

7-1596B (9-89)  
Bureau of Reclamation



# United States Department of the Interior

BUREAU OF RECLAMATION  
Great Plains Region  
Nebraska-Kansas Area Office  
P. O. Box 1607  
Grand Island, Nebraska 68802-1607  
FEB 24 2006

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Kansas State Board of Agriculture  
Division of Water Resources  
Technical Services Section  
901 S. Kansas Avenue, Second Floor  
Topeka, KS 66612-1283

Subject: Monthly Water Distribution - 2005

Gentlemen:

Enclosed are 2005 canal discharge records and "Monthly Water Distribution" reports for the canals and irrigation districts in the Nebraska-Kansas Projects.

Sincerely,

MARVIN R. SWANDA

Marvin R. Swanda  
Office Manager

Enclosures - 37

cc: NK-410-General File  
NK-410-Dale  
(w/o encl to each)

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2-24-06

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF RECLAMATION

**MONTHLY WATER DISTRIBUTION**

Canal: ALMENA District: ALMENA IRRIGATION DISTRICT NO. 5  
 Project: Pick-Sloan Missouri Basin Program Acres Irrigated During Season Year 2005  
 Diversion from: Prairie Dog Creek ACRE-FEET:

Month	2	3	4	5	6	7	8	9	10	11	12	13	14	Delivered to Farms		Acres Feet Per Acre ****
														From Stream or Reservoir	Total	
														From Main Canal**	Lateral***	

Almena canal was not in operation during the 2005 irrigation season.

UNITED STATES  
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**MONTHLY WATER DISTRIBUTION**

District:		GLEN ELDER IRRIGATION DISTRICT NO. 8										Year			
Project:		Pick-Sloan Missouri Basin Program										6,509		2005	
Diversion from:		Waconda Lake										ACRE-FEET:			
Month	2	3	4	5	6	7	8	9	10	11	12	13	14	Acre Feet Per Acre **	
	Diverted From Reservoir Storage	Diverted as Natural Flow *	Delivered to Reservoir	Delivered to Reservoir	Main Canal Waste	Main Canal Losses	Delivered to Laterals	Lateral Waste	Lateral Losses	District Usage	Non-District Usage	Total			
January	0	0	0	0						0	0	0			
February	0	0	0	0						0	0	0			
March	0	0	0	0						0	0	0			
April	0	0	0	0						0	0	0			
May	393	549	0	942						46	44	90	0.014		
June	12	1,831	0	1,843						41	665	706	0.108		
July	2,676	1,759	0	4,435						2,238	810	3,048	0.468		
August	70	2,438	0	2,509						59	74	133	0.02		
September	0	0	0	0						0	0	0	0		
October	405	54	0	459						339	5	344	0.053		
November	0	0	0	0						0	0	0	0		
December	0	0	0	0						0	0	0	0		
Total	3,556	6,631	0	10,137						2,723	1,598	4,321	0.663		
Acre ft per acre **										0.41	0.25	0.66			
Percent Net Supply										26.7	15.7	42.4			

**INSTRUCTIONS**  
 Column 2=Diversion amount exclusive of waste at head gates for sluicing.  
 Columns 2+3-4=Column 5.  
 Columns 5-6-8-11=Column 7.  
 Columns 8-9-12=Column 10.

\*Natural flow determined available for District use by the Kansas Division of Water Resources and bypassed through the control works at Glen Elder Dam.  
 \*\*Use total acres irrigated during season to compute this column.

UNITED STATES  
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**MONTHLY WATER DISTRIBUTION**

Canal: KIRWIN District: KIRWIN IRRIGATION DISTRICT NO. 1  
 Project: Pick-Sloan Missouri Basin Program Acres Irrigated During Season Year 2005

Diversion from: Kirwin Reservoir ACRE-FEET:

1 Month	2	3	4	5	6	7	8	9	10	11	12	13	14
	Diverted From Stream or Reservoir	Inflow From Other Sources	Delivered to Reservoir	Net Supply	Main Canal Waste	Main Canal Losses	Delivered to Laterals*	Lateral Waste	Lateral Losses	From Canal**	From Main Lateral***	Delivered to Farms	Acres Feet Per Acre****

KIRWIN CANAL WAS NOT IN OPERATION DURING THE 2005 IRRIGATION SEASON

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**MONTHLY WATER DISTRIBUTION**

Canal: COURTLAND ABOVE LOVEWELL District: KANSAS-BOSTWICK IRRIGATION DISTRICT NO. 2  
Project: Pick-Sloan Missouri Basin Program Acres Irrigated During Season: 1,107 Year: 2005  
Diversion from: Republican River ACRE-FEET:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Month	Kan-Bost Share Loss 0.7 - 15.1	Kan-Bost Share Loss 15.1 - 34.8	Kan-Bost Diversions below Stateline	Net Supply	Main Canal Waste	Main Canal Losses	Delivered to Laterals*	Lateral Waste	Lateral Losses	Delivered to Farms			Acre Feet Per Acre ****
										From Main Canal**	From Lateral***	Total	
January	0	0	0	0	0	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0	0	0
June	66	101	374	541	0	158	0	0	0	373	0	373	0.337
July	328	768	125	1,221	0	1,096	0	0	0	125	0	125	0.113
August	21	19	62	102	0	39	0	0	0	63	0	63	0.057
September	0	0	0	0	0	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	415	888	561	1,864	0	1,303	0	0	0	561	0	561	0.51
Acre ft. per acre****				1.68	0	1.18	0	0	0	0.51	0	0.51	
Percent Net Supply				100	0	69.9	0.0	0.0	0.0	30.1	0.0	30.1	

INSTRUCTIONS  
Columns 8+11=Column 4.  
Columns 2+3+4=Column 5.  
Columns 5-6-8-11=Column 7.  
Columns 8-9-12=Column 10.

\*Measured at lateral turnouts from main canal.  
\*\*Measured at farm turnouts from main canal.  
\*\*\*Measured at farm turnouts from laterals.  
\*\*\*\*Use total acres irrigated during season to compute this column.

NOTE: Nebraska canal loss as shared by Kansas-Bostwick included in this report.  
NOTE: Net Supply does not include losses incurred by Kansas Bostwick or USBR (to Lovewell).

UNITED STATES  
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MONTHLY WATER DISTRIBUTION

Canal: COURTLAND BELOW LOVEWELL District: KANSAS-BOSTWICK IRRIGATION DISTRICT NO. 2  
Project: Pick-Sloan Missouri Basin Program Acres Irrigated During Season: 23,439 Year 2005

1	2	3	4	5	6	7	8	9	10	11	12		13	14
											From Main Canal**	Lateral***		
Month	Diverted From Lovewell Reservoir	Inflow From Other Sources	Delivered to Regulating Reservoir	Net Supply	Main Canal Waste	Main Canal Losses	Delivered to Laterals*	Lateral Waste	Lateral Losses	From Main Canal**	Delivered to Farms From Lateral***	Total	Acres Per Acre****	
January	0	0	0	0	0	0	0	0	0	0	0	0	0	
February	0	0	0	0	0	0	0	0	0	0	0	0	0	
March	0	0	0	0	0	0	0	0	0	0	0	0	0	
April	0	0	0	0	0	0	0	0	0	0	0	0	0	
May	0	0	0	0	0	0	0	0	0	0	0	0	0	
June	4,310	0	0	4,310	0	841	3,449	286	1,787	20	1,374	1,394	0.059	
July	14,572	0	0	14,572	0	1,935	12,618	1,648	3,735	119	7,234	7,353	0.314	
August	7,034	0	0	7,034	0	1,008	5,986	643	1,890	40	3,253	3,293	0.14	
September	0	0	0	0	0	0	0	0	0	0	0	0	0	
October	0	0	0	0	0	0	0	0	0	0	0	0	0	
November	0	0	0	0	0	0	0	0	0	0	0	0	0	
December	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	25,916	0	0	25,916	0	3,884	22,053	2,779	7,413	179	11,861	12,040	0.513	
Acres ft. per acre****				1.1	0	0.16	0.94	0.12	0.32	0.01	0.51	0.51		
Percent Net Supply				100	0	14.2	85.1	10.7	28.6	0.7	45.3	46.5		

Diversion from: Lovewell Reservoir

INSTRUCTIONS Column 2=Diversion amount exclusive of waste at head gates for sluicing.  
Column 2+3+4=Column 5.  
Column 5+6+8+11=Column 7.  
Column 8+9+12=Column 10.

\*Measured at lateral turnouts from main canal.  
\*\*Measured at farm turnouts from main canal.  
\*\*\*Measured at farm turnouts from laterals.  
\*\*\*\*Use total acres irrigated during season to compute this column.

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**MONTHLY WATER DISTRIBUTION**

Canal: KANSAS-BOSTWICK SUMMARY District: KANSAS-BOSTWICK IRRIGATION DISTRICT NO. 2  
Project: Pick-Sloan Missouri Basin Program Acres Irrigated During Season 24,546 Year 2005

Diversion from: Republican River & Lovewell Reservoir		ACRE-FEET:													
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
Month	Total Allocated Above Lovewell	Diverted From Lovewell	Inflow From Other Sources	Net Supply	Main Canal Waste	Main Canal Losses	Delivered to Laterals*	Lateral Waste	Lateral Losses	From Canal**	From Main	Delivered to Farms From Lateral***	Total	Acres Feet Per Acre ****	Year
January	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2005
February	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2005
March	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2005
April	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2005
May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2005
June	541	4,310	0	4,851	0	1,009	3,449	288	1,787	393	1,374	1,767	0.072	2005	
July	1,221	14,572	0	15,793	0	2,931	12,618	1,648	3,736	244	7,234	7,478	0.305	2005	
August	102	7,034	0	7,136	0	1,047	5,985	843	1,890	103	3,253	3,356	0.137	2005	
September	0	0	0	0	0	0	0	0	0	0	0	0	0	2005	
October	0	0	0	0	0	0	0	0	0	0	0	0	0	2005	
November	0	0	0	0	0	0	0	0	0	0	0	0	0	2005	
December	0	0	0	0	0	0	0	0	0	0	0	0	0	2005	
Total	1,864	25,916	0	27,780	0	4,987	22,053	2,779	7,413	740	11,861	12,601	0.513	2005	
Acres ft. per acre ****				1.13	0	0.2	0.9	0.11	0.3	0.03	0.48	0.51			
Percent Net Supply				100	0	18	79.4	10	26.7	2.7	42.7	45.4			

**INSTRUCTIONS**  
 Column 3=Diversion amount exclusive of waste at head gates for sluicing. \*Measured at lateral turnouts from main canal.  
 Columns 2+3+4=Column 5. \*\*Measured at farm turnouts from main canal.  
 Columns 5-6-8-11=Column 7. \*\*\*Measured at farm turnouts from laterals.  
 Columns 8-9-12=Column 10. \*\*\*\*Use total acres irrigated during season to compute this column.

UNITED STATES  
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# MONTHLY WATER DISTRIBUTION

Canal: OSBORNE District: WEBSTER IRRIGATION DISTRICT NO. 4  
 Project: Pick-Sloan Missouri Basin Program Acres Irrigated During Season Year 2005

Diversion from: South Fork Solomon River

Month	ACRE-FEET:													
	2	3	4	5	6	7	8	9	10	11	12	13	14	Per Acre ****
	Diverted From Stream or Reservoir	Inflow From Other Sources	Delivered to Regulating Reservoir	Net Supply	Main Canal Waste	Main Canal Losses	Delivered to Laterals*	Lateral Waste	Lateral Losses	From Main Canal**	Delivered to Farms From Lateral***	Total	Acres ****	

OSBORNE CANAL WAS NOT IN OPERATION DURING THE 2005 IRRIGATION SEASON



ALMENA CANAL  
WAS NOT IN  
OPERATION DURING  
THE  
2005  
IRRIGATION SEASON

KIRWIN & WEBSTER  
CANAL  
WAS NOT IN  
OPERATION DURING  
THE  
2005  
IRRIGATION SEASON

ARCD40 V2.01 08-Dec-1997

Station CONE Courtland Canal at State Line, NE  
Data for month of JAN, 2005

DAY	GS	GJ1	GS_B	HJ	QJ
1	1.18	1.12	0.00	0.00	65.09
2	1.05	1.05	0.00	0.00	55.14
3	0.95	0.95	0.00	0.00	53.63
4	0.76	0.54	0.00	0.00	41.76
5	0.64	0.68	0.00	0.00	29.58
6	0.64	0.64	0.00	0.00	26.85
7	0.64	0.71	0.00	0.00	33.88
8	0.63	0.73	0.00	0.00	36.32
9	0.62	0.75	0.00	0.00	36.99
10	0.62	0.73	0.00	0.00	32.54
11	0.62	0.65	0.00	0.00	30.08
12	0.62	0.72	0.00	0.00	32.54
13	0.62	0.80	0.00	0.00	38.16
14	0.52	0.80	0.00	0.00	38.64
15		0.76			36.77
16		0.77			35.25
17		0.74			34.89
18		0.77			35.70
19		0.76			34.64
20		0.52			19.69
21	0.00	0.88	0.00	0.00	43.95
22	0.00	0.88	0.00	0.00	44.55
23	0.00	0.86	0.00	0.00	43.97
24	0.00	0.93	0.00	0.00	48.42
25	0.00	0.94	0.00	0.00	49.99
26	0.00	1.04	0.00	0.00	57.11
27	0.00	1.16	0.00	0.00	62.88
28	0.00	1.34	0.00	0.00	67.21
29	0.00	1.31	0.00	0.00	68.09
30	0.00	1.33	0.00	0.00	66.12
31	0.00	1.16	0.00	0.00	68.43
Min	0.00	0.54	0.00	0.00	26.85
Max	1.18	1.16	0.00	0.00	68.43
Mean	0.41	0.88	0.00	0.00	44.68
KAT					2.747

Parameter Description

- GS Daily Mean Canal Gauge Height (feet)
- GJ1 Alternate Daily Mean Canal Gauge Height (feet)
- GS\_B Canal Gauge Height, Downstream, Still (feet)
- HJ Canal Shift (feet)
- QJ Daily Mean Canal Discharge (cfs)

ARC040 V2.4D 08 Dec-1997

Station CONE Courland Canal at State Line, NE  
Data for month of FEB, 2005

DAY	GJ	GJ1	GJ_B	HJ	QJ
1	0.00	1.20	0.00	0.00	72.91
2	0.00	1.22	0.00	0.00	75.10
3	0.00	1.27	0.00	0.00	80.42
4	0.00	1.23	0.00	0.00	82.02
5	0.00	1.35	0.00	0.00	89.68
6	0.00	1.29	0.00	0.00	94.22
7	0.00	1.08	0.00	0.00	63.56
8	0.00	0.60	0.00	0.00	62.90
9	0.00	0.77	0.00	0.00	61.47
10	0.00	1.04	0.00	0.00	63.93
11	0.00	1.11	0.00	0.00	64.40
12	0.00	1.20	0.00	0.00	63.79
13	0.00	1.42	0.00	0.00	77.80
14	0.00	1.40	0.00	0.00	96.48
15	0.00	1.47	0.00	0.00	104.48
16	0.00	1.39	0.00	0.00	94.14
17	0.00	1.30	0.00	0.00	84.10
18	0.00	1.24	0.00	0.00	77.41
19	0.00	1.22	0.00	0.00	75.50
20	0.00	1.23	0.00	0.00	75.75
21	0.00	1.20	0.00	0.00	74.18
22	0.00	1.18	0.00	0.00	71.33
23	0.00	1.16	0.00	0.00	69.00
24	0.00	1.14	0.00	0.00	67.12
25	0.00	0.44	0.00	0.00	67.36
26	0.00	0.00	0.00	0.00	67.08
27	0.00	0.00	0.00	0.00	68.06
28	0.49	0.56	0.00	0.00	69.42
Min	0.00	0.00	0.00	0.00	61.47
Max	0.49	1.47	0.00	0.00	104.48
Mean	0.02	1.07	0.00	0.00	76.79
KAP					4.265

Parameter Description

GJ	Daily Mean Canal Gate Height (feet)
GJ1	Alternate Daily Mean Canal Gate Height (feet)
GJ_B	Canal Gate Height, Downstream, Shift (feet)
HJ	Canal Shift (feet)
QJ	Daily Mean Canal Discharge (cfs)

ARC040 V2.4D 09-Dec 1997

Station CODE Courtland Canal at State Line, NE  
Data for month of MAR, 2005

DAY	GJ	GJ1	GJ_B	HJ	QJ
1	1.13	1.14	0.00	0.00	67.42
2	1.15	1.18	0.00	0.00	71.42
3	1.17	1.19	0.00	0.00	72.83
4	1.16	1.18	0.00	0.00	70.85
5	1.15	1.18	0.00	0.00	70.50
6	1.15	1.18	0.00	0.00	70.78
7	1.15	1.16	0.00	0.00	68.89
8	1.12	1.14	0.00	0.00	67.01
9	1.12	1.14	0.00	0.00	67.32
10	1.13	1.15	0.00	0.00	67.74
11	1.09	1.12	0.00	0.00	64.78
12	1.09	1.12	0.00	0.00	65.26
13	1.09	1.12	0.00	0.00	64.54
14	1.08	1.10	0.00	0.00	63.25
15	1.09	1.11	0.00	0.00	64.18
16	1.09	1.12	0.00	0.00	64.93
17	1.09	1.13	0.00	0.00	65.51
18	1.10	1.12	0.00	0.00	65.43
19	1.07	1.10	0.00	0.00	62.05
20	1.07	1.10	0.00	0.00	63.47
21	1.23	1.26	0.00	0.00	79.96
22	1.62	1.60	0.00	0.00	120.03
23	1.66	1.66	0.00	0.00	126.63
24	1.66	1.64	0.00	0.00	124.94
25	1.54	1.53	0.00	0.00	111.19
26	1.44	1.44	0.00	0.00	100.94
27	1.19	1.41	0.00	0.00	96.82
28	1.19	1.43	0.00	0.00	98.96
29	1.15	1.40	0.00	0.00	95.55
30	1.14	1.38	0.00	0.00	94.78
31	1.15	1.41	0.00	0.00	96.65
Min	1.07	1.10	0.00	0.00	62.85
Max	1.66	1.66	0.00	0.00	126.63
Mean	1.21	1.26	0.00	0.00	80.11
ΣΔ					4.926

Parameter Description

GJ	Daily Mean Canal Gate Height (feet)
GJ1	Alternate Daily Mean Canal Gate Height (feet)
GJ_B	Canal Gate Height, Downstream, Shift (feet)
HJ	Canal Shift (feet)
QJ	Daily Mean Canal Discharge (cfs)