Nebraska's Annual Report
Under Bullet 3 Section IV of the
Platte River Recovery Implementation Program
Nebraska New Depletion Plan
January 1, 2016, to December 31, 2016

VIA ELECTRONIC MAIL ONLY

DATE: **December 31, 2017**

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, 2016, to December 31, 2016**

This report fulfills the annual reporting requirement for Nebraska for the period of January 1, 2016, to December 31, 2016, 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 2016 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 include Central Platte NRD

(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 2016, the NRDs and the Department issued the following permits:

- 52 groundwater transfer permits (Table 1);
- 45 groundwater well permits (Table 2);
- 3 groundwater variance permits (Table 3); and
- 5 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 2016, (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 2016 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 2019 for all activities permitted in 2016. 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.

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 domestic well over 50 gpm that will 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 acres 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: 1) temporary (one-year) permits for the diversion of unappropriated, excess streamflows for groundwater recharge or 2) a permanent permit to store water in an aboveground reservoir. The groundwater recharge permits are using unappropriated water and do not require offset according to Nebraska's surface water rules. The storage permit was to permit a reservoir that was in place prior to the moratorium. The reservoir was constructed in 1948 for erosion control but was not permitted. There will be no new use associated with the reservoir and it will not divert more than the historic amount of 18.1 acre-feet per year.

Figure 1 illustrates the net effect to streamflow upstream of and within the PRRIP CHR and the aggregate net effect to both reaches for all activities permitted in 2016. Nebraska's new permitted activities and associated mitigation efforts within the 28/40 area result in a net increase in streamflow both upstream of and within the PRRIP CHR and a net increase to streamflow overall.

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

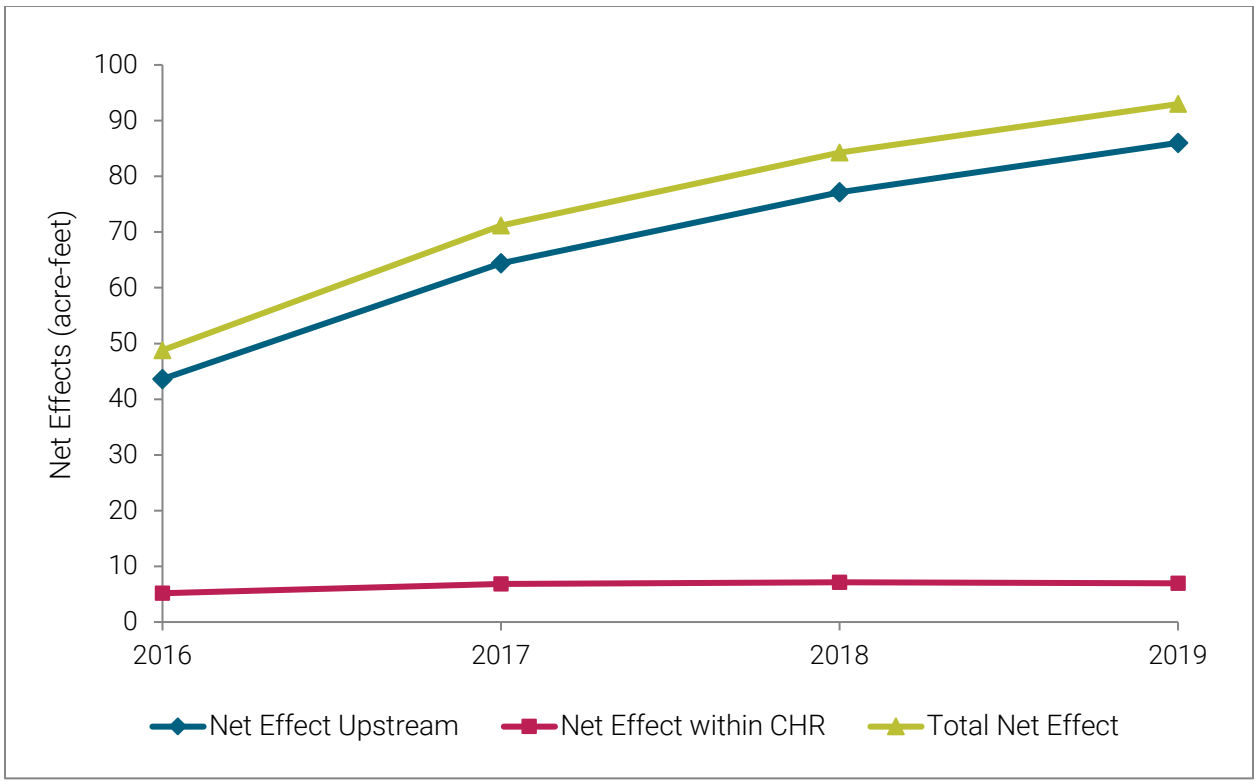

Figure 1: Aggregate net effect to streamflow resulting from all activities permitted in 2016, through the end of the first 10-year planning increment in -2019.

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 2016, and their cumulative depletions and mitigation accretions, no additional mitigation measures for 2016 permitted activities are required at this time.

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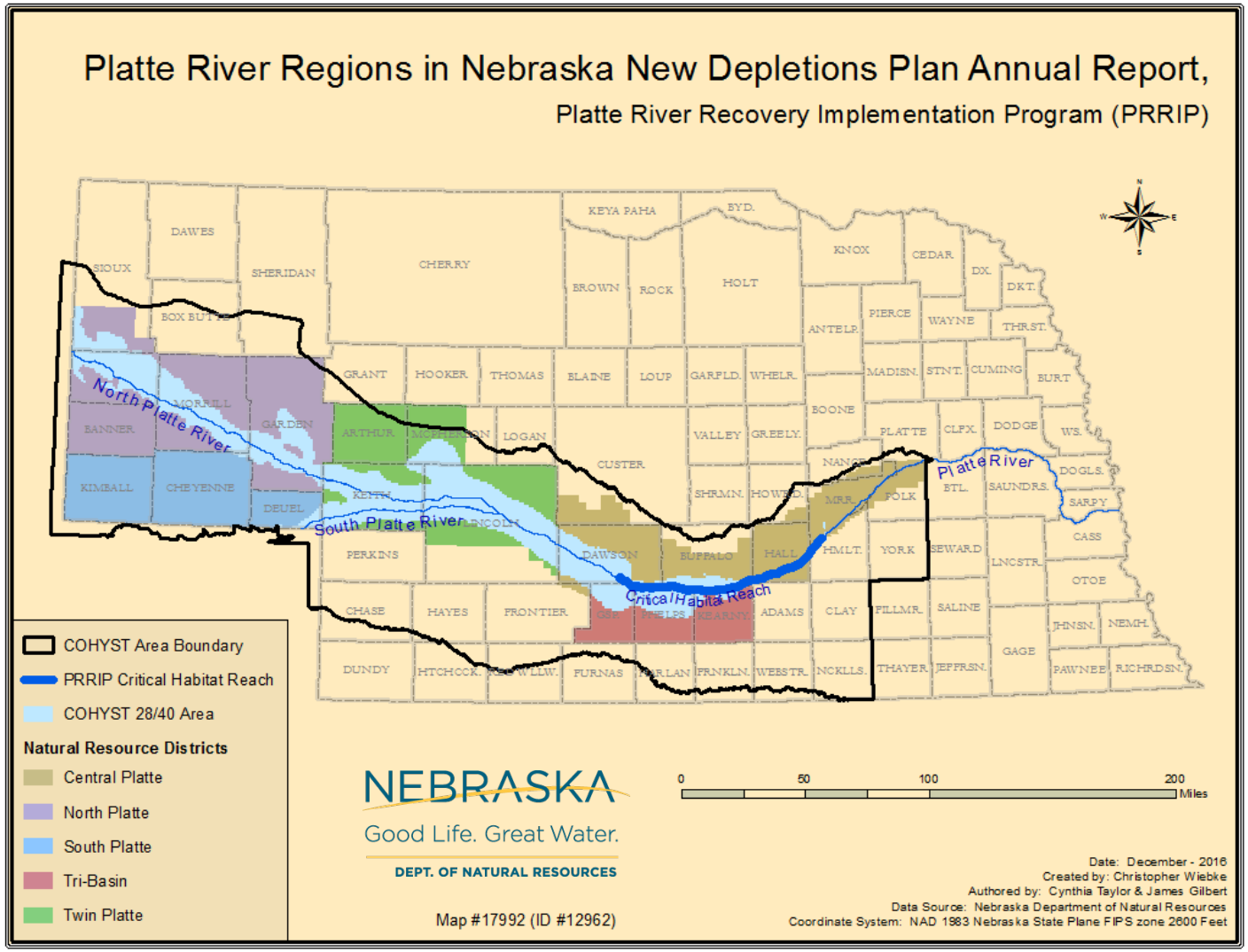
Questions about information provided in this report should be directed to:

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 http://dnr.nebraska.gov/iwm/upper-platte .

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

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	26	26	52

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	2	0	2
Replacement	17	19	36
Transfer/New Well	1	5	6
Domestic	1	0	1
Total	21	24	45

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	2	2
Other*	0	1	1
Total	0	3	3

*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)	4	0	4
Storage	0	1	1
Total	4	1	5

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	New Use	1560*	1/14/2016	11	12	24	W	2016	12.74
CPNRD	Mitigation	1560*	1/14/2016	11	12	24	W	2016	4.23
CPNRD	New Use	1560*	1/14/2016	11	12	24	W	2016	6.36
CPNRD	Mitigation	1560*	1/14/2016	2	12	24	W	2016	3.23
CPNRD	Mitigation	1560	1/14/2016	29	11	24	W	2016	2.57
CPNRD	New Use	1577*	1/28/2016	18	10	11	W	2016	2.37
CPNRD	New Use	1577*	1/28/2016	7	11	11	W	2016	5.51
CPNRD	New Use	1577*	1/28/2016	35	11	12	W	2016	3.36
CPNRD	New Use	1577*	1/28/2016	32	11	11	W	2016	0.79
CPNRD	New Use	1577*	1/28/2016	32	11	11	W	2016	39.52
CPNRD	New Use	1577*	1/28/2016	31	11	11	W	2016	4.19
CPNRD	Mitigation	1577	1/28/2016	2	8	14	W	2016	0.43
CPNRD	Mitigation	1577	1/28/2016	11	8	14	W	2016	0.54
CPNRD	Mitigation	1577	1/28/2016	11	8	14	W	2016	0.03
CPNRD	Mitigation	1587	3/1/2016	4	8	20	W	2016	4.32
CPNRD	New Use	1587	3/1/2016	4	8	20	W	2016	0.66
CPNRD	New Use	1587	3/1/2016	4	8	20	W	2016	3.66
CPNRD	New Use	1591	3/2/2016	23	11	24	W	2016	0.84
CPNRD	Mitigation	1591	3/2/2016	23	11	24	W	2016	0.84
CPNRD	Mitigation	1592	3/2/2016	3	8	19	W	2016	4.63
CPNRD	Mitigation	1592	3/2/2016	3	8	19	W	2016	1.32
CPNRD	New Use	1592	3/2/2016	3	8	19	W	2016	5.94
CPNRD	Mitigation	1595	3/2/2016	34	9	24	W	2016	0.66
CPNRD	New Use	1595	3/2/2016	34	9	24	W	2016	0.39
CPNRD	New Use	1595	3/2/2016	34	9	24	W	2016	2.53
CPNRD	Mitigation	1595	3/2/2016	34	9	24	W	2016	1.49
CPNRD	Mitigation	1595	3/2/2016	34	9	24	W	2016	0.72
CPNRD	Mitigation	1596	3/2/2016	18	11	24	W	2016	0.60
CPNRD	New Use	1596	3/2/2016	18	11	24	W	2016	0.60
CPNRD	Mitigation	1597	3/3/2016	10	8	18	W	2016	1.01

Table 5: Groundwater Transfer Permits, continued

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	New Use	1597*	3/3/2016	23	9	16	W	2016	2.53
CPNRD	New Use	1600*	5/16/2016	20	10	13	W	2016	37.66
CPNRD	New Use	1600*	5/16/2016	20	10	13	W	2016	1.73
CPNRD	Mitigation	1600	5/16/2016	2	8	14	W	2016	0.42
CPNRD	Mitigation	1600	5/16/2016	11	8	14	W	2016	0.26
CPNRD	Mitigation	1600	5/16/2016	11	8	14	W	2016	0.13
CPNRD	Mitigation	1600	5/16/2016	11	8	14	W	2016	0.30
CPNRD	Mitigation	1601	5/16/2016	4	9	22	W	2016	3.02
CPNRD	New Use	1601	5/16/2016	4	9	22	W	2016	6.51
CPNRD	Mitigation	1601	5/16/2016	4	9	22	W	2016	3.50
CPNRD	Mitigation	1603	5/17/2016	32	9	23	W	2016	1.12
CPNRD	Mitigation	1603	5/17/2016	32	9	23	W	2016	1.69
CPNRD	Mitigation	1603	5/17/2016	32	9	23	W	2016	0.95
CPNRD	Mitigation	1603	5/17/2016	32	9	23	W	2016	7.19
CPNRD	New Use	1603	5/17/2016	32	9	23	W	2016	10.86
CPNRD	New Use	1605	5/17/2016	14	8	14	W	2016	0.26
CPNRD	New Use	1605	5/17/2016	14	8	14	W	2016	4.49
CPNRD	Mitigation	1605	5/17/2016	14	8	14	W	2016	0.45
CPNRD	Mitigation	1605	5/17/2016	14	8	14	W	2016	3.74
CPNRD	New Use	1605	5/17/2016	15	8	14	W	2016	0.32
CPNRD	New Use	1605	5/17/2016	15	8	14	W	2016	1.80
CPNRD	New Use	1605	5/17/2016	15	8	14	W	2016	0.06
CPNRD	Mitigation	1605	5/17/2016	15	8	14	W	2016	1.19
CPNRD	Mitigation	1605	5/17/2016	15	8	14	W	2016	1.19
CPNRD	Mitigation	1605	5/17/2016	15	8	14	W	2016	0.31
CPNRD	Mitigation	1606	5/18/2016	11	8	14	W	2016	2.05
CPNRD	New Use	1606	5/18/2016	11	8	14	W	2016	2.72
CPNRD	Mitigation	1606	5/18/2016	10	8	14	W	2016	0.70
CPNRD	New Use	1614	5/19/2016	12	8	17	W	2016	3.21
CPNRD	Mitigation	1614	5/19/2016	12	8	17	W	2016	3.21
CPNRD	New Use	1619	5/24/2016	31	11	23	W	2016	1.51
CPNRD	Mitigation	1619	5/24/2016	31	11	23	W	2016	1.52

Table 5: Groundwater Transfer Permits, continued

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	Mitigation	1623	5/25/2016	20	10	24	W	2016	3.11
CPNRD	New Use	1623	5/25/2016	20	10	24	W	2016	3.13
CPNRD	Mitigation	1626	6/2/2016	10	10	23	W	2016	1.14
CPNRD	New Use	1626	6/2/2016	10	10	23	W	2016	1.14
CPNRD	Mitigation	1627	6/2/2016	3	8	24	W	2016	1.34
CPNRD	New Use	1627	6/2/2016	3	8	24	W	2016	2.03
CPNRD	Mitigation	1627	6/2/2016	3	8	24	W	2016	1.88
CPNRD	Mitigation	1627	6/2/2016	3	8	24	W	2016	0.81
CPNRD	Mitigation	1627	6/2/2016	3	8	24	W	2016	1.19
CPNRD	New Use	1627	6/2/2016	3	8	24	W	2016	7.00
CPNRD	Mitigation	1627	6/2/2016	3	8	24	W	2016	1.10
CPNRD	Mitigation	1627	6/2/2016	3	8	24	W	2016	2.71
CPNRD	Mitigation	1632	7/11/2016	7	11	24	W	2016	1.18
CPNRD	Mitigation	1632	7/11/2016	7	11	24	W	2016	2.96
CPNRD	Mitigation	1632	7/11/2016	7	11	24	W	2016	1.75
CPNRD	Mitigation	1632	7/11/2016	7	11	24	W	2016	1.56
CPNRD	Mitigation	1632	7/11/2016	7	11	24	W	2016	3.38
CPNRD	Mitigation	1632	7/11/2016	18	11	24	W	2016	1.17
CPNRD	Mitigation	1632	7/11/2016	18	11	24	W	2016	1.15
CPNRD	New Use	1632	7/11/2016	18	11	24	W	2016	14.40
CPNRD	Mitigation	1632	7/11/2016	18	11	24	W	2016	1.15
CPNRD	Mitigation	1632	7/11/2016	18	11	24	W	2016	1.61
CPNRD	New Use	1645	7/20/2016	35	12	25	W	2016	1.16
CPNRD	Mitigation	1645	7/20/2016	35	12	25	W	2016	1.16
CPNRD	Mitigation	1647	7/21/2016	1	9	21	W	2016	1.24
CPNRD	Mitigation	1647	7/21/2016	1	9	21	W	2016	0.41
CPNRD	Mitigation	1647	7/21/2016	2	9	21	W	2016	3.53
CPNRD	Mitigation	1647	7/21/2016	2	9	21	W	2016	0.97
CPNRD	New Use	1647	7/21/2016	2	9	21	W	2016	2.41
CPNRD	New Use	1647	7/21/2016	2	9	21	W	2016	1.48
CPNRD	New Use	1647	7/21/2016	2	9	21	W	2016	2.22
CPNRD	New Use	1651	7/21/2016	19	9	13	W	2016	1.55

Table 5: Groundwater Transfer Permits, continued

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	Mitigation	1651	7/21/2016	7	8	14	W	2016	0.63
CPNRD	Mitigation	1652	7/21/2016	4	8	15	W	2016	2.96
CPNRD	New Use	1652	7/21/2016	4	8	15	W	2016	2.96
CPNRD	Mitigation	1653	7/21/2016	4	8	15	W	2016	0.16
CPNRD	Mitigation	1653	7/21/2016	4	8	15	W	2016	1.19
CPNRD	New Use	1653	7/21/2016	2	8	15	W	2016	1.45
CPNRD	New Use	1668	7/29/2016	8	9	25	W	2016	43.32
CPNRD	New Use	1678	9/19/2016	32	11	23	W	2016	8.31
CPNRD	New Use	1678	9/19/2016	32	11	23	W	2016	3.87
CPNRD	Mitigation	1678	9/19/2016	32	11	23	W	2016	2.21
CPNRD	Mitigation	1678	9/19/2016	32	11	23	W	2016	9.97
CPNRD	Mitigation	1679	9/19/2016	32	11	23	W	2016	3.64
CPNRD	Mitigation	1679	9/19/2016	32	11	23	W	2016	1.95
CPNRD	Mitigation	1679	9/19/2016	32	11	23	W	2016	5.87
CPNRD	New Use	1679	9/19/2016	32	11	23	W	2016	7.94
CPNRD	New Use	1679	9/19/2016	32	11	23	W	2016	7.79
CPNRD	Mitigation	1679	9/19/2016	32	11	23	W	2016	0.86
CPNRD	Mitigation	1679	9/19/2016	32	11	23	W	2016	3.41
TBNRD	Mitigation	TBAT-0287	2/9/2016	2	7	16	W	2016	10.50
TBNRD	New Use	TBAT-0287*	2/9/2016	16	7	15	W	2016	10.50
TBNRD	Mitigation	TBAT-0290	4/5/2016	14	8	19	W	2016	7.00
TBNRD	New Use	TBAT-0290*	4/5/2016	21	6	19	W	2016	7.00
TBNRD	Mitigation	TBAT-0291	4/5/2016	14	8	19	W	2016	7.00
TBNRD	New Use	TBAT-0291*	4/5/2016	27	7	20	W	2016	7.00
TBNRD	Mitigation	TBAT-0292	4/5/2016	14	8	19	W	2016	3.00
TBNRD	New Use	TBAT-0292	4/5/2016	13	7	20	W	2016	3.00
TBNRD	New Use	TBAT-0293	5/17/2016	20	7	17	W	2016	29.64
TBNRD	Mitigation	TBAT-0293	5/17/2016	28	7	17	W	2016	29.64
TBNRD	New Use	TBAT-0294	5/17/2016	20	7	17	W	2016	7.41
TBNRD	Mitigation	TBAT-0294	5/17/2016	4	6	17	W	2016	10.00
TBNRD	Mitigation	TBAT-0295	5/17/2016	23	8	14	W	2016	15.00
TBNRD	New Use	TBAT-0295	5/17/2016	26	7	17	W	2016	15.00

Table 5: Groundwater Transfer Permits, continued

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
TBNRD	Mitigation	TBAT-0296	5/17/2016	23	8	14	W	2016	15.00
TBNRD	New Use	TBAT-0296*	5/17/2016	27	7	15	W	2016	15.00
TBNRD	Mitigation	TBAT-0297	5/17/2016	24	8	19	W	2016	6.28
TBNRD	New Use	TBAT-0297	5/17/2016	27	7	19	W	2016	6.28
TBNRD	Mitigation	TBAT-0298	6/21/2016	23	8	14	W	2016	14.00
TBNRD	New Use	TBAT-0298*	6/21/2016	13	7	15	W	2016	14.00
TBNRD	Mitigation	TBAT-0299	6/21/2016	23	8	14	W	2016	4.00
TBNRD	New Use	TBAT-0299*	6/21/2016	25	7	16	W	2016	4.00
TBNRD	New Use	TBAT-0304	10/26/2016	21	8	20	W	2016	5.00
TBNRD	Mitigation	TBAT-0304	10/26/2016	22	8	20	W	2016	5.00
TBNRD	Mitigation	TBAT-0306	12/13/2016	8	7	17	W	2016	9.00
TBNRD	New Use	TBAT-0306	12/13/2016	20	8	17	W	2016	9.00
TBNRD	New Use	TBAT-0307	12/13/2016	20	8	17	W	2016	12.00
TBNRD	Mitigation	TBAT-0307	12/13/2016	17	7	17	W	2016	12.00
TPNRD	Mitigation	TP-TRANS-16.10	3/10/2016	6	12	41	W	2016	43.50
TPNRD	Mitigation	TP-TRANS-16.10	3/10/2016	29	13	40	W	2016	18.84
TPNRD	Mitigation	TP-TRANS-16.10	3/10/2016	29	13	40	W	2016	22.96
TPNRD	New Use	TP-WATERBANK-16.10	3/10/2016	6	12	41	W	2016	43.50
TPNRD	New Use	TP-WATERBANK-16.10	3/10/2016	29	13	40	W	2016	22.96
TPNRD	New Use	TP-WATERBANK-16.10	3/10/2016	29	13	40	W	2016	18.84
TPNRD	Mitigation	TP-TRANS-16.07	3/21/2016	8	13	35	W	2016	2.20
TPNRD	Mitigation	TP-TRANS-16.07	3/21/2016	9	13	35	W	2016	11.80
TPNRD	New Use	TP-TRANS-16.07	3/21/2016	15	13	35	W	2016	132.20
TPNRD	Mitigation	TP-TRANS-16.07	3/21/2016	12	13	36	W	2016	69.79
TPNRD	Mitigation	TP-TRANS-16.07	3/21/2016	6	12	41	W	2016	45.60
TPNRD	New Use	TP-TRANS-16.09	4/25/2016	24	13	35	W	2016	70.06
TPNRD	Mitigation	TP-TRANS-16.09	4/25/2016	6	12	41	W	2016	70.06
TPNRD	Mitigation	TP-TRANS-16.11	4/27/2016	18	13	40	W	2016	105.40
TPNRD	New Use	TP-WATERBANK-16.11	4/27/2016	18	13	40	W	2016	105.40
TPNRD	Mitigation	TP-TRANS-16.12	12/21/2016	2	12	41	W	2016	32.05
TPNRD	Mitigation	TP-TRANS-16.12	12/21/2016	2	12	41	W	2016	39.38
TPNRD	New Use	TP-TRANS-16.12	12/21/2016	6	12	41	W	2016	36.50

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-16.12	12/21/2016	6	12	41	W	2016	96.78
TPNRD	Mitigation	TP-TRANS-16.12	12/21/2016	33	13	41	W	2016	21.28
TPNRD	Mitigation	TP-TRANS-16.12	12/21/2016	9	12	41	W	2016	13.85
TPNRD	Mitigation	TP-TRANS-16.12	12/21/2016	35	13	41	W	2016	24.50
TPNRD	Mitigation	TP-TRANS-16.12	12/21/2016	35	13	41	W	2016	8.50
TPNRD	Mitigation	TP-TRANS-16.15	12/12/2016	14	14	35	W	2016	112.00
TPNRD	New Use	TP-TRANS-16.15	12/12/2016	28	14	35	W	2016	92.40
TPNRD	Mitigation	TP-TRANS-16.16	5/12/2016	35	14	33	W	2016	1.07
TPNRD	New Use	TP-TRANS-16.16	5/12/2016	35	14	33	W	2016	1.76
TPNRD	Mitigation	TP-TRANS-16.16	5/12/2016	1	13	33	W	2016	5.01
TPNRD	New Use	TP-TRANS-16.16	5/12/2016	2	13	33	W	2016	0.58
TPNRD	New Use	TP-TRANS-16.16	5/12/2016	2	13	33	W	2016	5.86
TPNRD	Mitigation	TP-TRANS-16.16	5/12/2016	2	13	33	W	2016	2.12
TPNRD	Mitigation	TP-TRANS-16.21	7/6/2016	20	12	27	W	2016	9.84
TPNRD	Mitigation	TP-TRANS-16.21	7/6/2016	14	12	28	W	2016	5.75
TPNRD	New Use	TP-TRANS-16.21	7/6/2016	27	13	28	W	2016	5.75
TPNRD	New Use	TP-TRANS-16.21	7/6/2016	27	13	28	W	2016	8.44
TPNRD	New Use	TP-TRANS-16.21	7/6/2016	27	13	28	W	2016	6.80
TPNRD	Mitigation	TP-TRANS-16.21	7/6/2016	27	13	28	W	2016	8.75
TPNRD	Mitigation	TP-TRANS-16.21	7/6/2016	23	12	28	W	2016	6.80
TPNRD	Mitigation	TP-TRANS-16.21	7/6/2016	28	12	27	W	2016	22.11
TPNRD	New Use	TP-TRANS-16.21	7/6/2016	28	12	27	W	2016	22.45
TPNRD	New Use	TP-TRANS-16.21	7/6/2016	28	12	27	W	2016	9.80
TPNRD	Mitigation	TP-TRANS-16.18	7/15/2016	3	13	37	W	2016	27.58
TPNRD	Mitigation	TP-TRANS-16.18	7/15/2016	4	13	37	W	2016	72.42
TPNRD	New Use	TP-TRANS-16.18	7/15/2016	25	14	37	W	2016	100.00
TPNRD	New Use	TP-TRANS-16.22	9/16/2016	13	13	31	W	2016	12.50
TPNRD	Mitigation	TP-TRANS-16.22	9/16/2016	13	13	31	W	2016	12.50
TPNRD	New Use	TP-MODIFY-16.25***	10/6/2016	23	14	32	W	2016	43.50
TPNRD	Mitigation	TP-TRANS-16.24	10/13/2016	23	14	38	W	2016	66.89
TPNRD	New Use	TP-TRANS-16.24	10/13/2016	19	13	32	W	2016	5.00
TPNRD	New Use	TP-WATERBANK-16.24	10/13/2016	23	14	38	W	2016	61.89

*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 2016 calendar year. The Year Implemented field reflects when the permit takes effect.
***This permit was to certify existing irrigated acres and does not constitute an increase in consumptive use. It is not included in the analysis for Table 9.

Table 6: Groundwater Well Permits

NRD	Permit Type	NRD Permit	DNR Well Registration	Permit Date	Year Implemented*	S	T	R	E/W	Notes
CPNRD	Replacement Well	CPRP24-16-018	G-012436	8/1/2016	2016	24	10	22	W	
CPNRD	Replacement Well	CPRP24-16-007	G-001925	3/22/2016	2016	16	10	21	W	
CPNRD	Domestic Well	CPDO24-16-001	G-181815	2/17/2016	2016	10	11	25	W	
CPNRD	Replacement Well	CPRP24-16-006	G-005950	3/21/2016	2016	36	10	21	W	
CPNRD	Replacement Well	CPPR24-16-008	G-002186	4/6/2016	2016	2	9	23	W	
CPNRD	New Permit	CPNP24-16-023	G-181893	9/9/2016	2017	22	11	25	W	No new use
CPNRD	Replacement Well	CPRP24-16-002	G-019107	2/22/2016	2016	22	9	22	W	
CPNRD	Replacement Well	CPRP24-16-020	G-013263	8/8/2016	2016	25	9	24	W	
CPNRD	Replacement Well	CPRP24-16-016	G-000510	7/18/2016	2016	29	11	22	W	
CPNRD	Replacement Well	CPRP24-16-019	G-005941	8/2/2016	2016	3	9	22	W	
CPNRD	New Permit	CPNP24-16-022	G-180962	9/8/2016	2017	9	9	21	W	No new use
CPNRD	Replacement Well	CPRP10-16-025	G-045311	9/26/2016	2016	2	8	17	W	
CPNRD	Replacement Well	CPRP10-16-027	G-010358	11/2/2016	2017	36	9	15	W	
CPNRD	Replacement Well	CPRP10-16-012	G-011585	3/18/2016	2016	11	8	14	W	
CPNRD	New Permit	CPNP10-16-005	G-179500	2/26/2016	2016	10	8	16	W	No new use
CPNRD	Replacement Well	CPRP10-16-001	G-017916	1/26/2016	2016	10	8	16	W	
CPNRD	New Permit	CPNP10-16-024	G-180685	9/6/2016	2016	10	8	16	W	
CPNRD	New Permit	CPNP10-16-004	G-179501	2/26/2016	2016	10	8	16	W	No new use
CPNRD	Replacement Well	CPRP10-16-021	G-010600	7/25/2016	2016	10	8	17	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
CPNRD	Replacement Well	CPRP10-16-030	G=013002	12/9/2016	2017	22	9	15	W	
CPNRD	Replacement Well	CPRP24-16-011	G-005284	4/25/2016	2016	13	9	21	W	
CPNRD	Replacement Well	CPRP10-16-018	G-039436	5/24/2016	2016	17	8	15	W	
CPNRD	New Permit	CPNP10-16-029	G-182038	11/28/2016	2017	19	9	15	W	No new use - city park
CPNRD	Replacement Well	CPRP10-16-003	G-013010	2/26/2016	2016	21	9	15	W	
CPNRD	Replacement Well	CPRP24-16-024	G-020138	11/7/2016	2017	6	8	19	W	
CPNRD	Replacement Well	CPRP24-16-004	G-005721	3/16/2016	2016	32	11	22	W	
CPNRD	Replacement Well	CPRP24-16-003	G-016165	3/3/2016	2016	10	10	23	W	
CPNRD	Replacement Well	CPRP24-16-028	G-018083	12/8/2016	2017	11	10	23	W	
CPNRD	Replacement Well	CPRP24-16-005	G-004878	3/17/2016	2016	12	10	23	W	
NPNRD	Replacement Well	NPRP 16002	G-062482	4/26/2016	2016	15	22	55	W	
NPNRD	Supplemental Groundwater	NPSG 16001	No record with DNR	4/5/2016	2016	28	17	44	W	
NPNRD	Supplemental Groundwater	NPSG 16004	G-180558	8/12/2016	2016	14	16	43	W	Ground water source was severed from acres
TBNRD	Replacement Well	TBRP-G019600-R2	G-019600	11/1/2016	2017	26	7	19	W	
TBNRD	Replacement Well	TBRP-G074261-R1	G-074261	1/21/2016	2016	27	7	19	W	
TBNRD	Replacement Well	TBRP-G035025-R1	G-035025	1/7/2016	2016	10	6	17	W	
TBNRD	Replacement Well	TBRP-G059825-R1	G-059825	9/29/2016	2017	5	7	17	W	
TBNRD	Replacement Well	TBRP-G044798-R1	G-044798	2/25/2016	2016	27	8	16	W	
TBNRD	Replacement Well	TBRP-G014042-R2	G-014042	4/22/2016	2016	21	8	16	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-G009838-R1	G-009838	6/17/2016	2016	29	8	15	W	
TPNRD	Replacement Well	TP-RP-16.05	G-108176	6/15/2016	2016	6	14	37	W	
TPNRD	Replacement Well	TP-RP-16.06	G-071918	6/19/2016	2016	10	13	37	W	
TPNRD	Replacement Well	TP-RP-16.02	G-003219	3/11/2016	2016	7	13	37	W	
TPNRD	Replacement Well	TP-RP-16.04	G-024188	5/19/2016	2016	16	13	30	W	
TPNRD	Replacement Well	TP-RP-16.07	A-007545	7/27/2016	2016	19	13	35	W	
TPNRD	Replacement Well	TP-RP-16.03	G-005369	3/16/2016	2016	28	12	27	W	

*All permits in the table were issued in the 2016 calendar year. The Year Implemented field reflects the year in which the well was drilled.

Table 7: Variance Permits

NRD	NRD Permit	NeDNR Well Registration	Permit Date	S	T	R	E/W	Type of Variance	Notes	Year Implemented*	Associated Well Permits	Associated Transfers
TBNRD	TbcorrectionPB_2016-1	G-023152	1/12/2016	27	8	21	W	Certified Acre Correction	Proof provided of 2004 or prior irrigation history	2016	N/A	
TBNRD	TbwvariancePB_2016-1	G-086786	5/17/2016	24	8	19	W	Variance to well abandonment requirement	Well capped and can later be changed to domestic purpose	2016	N/A	TBAT-0297
TBNRD	TbcorrectionPB_2016-2	G-006956	12/13/2016	2	7	20	W	Certified Acre Correction	Proof provided of 2004 or prior irrigation history	2016	N/A	N/A

*All permits in the table were issued in the 2016 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-19458	8/19/2016	18-10-23W	Dawson County	Temporary Groundwater Recharge	100	N/A	Variance granted pursuant to 457 *Neb. Admin. Code* Ch. 23 § 001.03	VAR-5745
A-19459	8/19/2016	19-12-26W	Gothenburg	Temporary Groundwater Recharge	100	N/A	Variance granted pursuant to 457 *Neb. Admin. Code* Ch. 23 § 001.03	VAR-5744
A-19460	8/25/2016	8-13-29W	Tri-County and E65	Temporary Groundwater Recharge	350	N/A	Variance granted pursuant to 457 *Neb. Admin. Code* Ch. 23 § 001.03	VAR-5710
A-19468	11/10/2016	16-11-19W	N/A	Storage	N/A	18.1	Variance granted pursuant to 457 *Neb. Admin. Code* Ch. 23 § 001.04. Use existed prior to moratorium.	VAR-5025
A-19479	11/18/2016	8-13-29W	Tri-County and Phelps	Temporary Groundwater Recharge	600	N/A	Variance granted pursuant to 457 *Neb. Admin. Code* Ch. 23 § 001.03	VAR-5971

Table 9: Effects to streamflow from 2016 to 2019 in the Platte River resulting from all groundwater and surface water permitting activities in 2016. 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.

	Upstream of Critical Habitat Reach			Within Critical Habitat Reach			Aggregate Net Effect from Both Reaches
Year	Effect of New Uses	Effect of Mitigations	Net Effect	Effect of New Uses	Effect of Mitigations	Net Effect	Net Effect
2016	-47.15	90.77	**43.62**	-11.94	17.11	**5.17**	**48.79**
2017	-80.60	144.98	**64.38**	-18.91	25.72	**6.81**	**71.19**
2018	-103.63	180.76	**77.13**	-23.93	31.07	**7.13**	**84.26**
2019	-120.68	206.69	**86.02**	-27.86	34.82	**6.96**	**92.98**

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.