

**DEPARTMENT OF NATURAL RESOURCES
2019 ANNUAL REPORT**

**TO MEET THE REQUIREMENTS OF THE JOINTLY DEVELOPED
INTEGRATED MANAGEMENT PLAN FOR THE PORTION OF THE UPPER BIG
BLUE NATURAL RESOURCES DISTRICT WITHIN
THE UPPER PLATTE RIVER BASIN**

I. INTRODUCTION

This report is intended to satisfy the Department of Natural Resources' (Department) tracking and reporting requirements as described in the Monitoring and Studies section of the jointly developed Integrated Management Plan (IMP) for the portion of the Upper Big Blue NRD (UBBNRD) within the Upper Platte River Basin. This IMP requires that the Department track and report on the following items on an annual basis: 1) any surface water permits issued; 2) any dam safety permits issued; 3) any groundwater permits issued; and 4) the associated offsets for any new permits issued. The Department is also required to report items every five (5) years; they include: 1) National Agricultural Statistics Service livestock data; 2) U.S. Census Bureau population data; 3) inventory of sandpits; 4) inventory of reservoirs of less than fifteen (15) acre-feet; 5) any retirements of irrigated acres or other water uses; and 6) offsets provided for depletions resulting from increased consumptive use related to the items listed above.

The items tracked and reported will be used by the UBBNRD and the Department to measure the success of the controls and other action items in meeting the goals and objectives of the IMPs. Two evaluation components for measuring success are described in the IMP. The tracking, reporting, and evaluation processes are described in more detail in the Monitoring and Studies section of the IMP. In addition to the evaluation processes, the information that is tracked and reported will also be used by the State to help meet requirements of the Platte River Recovery Implementation Program (PRRIP).

The 2019 report is the ninth report to be filed following the approval of the IMP in October 2010. This report contains information on the above listed items from January 1, 2018, to December 31, 2018.

II. ACTIVITIES TO BE REPORTED ANNUALLY

Items reported annually include permits that are issued by the Department. When a surface water or groundwater permit is reviewed, the Department assesses the potential of the permitted action to increase, decrease, or not affect water use. Depending on the circumstances, the applicant may be required to take action that would mitigate the effects of any increase in water use. Described in this section are the permits issued by the Department and the associated review of potential changes in water use.

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The Department issued no surface water, groundwater, or dam safety permits in 2018; therefore, there is no change in water use with respect to permitted activities.

These data, in addition to NRD permitted activities, are incorporated by the Department into the annual reporting under the Nebraska New Depletions Plan.

III. ACTIVITIES TO BE REPORTED ON A FIVE (5) YEAR BASIS

For purposes of the PRRIP, the Department is responsible for tracking certain activities within the Upper Platte River Basin portion of the UBBNRD on a five-year basis. The activities to be tracked include National Agricultural Statistics Service livestock data, U.S. Census Bureau population data, sandpits and other reservoirs smaller than fifteen (15) acre-feet (those not requiring a permit), any retirements of irrigated acres or other water uses, and offsets provided for depletions resulting from increased consumptive use related to those items. The National Agricultural Statistics Service livestock data and U.S. Census Bureau population data have been compiled and analyzed for 2010. Analysis of 2010 sandpits and small reservoirs has been completed and associated data was reported by the Department through the 2014 Nebraska New Depletions Plan reporting. Overall, the results of the analysis showed an annual decrease in consumptive use resulting from changes in small water bodies. It was determined, therefore, that further effort to evaluate the effects of these small water bodies was currently unnecessary.

Nebraska's Annual Report
Under Bullet 3 Section IV of the
Platte River Recovery Implementation Program
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January 1, 2017, to December 31, 2017

VIA ELECTRONIC MAIL ONLY

DATE: December 31, 2018

TO: Governance Committee (GC) of the Platte River Recovery Implementation Program (PRRIP)

FROM: Gordon W. "Jeff" Fassett, State of Nebraska's Representative to the GC Director, Nebraska Department of Natural Resources

SUBJECT: Nebraska's Annual Report under Section IV, Bullet 3 of the Platte River Recovery Implementation Program, Nebraska New Depletion Plan for January 1, 2017, to December 31, 2017

This report fulfills the annual reporting requirement for Nebraska for the period of January 1, 2017, to December 31, 2017, for the Platte River Recovery Implementation Program (PRRIP) Attachment 5, Section 8, Nebraska New Depletion Plan (NNDP), Section IV, Bullet 3.

Based upon the data contained in this report and the depletion analysis, the net effect on the Platte River from all 2017 permitted water related activities is positive. This means that the mitigation activities have an accretive effect to the river that is greater than the depletive effect of the new permitted uses.

This report contains information on the following activities in Nebraska as required by Section IV, Bullet 3 of the NNDP:

- (1) Permitted new and expanded uses of surface water;
- (2) Permitted new and expanded uses of groundwater;
- (3) Collective depletion of these new and expanded permitted uses;
- (4) Collective mitigation of these new and expanded permitted uses; and
- (5) Additional measures to be implemented by Nebraska to satisfy all mitigation elements required because of new depletions to target flows.

Data in this report are from the Nebraska Department of Natural Resources (Department) and the five Natural Resources Districts (NRDs) with land in the 28/40 area upstream of or within the PRRIP designated critical habitat reach, which includes Central Platte NRD

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(CPNRD), North Platte NRD (NPNRD), South Platte NRD (SPNRD), Tri-Basin NRD (TBNRD), and Twin Platte NRD (TPNRD).

All tables, maps, and definitions of terms can be found in Appendix 1 at the end of this document.

**Items (1) and (2) from Section IV, Bullet 3 of the NNDP:
Permitted and Expanded Uses of Surface and Groundwater**

In 2017, the NRDs and the Department issued the following permits:

- 47 groundwater transfer permits (Table 1);
- 41 groundwater well permits (Table 2);
- 2 groundwater variance permits (Table 3); and
- 19 new surface water permits (Table 4).

Tables 1–4 in Appendix 1 summarize the water use permits issued upstream of and within the PRRIP Critical Habitat Reach (CHR) in 2017, (Map 1 in Appendix 1). Tables 5–8 in Appendix 1 provide a detailed list of these permitted uses and any required mitigation of these uses.

**Items (3) and (4) from Section IV, Bullet 3 of the NNDP:
Collective Depletion and Mitigation for New and Expanded Permitted Uses**

Based upon the data contained in this report and the depletion analysis, the resulting net effect of all 2017 permitted activities located within the 28/40 area is positive. This means that the mitigation activities have an accretive effect to the river that is greater than the depletive effect of the new permitted uses.

Table 9 in Appendix 1 shows the total estimated stream depletions (new or expanded uses), total stream accretions (mitigations), and the net effect by stream reach through 2029 for all activities permitted in 2017. Values in Table 9 were derived from the information for the permits listed in Tables 5–8. Effects to the river were estimated for each permitted action representing a new consumptive use of water and its corresponding mitigation action.

Due to the nature of the permitted actions, only the groundwater transfers listed in Table 5 required further evaluation of the timing of impacts to streamflow.

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For each groundwater transfer, there was a new use initiated and an existing use retired. For transfers where the new and retired uses were a change in agricultural land use, the difference in consumptive use was estimated based on land use data provided with the permit information, or on land use conversions typical of the area (i.e. irrigated corn to dryland corn, or vice versa) if specific data were not available. The change in consumptive use for other types of uses, such as new industrial uses, was estimated based upon available data. The yearly effect to the river from each individual portion of a permitted groundwater transfer (new/expanded uses or mitigations) was estimated using an annual depletion percentage series developed using the analytical groundwater equations (Hunt, 1999)¹ and average hydraulic characteristics taken from the Cooperative Hydrologic Study (COHYST) data.

The groundwater well permits, listed in Table 6, did not require evaluation of impacts to streamflow because there is no resulting new use. The well permits were issued for: 1) replacement wells and the old wells decommissioned or modified to pump less than 50 gpm; 2) new wells with a corresponding transfer permit (Table 5) that included mitigating action or no new use; 3) supplemental wells to supplement existing groundwater irrigation with no associated increase in irrigated acres; or 4) a public water supply well that should be evaluated as part of the five-year review of all Nebraska activities.

The groundwater variance permits, described in Table 7, did not result in any new or expanded uses. The permits issued were for: 1) the purpose of correcting certified acre records (with proof of irrigation prior to 2004), or 2) a variance to well abandonment requirements.

The surface water permits issued, listed in Table 8, were temporary (one-year) permits for the diversion of unappropriated, excess streamflows for groundwater recharge. The groundwater recharge permits are using unappropriated water and do not require offset according to Nebraska's surface water rules.

Figure 1 illustrates the net effect to streamflow upstream of the CHR is positive and the net effect within the PRRIP CHR is near zero. Therefore, the aggregate net effect to both reaches for all activities permitted in 2017 is positive. Nebraska's new permitted activities and associated mitigation efforts within the 28/40 area result in a net increase in streamflow upstream of the PRRIP CHR, a negligible impact within the CHR, and a net increase to streamflow overall.

¹ Hunt, B. (1999), Unsteady Stream Depletion from Ground Water Pumping. *Ground Water*, 37: 98–102.

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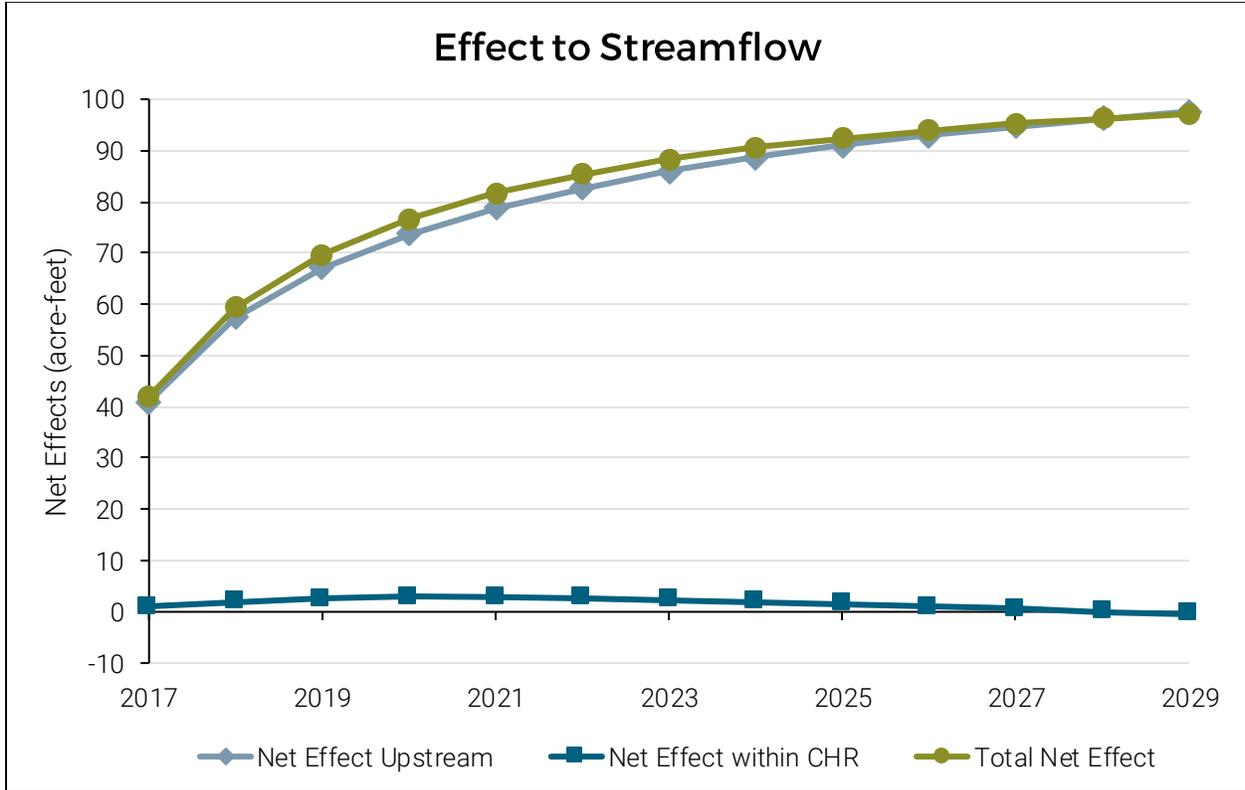


Figure 1: Aggregate net effect to streamflow resulting from all activities permitted in 2017, through the end of the second 10-year planning increment in 2029.

Item (5) from Section IV, Bullet 3 of the NNDP: Implementation of additional measures to satisfy all mitigations required because of new depletions to target flows

Based upon the analysis of all activities permitted in 2017 and their cumulative depletions and mitigation accretions, no additional mitigation measures for 2017 permitted activities are required at this time.

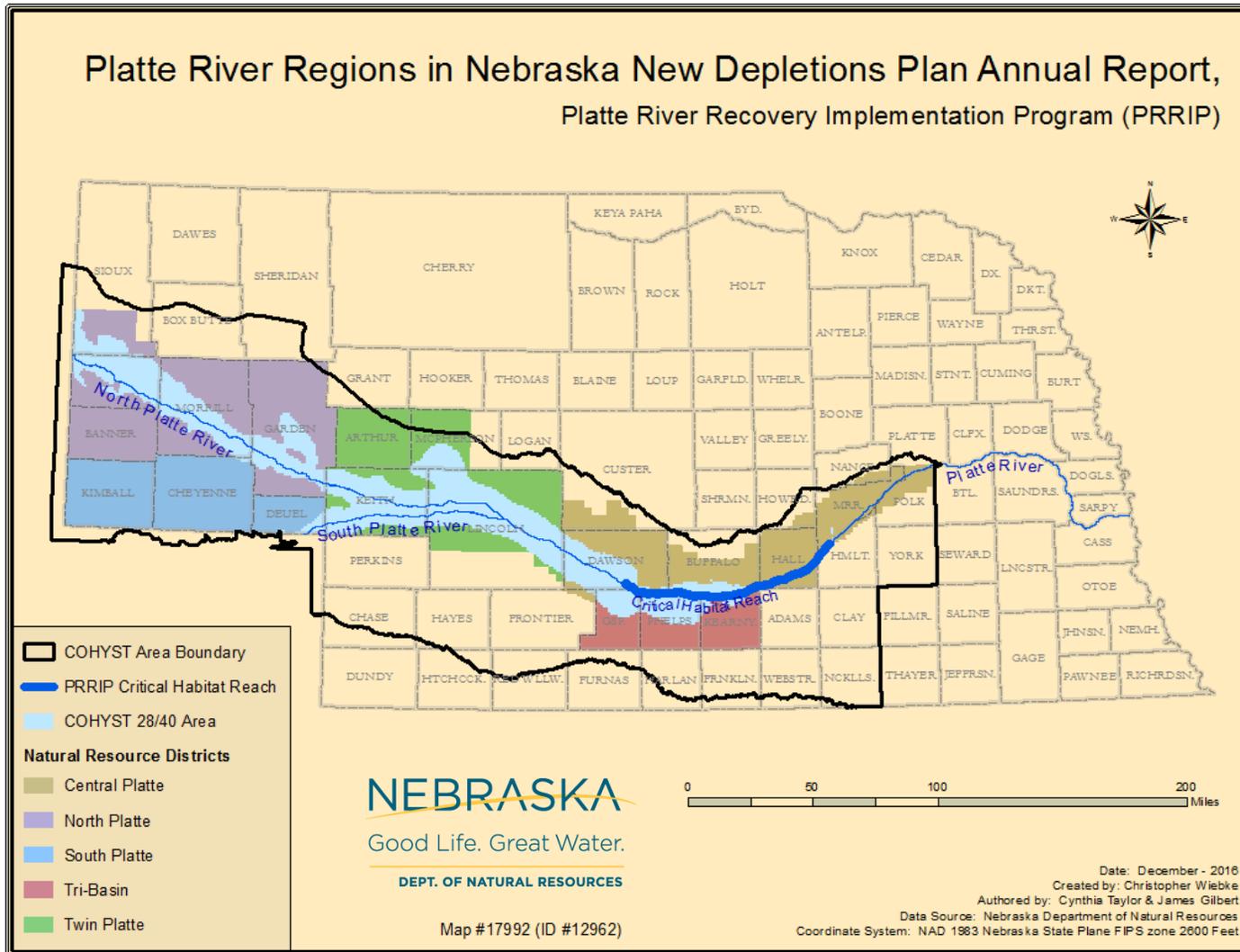
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Questions about information provided in this report should be directed to:

Central Platte NRD (CPNRD)	308-385-6282	Lyndon Vogt
North Platte NRD (NPNRD)	308-632-2749	John Berge
South Platte NRD (SPNRD)	308-254-2377	Rod Horn
Tri-Basin NRD (TBNRD)	308-995-6688	John Thorburn
Twin Platte NRD (TPNRD)	308-535-8080	Kent Miller
Department of Natural Resources (NeDNR)	402-471-2899	Jennifer Schellpeper

Supporting information can be found at <https://dnr.nebraska.gov/water-planning/upper-platte-river-basin>.

Appendix 1



Map 1: COHYST 28/40 modeled area and PRRIP Critical Habitat Reach.²

² Map features the boundary of the original COHYST model

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Table 1: Groundwater Transfer Permits in the 28/40 area upstream of and within the PRRIP Critical Habitat Reach.

Use	# Upstream	# Within	Total
GW Transfers	29	18	47

Table 2: Groundwater Well Permits in the 28/40 area upstream of and within the PRRIP Critical Habitat Reach.

Use	# Upstream	# Within	Total
Supplemental GW	4	1	5
Replacement	16	9	25
Commercial/Industrial	6	1	7
Public Water Supply	1	0	1
New Well	3	0	3
Total	30	11	41

Table 3: Groundwater Variance Permits in the 28/40 area upstream of and within the PRRIP Critical Habitat Reach.

Use	# Upstream	# Within	Total
Acre Correction	0	1	1
Other*	0	1	1
Total	0	2	2

*Variance to well abandonment requirement

Table 4: Surface water permits in the surface water basin upstream of and within the PRRIP Critical Habitat Reach.

Use	# Upstream	# Within	Total
Recharge (Temporary)	19	0	19

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	New Use	1697*	4/11/2017	22	12	7	W	2017	1.41
CPNRD	New Use	1697*	4/11/2017	22	12	7	W	2017	4.33
CPNRD	New Use	1697*	4/11/2017	22	12	7	W	2017	0.68
CPNRD	New Use	1697*	4/11/2017	22	12	7	W	2017	1.04
CPNRD	New Use	1697*	4/11/2017	22	12	7	W	2017	0.54
CPNRD	Mitigation	1697	4/11/2017	7	8	14	W	2017	6.38
CPNRD	New Use	1707	4/14/2017	22	9	22	W	2017	4.89
CPNRD	Mitigation	1707	4/14/2017	22	9	22	W	2017	4.89
CPNRD	Mitigation	1719	6/1/2017	8	11	25	W	2017	51.69
CPNRD	Mitigation	1720	6/1/2017	7	11	25	W	2017	138.30
CPNRD	New Use	1727*	7/13/2017	28	12	10	W	2017	8.49
CPNRD	New Use	1727*	7/13/2017	28	12	10	W	2017	2.02
CPNRD	New Use	1727*	7/13/2017	28	12	10	W	2017	1.49
CPNRD	New Use	1727*	7/13/2017	30	9	10	W	2017	4.49
CPNRD	New Use	1727*	7/13/2017	30	9	10	W	2017	3.83
CPNRD	New Use	1727*	7/13/2017	30	9	10	W	2017	4.66
CPNRD	New Use	1727*	7/13/2017	30	9	10	W	2017	0.75
CPNRD	New Use	1727*	7/13/2017	30	9	10	W	2017	1.26
CPNRD	New Use	1727*	7/13/2017	31	12	10	W	2017	0.63
CPNRD	New Use	1727*	7/13/2017	31	12	10	W	2017	10.64
CPNRD	New Use	1727*	7/13/2017	21	9	10	W	2017	14.72
CPNRD	New Use	1727*	7/13/2017	29	9	10	W	2017	9.99
CPNRD	Mitigation	1727	7/13/2017	10	8	14	W	2017	2.26
CPNRD	New Use	1736	7/14/2017	15	10	24	W	2017	0.14
CPNRD	New Use	1736	7/14/2017	15	10	24	W	2017	1.96
CPNRD	Mitigation	1736	7/14/2017	20	10	24	W	2017	2.32
CPNRD	New Use	1737*	7/14/2017	15	11	11	W	2017	3.99
CPNRD	New Use	1737*	7/14/2017	21	10	12	W	2017	12.33
CPNRD	New Use	1737*	7/14/2017	30	11	11	W	2017	5.70
CPNRD	New Use	1737*	7/14/2017	30	11	11	W	2017	0.69

Table 5: Groundwater Transfer Permits, continued

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	New Use	1737*	7/14/2017	30	11	11	W	2017	3.03
CPNRD	Mitigation	1737	7/14/2017	11	8	14	W	2017	1.00
CPNRD	New Use	1761*	7/18/2017	26	11	12	W	2017	7.84
CPNRD	New Use	1761*	7/18/2017	29	11	11	W	2017	33.42
CPNRD	Mitigation	1761	7/18/2017	11	8	14	W	2017	0.69
CPNRD	Mitigation	1761	7/18/2017	11	8	14	W	2017	0.31
CPNRD	Mitigation	1764	7/18/2017	22	9	21	W	2017	22.39
CPNRD	Mitigation	1764	7/18/2017	22	9	21	W	2017	1.50
CPNRD	New Use	1764	7/18/2017	22	9	21	W	2017	40.05
CPNRD	Mitigation	1764	7/18/2017	26	9	21	W	2017	3.30
CPNRD	Mitigation	1764	7/18/2017	26	9	21	W	2017	5.03
CPNRD	Mitigation	1764	7/18/2017	26	9	21	W	2017	5.45
CPNRD	Mitigation	1764	7/18/2017	26	9	21	W	2017	4.35
CPNRD	Mitigation	1767	7/18/2017	27	9	17	W	2017	9.37
CPNRD	New Use	1767	7/18/2017	34	9	17	W	2017	7.61
CPNRD	New Use	1775	7/19/2017	2	8	17	W	2017	2.07
CPNRD	Mitigation	1775	7/19/2017	2	8	17	W	2017	2.06
CPNRD	Mitigation	1779	7/19/2017	10	8	17	W	2017	2.16
CPNRD	New Use	1779	7/19/2017	10	8	17	W	2017	2.16
CPNRD	New Use	1797*	7/25/2017	13	12	10	W	2017	5.13
CPNRD	New Use	1797*	7/25/2017	13	12	10	W	2017	3.53
CPNRD	New Use	1797*	7/25/2017	10	11	11	W	2017	2.07
CPNRD	New Use	1797*	7/25/2017	32	12	7	W	2017	1.89
CPNRD	New Use	1797*	7/25/2017	32	12	7	W	2017	1.72
CPNRD	Mitigation	1797	7/25/2017	10	8	14	W	2017	1.82
CPNRD	New Use	1797*	7/25/2017	33	11	11	W	2017	2.56
CPNRD	New Use	1799*	7/25/2017	30	12	24	W	2017	10.91
CPNRD	Mitigation	1799*	7/25/2017	30	12	24	W	2017	0.99
CPNRD	Mitigation	1799*	7/25/2017	30	12	24	W	2017	1.62
CPNRD	Mitigation	1799	7/25/2017	27	11	25	W	2017	3.05
CPNRD	Mitigation	1807	8/15/2017	1	11	25	W	2017	1.49

Table 5: Groundwater Transfer Permits, continued

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	New Use	1807	8/15/2017	1	11	25	W	2017	7.10
CPNRD	Mitigation	1807	8/15/2017	27	11	25	W	2017	3.02
CPNRD	Mitigation	1811	8/25/2017	25	10	23	W	2017	1.44
CPNRD	New Use	1811	8/25/2017	25	10	23	W	2017	3.46
CPNRD	New Use	1811	8/25/2017	25	10	23	W	2017	0.61
CPNRD	Mitigation	1811	8/25/2017	25	10	23	W	2017	2.26
CPNRD	New Use	1813	8/25/2017	20	9	22	W	2017	3.95
CPNRD	Mitigation	1813	8/25/2017	16	9	22	W	2017	2.89
CPNRD	Mitigation	1819	11/1/2017	14	9	23	W	2017	1.56
CPNRD	New Use	1819	11/1/2017	14	9	23	W	2017	8.34
CPNRD	Mitigation	1819	11/1/2017	14	9	23	W	2017	0.87
CPNRD	Mitigation	1819	11/1/2017	14	9	23	W	2017	0.43
CPNRD	Mitigation	1819	11/1/2017	11	9	23	W	2017	4.62
CPNRD	Mitigation	1828	11/8/2017	30	9	22	W	2017	7.40
CPNRD	Mitigation	1828	11/8/2017	30	9	22	W	2017	0.76
CPNRD	New Use	1828	11/8/2017	29	9	22	W	2017	0.11
CPNRD	New Use	1828	11/8/2017	29	9	22	W	2017	27.14
CPNRD	Mitigation	1828	11/8/2017	29	9	22	W	2017	1.51
CPNRD	Mitigation	1828	11/8/2017	29	9	22	W	2017	3.82
CPNRD	Mitigation	1828	11/8/2017	29	9	22	W	2017	0.44
CPNRD	Mitigation	1828	11/8/2017	29	9	22	W	2017	14.20
CPNRD	New Use	1834	11/9/2017	7	9	22	W	2017	15.24
CPNRD	Mitigation	1834	11/9/2017	7	9	22	W	2017	15.24
CPNRD	Mitigation	1835*	11/16/2017	18	9	16	W	2017	20.41
CPNRD	New Use	1835*	11/16/2017	18	9	16	W	2017	14.46
CPNRD	Mitigation	1835*	11/16/2017	18	9	16	W	2017	14.46
CPNRD	New Use	1835	11/16/2017	30	9	16	W	2017	7.00
CPNRD	New Use	1835	11/16/2017	30	9	16	W	2017	5.32
CPNRD	Mitigation	1836	11/16/2017	30	11	24	W	2017	1.00
CPNRD	New Use	1836*	11/16/2017	26	9	19	W	2017	5.35
CPNRD	New Use	1840	1/15/2018	10	10	25	W	2017	6.97

Table 5: Groundwater Transfer Permits, continued

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	Mitigation	1840	1/15/2018	10	10	25	W	2017	1.19
CPNRD	Mitigation	1840	1/15/2018	10	10	25	W	2017	1.43
CPNRD	Mitigation	1840	1/15/2018	10	10	25	W	2017	1.58
CPNRD	Mitigation	1840	1/15/2018	10	10	25	W	2017	2.78
TBNRD	Mitigation	TBAT-0314	1/10/2017	17	8	16	W	2017	19.77
TBNRD	New Use	TBAT-0314	1/10/2017	24	8	17	W	2017	19.77
TBNRD	New Use	TBAT-0317	2/14/2017	12	7	17	W	2017	10.42
TBNRD	Mitigation	TBAT-0317	2/14/2017	23	8	14	W	2017	10.42
TBNRD	Mitigation	TBAT-0318	2/14/2017	34	8	17	W	2017	15.00
TBNRD	New Use	TBAT-0318	2/14/2017	12	7	17	W	2017	15.00
TBNRD	Mitigation	TBAT-0321	3/14/2017	12	6	18	W	2017	12.00
TBNRD	New Use	TBAT-0321	3/14/2017	31	7	17	W	2017	7.28
TBNRD	Mitigation	TBAT-0323	5/9/2017	19	8	16	W	2017	26.64
TBNRD	New Use	TBAT-0323	5/9/2017	8	7	16	W	2017	26.64
TBNRD	New Use	TBAT-0326	6/20/2017	6	7	14	W	2017	9.00
TBNRD	Mitigation	TBAT-0326*	6/20/2017	12	7	15	W	2017	9.00
TBNRD	Mitigation	TBAT-0329	8/8/2017	18	8	19	W	2017	4.00
TBNRD	New Use	TBAT-0329	8/8/2017	27	7	19	W	2017	4.00
TBNRD	Mitigation	TBAT-0330	8/8/2017	18	8	19	W	2017	3.00
TBNRD	New Use	TBAT-0330	8/8/2017	19	7	19	W	2017	3.00
TPNRD	Mitigation	TP-TRANS-17.02	1/19/2017	36	13	28	W	2017	3.50
TPNRD	Mitigation	TP-TRANS-17.02	1/19/2017	26	13	28	W	2017	9.50
TPNRD	New Use	TP-TRANS-17.02	1/19/2017	27	13	28	W	2017	13.00
TPNRD	Mitigation	TP-TRANS-17.04		1	11	27	W	2017	3.20
TPNRD	New Use	TP-TRANS-17.04		1	11	27	W	2017	3.20
TPNRD	New Use	TP-TRANS-17.06	2/16/2017	27	13	40	W	2017	2.25
TPNRD	Mitigation	TP-TRANS-17.06	2/16/2017	5	12	40	W	2017	2.25
TPNRD	Mitigation	TP-TRANS-17.08		14	14	32	W	2017	1.35
TPNRD	New Use	TP-TRANS-17.08		14	14	32	W	2017	1.35
TPNRD	New Use	TP-TRANS-17.09		7	12	41	W	2017	0.50
TPNRD	Mitigation	TP-TRANS-17.09		7	12	41	W	2017	0.50

Table 5: Groundwater Transfer Permits, continued

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
TPNRD	New Use	TP-TRANS-17.11	3/17/2017	2	13	31	W	2017	27.85
TPNRD	Mitigation	TP-TRANS-17.11	3/17/2017	2	13	31	W	2017	27.85
TPNRD	New Use	TP-TRANS-17.12	3/20/2017	10	13	37	W	2017	5.65
TPNRD	Mitigation	TP-TRANS-17.12	3/20/2017	10	13	37	W	2017	5.65
TPNRD	New Use	TP-TRANS-17.14	6/23/2017	36	13	28	W	2017	4.63
TPNRD	Mitigation	TP-TRANS-17.14	6/23/2017	36	13	28	W	2017	5.26
TPNRD	Mitigation	TP-TRANS-17.14	6/23/2017	35	13	28	W	2017	24.04
TPNRD	New Use	TP-TRANS-17.14	6/23/2017	35	13	28	W	2017	24.67
TPNRD	Mitigation	TP-TRANS-17.16	5/1/2017	11	13	39	W	2017	18.35
TPNRD	New Use	TP-TRANS-17.16	6/19/2017	29	13	39	W	2017	41.00
TPNRD	New Use	TP-TRANS-17.16	5/1/2017	29	13	39	W	2017	18.35
TPNRD	Mitigation	TP-TRANS-17.16	6/19/2017	31	13	39	W	2017	46.50
TPNRD	Mitigation	TP-TRANS-17.17	7/19/2017	7	12	27	W	2017	13.15
TPNRD	Mitigation	TP-TRANS-17.17	7/19/2017	7	12	27	W	2017	1.85
TPNRD	New Use	TP-TRANS-17.17	7/19/2017	28	12	27	W	2017	2.90
TPNRD	New Use	TP-TRANS-17.17	7/19/2017	28	12	27	W	2017	1.50
TPNRD	New Use	TP-TRANS-17.17	7/19/2017	28	12	27	W	2017	1.30
TPNRD	New Use	TP-TRANS-17.18	7/19/2017	7	12	27	W	2017	3.25
TPNRD	Mitigation	TP-TRANS-17.18	7/19/2017	7	12	27	W	2017	3.25
TPNRD	Mitigation	TP-TRANS-17.19*	8/17/2017	8	14	28	W	2017	15.00
TPNRD	New Use	TP-TRANS-17.19	8/17/2017	9	12	30	W	2017	9.25
TPNRD	New Use	TP-TRANS-17.21	12/11/2017	1	16	36	W	2017	0.70
TPNRD	New Use	TP-TRANS-17.21	12/11/2017	1	16	36	W	2017	2.20
TPNRD	Mitigation	TP-TRANS-17.21	12/11/2017	1	16	36	W	2017	4.16
TPNRD	New Use	TP-TRANS-17.21	12/11/2017	12	16	36	W	2017	1.26
TPNRD	Mitigation	TP-TRANS-17.22	10/23/2017	18	14	32	W	2017	1.60
TPNRD	New Use	TP-TRANS-17.22	10/23/2017	18	14	32	W	2017	4.33
TPNRD	Mitigation	TP-TRANS-17.22	10/23/2017	24	14	33	W	2017	2.73
TPNRD	Mitigation	TP-TRANS-17.24		26	15	40	W	2017	26.57
TPNRD	Mitigation	TP-TRANS-17.25	11/15/2017	11	12	28	W	2017	12.13
TPNRD	Mitigation	TP-TRANS-17.25	11/15/2017	11	12	28	W	2017	43.34

Table 5: Groundwater Transfer Permits, continued

*Indicates this part of the transfer was not in the 28/40 area. These transfers are still included in the totals in Table 1 and the analysis for Table 9.

**All permits in the table were issued in the 2017 calendar year. The Year Implemented field reflects when the permit takes effect.

Table 6: Groundwater Well Permits

NRD	Permit Type	NRD Permit	DNR Well Registration	Permit Date	Year Implemented*	S	T	R	E/W	Notes
NPNRD	Supplemental Groundwater	NPSG 17004	G-184081	4/27/2017	2017	13	22	56	W	
NPNRD	Supplemental Groundwater	NPSG 17002	G-183088	3/29/2017	2017	28	22	53	W	
NPNRD	Supplemental Groundwater	NPSG 17013	-	9/22/2017	2017	15	21	53	W	
NPNRD	Replacement Well	NPRP 17003	G-030237	5/11/2017	2017	35	21	52	W	
NPNRD	Replacement Well	NPRP 17001	G-051173	3/9/2017	2017	27	19	50	W	
NPNRD	Commercial / Industrial Well	NPIN 17007	-	6/8/2017	2017	11	18	47	W	
NPNRD	Commercial / Industrial Well	NPIN 17008	-	6/8/2017	2017	11	18	47	W	
NPNRD	Commercial / Industrial Well	NPIN 17009	-	7/31/2017	2017	11	18	47	W	
NPNRD	Commercial / Industrial Well	NPIN 17010	-	7/31/2017	2017	11	18	47	W	
NPNRD	Commercial / Industrial Well	NPIN 17011	-	7/31/2017	2017	11	18	47	W	
NPNRD	Replacement Well	NPRP 17006	G-184124	6/1/2017	2017	25	18	44	W	
NPNRD	Public Water Supply	NP 17005	G-184123	6/1/2017	2017	-	-	-	-	Public Water Supply Well for City of Oshkosh **
TPNRD	Replacement Well	TP-RP-17.07	G-097224	12/11/2017	2017	27	17	34	W	
TPNRD	Replacement Well	TP-RP-17.06	A-016166E	10/19/2017	2017	5	13	30	W	
TPNRD	New Well	TP-NP-17.03	-		2017	29	14	33	W	
TPNRD	Replacement Well	TP-RP-17.05	G-076147	9/28/2017	2017	29	14	32	W	
TPNRD	Supplemental Groundwater	TP-SG-17.20	-	8/11/2017	2017	34	12	27	W	
TPNRD	Replacement Well	TP-RP-17.01	G-068603	1/6/2017	2017	3	12	40	W	
TPNRD	New Well	TP-NP-17.13	G-183597	3/10/2017	2017	35	13	28	W	

Table 6: Groundwater Well Permits, continued

NRD	Permit Type	NRD Permit	DNR Well Registration	Permit Date	Year Implemented*	S	T	R	E/W	Notes
TPNRD	Replacement Well	TP-RP-17.02	G-018323	3/13/2017	2017	27	13	40	W	
TPNRD	New Well	TP-NP-17.01	-		2017	1	12	28	W	
CPNRD	Replacement Well	CPRP24-17-017	G-019355	12/7/2017	2017	8	10	22	W	
TPNRD	Commercial / Industrial Well	TP-IN-17.15	-		2017	16	12	28	W	
CPNRD	Replacement Well	CPRP24-17-011	G-056504	5/10/2017	2017	17	12	25	W	
CPNRD	Replacement Well	CPRP24-17-012	G-003359	6/20/2017	2017	25	10	24	W	
CPNRD	Replacement Well	CPRP24-17-002	G-000606	2/6/2017	2017	21	10	24	W	
CPNRD	Replacement Well	CPRP24-17-014	G-011272	6/28/2017	2017	24	11	25	W	
CPNRD	Replacement Well	CPRP24-17-006	G-025906	2/24/2017	2017	22	9	21	W	
CPNRD	Replacement Well	CPRP10-17-006	G-087114	3/6/2017	2017	30	9	14	W	
CPNRD	Commercial / Industrial Well	CPIN10-17-013	G-183415	9/29/2017	2018	27	9	15	W	
CPNRD	Replacement Well	CPRP24-17-015	-	8/15/2017	2018	6	10	23	W	
CPNRD	Replacement Well	CPRP10-17-009	G-003648	5/2/2017	2017	1	8	15	W	
CPNRD	Supplemental Groundwater	CPSG10-17-008	G182456	4/17/2017	2017	32	9	15	W	
CPNRD	Replacement Well	CPRP10-17-003	G-010041	1/23/2017	2017	31	9	15	W	
CPNRD	Replacement Well	CPRP24-17-007	G-000111	3/15/2017	2017	32	9	23	W	
CPNRD	Replacement Well	CPRP24-17-016	G-003989	9/26/2017	2018	14	9	23	W	
CPNRD	Replacement Well	CPRP10-17-011	G-064463	7/31/2017	2017	33	9	18	W	
TBNRD	Replacement Well	TBRP-G022362-R1	G-022362	12/28/2017	2018	11	8	20	W	Well Not Drilled Yet
TBNRD	Replacement Well	TBRP-G033024-R1	G-033024	2/1/2017	2017	7	7	17	W	
TBNRD	Replacement Well	TBRP-G034164-R1	G-034164	4/25/2017	2017	9	7	18	W	

Table 6: Groundwater Well Permits, continued

NRD	Permit Type	NRD Permit	DNR Well Registration	Permit Date	Year Implemented*	S	T	R	E/W	Notes
TBNRD	Replacement Well	TBRP-A005727-R1	A-005727	3/28/2017	2017	30	7	19	W	

*All permits in the table were issued in the 2017 calendar year. The Year Implemented field reflects the year in which the well was drilled. No Well Registration number in the table indicates that the well was not drilled at the time of reporting

**Location inform is not shared for public water supply wells.

Table 7: Variance Permits

NRD	NRD Permit	NeDNR Well Registration	Permit Date	S-T-R W	Type of Variance	Notes	Year Implemented*	Associated Well Permits	Associated Transfers
TBNRD	TbwvariancePB_2017-1	G-048222	5/9/2017	16-19-8W	Requesting to modify irrigation well to a stock well instead of abandoning	--	2017	N/A	N/A
TBNRD	TbcorrectionPB_2017-1	G-015836	1/10/2017	14-13-8W	Certified Acre Correction	Proof provided of 2004 or prior irrigation history	2017	N/A	N/A

*All permits in the table were issued in the 2017 calendar year. The Year Implemented field reflects when the permit takes effect

Table 8: Surface Water Permits

Appropriation Number	Approval Date	S-T-R W	Canal	Use	Grant in CFS	Grant in AF	Surface Water or Groundwater Mitigation	Associated Variance
A-19503	4/26/2017	10-23-58W	Farmers (Tri-State) Canal	Temporary Groundwater Recharge	600	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6149
A-19505	4/26/2017	18-20-51W	Belmont Canal	Temporary Groundwater Recharge	100	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6150
A-19506	4/26/2017	10-23-60W	Mitchell Canal	Temporary Groundwater Recharge	100	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6156
A-19507	4/26/2017	3-21-54W	Castle Rock Canal	Temporary Groundwater Recharge	40	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6151
A-19508	4/26/2017	28-22-55W	Gering Canal	Temporary Groundwater Recharge	75	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6157
A-19509	4/26/2017	28-22-55W	Central Canal	Temporary Groundwater Recharge	33	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6155
A-19510	4/26/2017	1-20-53W	Chimney Rock Canal	Temporary Groundwater Recharge	60	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6163
A-19511	4/26/2017	17-22-55W	Winters Creek Canal	Temporary Groundwater Recharge	50	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6162
A-19521	4/26/2017	27-23-57W	Enterprise Canal	Temporary Groundwater Recharge	40	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6148
A-19522	4/26/2017	32-22-54W	Minatare Canal	Temporary Groundwater Recharge	40	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6147
A-19526	5/5/2017	13-14-34W	Platte Valley Irrigation District Canal	Temporary Groundwater Recharge	201	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6186
A-19527	5/5/2017	7-14-32W	Suburban Canal	Temporary Groundwater Recharge	77	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6182

Table 8: Surface Water Permits (continued)

Appropriation Number	Approval Date	S-T-R W	Canal	Use	Grant in CFS	Grant in AF	Surface Water or Groundwater Mitigation	Associated Variance
A-19528	5/5/2017	18-14-33W	Paxton Hershey Canal	Temporary Groundwater Recharge	103	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6183
A-19529	5/5/2017	18-14-33W	Keith Lincoln Canal	Temporary Groundwater Recharge	81	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6184
A-19530	5/5/2017	14-12-43W	Western Canal	Temporary Groundwater Recharge	176	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6185
A-19552	8/9/2017	19-12-26W	Gothenburg Canal	Temporary Groundwater Recharge	100	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6257
A-19553	8/9/2017	18-10-23W	Dawson County Canal	Temporary Groundwater Recharge	100	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6258
A-19559	9/25/2017	8-13-29W	Tri-County Canal, E65 Canal	Temporary Groundwater Recharge	350	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6281
A-19560	12/1/2017	8-13-29W	Tri-County Canal, Phelps Canal, Cottonwood Ranch, Funk Lagoon, Johnson WPA	Temporary Groundwater Recharge	600	N/A	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-6282

Table 9: Effects to streamflow from 2017 to 2029 in the Platte River resulting from all groundwater and surface water permitting activities in 2017. A positive value for the net effect indicates that the permitted activities have an overall positive effect on streamflow. Values are given in acre-feet.

Year	Upstream of Critical Habitat Reach			Within Critical Habitat Reach			Aggregate Net Effect from Both Reaches
	Effect of New Uses	Effect of Mitigations	Net Effect	Effect of New Uses	Effect of Mitigations	Net Effect	Net Effect
2017	-24.56	65.58	41.03	-13.25	14.26	1.01	42.04
2018	-38.40	95.80	57.40	-21.37	23.36	2.00	59.40
2019	-47.29	114.37	67.07	-27.08	29.68	2.60	69.67
2020	-53.65	127.39	73.75	-31.52	34.38	2.87	76.61
2021	-58.49	137.24	78.74	-35.19	38.06	2.87	81.62
2022	-62.35	145.04	82.69	-38.36	41.05	2.68	85.37
2023	-65.52	151.42	85.90	-41.16	43.52	2.37	88.27
2024	-68.19	156.79	88.60	-43.66	45.63	1.96	90.56
2025	-70.47	161.37	90.90	-45.93	47.44	1.51	92.41
2026	-72.46	165.36	92.90	-48.00	49.03	1.03	93.93
2027	-74.21	168.86	94.66	-49.90	50.43	0.53	95.18
2028	-75.76	171.98	96.22	-51.66	51.68	0.02	96.24
2029	-77.16	174.77	97.61	-53.28	52.81	-0.48	97.14

Note: Due to rounding in the calculations, the Net Effect shown does not exactly match the sum of effects in some rows

Definition of Terms

28/40 Area	The area within the North Platte, South Platte, or Platte River watershed in which groundwater intentionally withdrawn for 40 years will result in a cumulative stream depletion to the North Platte, South Platte, or Platte River or a baseflow tributary greater than or equal to 28 percent of the total groundwater consumed as a result of the withdrawals (see Map 1).
Acre-Feet (AF)	A unit of volume, commonly used to measure quantities of water used or stored equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters.
Application/Appropriation Number	Application Number (Docket and Application Numbers): Appropriations having docket numbers (D-) refer to claims covering rights which existed prior to April 4, 1895, or those rights that existed on the Missouri River that were covered by the law passed in 1980. Those appropriations having applications numbers (A-) were filed after April 4, 1895. Surface water appropriations can also be referred to as "permits" and "rights."
Area Correction	The correction of the amount of certified irrigated acres because acres with history of irrigation between 1997 and 2005 had not previously been classified as irrigated cropland by county assessors.
Augmentation Well	A groundwater well drilled to pump water into a stream to augment streamflows.
Cubic Feet per Second (CFS)	The USGS defines cubic foot per second (cfs) as "the flow rate or discharge equal to one cubic foot of water per second or about 7.5 gallons per second."
CRP Reinstatement	Formerly irrigated land on which the water use had been temporarily retired under the federal Conservation Reserve Program (CRP) that has since come out of retirement and may now be irrigated again.
Dewatering Well	A groundwater well drilled for the purpose of lowering the water table.
Feedlot Expansion	A type of variance to allow new wells for livestock use. New depletions are to be mitigated by applicant.
Grant in AF	The approved volume amount of acre-feet of water legally allowed to be pumped or stored.

Grant in CFS	The approved amount of cubic feet per second of water legally allowed to be pumped.
Pooling	Any arrangement approved by the NRD board in which two or more certified irrigated tracts are combined. Additional information can be found in the SPNRD Rules and Regulations.
PRRIP Critical Habitat Reach	The reach of the Platte River from Lexington, NE, to Chapman, NE, which is of critical importance to the endangered target species (see Map 1).
Replacement Well	A groundwater well drilled to replace an existing groundwater well which has become unusable. The replaced well must be decommissioned or modified to pump less than 50 gpm and used only for livestock, monitoring, observation, or other nonconsumptive or de minimis use approved by the NRD. No increase in irrigated acres is associated with a replacement well unless a variance is granted.
Section/Township/Range	The legal description of where a well or water appropriation is located.
Temporary Recharge	A temporary (for one year) surface water permit issued for the purpose of diverting excess streamflow (unappropriated water) to recharge groundwater, intended to supply baseflow accretions back to the river.
Supplemental Well	A groundwater well drilled to either supplement an existing groundwater well or to augment surface water irrigation when surface water is not available. No increase in irrigated acres is associated with a supplemental well unless a variance is granted.
Transfer	To allow for the historic consumptive use of water to be changed, in location and/or purpose without causing an increase in depletions to the river or an impact to existing surface water or groundwater uses.
Use	The legally accepted use of the well or water appropriation.
Variance	To allow an exception to the stay on new irrigated acres and new consumptive uses while providing adequate mitigations or transfers to assure that there is no net increase in depletions to the river or impacts to existing surface water or groundwater uses; any request that is contrary to existing rules or regulations will require a variance.

VIA ELECTRONIC MAIL ONLY

DATE: December 31, 2018

TO: Governance Committee (GC) of the Platte River Recovery Implementation Program (PRRIP)

FROM: Gordon W. "Jeff" Fassett, State of Nebraska's Representative to the GC Director, Nebraska Department of Natural Resources

SUBJECT: Nebraska Update on Continued Implementation of the Nebraska New Depletion Plan (NNDP)

Nebraska continues to meet the terms of the Nebraska New Depletions Plan (NNDP) based upon the estimates shown in the April 21, 2017, update on depletive activities and mitigation measures and this year's annual report on permitted activities in 2017. This memo contains a general description of Nebraska's ongoing work to utilize comprehensive tools to continue updating its assessment of all post-July 1, 1997, water related activities. If there are questions on the contents of this document please contact Jennifer Schellpeper at 402-471-2899 or jennifer.schellpeper@nebraska.gov.

Nebraska is currently in the process of conducting a robust review of all water related activities and changes since July 1, 1997. The robust review will assess impacts to streamflow from land use changes since 1997, including the addition, retirement, and transfer of groundwater irrigated acres; any permitted new uses and associated mitigation measures; groundwater allocations (in the North Platte and South Platte Natural Resources Districts); excess flow diversions for groundwater recharge via canals; and streamflow augmentation projects. Also included will be impacts due to changes in municipal and industrial water uses.

The guidance document that outlines the general process for the robust review of all water use activities and mitigation measures is available at: <https://dnr.nebraska.gov/sites/dnr.nebraska.gov/files/doc/water-planning/upper-platte/other/basin-wide-technical-committee-guidance20120814.pdf>. This approach will utilize modeling tools that have been redeveloped through the course of the first increment. The robust review will use the updated Western Water Use Management model and COHYST2010 model to assess the combined effects of depletion activities and mitigation measures in a manner consistent with the requirements outlined in the NNDP. The robust review will also help generate new targets for the updated basin-wide plan for the Upper Platte River Basin and the individual Upper Platte natural resources districts' integrated management plans (IMPs) for their second increment (2019-2029).

Work on this robust review began in early 2017. Nebraska is currently working to finalize the integrated datasets and modeling scenarios that incorporate all of the compiled data

on new or expanded uses and mitigation measures since July 1, 1997. Nebraska's work plan anticipates completion of the analyses in early 2019 with final documentation completed prior to December 31, 2019.

Nebraska has completed basin-wide stakeholder meetings and is working to finalize revisions to the Upper Platte Basin-Wide Plan for the second 10-year planning increment. Since the basin-wide planning process began in June 2016, a representative stakeholder group has met thirteen times and discussed background information on modeling and management actions within the basin, progress made in the first 10-year planning increment, and revisions to the current goals and objectives of the plan. The updated basin-wide plan will be finalized and adopted in 2019. Each of the Upper Platte Basin natural resources districts' IMPs will also be updated to conform to the new basin-wide plan. The process of updating the IMPs has begun and will be completed in 2019. The second 10-year planning increment basin-wide plan and IMPs will contain the necessary goals and objectives to ensure that Nebraska continues its compliance with and implementation of the NNDP.