

**Annual Integrated Management Plan
Report:
Upper Niobrara-White Natural Resources
District
&
Department of Natural Resources

2012**

Integrated Management Plan Annual Meeting July 2013



Serving Box Butte, Dawes, Sheridan and Sioux Counties

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Annual report by Upper Niobrara White Natural Resources District (UNWNRD) on the activities related to the joint Integrated Management Plan (IMP) with the Nebraska Department of Natural Resources (DNR).

Purpose: The purpose of the report is to fulfill the UNWNRD's responsibilities under the IMP annual reporting obligations and provide updates to current monitoring projects and studies as outlined in the IMP.

Reporting and exchanging information gathered from monitoring projects, streamflow data or other studies provides a basis to increase understanding of the surface water and hydrologically connected ground water system. As surface and ground water are hydrologically connected throughout much of the district, estimates of water quantity of either surface or ground water cannot be evaluated separately. The data gathered through this IMP's monitoring plan is designed to evaluate and measure the success of the objectives of this IMP. This information exchange also helps to test the validity of the conclusions and information upon which the IMP is based.

UNWNRD Reporting: Permitting

The IMP requires that the UNWNRD annually report to the following permitting actions within the district:

- 1) Ground water permitting
- 2) Ground water variances
- 3) New ground water uses
- 4) Municipal Accounting

1) Ground Water Permitting – The following ground water permits were granted in 2012:

A) Replacement well permits

- (1) 16 – Replacement Irrigation
- (2) 0 – Replacement Public Water Supply
- (3) 0 – Replacement Commercial/Industrial

B) New well permits

- (1) 0 – New Public Water Supply
- (2) 1 – New Irrigation – Failed to Decommission within 180 Days
- (3) 0 – New Industrial Well

2) Ground Water Variances/Modifications – The following ground water variances were requested in 2012:

- A) Janice Dorshorst would like to modify the field boundaries of a gravity field to facilitate the installation of a center pivot. To do this there will be some currently irrigated land dried up so she would be allowed to irrigate some currently dry-land farmed ground. There will be no increase in the irrigated acres. She intends to irrigate as closely as she can the same amount of irrigated acres as she has in the past, but the actually irrigated acres will likely be a little less by the time she installs the pivot. John Burke moved to approve Janice Dorshorst modification request; Rich Zochol seconded the motion. PASS (January 2012)
- B) Frank Dye would like to modify his field boundaries to allow the installation of a center pivot in the NE1/4 31-26-47. There will be no change in the amount of certified irrigated acres. Tod Dorshorst moved to approve Frank Dye's modification; Jim Irwin seconded the motion. PASS (February 2012)
- C) Jerome Pribil is requesting to transfer the use from well G-147834 to well G-065196 and to be allowed to install an underground pipeline from well G-065196 to the pivot point of the 77 acres pivot. John Burke moved to approve Jerome Pribil's transfer; Steve Sandberg seconded the motion. PASS (February 2012)
- D) Steve Heiting has been approved to install sub-surface drip through the EQIP program, on currently gravity irrigated ground. Steve would like to 'square up' the fields to ease the installation process and take advantage of the majority of his irrigated acres under the drip system. To do this, he will need to add 2.5 acres to the sub-surface drip field and dry up 2.5 acres currently being irrigated. John Burke moved to approve Steve Heiting's modification of irrigated acres; Jim Irwin seconded the motion. PASS (April 2012)
- E) Wayne Peters would like to transfer 1,648.65 acre inches of his ground water allocation for Mirage Flats Irrigation District Unit 98 in Section 9-29-45 to Section 11-29-45. There will be no change in irrigated acres or additional increases in consumptive use. John Burke moved to approve Wayne Peters' transfer of allocation; Tod Dorshorst seconded the motion. PASS (April 2012)
- F) Alvern Letcher and Wayne Peters are installing a pivot on Mirage Flats Irrigation District units 8 and 111 to improve irrigation efficiency. In doing so, they are requesting to transfer partial water use from well G-073024, the part that would go with the 87.7 acres in unit 111, to well G-021566 which supplies water to 92 acres in unit 98 and "tie" the two units together. The underground between well G-012566 and Peters' units 108 and 110 will be disconnected by cutting out a section of the pipe prior to it going underground from the well and welding a cap on the pipe. Units 98 and 111 will be irrigated with surface water and from ground water from well G-012566. In the end there will be three separate units instead of two. All units will have availability of surface water and each "unit" could be irrigated by a well as follows: Letcher's units 92A and 93 will be irrigated by well G-073024; Peters' units 108 and 110 will be irrigated by well G-021561; and combined units 98 and 111 will be irrigated by well G-012566. Tod Dorshorst moved to approve Alvern Letcher's transfer of irrigation use; John Burke seconded the motion. PASS (April 2012)

- G) Darby Jespersen decommissioned late due to a growing crop that was in place and was not accessible without harming the growing crop. The well has since been decommissioned on May 5, 2011. John Burke moved to approve Darby Jespersen's late well permit; Tod Dorshorst seconded the motion. PASS (April 2012)
- H) Neal Christian is requesting a modification to allow the installation of a center pivot on ground that was previously irrigated by sideroll. Neal certified 125 irrigated acres under the siderolls, the pivot with end gun would irrigate 135 acres. When Neal purchased the property in 2001, the appraisal sheet indicated 135 acres of irrigated land and the loan for the property was based on 135 acres. Curt Roth moved to approve Neal Christian's modification of irrigated acres to install a center pivot but limit him to 125 acres that were certified; John Burke seconded the motion. PASS (May 2012)
- I) Jared Roffers is requesting to transfer 61 acres from SE ¼ 28-33-42 and 14 acres from NE ¼ 29-33-42 to the NW ¼ 29-33-42. There would be a 75 acre pivot installed in the NW ¼ of section 29. Currently all acres involved are certified as irrigated and the majority are under center pivot with the 14 acres noted as sideroll irrigated. There will be no additional acres involved and the certified acres will stay the same. I have received the report of title and am waiting for the completed request with signed lien holder consents. Curt Roth moved to approve Jared Roffers' transfer of acres on the condition of FSA's lien holders consent approval; Tod Dorshorst seconded the motion. PASS (May 2012)
- J) William Skavdahl is requesting to transfer up to 1,000,000 gallons of water to an oil/gas drilling firm for their use in drilling up to 4 test holes. This request is in Subarea 5 and is fully appropriated. The Water Committee recommends UNWNRD board to approve William Skavdahl's one time transfer request with the condition that the 2012 annual use from the well is restricted to the historic consumptive use. The historic consumptive at this time is 14 inches per acre. By limiting the withdrawal to this historic consumptive use from the well there will be no new uses to offset. If the landowner exceeds the 14 inch per acre allocation, there will be a two inch per acre penalty for every one inch per acre overage and the allocation will carry forward to the 2013 year at a reduced rate. It is also understood that the water will be transported by truck and remain in the state of Nebraska. John Burke moved to approve the Water Committee's recommendation; Curt Roth seconded the motion. PASS (May 2012)
- K) Darby Jespersen with Double J Farms is requesting a variance to bring an old well back into production. Darby drilled a replacement irrigation well (G-042795) in 2008 to replace the original well that was rapidly declining in production. He changed the original well to a stock well (G-162561) and began using the new well. Unfortunatley, the new well's production has dropped off to about 250 gpm. Darby is requesting to bring his original well back into production and use both wells to irrigate his land. Curt Roth moved to deny Double J Farm's variance request to change his original well from a stock well back into an irrigation well; Tod Dorshorst seconded the motion. PASS (July 2012)
- L) Brian Jelinek irrigates 137 certified acres with irrigation well number G-050427 in SW1/4 13-25-49. On the east half of section 13 there are 268 certified acres irrigated, 134 acres in NE1/4 13-25-49 and 134 acres in SE1/4 13-25-49 with irrigation well number G-031548, which is located in the SE1/4. Brian would like to physically transfer 411 acre inches or approximately 3 inches per acre by over ground pipe from the well in the SW1/4 to the land in the SE1/4. All water use is

metered at the pivot point. John Burke moved to approve the Jelinek transfer; Jim Irwin seconded the motion. PASS (August 2012)

- M) Roger Schledewitz irrigates 180.2 certified acres with irrigation well number G-062225 in section 11-26-49; currently a 100 acre pivot is irrigated along with 80.2 acres of gravity ground. Roger would like to transfer the 80.2 gravity irrigated acres to the adjacent section to the north (SE1/4 2-26-49). If approved, Roger will install an 80.2 acre pivot and no longer gravity irrigate any land. Roger will continue to use the same well to irrigate all the acres. Tod Dorshorst moved to approve Roger Schledewitz's transfer; John Burke seconded the motion. PASS (August 2012)
- N) Jimmy Buskirk is requesting to modify his field boundaries to allow a 39.8 acre pivot to be installed on gravity ground. He will dry up acres around the small pivot. There will not be an increase in certified acres. Steve Sandberg moved to approve Jimmy Buskirk's acre modification transfer request; Tod Dorshorst seconded the motion. PASS (December 2012)

3) Ground Water Uses – No new ground water uses were granted in 2012.

The UNWNRD does allow through the “483” application process, additional acres to be added to existing wells in an area of subarea 3 that was once fully appropriated. The District received no applications.

4) Municipal Accounting – This use is required to be reported by October 1 of each year. It will be compiled and forwarded to the Department when completed.

Integrated Management Studies

Currently, DNR and UNWNRD have several joint/cooperative studies:

- 1) Niobrara Hydrogeologic and Hydrostratigraphic Framework Study (Finished 2010)
- 2) Niobrara Operations Model Study (IWMPPF) (Nearing completion 2013)
- 3) Niobrara River Basin Study (Bureau of Reclamation Basin Study Program)
- 4) Economic implications of reduced ground water allocations in the Nebraska Panhandle and educational programming to improve management with less water (IWMPPF)

1) Niobrara Hydrogeologic and Hydrostratigraphic Framework Study

This study provides geospatial coverages of aquifer properties throughout the upper portion of the Niobrara Basin. It is intended to help expand the Box Butte ground water model. The study was finished in 2010, with basin coverages delivered to DNR.

2) Niobrara River Operations Model

The operations model will combine three separate models, CROPSIM, a ground water model and a surface water model to develop operational scenarios that maximize water use efficiency. All portions of the operations model are currently developed and the model is being calibrated.

3) Niobrara River Basin Study

The basin study will assist in projecting water supply and demand in the basin, analyze water supply operations under alternate water availability conditions and develop and analyze options for providing and optimizing use of future water supplies. The study will include development of a basin-wide ground water model and a surface water operations model used to analyze conjunctive management options. Currently study is ongoing.

4) Economic implications of reduced ground water allocations study

The multi-NRD study has a goal to provide farm-level economic analysis of limited irrigation impacts for crops grown in the panhandle of Nebraska and to provide educational programming to assist producers effectively manage ground water irrigation in areas that instituted pumping allocations. Currently the study is ongoing.

**2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES
TO MEET THE REQUIREMENTS OF THE UPPER NIOBRARA WHITE NATURAL
RESOURCES DISTRICT'S INTEGRATED MANAGEMENT PLAN**

Purpose: The purpose of the report is to fulfill the Department of Natural Resources (Department) responsibilities under the integrated management plan (IMP) annual reporting obligations and provide updates to current monitoring projects or studies as outlined in the IMP.

Reporting and exchanging information gathered from monitoring projects, streamflow data, or other studies provides a basis to increase understanding of the surface water and hydrologically connected groundwater system. As surface water and groundwater are hydrologically connected throughout much of the district, estimates of water quantity of either surface water or groundwater cannot be evaluated separately. The data gathered through this IMP's monitoring plan is designed to evaluate and measure the success of the objectives of this IMP. This information exchange also helps to test the validity of the conclusions and information upon which the IMP is based. This report contains information on variance and permit activities from January 1, 2012, to December 31, 2012. All stream measurements and diversion records are for water year 2012 (October 1, 2011, to September 30, 2012).

Department Reporting: Data

The IMP requires that the Department annually report on the following surface water data within the district:

- 1) Diversion records upstream of Box Butte Reservoir
- 2) Non-gaged stream measurements

1) Surface Water Diversion Records Upstream of Box Butte Reservoir

The water year 2012 surface water diversion records are included in Appendix A. Records are included for Cook Canal No. 1, Earnest Canal (North), Earnest Canal (South), Excelsior Canal, Geo. Hitshew Canal, Harris-Neece Canal, Hughes Canal, Johnson Canal, Labelle Canal, Lakota Canal, Lichte Canal, McGinley-Stover Canal, McLaughlin Canal, Mettlen Canal, Montague Canal, Moore-Kay Canal, Pioneer Canal, and Potmesil Canal.

2) Non-gaged Stream Measurements

The water year 2012 non-gaged stream measurements are included in Appendix B. Measurements were conducted at the following streams: Ash Creek, Big Bordeaux Creek, Chadron Creek, Crawford Sewer Drain, Dead Horse Creek, Hat Creek, Indian Creek, Jim Creek, Monroe Creek, Niobrara River, Sow Belly Creek, Trunk Butte Creek, Warbonnet Creek, White Head Creek, and White River. Measurements were also conducted at various diversions: Andrews Supply Canal; Armstrong Pump; Big Monroe Canal; Circle Pump; Coffee Canal; Coffee Flood Canal; Cook Pump; Delsing Pump; Enterprise Pump; Gieser's Pump; Harris-

Cooper Canal Hitsheew Pump #2; Hoover Pump; Montague Canal Pump; Montgomery Canal; Old Sow Belly; Pioneer Pump #2; Rasher-Forbes Canal; Richard Jordan Canal; Warbonnett Canal; West Hat Creek Canal; White River Canal; Whitney Pipeline; Whitney Reservoir; Wilkins Pump; and Zimmerman Canal.

Department Reporting: Permitting

The IMP requires that the Department annually report the following permitting actions within the surface water control area of the district:

- 1) Surface water variances
- 2) Cancelled surface water rights
- 3) New uses and increases in municipal and industrial consumptive uses

Tables 1-3 below contain detailed information on the permitting activities for calendar year 2012.

1) Surface Water Variances

There were 10 surface water variances granted in the area under surface water controls in calendar year 2012. Nine of these variances were for temporary permits for road construction granted to the Dawes County Road Department, each for 10 acre-feet. The permitted variances address public safety issues, meeting the criteria of Department rules *457 Neb. Admin. Code* Chapter 23, § 001.05. Applications were filed and surface water appropriations were granted for 7 of the variances for the Dawes County Road Department. The Dawes County Road Department requested that two of their variances be dismissed. The other variance was issued for a small trout pond on private land. The applicant provided a plan to offset any consumptive use by converting alfalfa on adjacent lands to a cover crop with lower ET. The variance was approved pursuant to *457 Neb. Admin. Code* Chapter 23, § 001.02. No application for surface water appropriation has been filed associated with the variance for the trout pond.

2) Cancelled Surface Water Rights

There were 4 surface water permits cancelled in calendar year 2012. These were all temporary, one-year permits for road construction granted to the Dawes County Road Department.

3) New or Increased Municipal and Industrial Uses

The Department approved a municipal transfer permit for the City of Chadron in calendar year 2012. The application included a request for additional water for municipal growth and was granted by the Department in the permit. Increases in the consumptive use of water due to the additional amount granted in the permit will be offset as needed according to the IMP.

Current Studies

The Interrelated Water Management Plan Program Fund (IWMPPF) conjunctive water management study, jointly undertaken by the Department and UNWNRD, is nearing completion. This study combined surface and groundwater modeling tools to evaluate potential water management strategies within the UNWNRD. Development of surface water and groundwater modeling tools has concluded and will be available for investigating management questions in fall 2013. These UNW area models will also continue to be incorporated as part of the Niobrara River Basin Study with the Bureau of Reclamation.

The Niobrara River Basin study is similar to the IWMPPF study, except that it expands the study region, incorporates climate and economic components, and includes funding and in-kind contributions from the Bureau of Reclamation WaterSMART program. The study will incorporate several models, including land-use, groundwater, surface water, and economic models. All portions of the study are currently in development.

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

Table 1. Calendar year 2012 surface water variances in the surface water control area of the UNWNRD.

Appropriation Number	Order Date	Variance	Approval Date	Section	Township	Range	Dir.	Use	Grant in CFS	Grant in AF	Mitigation
A-18889	3/12/2012	VAR-2257	1/27/2012	2	31	51	W	Manufacturing; Temporary Construction	N/A	10	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
A-18890	3/12/2012	VAR-2259	1/27/2012	6	34	47	W	Manufacturing; Temporary Construction	N/A	10	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
A-18891	3/12/2012	VAR-2258	1/27/2012	16	34	48	W	Manufacturing; Temporary Construction	N/A	10	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
A-18965	9/11/2012	VAR-2382	8/6/2012	13	33	48	W	Manufacturing; Temporary Construction	N/A	10	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
A-18966	9/11/2012	VAR-2383	8/6/2012	12	32	49	W	Manufacturing; Temporary Construction	N/A	10	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
A-18967	9/11/2012	VAR-2386	8/6/2012	3	31	52	W	Manufacturing; Temporary Construction	N/A	10	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
A-18968	9/11/2012	VAR-2385	8/6/2012	5	31	49	W	Manufacturing; Temporary Construction	N/A	10	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
No application filed	N/A	VAR-2255	1/27/2012	25	29	51	W	Manufacturing; Temporary Construction	N/A	N/A	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
No application filed	N/A	VAR-2256	1/27/2012	27	29	49	W	Manufacturing; Temporary Construction	N/A	N/A	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.05
No application filed	N/A	VAR-2047	6/13/2012	22	33	45	W	Fish Pond	N/A	N/A	Variance granted pursuant to 457 Neb. Admin. Code Chapter 23, § 001.02

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

Table 2. Calendar year 2012 cancelled surface water permits in the surface water control area of the UNWNRD. ¹

Appropriation Number	Order of Cancellation Date	Variance	Section	Township	Range	Dir.	Use	Begin Acres	Cancelled Acres	Cancellation in CFS	Cancellation in AF
A-18801	9/14/2012	VAR-2146	3	31	52	W	Manufacturing; Temporary Construction	N/A	N/A	N/A	3
A-18803	9/14/2012	VAR-2148	5	31	49	W	Manufacturing; Temporary Construction	N/A	N/A	N/A	3
A-18804	9/14/2012	VAR-2149	13	33	48	W	Manufacturing; Temporary Construction	N/A	N/A	N/A	3
A-18805	9/14/2012	VAR-2150	12	32	49	W	Manufacturing; Temporary Construction	N/A	N/A	N/A	3

Table 3. Calendar year 2012 new or increased municipal and industrial uses in the surface water control area of the UNWNRD.

Permit #	Well Reg. #	NRD Transfer Permit #	Approval Date	Well Type	Section	Township	Range	Dir.	Permitted Max. Daily Rate (gal.)	Permitted Total Annual Use (gal.)	Actual Max. Daily Rate (gal.)	Actual Total Annual Use (gal.)	Offset Scheme
MT-41	G-032603 G-032604 G-032605 G-032607		5/15/2012	Municipal	*	30	48	W	4,320,000	320,000,000	2,505,000	260,168,000	None required. Any increase in use for growth will be offset as needed in future according to provisions of the IMP and District's rules

¹ While the 2011 report states 8 variances for 8 temporary 1 year permits were issued in calendar year 2011, only 4 were actually issued for the area of the UNWNRD under surface water controls. One variance for a temporary 1 year permit was issued outside of the area. The other three variances and permits were erroneously reported.

**2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES
TO MEET THE REQUIREMENTS OF THE UPPER NIobrARA WHITE NATURAL
RESOURCES DISTRICT'S INTEGRATED MANAGEMENT PLAN**

Appendix A

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

29000 Cook Canal No. 1 from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
2	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
3	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
4	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
5	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
6	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
7	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
8	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
9	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
10	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
20	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
21	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
22	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
23	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
24	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
25	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
26	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
27	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
28	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
29	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
30	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---
31	---	---	---	---	---	---	0.00	---	0.00	0.00	---	---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	---	---	---	---	---	---	0.000	0.000	0.000	0.000	0.000	0.000
MAX	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
MIN	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YEAR 2011

WTR YEAR 2012 TOTAL 0 MEAN 0.000 MAX 0.000 MIN 0.000 AC-FT 0.00

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

38200 Earnest Canal (North) from Niobrara Rive, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
2	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
3	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
4	---	---	---	---	---	---	1.4	0.00	0.00	0.00	0.00	0.00
5	---	---	---	---	---	---	2.2	0.00	0.00	0.00	0.00	0.00
6	---	---	---	---	---	---	2.3	0.00	0.00	0.00	0.00	0.00
7	---	---	---	---	---	---	2.5	0.00	0.00	0.00	0.00	0.00
8	---	---	---	---	---	---	2.5	0.00	0.00	0.00	0.00	0.00
9	---	---	---	---	---	---	2.5	0.00	0.00	0.00	0.00	0.00
10	---	---	---	---	---	---	2.5	0.00	0.00	0.00	0.00	0.00
11	---	---	---	---	---	---	2.4	0.00	0.00	0.00	0.00	0.00
12	---	---	---	---	---	---	2.2	0.00	0.00	0.00	0.00	0.00
13	---	---	---	---	---	---	2.1	0.00	0.00	0.00	0.00	0.00
14	---	---	---	---	---	---	2.2	0.00	0.00	0.00	0.00	0.00
15	---	---	---	---	---	---	2.2	0.00	0.00	0.00	0.00	0.00
16	---	---	---	---	---	---	2.1	0.00	0.00	0.00	0.00	0.00
17	---	---	---	---	---	---	1.9	0.00	0.00	0.00	0.00	0.00
18	---	---	---	---	---	---	1.8	0.00	0.00	0.00	0.00	0.00
19	---	---	---	---	---	---	1.7	0.00	0.00	0.00	0.00	0.00
20	---	---	---	---	---	---	1.6	0.00	0.00	0.00	0.00	0.00
21	---	---	---	---	---	---	0.73	0.00	0.00	0.00	0.00	0.00
22	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
23	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
24	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
25	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
26	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
27	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
28	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	---
29	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	---
30	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	---
31	---	---	---	---	---	---	0.00	---	0.00	0.00	---	---
TOTAL	0	0	0	0	0	0	0	36.83	0	0	0	0
MEAN	---	---	---	---	---	---	---	1.2	0.000	0.000	0.000	0.000
MAX	---	---	---	---	---	---	---	2.5	0.00	0.00	0.00	0.00
MIN	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73	0.00	0.00	0.00	0.00

CAL YEAR 2011 TOTAL 122 MEAN 0.70 MAX 3.9 MIN 0.000 AC-FT 242
WTR YEAR 2012 TOTAL 37 MEAN 0.25 MAX 2.5 MIN 0.000 AC-FT 73

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

38100 Earnest Canal (South) from Niobrara Rive, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	2.0	0.00	0.00	0.00	0.00	
2	---	---	---	---	---	---	2.0	0.00	0.00	0.00	0.00	
3	---	---	---	---	---	---	1.4	0.00	0.00	0.00	0.00	
4	---	---	---	---	---	---	0.49	0.00	0.00	0.00	0.00	
5	---	---	---	---	---	---	0.35	0.00	0.00	0.00	0.00	
6	---	---	---	---	---	---	0.12	0.00	0.00	0.00	0.00	
7	---	---	---	---	---	---	0.02	0.00	0.00	0.00	0.00	
8	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
9	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
10	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
11	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
12	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
13	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
14	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
15	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
16	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
17	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
18	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
19	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
20	---	---	---	---	---	---	0.00e	0.00	0.00	0.00	0.00	0.00
21	---	---	---	---	---	---	0.00e	0.00	0.00	0.00	0.00	0.00
22	---	---	---	---	---	---	0.00e	0.00	0.00	0.00	0.00	0.00
23	---	---	---	---	---	---	1.0e	0.00	0.00	0.00	0.00	0.00
24	---	---	---	---	---	---	1.2e	0.00	0.00	0.00	0.00	0.00
25	---	---	---	---	---	---	1.4e	0.00	0.00	0.00	0.00	0.00
26	---	---	---	---	---	---	1.6e	0.00	0.00	0.00	0.00	0.00
27	---	---	---	---	---	---	1.8e	0.00	0.00	0.00	0.00	0.00
28	---	---	---	---	---	---	2.0e	0.00	0.00	0.00	0.00	---
29	---	---	---	---	---	---	2.0e	0.00	0.00	0.00	0.00	---
30	---	---	---	---	---	---	2.0e	0.00	0.00	0.00	0.00	---
31	---	---	---	---	---	---	0.00	---	0.00	0.00	---	---
TOTAL	0	0	0	0	0	0	13	6.38	0	0	0	0
MEAN	---	---	---	---	---	---	1.2	0.21	0.000	0.000	0.000	0.000
MAX	---	---	---	---	---	---	2.0	2.0	0.00	0.00	0.00	0.00
MIN	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	26	13	0.00	0.00	0.00	0.00

CAL YEAR 2011 TOTAL 225 MEAN 1.3 MAX 5.3 MIN 0.000 AC-FT 445
WTR YEAR 2012 TOTAL 19 MEAN 0.12 MAX 2.0 MIN 0.000 AC-FT 38

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

46000 Excelsior Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00		
2	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00		
3	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
4	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
5	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
6	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
7	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
8	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
9	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
10	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
11	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
12	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
13	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
14	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
15	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
16	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
17	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
18	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
19	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
20	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
21	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
22	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
23	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
24	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
25	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
26	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
27	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
28	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
29	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
30	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
31	---	---	---	---	---	---	---	0.00	---	0.00	0.00	---	
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	
MEAN	---	---	---	---	---	---	---	0.000	0.000	0.000	0.000	0.000	
MAX	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
MIN	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CAL YEAR 2011 TOTAL					0	MEAN	0.000	MAX	0.000	MIN	0.000	AC-FT	0.00
WTR YEAR 2012 TOTAL					0	MEAN	0.000	MAX	0.000	MIN	0.000	AC-FT	0.00

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

63000 Geo. Hitshew Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	---	0.00	0.00	---	---	---
2	---	---	---	---	---	---	---	0.00	0.00	---	---	---
3	---	---	---	---	---	---	---	0.00	0.00	---	---	---
4	---	---	---	---	---	---	---	0.00	0.00	---	---	---
5	---	---	---	---	---	---	---	0.00	0.00	---	---	---
6	---	---	---	---	---	---	---	0.00	0.00	---	---	---
7	---	---	---	---	---	---	---	0.00	0.00	---	---	---
8	---	---	---	---	---	---	---	0.00	0.00	---	---	---
9	---	---	---	---	---	---	---	0.00	0.00	---	---	---
10	---	---	---	---	---	---	0.00	0.00	0.00	---	---	---
11	---	---	---	---	---	---	0.00	0.00	0.00	---	---	---
12	---	---	---	---	---	---	0.00	0.00	0.00	---	---	---
13	---	---	---	---	---	---	0.00	0.00	---	---	---	---
14	---	---	---	---	---	---	0.00	0.00	---	---	---	---
15	---	---	---	---	---	---	0.00	0.00	---	---	---	---
16	---	---	---	---	---	---	0.00	0.00	---	---	---	---
17	---	---	---	---	---	---	0.00	0.00	---	---	---	---
18	---	---	---	---	---	---	0.00	0.00	---	---	---	---
19	---	---	---	---	---	---	0.00	0.00	---	---	---	---
20	---	---	---	---	---	---	0.00	0.00	---	---	---	---
21	---	---	---	---	---	---	0.00	0.00	---	---	---	---
22	---	---	---	---	---	---	0.00	0.00	---	---	---	---
23	---	---	---	---	---	---	0.00	0.00	---	---	---	---
24	---	---	---	---	---	---	0.00	0.00	---	---	---	---
25	---	---	---	---	---	---	0.00	0.00	---	---	---	---
26	---	---	---	---	---	---	0.00	0.00	---	---	---	---
27	---	---	---	---	---	---	0.00	0.00	---	---	---	---
28	---	---	---	---	---	---	0.00	0.00	---	---	---	---
29	---	---	---	---	---	---	0.00	0.00	---	---	---	---
30	---	---	---	---	---	---	0.00	0.00	---	---	---	---
31	---	---	---	---	---	---	0.00	---	---	---	---	---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	---	---	---	---	---	---	---	0.000	0.000	0.000	---	---
MAX	---	---	---	---	---	---	---	0.00	0.00	0.00	---	---
MIN	---	---	---	---	---	---	---	0.00	0.00	0.00	---	---
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YEAR 2011 TOTAL 0 MEAN 0.003 MAX 0.21 MIN 0.000 AC-FT 0.7
WTR YEAR 2012 TOTAL 0 MEAN 0.000 MAX 0.000 MIN 0.000 AC-FT 0.00

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

62000 Harris-Neece Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	9.3	---	---	---	---	---	9.8	7.4	3.3	0.00	0.00	
2	9.4	---	---	---	---	---	9.7	0.00	3.2	0.00	0.00	
3	9.8	---	---	---	---	---	9.6	0.00	3.1	0.00	0.00	
4	10	---	---	---	---	---	9.4	0.00	3.2	0.00	0.00	
5	10	---	---	---	---	---	9.6	0.00	3.2	0.00	0.00	
6	10	---	---	---	---	---	9.7	0.00	3.3	0.00	0.00	
7	11	---	---	---	---	---	9.7	0.00	3.4	0.00	0.00	
8	11	---	---	---	---	---	9.6	0.00	3.4	0.00	0.00	
9	12	---	---	---	---	---	9.4	3.8	3.5	0.00	0.00	
10	12	---	---	---	---	0.00	9.2	5.8	3.6	0.00	0.00	
11	13	---	---	---	---	7.2	9.2	5.8	3.6	0.00	0.00	
12	12	---	---	---	---	13	9.3	6.0	3.4	0.00	0.00	
13	4.4	---	---	---	---	12	9.4	6.0	3.2	0.00	0.00	
14	0.00	---	---	---	---	9.3	9.2	5.9	3.4	0.00	2.3	
15	0.00	---	---	---	---	8.5	8.9	5.8	3.5	0.00	3.8	
16	0.00	---	---	---	---	8.6	9.2	5.7	3.5	0.00	3.9	
17	0.00	---	---	---	---	8.4	9.2	5.6	3.5	0.00	4.0	
18	0.00	---	---	---	---	8.2	8.9	5.5	3.5	0.00	4.1	
19	0.00	---	---	---	---	8.1	8.6	5.3	3.4	0.00	4.0	
20	---	---	---	---	---	8.6	8.0	5.2	3.2	0.00	3.9	
21	---	---	---	---	---	9.0	7.5	5.2	2.6	0.93	3.9	
22	---	---	---	---	---	9.2	8.2	5.1	2.3	2.0	4.0	
23	---	---	---	---	---	9.4	8.4	4.9	2.1	1.5	4.1	
24	---	---	---	---	---	10.0	8.3	4.6	1.9	0.87	4.1	
25	---	---	---	---	---	9.9	8.7	4.2	1.7	1.0	4.0	
26	---	---	---	---	---	9.8	9.1	4.0	1.6	1.3	4.0	
27	---	---	---	---	---	9.8	9.4	3.8	2.0	1.8	4.1	
28	---	---	---	---	---	9.8	9.7	3.6	1.7	2.0	4.1	
29	---	---	---	---	---	9.7	9.8	3.5	1.6	1.9	4.1	
30	---	---	---	---	---	9.7	9.0	3.4	1.6	0.64	4.1	
31	---	---	---	---	---	---	8.7	---	0.51	0.00	---	
TOTAL	133.9	0	0	0	0	0	188.2	282.4	116.1	87.01	13.94	66.5
MEAN	7.1	---	---	---	---	---	9.0	9.1	3.9	2.8	0.45	2.2
MAX	13	---	---	---	---	---	13	9.8	7.4	3.6	2.0	4.1
MIN	0.00	---	---	---	---	---	0.00	7.5	0.00	0.51	0.00	0.00
AC-FT	266	0.00	0.00	0.00	0.00	0.00	373	560	230	173	28	132

CAL YEAR 2011 TOTAL 1138 MEAN 5.0 MAX 16.0 MIN 0.000 AC-FT 2256
WTR YEAR 2012 TOTAL 888 MEAN 4.6 MAX 13.0 MIN 0.000 AC-FT 1761

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

69000 Hughes Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
2	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
3	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
4	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
5	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
6	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
7	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
8	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
9	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
10	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
11	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
12	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
13	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
14	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
15	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
16	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
17	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
18	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
19	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
20	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
21	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
22	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
23	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
24	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
25	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
26	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
27	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
28	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
29	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
30	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
31	---	---	---	---	---	---	0.00	---	0.00	0.00	---	---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	---	---	---	---	---	---	---	0.000	0.000	0.000	0.000	0.000
MAX	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
MIN	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YEAR 2011

WTR YEAR 2012 TOTAL 0 MEAN 0.000 MAX 0.000 MIN 0.000 AC-FT 0.00

July 30, 2013

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

72000 Johnson Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
2	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
3	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
4	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
5	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
6	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
7	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
8	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
9	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
10	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
11	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
12	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
13	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
14	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
15	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
16	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
17	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
18	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
19	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
20	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
21	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
22	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
23	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
24	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
25	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
26	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
27	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
28	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
29	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	---
30	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	---
31	---	---	---	---	---	---	0.00	---	0.00	0.00	---	---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	---	---	---	---	---	---	0.000	0.000	0.000	0.000	0.000	0.000
MAX	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
MIN	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YEAR 2011 TOTAL 8 MEAN 0.049 MAX 2.8 MIN 0.000 AC-FT 15
WTR YEAR 2012 TOTAL 0 MEAN 0.000 MAX 0.000 MIN 0.000 AC-FT 0.00

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

78000 Labelle Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.0	---	---	---	---	---	0.00	2.5	0.00	0.00	0.00	0.00
2	2.0	---	---	---	---	---	0.00	2.5	0.00	0.00	0.00	0.00
3	2.1	---	---	---	---	---	0.00	2.6	0.00	0.00	0.00	0.00
4	2.0	---	---	---	---	---	0.00	2.6	0.00	0.00	0.00	0.00
5	2.0	---	---	---	---	---	0.00	2.0	0.00	0.00	0.00	0.00
6	2.2	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	2.3	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	2.6	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	3.0	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	2.9	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	3.1	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	3.1	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	3.1	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	3.5	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	3.8	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	3.7	---	---	---	---	0.00	2.4	0.00	0.00	0.00	0.00	0.00
17	3.7	---	---	---	---	0.00	5.8	0.00	0.00	0.00	0.00	0.00
18	2.7	---	---	---	---	0.00	5.8	0.00	0.00	0.00	0.00	0.00
19	0.00	---	---	---	---	0.00	6.2	0.00	0.00	0.00	---	---
20	---	---	---	---	---	0.00	6.3	0.00	0.00	0.00	---	---
21	---	---	---	---	---	0.00	5.5	0.00	0.00	0.00	---	---
22	---	---	---	---	---	0.00	4.1	0.00	0.00	0.00	---	---
23	---	---	---	---	---	0.00	3.4	0.00	0.00	0.00	---	---
24	---	---	---	---	---	0.00	3.5	0.00	0.00	0.00	---	---
25	---	---	---	---	---	0.00	3.4	0.00	0.00	0.00	---	---
26	---	---	---	---	---	0.00	3.1	0.00	0.00	0.00	---	---
27	---	---	---	---	---	0.00	3.0	0.00	0.00	0.00	---	---
28	---	---	---	---	---	0.00	3.0	0.00	0.00	0.00	---	---
29	---	---	---	---	---	0.00	3.0	0.00	0.00	0.00	---	---
30	---	---	---	---	---	0.00	3.0	0.00	0.00	0.00	---	---
31	---	---	---	---	---	---	2.6	---	0.00	0.00	---	---
TOTAL	49.8	0	0	0	0	0	0	64.1	12.2	0	0	0
MEAN	2.6	---	---	---	---	---	0.000	2.1	0.40	0.000	0.000	0.000
MAX	3.8	---	---	---	---	---	0.00	6.3	2.6	0.00	0.00	0.00
MIN	0.00	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	99	0.00	0.00	0.00	0.00	0.00	0.00	127	24	0.00	0.00	0.00

CAL YEAR 2011 TOTAL 81 MEAN 0.41 MAX 3.8 MIN 0.000 AC-FT 161
WTR YEAR 2012 TOTAL 126 MEAN 0.68 MAX 6.3 MIN 0.000 AC-FT 250

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

79000 Lakotah Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	4.0	1.9	0.32	0.30	0.37	
2	---	---	---	---	---	---	4.3	1.8	0.30	0.29	0.31	
3	---	---	---	---	---	---	4.1	1.6	0.32	0.31	0.28	
4	---	---	---	---	---	---	4.0	1.4	0.32	0.30	0.28	
5	---	---	---	---	---	---	3.9	1.2	0.33	0.27	0.28	
6	---	---	---	---	---	---	4.0	1.0	0.40	0.26	0.36	
7	---	---	---	---	---	---	3.8	1.0	0.47	0.25	0.30	
8	---	---	---	---	---	---	3.7	1.1	0.46	0.30	0.37	
9	---	---	---	---	---	---	3.6	1.1	0.40	0.35	0.41	
10	---	---	---	---	---	---	3.5	1.0	0.46	0.34	0.43	
11	---	---	---	---	---	---	3.3	0.97	0.54	0.30	0.45	
12	---	---	---	---	---	---	3.2	0.84	0.50	0.31	0.49	
13	---	---	---	---	---	---	3.0	0.71	0.47	0.32	0.53	
14	---	---	---	---	---	---	2.9	0.65	0.40	0.33	0.52	
15	---	---	---	---	---	---	2.6	0.62	0.36	0.34	0.55	
16	---	---	---	---	---	---	2.4	0.67	0.32	0.33	0.57	
17	---	---	---	---	---	---	2.3	0.68	0.30	0.32	0.57	
18	---	---	---	---	---	---	2.4	0.61	0.30	0.34	0.61	
19	---	---	---	---	---	---	3.1	0.58	0.30	0.33	0.62	
20	---	---	---	---	---	---	4.3	0.58	0.30	0.34	0.67	
21	---	---	---	---	---	---	3.5	0.60	0.32	0.34	0.66	
22	---	---	---	---	---	---	2.8	0.61	0.37	0.34	0.68	
23	---	---	---	---	---	0.00	2.5	0.67	0.39	0.34	0.71	
24	---	---	---	---	---	0.00	2.3	0.70	0.41	0.35	0.75	
25	---	---	---	---	---	0.00	2.3	0.62	0.44	0.33	0.76	
26	---	---	---	---	---	0.00	2.5	0.56	0.44	0.33	0.77	
27	---	---	---	---	---	0.00	2.5	0.50	0.43	0.33	0.00	
28	---	---	---	---	---	0.00	2.4	0.40	0.39	0.34	---	
29	---	---	---	---	---	0.00	2.4	0.36	0.35	0.36	---	
30	---	---	---	---	---	0.00	2.3	0.34	0.30	0.37	---	
31	---	---	---	---	---	---	2.1	---	0.30	0.36	---	
TOTAL	0	0	0	0	0	0	0	96	25.37	11.71	10.02	13.3
MEAN	---	---	---	---	---	---	0.000	3.1	0.84	0.38	0.32	0.49
MAX	---	---	---	---	---	---	0.00	4.3	1.9	0.54	0.37	0.77
MIN	---	---	---	---	---	---	0.00	2.1	0.34	0.30	0.25	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190	50	23	20	26

CAL YEAR 2011 TOTAL 179 MEAN 1.0 MAX 15.0 MIN 0.000 AC-FT 354
WTR YEAR 2012 TOTAL 156 MEAN 0.99 MAX 4.3 MIN 0.000 AC-FT 310

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

81000 Lichte Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	0.00	0.00	0.00	0.00	1.4	
2	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.31	
3	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
4	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
5	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
6	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
7	---	---	---	---	---	---	0.00	0.00	0.00	0.67	0.00	
8	---	---	---	---	---	---	0.00	0.00	0.00	3.2	0.00	
9	---	---	---	---	---	---	0.00	0.00	0.00	3.2	0.00	
10	---	---	---	---	---	---	0.00	0.00	0.00	3.1	0.00	
11	---	---	---	---	---	---	0.00	0.00	0.00	1.9	0.00	
12	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
13	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
14	---	---	---	---	---	---	0.00	0.00	1.2	0.00	0.00	
15	---	---	---	---	---	---	0.00	0.00	3.0	0.00	0.00	
16	---	---	---	---	---	---	0.00	0.00	3.0	0.00	0.00	
17	---	---	---	---	---	---	0.47	0.00	2.9	0.00	0.00	
18	---	---	---	---	---	---	2.2	0.00	1.5	0.00	0.00	
19	---	---	---	---	---	0.00	2.2	1.4	0.00	0.00	0.00	
20	---	---	---	---	---	0.00	2.2	3.0	0.00	0.00	0.00	
21	---	---	---	---	---	0.00	2.2	2.8	0.00	0.00	---	
22	---	---	---	---	---	0.00	2.2	2.6	0.00	0.00	---	
23	---	---	---	---	---	0.00	2.2	2.6	0.00	0.00	---	
24	---	---	---	---	---	0.00	2.2	2.6	1.7	0.00	---	
25	---	---	---	---	---	0.00	2.2	2.4	2.0	0.00	---	
26	---	---	---	---	---	0.00	2.1	0.00	0.00	0.00	---	
27	---	---	---	---	---	0.00	2.0	0.00	0.00	0.00	---	
28	---	---	---	---	---	0.00	2.0	0.00	0.00	0.00	---	
29	---	---	---	---	---	0.00	2.0	0.00	0.00	0.81	---	
30	---	---	---	---	---	0.00	0.79	0.00	0.00	2.1	---	
31	---	---	---	---	---	---	0.00	---	0.00	1.7	---	
TOTAL	0	0	0	0	0	0	0	26.96	17.4	15.3	16.68	1.71
MEAN	---	---	---	---	---	---	0.000	0.87	0.58	0.49	0.54	0.084
MAX	---	---	---	---	---	---	0.00	2.2	3.0	3.0	3.2	1.4
MIN	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53	35	30	33	3.4

CAL YEAR 2011 TOTAL 12 MEAN 0.093 MAX 3.4 MIN 0.000 AC-FT 24
WTR YEAR 2012 TOTAL 78 MEAN 0.50 MAX 3.2 MIN 0.000 AC-FT 155

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

84000 McGinley-Stover Canal from Niobrara Rive, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	---	---	---	---	---	0.00	0.72	1.7	0.00	0.00	
2	0.00	---	---	---	---	---	1.5	3.0	1.9	0.00	0.00	
3	0.00	---	---	---	---	---	5.3	2.9	2.1	0.00	0.00	
4	0.00	---	---	---	---	---	5.0	2.7	1.5	0.00	0.00	
5	---	---	---	---	---	---	4.3	2.4	1.3	0.00	0.00	
6	---	---	---	---	---	---	3.9	2.2	1.8	0.00	0.00	
7	---	---	---	---	---	---	3.6	2.4	1.6	0.00	0.00	
8	---	---	---	---	---	---	3.4	2.1	1.6	0.00	0.00	
9	---	---	---	---	---	---	4.1	1.8	1.3	0.00	0.00	
10	---	---	---	---	---	0.00	4.7	0.57	1.7	0.00	0.00	
11	---	---	---	---	---	0.00	4.7	0.00	2.0	0.00	0.00	
12	---	---	---	---	---	0.00	4.9	0.00	1.3	0.00	0.00	
13	---	---	---	---	---	0.00	5.0	0.00	0.00	0.00	0.00	
14	---	---	---	---	---	0.00	4.8	0.00	0.00	0.00	0.00	
15	---	---	---	---	---	0.00	4.8	0.00	0.00	0.00	0.00	
16	---	---	---	---	---	0.00	4.7	0.00	0.00	0.00	0.00	
17	---	---	---	---	---	0.00	4.3	0.00	0.00	0.00	0.00	
18	---	---	---	---	---	0.00	1.9	0.00	0.00	0.00	0.00	
19	---	---	---	---	---	0.00	0.82	0.00	0.29	0.00	---	
20	---	---	---	---	---	0.00	0.75	0.00	1.0	0.00	---	
21	---	---	---	---	---	0.00	2.5	0.00	1.0	0.56	---	
22	---	---	---	---	---	0.00	3.4	1.1	1.1	3.2	---	
23	---	---	---	---	---	0.00	3.2	1.9	1.0	2.8	---	
24	---	---	---	---	---	0.00	3.2	1.3	0.83	2.3	---	
25	---	---	---	---	---	0.00	2.6	1.3	0.86	2.3	---	
26	---	---	---	---	---	0.00	0.04	2.5	1.00	2.3	---	
27	---	---	---	---	---	0.00	0.02	2.2	0.95	2.5	---	
28	---	---	---	---	---	0.00	0.00	2.1	1.3	3.5	---	
29	---	---	---	---	---	0.00	0.00	1.8	1.2	3.5	---	
30	---	---	---	---	---	0.00	0.00	1.7	1.1	3.4	---	
31	---	---	---	---	---	---	0.00	---	0.35	1.6	---	
TOTAL	0	0	0	0	0	0	0	87.43	36.69	31.78	27.96	0
MEAN	0.000	---	---	---	---	---	0.000	2.8	1.2	1.0	0.90	0.000
MAX	0.00	---	---	---	---	---	0.00	5.3	3.0	2.1	3.5	0.00
MIN	0.00	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	173	73	63	55	0.00

CAL YEAR 2011 TOTAL 104 MEAN 0.74 MAX 6.0 MIN 0.000 AC-FT 206
WTR YEAR 2012 TOTAL 184 MEAN 1.1 MAX 5.3 MIN 0.000 AC-FT 365

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

86000 McLaughlin Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	6.5	1.7	0.10	0.00	0.00	
2	---	---	---	---	---	---	6.4	1.6	0.02	0.00	0.00	
3	---	---	---	---	---	---	4.4	1.4	0.00	0.00	0.00	
4	---	---	---	---	---	---	3.6	1.3	0.00	0.00	0.00	
5	---	---	---	---	---	---	3.8	1.2	0.00	0.00	0.00	
6	---	---	---	---	---	---	3.9	1.1	0.00	0.00	0.00	
7	---	---	---	---	---	---	4.0	1.4	0.00	0.00	0.00	
8	---	---	---	---	---	---	4.1	1.6	0.00	0.00	0.00	
9	---	---	---	---	---	---	4.5	1.4	0.00	0.00	0.00	
10	---	---	---	---	---	---	4.5	1.2	0.00	0.00	0.00	
11	---	---	---	---	---	---	4.6	0.95	0.00	0.00	0.00	
12	---	---	---	---	---	---	4.5	0.89	0.00	0.00	0.00	
13	---	---	---	---	---	---	4.1	0.87	0.00	0.00	0.00	
14	---	---	---	---	---	---	4.1	1.1	0.00	0.00	0.00	
15	---	---	---	---	---	---	4.0	1.3	0.00	0.00	0.00	
16	---	---	---	---	---	---	3.8	1.2	0.00	0.00	0.00	
17	---	---	---	---	---	---	4.0	1.0	0.00	0.00	0.00	
18	---	---	---	---	---	---	3.9	0.96	0.00	0.00	0.00	
19	---	---	---	---	---	---	3.8	0.87	0.00	0.00	0.00	
20	---	---	---	---	---	---	3.8	0.83	0.00	0.00	0.00	
21	---	---	---	---	---	---	3.7	0.79	0.00	0.00	---	
22	---	---	---	---	---	---	2.9	0.75	0.00	0.00	---	
23	---	---	---	---	---	---	2.5	0.67	0.00	0.00	---	
24	---	---	---	---	---	---	2.5	0.61	0.00	0.00	---	
25	---	---	---	---	---	6.1	2.4	0.56	0.00	0.00	---	
26	---	---	---	---	---	5.9	2.4	0.60	0.00	0.00	---	
27	---	---	---	---	---	6.7	2.3	0.58	0.00	0.00	---	
28	---	---	---	---	---	6.9	2.2	0.48	0.00	0.00	---	
29	---	---	---	---	---	6.4	2.1	0.43	0.00	0.00	---	
30	---	---	---	---	---	6.3	2.0	0.27	0.00	0.00	---	
31	---	---	---	---	---	---	1.8	---	0.00	0.00	---	
TOTAL	0	0	0	0	0	0	38.3	113.1	29.61	0.12	0	0
MEAN	---	---	---	---	---	---	6.4	3.6	0.99	0.004	0.000	0.000
MAX	---	---	---	---	---	---	6.9	6.5	1.7	0.10	0.00	0.00
MIN	---	---	---	---	---	---	5.9	1.8	0.27	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	76	224	59	0.2	0.00	0.00

CAL YEAR 2011 TOTAL 30 MEAN 0.20 MAX 5.0 MIN 0.000 AC-FT 59
WTR YEAR 2012 TOTAL 181 MEAN 1.2 MAX 6.9 MIN 0.000 AC-FT 359

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

89000 Mettlen Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	4.3	0.00	0.83	0.00	0.00	
2	---	---	---	---	---	---	4.2	0.00	0.74	0.00	0.00	
3	---	---	---	---	---	---	4.2	0.00	0.63	0.00	0.00	
4	---	---	---	---	---	---	4.2	0.00	0.50	0.00	0.00	
5	---	---	---	---	---	---	4.2	0.55	0.39	0.00	0.00	
6	---	---	---	---	---	0.00	4.1	3.4	0.29	0.00	0.00	
7	---	---	---	---	---	0.00	3.6	4.0	0.26	0.00	0.00	
8	---	---	---	---	---	0.00	1.9	4.3	0.67	0.00	0.00	
9	---	---	---	---	---	0.00	0.00	4.2	0.92	0.00	0.00	
10	---	---	---	---	---	0.00	0.00	4.1	0.81	0.00	0.00	
11	---	---	---	---	---	0.00	0.00	2.3	0.51	0.00	0.00	
12	---	---	---	---	---	0.00	0.00	0.57	0.47	0.00	0.00	
13	---	---	---	---	---	0.00	0.00	0.48	0.44	0.00	0.00	
14	---	---	---	---	---	0.00	0.43	0.27	0.36	0.00	0.00	
15	---	---	---	---	---	0.00	0.75	0.13	0.26	0.00	0.00	
16	---	---	---	---	---	0.00	0.76	1.3	0.21	0.00	0.00	
17	---	---	---	---	---	0.00	0.17	2.0	0.21	0.00	0.00	
18	---	---	---	---	---	0.00	0.00	1.7	0.25	0.00	0.00	
19	---	---	---	---	---	0.00	0.00	1.6	0.22	0.00	---	
20	---	---	---	---	---	2.5	0.00	1.6	0.00	0.00	---	
21	---	---	---	---	---	3.8	0.00	1.8	0.00	0.00	---	
22	---	---	---	---	---	3.7	0.00	1.7	0.00	0.00	---	
23	---	---	---	---	---	3.7	0.00	1.7	0.00	0.00	---	
24	---	---	---	---	---	4.7	0.00	1.3	0.00	0.00	---	
25	---	---	---	---	---	4.0	0.00	1.2	0.00	0.00	---	
26	---	---	---	---	---	4.0	0.00	1.2	0.00	0.00	---	
27	---	---	---	---	---	4.3	0.00	1.1	0.00	0.00	---	
28	---	---	---	---	---	4.4	0.00	1.1	0.00	0.00	---	
29	---	---	---	---	---	4.3	0.00	1.0	0.00	0.00	---	
30	---	---	---	---	---	4.3	0.00	0.91	0.00	0.00	---	
31	---	---	---	---	---	---	0.00	---	0.00	0.00	---	
TOTAL	0	0	0	0	0	0	43.7	32.81	45.51	8.97	0	0
MEAN	---	---	---	---	---	---	1.7	1.1	1.5	0.29	0.000	0.000
MAX	---	---	---	---	---	---	4.7	4.3	4.3	0.92	0.00	0.00
MIN	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	87	65	90	18	0.00	0.00

CAL YEAR 2011 TOTAL 81 MEAN 0.54 MAX 3.1 MIN 0.000 AC-FT 160
WTR YEAR 2012 TOTAL 131 MEAN 0.79 MAX 4.7 MIN 0.000 AC-FT 260

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

102000 Montague Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YEAR 2011
WTR YEAR 2012

July 30, 2013

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

104000 Moore-Kay Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	0.00	1.9	0.00	0.00	0.00	
2	---	---	---	---	---	---	0.00	1.8	0.00	0.00	0.00	
3	---	---	---	---	---	---	0.00	2.0	0.00	0.00	0.00	
4	---	---	---	---	---	---	0.00	2.6	0.00	0.00	0.00	
5	---	---	---	---	---	---	0.00	3.0	0.00	0.00	0.00	
6	---	---	---	---	---	---	0.00	2.9	0.00	0.00	0.00	
7	---	---	---	---	---	---	0.00	4.2	0.00	0.00	0.00	
8	---	---	---	---	---	---	0.00	3.6	0.00	0.00	0.00	
9	---	---	---	---	---	---	0.00	2.6	0.00	0.00	0.00	
10	---	---	---	---	---	---	0.00	2.5	0.00	0.00	0.00	
11	---	---	---	---	---	---	0.00	2.7	0.00	0.00	0.00	
12	---	---	---	---	---	---	0.00	2.7	0.00	0.00	0.00	
13	---	---	---	---	---	---	0.00	1.0	0.00	0.00	0.00	
14	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
15	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
16	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
17	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
18	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	
19	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
20	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
21	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
22	---	---	---	---	---	---	0.00	0.00	0.00	0.00	---	
23	---	---	---	---	---	---	0.64	0.00	0.00	0.00	---	
24	---	---	---	---	---	---	0.00	1.7	0.00	0.00	0.00	---
25	---	---	---	---	---	---	0.00	2.8	0.00	0.00	0.00	---
26	---	---	---	---	---	---	0.00	2.9	0.00	0.00	0.00	---
27	---	---	---	---	---	---	0.00	3.6	0.00	0.00	0.00	---
28	---	---	---	---	---	---	0.00	2.9	0.00	0.00	0.00	---
29	---	---	---	---	---	---	0.00	2.1	0.00	0.00	0.00	---
30	---	---	---	---	---	---	0.00	2.0	0.00	0.00	0.00	---
31	---	---	---	---	---	---	2.1	---	0.00	0.00	---	
TOTAL	0	0	0	0	0	0	0	20.74	33.5	0	0	0
MEAN	---	---	---	---	---	---	0.000	0.67	1.1	0.000	0.000	0.000
MAX	---	---	---	---	---	---	0.00	3.6	4.2	0.00	0.00	0.00
MIN	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41	66	0.00	0.00	0.00

CAL YEAR 2011 TOTAL 0 MEAN 0.000 MAX 0.000 MIN 0.000 AC-FT 0.00
WTR YEAR 2012 TOTAL 54 MEAN 0.37 MAX 4.2 MIN 0.000 AC-FT 108

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

123000 Pioneer Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	---	---	---	---	---	---	0.00	1.1	0.00	1.2	1.1		
2	---	---	---	---	---	---	0.00	0.96	0.00	1.2	1.1		
3	---	---	---	---	---	---	1.0	1.0	0.00	1.2	1.1		
4	---	---	---	---	---	---	1.8	1.1	0.67	1.2	1.1		
5	---	---	---	---	---	---	1.9	0.98	1.2	1.2	1.1		
6	---	---	---	---	---	---	2.0	0.68	1.3	1.2	1.1		
7	---	---	---	---	---	---	2.1	0.86	1.4	1.2	1.1		
8	---	---	---	---	---	---	2.2	0.91	1.5	1.2	1.2		
9	---	---	---	---	---	---	2.3	0.69	1.5	1.2	1.2		
10	---	---	---	---	---	---	2.4	0.50	1.5	1.3	1.2		
11	---	---	---	---	---	---	2.5	0.44	1.5	1.3	1.1		
12	---	---	---	---	---	---	2.6	0.41	1.5	1.3	1.2		
13	---	---	---	---	---	---	2.7	0.40	1.5	1.3	1.2		
14	---	---	---	---	---	---	2.9	0.58	1.3	1.3	1.2		
15	---	---	---	---	---	---	2.9	0.60	1.3	1.3	1.2		
16	---	---	---	---	---	---	2.9	0.70	1.3	1.3	1.2		
17	---	---	---	---	---	---	3.0	0.76	1.3	1.3	1.2		
18	---	---	---	---	---	---	2.9	0.78	1.3	1.3	1.2		
19	---	---	---	---	---	0.00	2.8	0.78	1.2	1.3	1.2		
20	---	---	---	---	---	0.00	2.6	0.80	1.1	1.3	1.2		
21	---	---	---	---	---	0.00	2.6	0.81	1.2	1.3	1.2		
22	---	---	---	---	---	0.00	2.4	0.77	1.3	1.3	1.2		
23	---	---	---	---	---	0.00	2.0	0.75	1.3	1.3	1.2		
24	---	---	---	---	---	0.00	1.9	0.71	1.1	1.2	1.2		
25	---	---	---	---	---	0.00	2.0	0.70	1.1	1.2	1.2		
26	---	---	---	---	---	0.00	1.9	0.60	1.2	1.2	1.2		
27	---	---	---	---	---	0.00	1.8	0.02	1.2	1.2	1.2		
28	---	---	---	---	---	0.00	1.6	0.01	1.2	1.2	1.2		
29	---	---	---	---	---	0.00	1.5	0.00	1.2	1.2	1.2		
30	---	---	---	---	---	0.00	1.3	0.00	1.3	1.1	1.2		
31	---	---	---	---	---	---	1.2	---	1.2	1.1	---		
TOTAL	0	0	0	0	0	0	0	63.7	19.4	35.67	38.4	35.2	
MEAN	---	---	---	---	---	---	0.000	2.0	0.65	1.2	1.2	1.2	
MAX	---	---	---	---	---	---	0.00	3.0	1.1	1.5	1.3	1.2	
MIN	---	---	---	---	---	---	0.00	0.00	0.00	0.00	1.1	1.1	
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	126	38	71	76	70	
CAL YEAR 2011 TOTAL					63	MEAN	0.43	MAX	2.4	MIN	0.000	AC-FT	125
WTR YEAR 2012 TOTAL					192	MEAN	1.2	MAX	3.0	MIN	0.000	AC-FT	382

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

124000 Potmesil Canal from Niobrara River, ---
DISCHARGE (CFS), WATER YEAR 2012
MEAN DAILY VALUES

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YEAR 2011
WTR YEAR 2012

Appendix B

2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES

Date	Site number	Site Name	Discharge
8/22/2011	6025	Andrews Supply Canal fr Sow Belly Creek	1.11
8/29/2011	6025	Andrews Supply Canal fr Sow Belly Creek	0
9/9/2011	6025	Andrews Supply Canal fr Sow Belly Creek	0
9/29/2011	6025	Andrews Supply Canal fr Sow Belly Creek	0
10/12/2011	6025	Andrews Supply Canal fr Sow Belly Creek	0
6/25/2012	6025	Andrews Supply Canal fr Sow Belly Creek	0
8/1/2012	6025	Andrews Supply Canal fr Sow Belly Creek	0
9/25/2012	6025	Andrews Supply Canal fr Sow Belly Creek	0
6/7/2011	6400	Armstrong Pump fr Niobrara River	0
6/21/2011	6400	Armstrong Pump fr Niobrara River	0
6/28/2011	6400	Armstrong Pump fr Niobrara River	0
7/5/2011	6400	Armstrong Pump fr Niobrara River	0
7/12/2011	6400	Armstrong Pump fr Niobrara River	0
7/14/2011	6400	Armstrong Pump fr Niobrara River	0
7/19/2011	6400	Armstrong Pump fr Niobrara River	0
7/26/2011	6400	Armstrong Pump fr Niobrara River	0
8/2/2011	6400	Armstrong Pump fr Niobrara River	0
8/9/2011	6400	Armstrong Pump fr Niobrara River	0
8/23/2011	6400	Armstrong Pump fr Niobrara River	0
8/30/2011	6400	Armstrong Pump fr Niobrara River	0
9/13/2011	6400	Armstrong Pump fr Niobrara River	0
5/1/2012	6400	Armstrong Pump fr Niobrara River	0
5/8/2012	6400	Armstrong Pump fr Niobrara River	
5/15/2012	6400	Armstrong Pump fr Niobrara River	0
5/22/2012	6400	Armstrong Pump fr Niobrara River	0
6/5/2012	6400	Armstrong Pump fr Niobrara River	0
6/12/2012	6400	Armstrong Pump fr Niobrara River	0
6/19/2012	6400	Armstrong Pump fr Niobrara River	0
6/26/2012	6400	Armstrong Pump fr Niobrara River	0
7/3/2012	6400	Armstrong Pump fr Niobrara River	0
7/10/2012	6400	Armstrong Pump fr Niobrara River	0
7/17/2012	6400	Armstrong Pump fr Niobrara River	0
7/26/2012	6400	Armstrong Pump fr Niobrara River	0
7/31/2012	6400	Armstrong Pump fr Niobrara River	0
8/21/2012	6400	Armstrong Pump fr Niobrara River	0
9/18/2012	6400	Armstrong Pump fr Niobrara River	0
7/25/2012	3490	Ash Creek near Whitney	0
10/9/2012	3490	Ash Creek near Whitney	0.3
11/1/2012	3490	Ash Creek near Whitney	0.15
11/1/2012	3600	Big Bordeaux Creek near Chadron	2.36
8/29/2011	6050	Big Monroe Canal fr Monroe Creek	0
11/1/2012	3545	Chadron Creek near Chadron	0
6/14/2012	6420	Circle Pump - Hollibaugh fr Niobrara River	0

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Date	Site number	Site Name	Discharge
6/14/2012	6421	Circle Pump - Lees fr Niobrara River	0
9/9/2011	6010	Coffee Canal fr Hat Creek	0
10/12/2011	6010	Coffee Canal fr Hat Creek	0
8/22/2011	6015	Coffee Flood Canal fr Hat Creek	0
9/9/2011	6015	Coffee Flood Canal fr Hat Creek	0
9/29/2011	6015	Coffee Flood Canal fr Hat Creek	0
10/12/2011	6015	Coffee Flood Canal fr Hat Creek	0
9/25/2012	6015	Coffee Flood Canal fr Hat Creek	0
6/7/2011	6380	Cook Pump fr Niobrara River	0
6/14/2011	6380	Cook Pump fr Niobrara River	0
6/21/2011	6380	Cook Pump fr Niobrara River	0
6/28/2011	6380	Cook Pump fr Niobrara River	0
7/5/2011	6380	Cook Pump fr Niobrara River	0
7/12/2011	6380	Cook Pump fr Niobrara River	0
7/19/2011	6380	Cook Pump fr Niobrara River	0
7/26/2011	6380	Cook Pump fr Niobrara River	0
8/2/2011	6380	Cook Pump fr Niobrara River	1.63
8/9/2011	6380	Cook Pump fr Niobrara River	1.63
8/23/2011	6380	Cook Pump fr Niobrara River	0
8/30/2011	6380	Cook Pump fr Niobrara River	0
9/6/2011	6380	Cook Pump fr Niobrara River	0
9/13/2011	6380	Cook Pump fr Niobrara River	0
9/27/2011	6380	Cook Pump fr Niobrara River	0
5/1/2012	6380	Cook Pump fr Niobrara River	1.63
5/8/2012	6380	Cook Pump fr Niobrara River	
5/15/2012	6380	Cook Pump fr Niobrara River	0
5/22/2012	6380	Cook Pump fr Niobrara River	1.45
6/5/2012	6380	Cook Pump fr Niobrara River	0
6/12/2012	6380	Cook Pump fr Niobrara River	0
6/19/2012	6380	Cook Pump fr Niobrara River	0
6/26/2012	6380	Cook Pump fr Niobrara River	1.39
7/3/2012	6380	Cook Pump fr Niobrara River	1.36
7/10/2012	6380	Cook Pump fr Niobrara River	1.35
7/17/2012	6380	Cook Pump fr Niobrara River	0
7/31/2012	6380	Cook Pump fr Niobrara River	0
8/7/2012	6380	Cook Pump fr Niobrara River	1.5
8/21/2012	6380	Cook Pump fr Niobrara River	0
8/28/2012	6380	Cook Pump fr Niobrara River	0
9/5/2012	6380	Cook Pump fr Niobrara River	1.44
9/18/2012	6380	Cook Pump fr Niobrara River	1.45
9/27/2012	6380	Cook Pump fr Niobrara River	1.44
8/1/2012	6083	Crawford Sewer Drain	0.2
11/1/2012	3535	Dead Horse Creek near Chadron	0

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Date	Site number	Site Name	Discharge
6/2/2011	6440	Delsing Pump fr Niobrara River	0
6/16/2011	6440	Delsing Pump fr Niobrara River	0
6/23/2011	6440	Delsing Pump fr Niobrara River	0
6/30/2011	6440	Delsing Pump fr Niobrara River	0.99
7/7/2011	6440	Delsing Pump fr Niobrara River	0
7/14/2011	6440	Delsing Pump fr Niobrara River	0
7/28/2011	6440	Delsing Pump fr Niobrara River	0
8/25/2011	6440	Delsing Pump fr Niobrara River	0
4/12/2012	6440	Delsing Pump fr Niobrara River	0.99
4/25/2012	6440	Delsing Pump fr Niobrara River	0.99
5/3/2012	6440	Delsing Pump fr Niobrara River	0
5/10/2012	6440	Delsing Pump fr Niobrara River	0.99
5/17/2012	6440	Delsing Pump fr Niobrara River	0.99
5/24/2012	6440	Delsing Pump fr Niobrara River	0
6/7/2012	6440	Delsing Pump fr Niobrara River	0.99
6/14/2012	6440	Delsing Pump fr Niobrara River	0.99
6/21/2012	6440	Delsing Pump fr Niobrara River	0.99
6/28/2012	6440	Delsing Pump fr Niobrara River	0
7/5/2012	6440	Delsing Pump fr Niobrara River	0
7/12/2012	6440	Delsing Pump fr Niobrara River	0.99
7/19/2012	6440	Delsing Pump fr Niobrara River	0.99
8/2/2012	6440	Delsing Pump fr Niobrara River	0
9/6/2012	6440	Delsing Pump fr Niobrara River	0.99
6/23/2011	6435	Enterprise Pump fr Niobrara River	0
7/21/2011	6435	Enterprise Pump fr Niobrara River	0
5/3/2012	6435	Enterprise Pump fr Niobrara River	0
6/21/2012	6435	Enterprise Pump fr Niobrara River	0
7/12/2012	6435	Enterprise Pump fr Niobrara River	0
6/28/2011	6362	Gieser's Pump	0
6/6/2011	6130	Harris-Cooper Canal fr White River	0
7/18/2011	6130	Harris-Cooper Canal fr White River	0
7/22/2011	6130	Harris-Cooper Canal fr White River	10.2
4/30/2012	6130	Harris-Cooper Canal fr White River	0
5/14/2012	6130	Harris-Cooper Canal fr White River	0
6/20/2012	6130	Harris-Cooper Canal fr White River	7.68
7/9/2012	6130	Harris-Cooper Canal fr White River	8.67
10/9/2012	6130	Harris-Cooper Canal fr White River	0
8/22/2011	3020	Hat Creek above Coffee Canal	1.78
9/9/2011	3020	Hat Creek above Coffee Canal	0.97
8/22/2011	3040	Hat Creek below Coffee Flood Canal	0.64
8/29/2011	3040	Hat Creek below Coffee Flood Canal	0.65
9/9/2011	3040	Hat Creek below Coffee Flood Canal	0.89
9/29/2011	3040	Hat Creek below Coffee Flood Canal	0.86

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Date	Site number	Site Name	Discharge
10/12/2011	3040	Hat Creek below Coffee Flood Canal	1.4
3/22/2012	3040	Hat Creek below Coffee Flood Canal	1.37
10/22/2012	3040	Hat Creek below Coffee Flood Canal	0.89
9/29/2011	3250	Hat Creek near Ardmore, South Dakota	0
10/12/2011	3250	Hat Creek near Ardmore, South Dakota	2.5
12/4/2012	3250	Hat Creek near Ardmore, South Dakota	12.5
9/9/2011	3225	Hat Creek near Semroska	0
9/28/2011	3225	Hat Creek near Semroska	0.34
10/30/2012	3225	Hat Creek near Semroska	0
9/29/2011	3240	Hat Creek on South Line	0.2
10/12/2011	3240	Hat Creek on South Line	2.03
6/16/2011	6415	Hitsheew Pump #2 fr Niobrara River	0
6/30/2011	6415	Hitsheew Pump #2 fr Niobrara River	0
7/7/2011	6415	Hitsheew Pump #2 fr Niobrara River	0
7/14/2011	6415	Hitsheew Pump #2 fr Niobrara River	0
7/21/2011	6415	Hitsheew Pump #2 fr Niobrara River	0
7/28/2011	6415	Hitsheew Pump #2 fr Niobrara River	0
9/1/2011	6415	Hitsheew Pump #2 fr Niobrara River	0
5/10/2012	6415	Hitsheew Pump #2 fr Niobrara River	0
5/17/2012	6415	Hitsheew Pump #2 fr Niobrara River	0
6/14/2012	6415	Hitsheew Pump #2 fr Niobrara River	0
7/12/2012	6415	Hitsheew Pump #2 fr Niobrara River	0
8/3/2011	6365	Hoover Pump fr Niobrara River	0
5/22/2012	6365	Hoover Pump fr Niobrara River	0
11/1/2012	3505	Indian Creek near Whitney	0
8/22/2011	3110	Jim Creek @ junction w/ Warbonnett Cr	0
8/29/2011	3110	Jim Creek @ junction w/ Warbonnett Cr	0
9/9/2011	3110	Jim Creek @ junction w/ Warbonnett Cr	0
9/29/2011	3110	Jim Creek @ junction w/ Warbonnett Cr	0.38
9/25/2012	3110	Jim Creek @ junction w/ Warbonnett Cr	0
10/30/2012	3110	Jim Creek @ junction w/ Warbonnett Cr	0.99
8/22/2011	3160	Monroe Creek above Jordan Reservoir	0
9/9/2011	3160	Monroe Creek above Jordan Reservoir	0.54
9/25/2012	3160	Monroe Creek above Jordan Reservoir	0
8/29/2011	3155	Monroe Creek below Big Monroe Canal	1.05
6/2/2011	6445	Montague Canal Pump fr Niobrara River	0
6/16/2011	6445	Montague Canal Pump fr Niobrara River	0
6/23/2011	6445	Montague Canal Pump fr Niobrara River	0
6/30/2011	6445	Montague Canal Pump fr Niobrara River	0
7/14/2011	6445	Montague Canal Pump fr Niobrara River	0
7/21/2011	6445	Montague Canal Pump fr Niobrara River	0
7/28/2011	6445	Montague Canal Pump fr Niobrara River	1.4
8/5/2011	6445	Montague Canal Pump fr Niobrara River	0

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Date	Site number	Site Name	Discharge
8/11/2011	6445	Montague Canal Pump fr Niobrara River	0
8/25/2011	6445	Montague Canal Pump fr Niobrara River	1.4
9/1/2011	6445	Montague Canal Pump fr Niobrara River	0
5/3/2012	6445	Montague Canal Pump fr Niobrara River	0
5/10/2012	6445	Montague Canal Pump fr Niobrara River	0
5/17/2012	6445	Montague Canal Pump fr Niobrara River	1.54
5/24/2012	6445	Montague Canal Pump fr Niobrara River	1.54
6/7/2012	6445	Montague Canal Pump fr Niobrara River	0
6/14/2012	6445	Montague Canal Pump fr Niobrara River	0
6/21/2012	6445	Montague Canal Pump fr Niobrara River	0
6/28/2012	6445	Montague Canal Pump fr Niobrara River	0
7/5/2012	6445	Montague Canal Pump fr Niobrara River	0
7/12/2012	6445	Montague Canal Pump fr Niobrara River	0
7/19/2012	6445	Montague Canal Pump fr Niobrara River	1.54
8/2/2012	6445	Montague Canal Pump fr Niobrara River	0
8/9/2012	6445	Montague Canal Pump fr Niobrara River	1.54
8/22/2011	6040	Montgomery Canal fr Sow Belly Canal	0
9/9/2011	6040	Montgomery Canal fr Sow Belly Canal	0
9/29/2011	6040	Montgomery Canal fr Sow Belly Canal	0
9/25/2012	6040	Montgomery Canal fr Sow Belly Canal	0
6/15/2011	6379	Niobrara River 600' upstream Cook Canal	11.6
8/3/2011	6379	Niobrara River 600' upstream Cook Canal	6.2
3/27/2012	6379	Niobrara River 600' upstream Cook Canal	17.4
7/11/2012	6379	Niobrara River 600' upstream Cook Canal	2.3
9/27/2012	6379	Niobrara River 600' upstream Cook Canal	4.34
6/23/2011	3750	Niobrara River at old Dunlap Bridge	14
9/21/2011	3750	Niobrara River at old Dunlap Bridge	12
4/12/2012	3750	Niobrara River at old Dunlap Bridge	12.1
5/10/2012	3750	Niobrara River at old Dunlap Bridge	11.6
6/21/2012	3750	Niobrara River at old Dunlap Bridge	42.4
6/15/2011	6366	Niobrara River at Wilson's Culvert (5' culvert)	4.27
8/3/2011	6366	Niobrara River at Wilson's Culvert (5' culvert)	3.49
3/27/2012	6366	Niobrara River at Wilson's Culvert (5' culvert)	7.02
7/11/2012	6366	Niobrara River at Wilson's Culvert (5' culvert)	2.56
9/28/2012	6366	Niobrara River at Wilson's Culvert (5' culvert)	2.25
7/7/2011	3755	Niobrara River below Mirage Flats Diversion	0
7/15/2011	3755	Niobrara River below Mirage Flats Diversion	5.44
7/19/2011	3755	Niobrara River below Mirage Flats Diversion	12.9
7/20/2011	3755	Niobrara River below Mirage Flats Diversion	5.03
7/28/2011	3755	Niobrara River below Mirage Flats Diversion	5.98
8/11/2011	3755	Niobrara River below Mirage Flats Diversion	2.93
7/5/2012	3755	Niobrara River below Mirage Flats Diversion	3.64
7/5/2012	3755	Niobrara River below Mirage Flats Diversion	5.69

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Date	Site number	Site Name	Discharge
6/15/2011	6367	Niobrara River Road below Grote's (4' culvert)	6.07
8/3/2011	6367	Niobrara River Road below Grote's (4' culvert)	3.38
3/27/2012	6367	Niobrara River Road below Grote's (4' culvert)	9.28
7/11/2012	6367	Niobrara River Road below Grote's (4' culvert)	2.77
9/28/2012	6367	Niobrara River Road below Grote's (4' culvert)	1.77
6/15/2011	6369	Niobrara River Road into Joe Nunn's (3.5' culvert)	10.2
8/3/2011	6369	Niobrara River Road into Joe Nunn's (3.5' culvert)	6.64
3/27/2012	6369	Niobrara River Road into Joe Nunn's (3.5' culvert)	14.4
7/11/2012	6369	Niobrara River Road into Joe Nunn's (3.5' culvert)	5.73
9/27/2012	6369	Niobrara River Road into Joe Nunn's (3.5' culvert)	5.38
6/15/2011	6368	Niobrara River Road into Neil Nunn's (4' culvert)	7.72
8/3/2011	6368	Niobrara River Road into Neil Nunn's (4' culvert)	2.9
3/27/2012	6368	Niobrara River Road into Neil Nunn's (4' culvert)	12.1
7/11/2012	6368	Niobrara River Road into Neil Nunn's (4' culvert)	1.97
9/27/2012	6368	Niobrara River Road into Neil Nunn's (4' culvert)	1.36
6/15/2011	6381	Niobrara River Road into Sandoz house(4' culvert)	16.8
8/3/2011	6381	Niobrara River Road into Sandoz house(4' culvert)	0.59
8/10/2012	6381	Niobrara River Road into Sandoz house(4' culvert)	0
8/21/2012	6381	Niobrara River Road into Sandoz house(4' culvert)	0.65
9/27/2012	6381	Niobrara River Road into Sandoz house(4' culvert)	0.74
8/22/2011	6020	Old Sow Belly Canal fr Sow Belly Creek	0.56
8/29/2011	6020	Old Sow Belly Canal fr Sow Belly Creek	0.01
9/9/2011	6020	Old Sow Belly Canal fr Sow Belly Creek	0
9/29/2011	6020	Old Sow Belly Canal fr Sow Belly Creek	0
10/12/2011	6020	Old Sow Belly Canal fr Sow Belly Creek	0
6/25/2012	6020	Old Sow Belly Canal fr Sow Belly Creek	0
7/3/2012	6020	Old Sow Belly Canal fr Sow Belly Creek	0
8/1/2012	6020	Old Sow Belly Canal fr Sow Belly Creek	0
9/25/2012	6020	Old Sow Belly Canal fr Sow Belly Creek	0
6/16/2011	6425	Pioneer Pump #2 fr Niobrara River	0
6/23/2011	6425	Pioneer Pump #2 fr Niobrara River	0
6/30/2011	6425	Pioneer Pump #2 fr Niobrara River	0
7/7/2011	6425	Pioneer Pump #2 fr Niobrara River	1.26
7/14/2011	6425	Pioneer Pump #2 fr Niobrara River	0
7/21/2011	6425	Pioneer Pump #2 fr Niobrara River	0
7/28/2011	6425	Pioneer Pump #2 fr Niobrara River	0
8/11/2011	6425	Pioneer Pump #2 fr Niobrara River	1.26
9/15/2011	6425	Pioneer Pump #2 fr Niobrara River	0
4/25/2012	6425	Pioneer Pump #2 fr Niobrara River	1.27
5/3/2012	6425	Pioneer Pump #2 fr Niobrara River	
5/10/2012	6425	Pioneer Pump #2 fr Niobrara River	0
5/17/2012	6425	Pioneer Pump #2 fr Niobrara River	0
5/24/2012	6425	Pioneer Pump #2 fr Niobrara River	0

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Date	Site number	Site Name	Discharge
6/7/2012	6425	Pioneer Pump #2 fr Niobrara River	0
6/14/2012	6425	Pioneer Pump #2 fr Niobrara River	0
6/21/2012	6425	Pioneer Pump #2 fr Niobrara River	
6/28/2012	6425	Pioneer Pump #2 fr Niobrara River	
7/5/2012	6425	Pioneer Pump #2 fr Niobrara River	
7/12/2012	6425	Pioneer Pump #2 fr Niobrara River	0
7/19/2012	6425	Pioneer Pump #2 fr Niobrara River	
8/2/2012	6425	Pioneer Pump #2 fr Niobrara River	
9/6/2012	6425	Pioneer Pump #2 fr Niobrara River	
7/25/2012	6160	Rasher-Forbes Canal fr White River	0.73
10/16/2012	6160	Rasher-Forbes Canal fr White River	1.65
9/25/2012	6055	Richard Jordan Canal fr Monroe Creek	0
7/16/2012	3070	Sow Belly Creek above Montgomery Canal	0.36
8/22/2011	3060	Sow Belly Creek below Andrews Supply Canal	0.18
8/29/2011	3060	Sow Belly Creek below Andrews Supply Canal	1.57
9/9/2011	3060	Sow Belly Creek below Andrews Supply Canal	1.95
6/25/2012	3060	Sow Belly Creek below Andrews Supply Canal	1.65
8/22/2011	3170	Sow Belly Creek below Jim Creek Junction	0
9/9/2011	3170	Sow Belly Creek below Jim Creek Junction	0
9/29/2011	3170	Sow Belly Creek below Jim Creek Junction	0
10/12/2011	3170	Sow Belly Creek below Jim Creek Junction	1.65
3/22/2012	3170	Sow Belly Creek below Jim Creek Junction	0.98
9/25/2012	3170	Sow Belly Creek below Jim Creek Junction	0
10/22/2012	3170	Sow Belly Creek below Jim Creek Junction	0.34
8/22/2011	3050	Sow Belly Creek below Sow Belly Canal	1.28
7/16/2012	3050	Sow Belly Creek below Sow Belly Canal	1.29
8/22/2011	3072	Sow Belly Creek below Staudenmair	0
9/9/2011	3072	Sow Belly Creek below Staudenmair	0.05
9/29/2011	3072	Sow Belly Creek below Staudenmair	0.57
10/12/2011	3072	Sow Belly Creek below Staudenmair	0.91
6/25/2012	3072	Sow Belly Creek below Staudenmair	0
8/1/2012	3072	Sow Belly Creek below Staudenmair	0
10/30/2012	3072	Sow Belly Creek below Staudenmair	1.92
8/22/2011	3065	Sow Belly Creek below Zimmerman Canal	0.32
9/9/2011	3065	Sow Belly Creek below Zimmerman Canal	0.47
9/29/2011	3065	Sow Belly Creek below Zimmerman Canal	1.81
3/22/2012	3065	Sow Belly Creek below Zimmerman Canal	1.07
6/25/2012	3065	Sow Belly Creek below Zimmerman Canal	1.56
7/16/2012	3065	Sow Belly Creek below Zimmerman Canal	0.74
7/25/2012	3525	Trunk Butte Creek near Whitney	0
11/1/2012	3525	Trunk Butte Creek near Whitney	0
8/22/2011	3090	Warbonnet Creek above Warbonnett Canal	1.13
8/22/2011	3100	Warbonnet Creek below Warbonnett Canal	0

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Date	Site number	Site Name	Discharge
8/29/2011	3100	Warbonnet Creek below Warbonnett Canal	0.88
9/9/2011	3100	Warbonnet Creek below Warbonnett Canal	0.71
9/25/2012	3100	Warbonnet Creek below Warbonnett Canal	0
8/22/2011	6045	Warbonnett Canal fr Warbonnet Creek	1.13
8/29/2011	6045	Warbonnett Canal fr Warbonnet Creek	0
9/9/2011	6045	Warbonnett Canal fr Warbonnet Creek	0
8/22/2011	6005	West Hat Creek Canal fr West Hat Creek	0
9/25/2012	6005	West Hat Creek Canal fr West Hat Creek	0
10/12/2011	3235	White Head Creek above Hat Creek Junction	0.25
9/24/2012	3580	White River @ Hwy 385 north of Chadron	0
11/1/2012	3580	White River @ Hwy 385 north of Chadron	8.78
7/9/2012	3355	White River below Harris-Cooper Canal	4.88
10/9/2012	3360	White River below Whitney Diversion	3.72
10/31/2012	3360	White River below Whitney Diversion	4.34
6/6/2011	6105	White River Canal fr White River	0
7/18/2011	6105	White River Canal fr White River	7.14
7/22/2011	6105	White River Canal fr White River	7.31
4/30/2012	6105	White River Canal fr White River	0
5/14/2012	6105	White River Canal fr White River	7.09
6/20/2012	6105	White River Canal fr White River	6.4
6/25/2012	6105	White River Canal fr White River	4.1
10/9/2012	6105	White River Canal fr White River	0
11/1/2012	3625	White River near state line	9.4
6/6/2011	6165	Whitney Pipeline fr White River	0
8/1/2011	6165	Whitney Pipeline fr White River	0
9/26/2011	6165	Whitney Pipeline fr White River	0
4/30/2012	6165	Whitney Pipeline fr White River	0
5/7/2012	6165	Whitney Pipeline fr White River	
6/13/2012	6165	Whitney Pipeline fr White River	0
7/2/2012	6165	Whitney Pipeline fr White River	0
6/6/2011	6149	Whitney Reservoir	10970
8/1/2011	6149	Whitney Reservoir	8915
9/26/2011	6149	Whitney Reservoir	5455
11/28/2011	6149	Whitney Reservoir	6750
1/27/2012	6149	Whitney Reservoir	9440
4/30/2012	6149	Whitney Reservoir	10970
6/13/2012	6149	Whitney Reservoir	8787
7/2/2012	6149	Whitney Reservoir	7230
9/12/2012	6149	Whitney Reservoir	1900
6/16/2011	6430	Wilkins Pump fr Niobrara River	0
6/23/2011	6430	Wilkins Pump fr Niobrara River	0
6/30/2011	6430	Wilkins Pump fr Niobrara River	0
7/7/2011	6430	Wilkins Pump fr Niobrara River	0

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Date	Site number	Site Name	Discharge
7/14/2011	6430	Wilkins Pump fr Niobrara River	0
7/21/2011	6430	Wilkins Pump fr Niobrara River	0
7/28/2011	6430	Wilkins Pump fr Niobrara River	0
5/3/2012	6430	Wilkins Pump fr Niobrara River	0
5/10/2012	6430	Wilkins Pump fr Niobrara River	0
5/17/2012	6430	Wilkins Pump fr Niobrara River	0
5/24/2012	6430	Wilkins Pump fr Niobrara River	0
6/7/2012	6430	Wilkins Pump fr Niobrara River	0
6/14/2012	6430	Wilkins Pump fr Niobrara River	0
6/21/2012	6430	Wilkins Pump fr Niobrara River	0
6/28/2012	6430	Wilkins Pump fr Niobrara River	0
7/12/2012	6430	Wilkins Pump fr Niobrara River	0
7/19/2012	6430	Wilkins Pump fr Niobrara River	0
8/22/2011	6035	Zimmerman Canal fr Sow Belly Canal	0
8/29/2011	6035	Zimmerman Canal fr Sow Belly Canal	0
9/9/2011	6035	Zimmerman Canal fr Sow Belly Canal	0
9/29/2011	6035	Zimmerman Canal fr Sow Belly Canal	0
10/12/2011	6035	Zimmerman Canal fr Sow Belly Canal	0
6/25/2012	6035	Zimmerman Canal fr Sow Belly Canal	0
8/1/2012	6035	Zimmerman Canal fr Sow Belly Canal	0
9/25/2012	6035	Zimmerman Canal fr Sow Belly Canal	0

**2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES
TO MEET THE REQUIREMENTS OF THE UPPER NIobrARA WHITE NATURAL
RESOURCES DISTRICT'S INTEGRATED MANAGEMENT PLAN**

Appendix C

Municipal Pumping and Consumption Analysis

IMP Report 29 August 2013

Total Ground Water Consumed						
Year	Harrison	Crawford	Chadron	Hemingford	Alliance	Totals
2001-2002	42,659,770.00	2,317,170.85	290,590,000.00	92,127,600.00	939,049,000.00	1,366,743,540.85
2002-2003	32,881,170.00	1,134,426.67	205,370,000.00	73,471,700.00	747,359,000.00	1,060,216,296.67
2003-2004	38,736,290.00	1,139,258.38	222,540,000.00	80,977,600.00	762,402,000.00	1,105,795,148.38
2004-2005	30,832,360.00	989,245.19	167,290,000.00	73,997,700.00	700,382,000.00	973,491,305.19
2005-2006	34,191,160.00	3,397,553.26	213,950,000.00	73,666,200.00	854,551,000.00	1,179,755,913.26
Baseline Average	35,860,150.00	1,795,530.87	219,948,000.00	78,848,160.00	800,748,600.00	1,137,200,440.87
2006-2007	33,515,350.00	6,098,591.49	215,840,000.00	62,344,500.00	755,301,000.00	1,073,099,441.49
2007-2008	30,508,130.00	6,178,706.41	252,880,000.00	62,902,801.00	726,318,000.00	1,078,787,637.41
2008-2009	28,186,390.00	1,460,376.57	170,430,000.00	62,396,468.00	572,650,000.00	835,123,234.57
2009-2010	23,009,380.00	1,883,287.76	78,112,467.72	63,859,442.00	528,620,000.00	695,484,577.48
2010-2011	28,995,660.00	407,234.35	22,194,626.27	59,925,360.00	553,488,000.00	665,010,880.62
5 Year Average	28,842,982.00	3,205,639.32	147,891,418.80	62,285,714.20	627,275,400.00	869,501,154.31
2011-2012	35,879,760.00	2,673,073.78	92,617,749.00	76,119,700.00	698,624,000.00	905,914,282.78
2012-2013	32,078,600.00	2,772,729.87	69,682,045.72	64,233,900.00	635,348,000.00	804,115,275.59
2001-2013 Total	391,474,020.00	30,451,654.58	2,001,496,888.71	846,022,971.00	8,474,092,000.00	11,743,537,534.29

Total Ground Water Consumed per person per day						
Year	Harrison	Crawford	Chadron	Hemingford	Alliance	Averages
2001-2002	442.71	5.75	140.73	263.20	295.58	229.59
2002-2003	333.65	2.84	99.04	209.90	236.82	176.45
2003-2004	383.13	2.85	107.49	237.79	247.46	195.74
2004-2005	316.38	2.54	83.44	222.05	232.25	171.33
2005-2006	352.16	8.81	108.17	224.50	287.30	196.19
Baseline Average	365.61	4.56	107.77	231.49	259.88	193.86
2006-2007	357.29	15.99	110.57	192.13	256.61	186.52
2007-2008	327.78	16.37	126.82	193.42	246.09	182.10
2008-2009	312.64	3.91	86.28	192.29	192.93	157.61
2009-2010	262.66	5.01	39.36	201.33	180.99	137.87
2010-2011	316.49	1.12	6.39	204.46	189.50	143.59
5 Year Average	315.37	8.48	73.88	196.73	213.22	161.54
2011-2012	391.64	7.35	43.37	259.71	239.19	188.25
2012-2013	350.15	7.62	32.63	219.16	217.53	165.42
2001-2013 Avg.	345.56	6.68	82.02	218.33	235.19	177.56