78.30	158.84	116.25	158.29	85.32	597.00
1990								78.14	220.89	179.49	151.14	16.17	645.83
1991								94.92	72.50	88.94	291.59	0.00	547.95
1992								200.48				36.46	
1993								281.05	116.05	221.21	154.17	237.37	1009.85
1994								122.00	115.99	262.18	163.49	98.71	762.37
1995								0.00	0.00	0.00	270.93	242.69	513.62
1996								339.92	259.42	283.02	388.42	245.69	1516.47
1997								237.17	266.66	219.99	73.10	250.10	1047.02
1998								245.19	283.42	386.64	519.86	420.15	1855.26
1999								49.46	179.04	440.16	501.79	112.17	1282.62
Mean								133.88	180.86	231.01	236.81	127.18	911.01
Max								339.92	550.51	440.16	519.86	420.15	1855.26
Min								0.00	0.00	0.00	64.05	0.00	383.46

- Notes: 1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
2. Zero flow is assumed prior to the first and after the last measurement

Name	North Fork Ditch Diversion		
Source	Crazy Woman Creek		
District	2		
Data	First & Last Dates, Max. Days		
Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974	7-Aug	30-Aug	0
1975			
1976			
1977			
1978			
1979			
1980			
1981	20-May	7-Aug	35
1982	25-Jun	7-Sep	12
1983	15-Jun	23-Sep	23
1984	22-May	31-Aug	39
1985	1-May	30-Sep	24
1986	1-May	15-Sep	28
1987	26-May	19-Aug	21
1988	7-Jul	15-Sep	19
1989	10-May	14-Sep	8
1990	25-May	5-Sep	12
1991	24-May	28-Aug	46
1992	4-May	8-Sep	76
1993	10-May	29-Sep	30
1994	11-May	30-Sep	30
1995	7-Aug	22-Sep	10
1996	1-May	30-Sep	16
1997	15-May	29-Sep	30
1998	16-May	30-Sep	7
1999	17-May	13-Sep	51
Avg.	28-May	13-Sep	26
Earliest	1-May	7-Aug	0
Latest	7-Aug	30-Sep	76

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

KEY DIVERSIONS

Diversion: **PX DITCH DIVERSION**
AKA: Crazy Woman #12

Date: 25 Oct. 2000

Diversion Description: Headgate consists of a single, 4 x 3.5-foot rectangular steel gate in steel slides, raised/lowered by Waterman-type screw mounted in a steel slider frame and mounted in a concrete headwall.



PX Ditch Headgate

Diversion Location: The PX Ditch diverts from Muddy Creek, a tributary of Crazy Woman Creek, which in turn joins the Powder River.

Headgate:

Lat. Long.
N 44° 10' 7.7" W 106° 44' 54.3"

Flume:

Lat. Long.
N 44° 10' 6.7" W 106° 44' 50.3"



PX Ditch Flume

Conveyance Description: Open channel canal, approximately 1 mile long, with approximately 1/3 mile of the ditch piped under Muddy Creek.

Direct Flow Water Rights:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
12		I	200	17.9	17.9
7081E	12-08-1993	I	317.5	4.54	22.44

Associated Storage Rights: None

Irrigation Practices: Of the land under irrigation from the PX Ditch, 40 percent is under sprinklers, 40 percent is flooded from gate pipes, and the remaining 20 percent is flooded from ditches.

Return Flows: Estimated percentage of total diversion developing into return flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Crazy Woman Creek	0	3	7

Losses: Approximately 5 percent

References: Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	P X		200	17.9	CFS	OS	Adj	Muddy Creek
17669	D	Mitten (P X)	Feb. 26, 1930	270.5	3.86	CFS	OS	Adj	Muddy Creek
7081	E	ENL P X	Dec. 8, 1993	319.5	4.57	CFS	OS	Una	Muddy Creek

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974													
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	0.00	0.00	188.29	0.00	0.00	188.29
1982							0.00	74.12	350.61	263.27	51.18	0.00	739.18
1983							0.00	0.00	133.52	207.14	115.67	48.07	504.40
1984													
1985							62.06	133.98	308.31	129.00	58.41	0.00	691.76
1986							0.00	58.64	257.54	227.43	87.84	103.23	734.68
1987							0.00	120.67	60.31	135.64	85.52	0.00	402.14
1988							0.00	126.67	239.91	63.77	0.00	0.00	430.35
1989							0.00	37.89	96.12	90.43	280.87	0.00	505.31
1990							0.00	131.97	158.47	211.93	0.00	0.00	502.37
1991													
1992							0.00	126.04				0.00	
1993							0.00					13.69	
1994							0.00	218.29	79.91	208.55	0.00	0.00	506.75
1995							0.00	20.85	370.54	581.28	208.11	122.41	1303.19
1996							0.00	334.29	293.00	230.62	101.04	0.00	958.95
1997							0.00	255.71	277.65	352.09	318.58	379.71	1583.74
1998							0.00	280.11	319.50	323.52	105.95	330.56	1359.64
1999							0.00	38.12				282.25	
Mean							3.65	122.33	210.39	229.50	100.94	75.29	743.63
Max							62.06	334.29	370.54	581.28	318.58	379.71	1583.74
Min							0.00	0.00	0.00	63.77	0.00	0.00	188.29

- Notes: 1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
2. Zero flow is assumed prior to the first and after the last measurement

Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974			
1975			
1976			
1977			
1978			
1979			
1980			
1981	10-Jul	20-Jul	3
1982	17-May	11-Aug	26
1983	20-Jun	14-Sep	5
1984	4-Jun	31-Aug	54
1985	4-Apr	12-Aug	25
1986	1-May	15-Sep	42
1987	7-May	19-Aug	45
1988	4-May	13-Jul	7
1989	19-May	1-Sep	42
1990	7-May	27-Jul	14
1991			
1992	11-May	24-Aug	54
1993	3-May	3-Sep	77
1994	2-May	1-Aug	42
1995	30-May	18-Sep	29
1996	1-May	12-Aug	18
1997	15-May	24-Sep	8
1998	16-May	30-Sep	11
1999	17-May	29-Sep	72
Avg.	15-May	25-Aug	32
Earliest	4-Apr	13-Jul	3
Latest	10-Jul	30-Sep	77

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

KEY DIVERSIONS

Diversion: TEDDY MILLER DITCH DIVERSION

Date: 26 Oct. 2000

Note: The majority of the water adjudicated to the Teddy Miller Ditch in the 19th century has been reduced in the past two years as part of a transfer. In the process of executing the transfer, the owner abandoned 806 acres of land claimed under the original right. The current ditch has a right to 0.52 cfs. The water transfer moved the point of use for 2.15 cfs to Devoe No. 1 and 2.4 cfs to Devoe No. 2.



Teddy Miller headgate

Diversion Description: Headgate consists of a 2.0-foot round steel gate in steel slides, raised/lowered by a Waterman-type screw, mounted in a concrete headwall.

Diversion Location: The Teddy Miller Ditch diverts from the main stem of Crazy Woman Creek.

Headgate:

Lat.	Long.
N 44° 2' 54.6"	W 106° 43' 7.8"

Flume:

Lat.	Long.
N 44° 2' 53.8"	W 106° 42' 55.0"

Conveyance Description: Open channel canal, approximately 1.0 mile long.

Direct Flow Water Rights: The direct-flow rights permitted for Teddy Miller are summarized here:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
19 1/2		I	1160	84.45	84.45

See Note above. This table is provided for reference to the State Engineer's Office *Tabulation of Adjudicated Surface Water Rights of the State of Wyoming, Water Division Number Two*, Oct. 1999. The Teddy Miller Ditch currently has a right to 0.52 cfs.

Associated Storage Rights: None

Irrigation Practices: Of the land under irrigation from the Teddy Miller Ditch, all of the water is delivered by ditch-flood. Much of the right is used for stock watering.

Return Flows: Estimated percentage of total diversion developing into return flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Crazy Woman Creek	0	3	7

Losses: Approximately 5 percent by the end of the ditch

References: Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	Teddy Miller (Devoe No. 1 and No. 2)		355	5.07	CFS	OS	Adj	Middle Fork Crazy Woman Creek

Name Teddy Miller Ditch Diversion													
Source Crazy Woman Creek													
District 2													
Data Total monthly flow in AF													
Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974							0.00	0.00	0.00	98.84	9.52	0.00	108.36
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	0.00	228.00	180.00	41.00	0.00	449.00
1982							0.00	602.24	278.41	121.18	234.42	217.30	1453.55
1983							0.00	136.92	389.52	589.61	300.23	113.26	1529.54
1984							0.00	0.00	405.31	254.46	215.77	0.00	875.54
1985							504.27	546.05	639.96	38.81	0.00	0.00	1729.09
1986							0.00	165.88	890.76	375.20	45.62	0.00	1477.46
1987							0.00	253.94	256.13	107.75	201.30	0.00	819.12
1988							0.00	356.82	79.82	0.00	0.00	0.00	436.64
1989							0.00	422.78	191.52	199.42	117.78	87.85	1019.35
1990							0.00	621.76	235.05	377.69	243.67	12.50	1490.67
1991							0.00	256.57	397.88	283.07	153.98	0.00	1091.50
1992							0.00	294.57	82.17	154.54	287.92	144.13	963.33
1993							0.00	363.87	216.58	330.23	306.15	115.09	1331.92
1994							0.00	838.43	427.22				
1995							0.00	237.14	319.15	143.68	317.17	169.24	1186.38
1996							0.00	286.19	254.30	399.44	294.61	151.32	1385.86
1997							0.00	218.94	356.21	412.70	370.73	178.47	1537.05
1998							0.00	156.34	136.29	157.74	98.23	114.76	663.36
1999							0.00	47.80	251.06	92.42	36.65	50.58	478.51
Mean							25.21	290.31	301.77	227.20	172.36	71.29	1054.01
Max							504.27	838.43	890.76	589.61	370.73	217.30	1729.09
Min							0.00	0.00	0.00	0.00	0.00	0.00	108.36

- Notes:
1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
 2. Zero flow is assumed prior to the first and after the last measurement
 3. Monthly data for 1981 is derived from published AF values in the Hydrographers Annual Reports.

Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974	8-Jul	25-Aug	0
1975			
1976			
1977			
1978			
1979			
1980			
1981	1-Jun	7-Aug	0
1982	3-May	30-Sep	37
1983	23-May	14-Sep	8
1984	4-Jun	29-Aug	5
1985	8-Apr	13-Jul	10
1986	23-May	8-Aug	6
1987	7-May	21-Aug	11
1988	2-May	27-Jun	20
1989	1-May	14-Sep	26
1990	1-May	5-Sep	5
1991	1-May	28-Aug	6
1992	4-May	23-Sep	45
1993	10-May	29-Sep	14
1994	2-May	30-Sep	79
1995	1-May	22-Sep	20
1996	1-May	30-Sep	12
1997	16-May	29-Sep	9
1998	16-May	30-Sep	9
1999	17-May	29-Sep	51
Avg.	12-May	5-Sep	19
Earliest	8-Apr	27-Jun	0
Latest	8-Jul	30-Sep	79

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

KEY DIVERSIONS

Diversion: **THOMPSON & MATTHEWS DITCH DIVERSION**
AKA: Crazy Woman #25

Date: 25 Oct. 2000

Diversion Description: Headgate consists of two 2 x 3.5-foot rectangular steel gates in steel slides on a concrete throat, raised/lowered by Waterman-type screws.



Thompson & Matthews Headgate

Diversion Location: The Thompson & Matthews diversion draws from the North Fork of Crazy Woman, tributary of Crazy Woman Creek, which in turn joins the Powder River.



Thompson & Matthews Flume

Headgate:

Lat. Long.
N 44° 11' 39.5" W 106° 47' 8.0"

Flume:

Lat. Long.
N 44° 11' 39.7" W 106° 47' 6.9"

Conveyance Description: Open channel canal, approximately 2 miles long.

Direct Flow Water Rights:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
25		I	800	12	12

Associated Storage Rights: Fills reservoir Muddy Guard #2 through approximately 1 mile of Muddy Creek.

Irrigation Practices: Irrigators use approximately 50 percent side-roll sprinklers, 50 percent gated pipe flood irrigation.

Return Flows: Estimated percentage of total diversion developing into return flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Crazy Woman Creek	0	5	10

Losses: Thanks to the fine soil makeup in the ditch, its losses are low, approximately 5 percent

References: Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	Thompson & Matthews		800	12	CFS	OS	Adj	North Fork Crazy Woman Creek

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974													
1975													
1976													
1977													
1978													
1979													
1980													
1981							0.00	1116.39				0.00	
1982							0.00	1534.54	371.14	308.88	228.35	99.14	2542.05
1983							0.00	1873.22	469.74	236.01	0.00	0.00	2578.97
1984							0.00	804.38	780.01	116.48	0.00	0.00	1700.87
1985							455.30	244.55	102.96			6.19	
1986							0.00	1031.15	185.23	0.00	0.00	0.00	1216.38
1987							0.00	453.33	140.59	0.00	0.00	0.00	593.92
1988							0.00	452.32	268.17	0.00	0.00	0.00	720.49
1989							0.00	619.30	911.27	106.19	0.00	0.00	1636.76
1990							0.00	630.90	299.15	282.98	233.48	26.28	1472.79
1991							0.00	390.53	305.17	307.54	0.00	0.00	1003.24
1992							0.00	291.29	403.80	0.00	0.00	0.00	695.09
1993							0.00					161.50	
1994							0.00	281.89	125.81	89.73	0.00	0.00	497.43
1995							0.00	812.41	475.31	0.00	0.00	0.00	1287.72
1996							0.00	926.49	37.90	48.44	0.00	0.00	1012.83
1997							0.00	742.99	297.79	73.83	104.63	59.15	1278.39
1998							0.00	258.46	488.97	406.20	9.91	0.00	1163.54
1999							0.00	14.41	105.79	129.84	46.30	0.00	296.34
Mean							23.96	693.25	339.34	131.63	38.92	18.54	1231.05
Max							455.30	1873.22	911.27	406.20	233.48	161.50	2578.97
Min							0.00	14.41	37.90	0.00	0.00	0.00	296.34

- Notes: 1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
2. Zero flow is assumed prior to the first and after the last measurement

Name	Thompson & Matthews Ditch Diversion		
Source	Crazy Woman Creek		
District	2		
Data	First & Last Dates, Max. Days		
Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974			
1975			
1976			
1977			
1978			
1979			
1980			
1981	18-May	21-Aug	66
1982	3-May	17-Sep	35
1983	1-May	29-Jul	15
1984	25-May	16-Jul	7
1985	4-Apr	3-Sep	56
1986	1-May	20-Jun	11
1987	7-May	15-Jun	4
1988	4-May	27-Jun	5
1989	5-May	13-Jul	7
1990	1-May	5-Sep	7
1991	1-May	26-Jul	7
1992	4-May	16-Jun	6
1993	3-May	29-Sep	100
1994	2-May	11-Jul	20
1995	1-May	29-Jun	20
1996	1-May	15-Jul	27
1997	15-May	29-Sep	8
1998	16-May	3-Aug	9
1999	17-May	1-Sep	51
Avg.	5-May	1-Aug	24
Earliest	4-Apr	15-Jun	4
Latest	25-May	29-Sep	100

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.

KEY DIVERSIONS

Diversion: **THOMPSON BROTHERS DITCH DIVERSION**
AKA: Crazy Woman #24



Thompson Brothers headgate

Date: 25 Oct. 2000

Diversion Description: Headgate consists of a single, 3 x 2.5-foot rectangular steel gate in steel slides, raised/lowered by a Waterman-type screw mounted in a steel slider frame and mounted in a concrete headwall.

Diversion Location: The Thompson Brothers Ditch diverts from Muddy Creek, a tributary of Crazy Woman Creek, which in turn joins the Powder River.

Headgate:

Lat.	Long.
N 44° 10' 26.9"	W 106° 45' 50.3"

Flume: (approx. ½ mi. from headgate)

Lat.	Long.
N 44° 10' 26.7"	W 106° 45' 49.5"



Thompson Brothers flume

Conveyance Description: Open channel canal, approximately 1 mile long.

Direct Flow Water Rights:

Priority/Permit Number	Priority Date	Permitted Use	Acres	Flow (cfs)	Cumulative (cfs)
24		I	160	17.3	17.3

Associated Storage Rights: None

Irrigation Practices: All of the land irrigated by this diversion is under ditch-flood irrigation.

Return Flows: Estimated percentage of total diversion developing into return flows:

Destination	Wet Yr.	Avg. Yr.	Dry Yr.
Muddy Creek	0	0	0

Losses: Approximately 5 percent

References: Dave Pelloux, State Engineer's Office, Interview, 25 Oct. 2000

Irrigated Lands Water Rights Database

PerNo	PerSfx	Facility Name	Priority	Acres	Amount	Unit	SupTyp	Status	Source
Terr	D	Thompson Bros.		160	17.3	CFS	OS	Adj	Muddy Creek

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1970													
1971													
1972													
1973													
1974													
1975													
1976													
1977													
1978													
1979													
1980													
1981													
1982								0.00	607.28	478.33	0.00	0.00	1085.61
1983								0.00	0.00	31.58	101.31	40.41	173.30
1984								0.00	0.00	0.00	150.77	114.86	265.63
1985								74.84	77.60	0.00	0.00	0.00	152.44
1986								105.34	238.86	81.16	26.59	0.00	451.95
1987								158.06				0.00	
1988								235.80	11.18	0.00	0.00	0.00	246.98
1989								119.11	0.00	0.00	0.00	0.00	119.11
1990													
1991								57.83	128.92	64.17	48.83	0.00	299.75
1992								104.72	0.00	0.00	0.00	0.00	104.72
1993								0.00	134.64	0.00	0.00	0.00	134.64
1994								100.62	49.84	0.00	0.00	0.00	150.46
1995								8.52	252.80	21.74	0.00	0.00	283.06
1996								0.00	0.00	0.00	0.00	0.00	0.00
1997								30.74	0.00	0.00	0.00	0.00	30.74
1998								97.72	199.04	122.22	0.00	0.00	418.98
1999													
Mean								68.33	113.34	53.28	21.83	9.70	261.16
Max								235.80	607.28	478.33	150.77	114.86	1085.61
Min								0.00	0.00	0.00	0.00	0.00	0.00

- Notes:
1. Monthly data is derived from spot measurements in the Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980
 2. Zero flow is assumed prior to the first and after the last measurement
 3. Ditch was not turned on in 1996.

Name	Thompson Brothers Ditch Diversion		
Source	Crazy Woman Creek		
District	2		
Data	First & Last Dates, Max. Days		
Water Year	First Date of Measurement	Last Date of Measurement	Maximum Days Missing
1970			
1971			
1972			
1973			
1974			
1975			
1976			
1977			
1978			
1979			
1980			
1981			
1982	1-Jun	30-Jul	49
1983	29-Jul	14-Sep	23
1984	6-Aug	24-Sep	6
1985	15-May	20-Jun	4
1986	12-May	8-Aug	8
1987	7-May	31-Aug	61
1988	4-May	2-Jun	5
1989	1-May	24-May	3
1990	2-May	1-Aug	65
1991	24-May	21-Aug	44
1992	4-May	1-Jun	5
1993	1-Jun	18-Jun	8
1994	16-May	13-Jun	6
1995	30-May	7-Jul	20
1996	No Flow	No Flow	No Flow
1997	15-May	29-May	11
1998	16-May	27-Jul	7
1999	17-May	20-Sep	119
Avg.	24-May	19-Jul	26
Earliest	1-May	24-May	3
Latest	6-Aug	24-Sep	119

Notes: 1. Data is from Hydrographers' Annual Reports for years 1980 and later, and from WRDS for years prior to 1980.