

Nebraska's Annual Report
Under Bullet 3 Section IV of the
Platte River Recovery Implementation Program
Nebraska New Depletion Plan
January 1, 2019, to December 31, 2019

VIA ELECTRONIC MAIL ONLY

DATE: December 31, 2020

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

FROM: Tom Riley, 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, 2019, to December 31, 2019

This report fulfills the annual reporting requirement for Nebraska for the period of January 1, 2019, to December 31, 2019, 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 2019 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 (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.

Nebraska's Annual Report
Under Bullet 3 Section IV of the
Platte River Recovery Implementation Program
Nebraska New Depletion Plan
January 1, 2019, to December 31, 2019

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

In 2019, the NRDs and the Department issued the following permits:

- 17 groundwater transfer permits ([Table 1](#));
- 33 groundwater well permits ([Table 2](#));
- 4 groundwater variance permits ([Table 3](#)); and
- 20 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 2019, ([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 2019 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 2032 for all activities permitted in 2019. 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](#) and the temporary manufacturing surface water permits in [Table 8](#) 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.

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

Nebraska's Annual Report
Under Bullet 3 Section IV of the
Platte River Recovery Implementation Program
Nebraska New Depletion Plan
January 1, 2019, to December 31, 2019

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 no new use; 3) supplemental wells to supplement existing groundwater irrigation with no associated increase in irrigated acres; 4) municipal or industrial wells that should be evaluated as part of the five-year review of all Nebraska activities; or 5) dewatering wells for the purpose of lowering water tables.

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 for a transfer across an NRD subarea boundary.

The surface water permits issued, listed in [Table 8](#), were temporary (one-year) permits for the diversion of unappropriated, excess streamflows for groundwater recharge or for road construction. The groundwater recharge permits are using unappropriated water and do not require offset as they are non-consumptive and occur at a time when target flows are met. The manufacturing permits are road construction permits and an oil exploration permit. They are temporary uses of less than ten acre-feet for public construction and were counted as a direct depletion to streamflow in that year. While these permits do not require an offset under Nebraska State Law, current calculations of both the annual permitting activities and the results of the 2019 Robust Review show that the net effect to the CHR remains positive.

[Figure 1](#) illustrates the net effect to streamflow upstream of the CHR and the net effect within the PRRIP CHR is positive. The aggregate net effect to both reaches for all activities permitted in 2019 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 net increase within the CHR, and a net increase to streamflow overall.

Nebraska's Annual Report
 Under Bullet 3 Section IV of the
 Platte River Recovery Implementation Program
 Nebraska New Depletion Plan
 January 1, 2019, to December 31, 2019

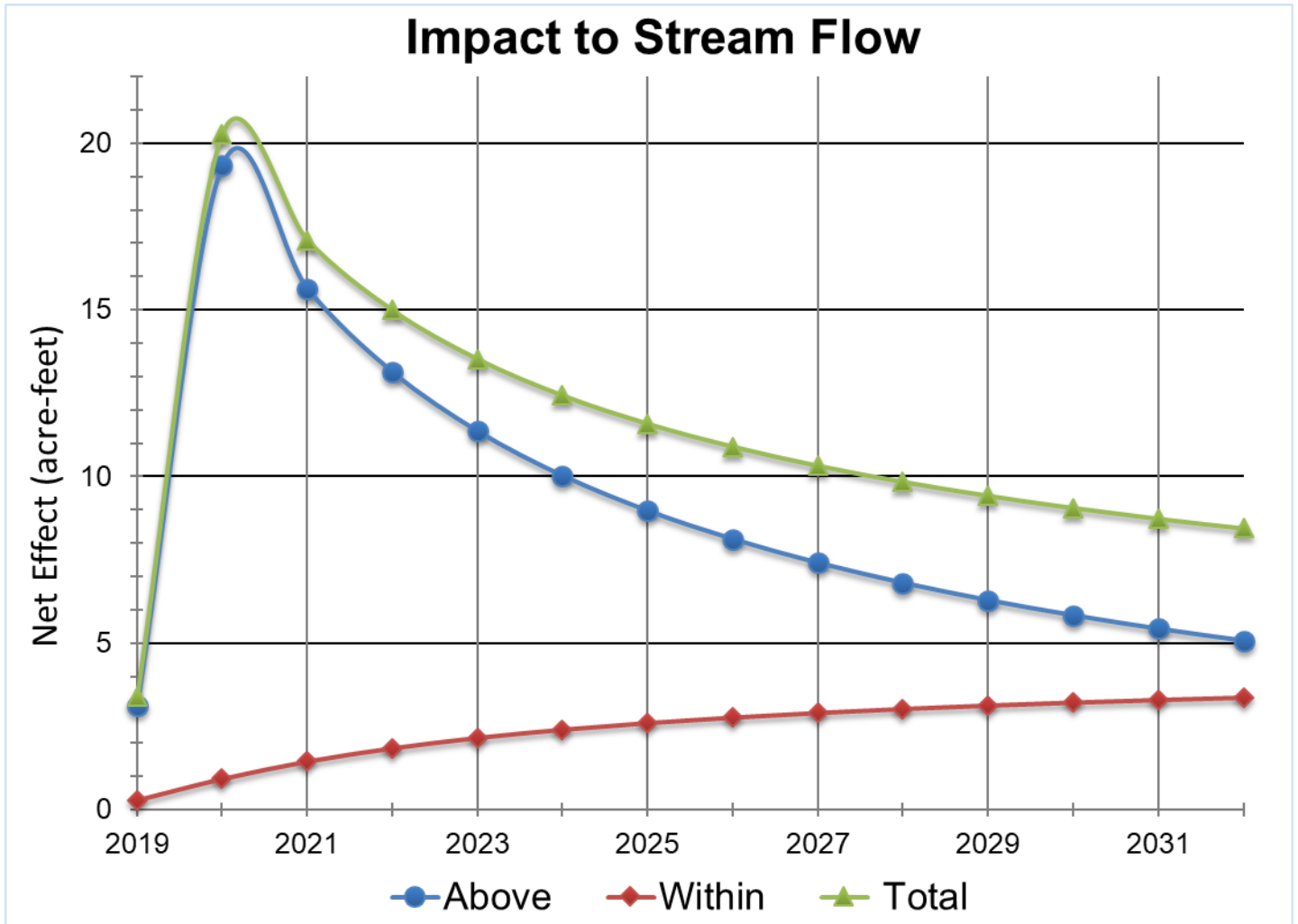


Figure 1: Aggregate net effect to streamflow resulting from all activities permitted in 2019, through the end of the second 10-year planning increment in 2032.

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 2019 and their cumulative depletions and mitigation accretions, no additional mitigation measures for 2019 permitted activities are required at this time.

Nebraska's Annual Report
Under Bullet 3 Section IV of the
Platte River Recovery Implementation Program
Nebraska New Depletion Plan
January 1, 2019, to December 31, 2019

Update on Other NNDP Related Activities and Nebraska's Robust Review

To meet the requirements of the Upper Platte Basin-Wide Plan and the NRD integrated management plans (IMPs), the Department and the Upper Platte NRDs conducted a Robust Review, which was completed in 2019. This Review analyzed the impacts of new or expanded permitted activities since July 1, 1997, along with the impacts of mitigation or offset measures conducted through 2013, and non-permitted activities such as changes in livestock populations, municipal and industrial uses, and human populations. The Robust Review resulted in updated estimates of new net depletions due to new or expanded uses of water subsequent to July 1, 1997. The quantification of these depletions is also a requirement of the NNDP. The analysis shows that Nebraska is meeting their goals in terms of offsetting post-1997 depletions within the basin. More details on the analysis can be found at <http://upjointplanning.nebraska.gov/>. More information regarding the Robust Review and compliance with NNDP requirements can be found in the 2019 Update memo submitted to the GC.

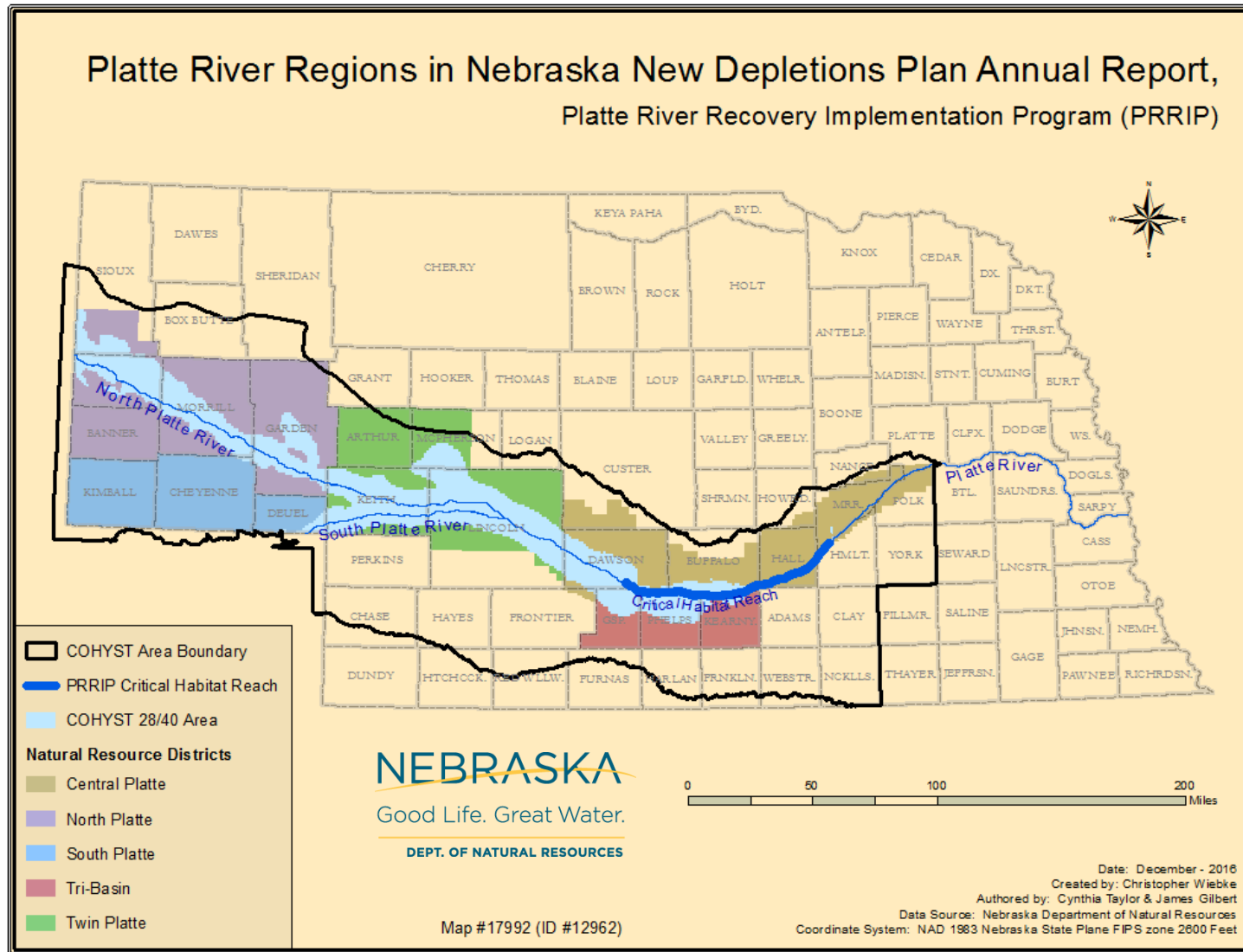
Future Robust Reviews are planned for 2023 and 2027. Nebraska will no longer be providing the additional annual update report but will inform the GC of the future Robust Review activities and the results as they are available.

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 J. 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

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	8	9	17

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

Use	Upstream	Within	Below	Total
Aquaculture	1	--	--	1
Dewatering	1	6	--	7
Industrial/Commercial	3	--	--	3
Municipal	--	1	--	1
New Well	1	--	--	1
Replacement	4	10	1	15
Supplemental GW	1	4	--	5
Total	11	21	1	33

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	1	2	3
Transfer Across Subarea Boundary	1	--	1
Total	2	2	4

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

Use	Upstream	Within	Total
Manufacturing	3	--	3
Recharge	17	--	17
Total	20	--	20

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	New Use	2022	3/20/2019	7	10	22	W	2019	1.45
CPNRD	Mitigation	2022	3/20/2019	7	10	22	W	2019	1.45
CPNRD	Mitigation	2004	2/12/2019	27	9	18	W	2019	4
CPNRD	Mitigation	2004	2/12/2019	28	9	18	W	2019	4.83
CPNRD	New Use	2004	2/12/2019	27	9	18	W	2019	8.09
CPNRD	New Use	2004	2/12/2019	27	9	18	W	2019	0.8
CPNRD	New Use	2009	2/25/2019	34	9	17	W	2019	3.1
CPNRD	Mitigation	2009	2/25/2019	34	9	17	W	2019	0.64
CPNRD	Mitigation	2009	2/25/2019	34	9	17	W	2019	2.45
CPNRD	New Use	2010*	2/25/2019	22	9	9	W	2019	4.43
CPNRD	New Use	2010*	2/25/2019	22	9	9	W	2019	3.47
CPNRD	Mitigation	2010*	2/25/2019	22	9	9	W	2019	1.01
CPNRD	Mitigation	2010*	2/25/2019	22	9	9	W	2019	1.1
CPNRD	Mitigation	2010	2/25/2019	27	9	15	W	2019	2.25
CPNRD	Mitigation	2010	2/25/2019	5	8	15	W	2019	0.19
CPNRD	New Use	2012	2/26/2019	6	10	21	W	2019	2.09
CPNRD	New Use	2012	2/26/2019	6	10	21	W	2019	0.28
CPNRD	Mitigation	2012	2/26/2019	6	10	21	W	2019	0.2
CPNRD	Mitigation	2012	2/26/2019	6	10	21	W	2019	0.87
CPNRD	Mitigation	2012	2/26/2019	6	10	21	W	2019	0.36
CPNRD	Mitigation	2012	2/26/2019	6	10	21	W	2019	0.95
CPNRD	New Use	2013	2/26/2019	11	10	22	W	2019	3.39
CPNRD	Mitigation	2013	2/26/2019	10	10	22	W	2019	1.05
CPNRD	Mitigation	2013	2/26/2019	11	10	22	W	2019	0.77
CPNRD	Mitigation	2013	2/26/2019	11	10	22	W	2019	0.75
CPNRD	Mitigation	2013	2/26/2019	2	10	22	W	2019	0.89
CPNRD	New Use	2029*	3/28/2019	5	9	11	W	2019	5.19

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	New Use	2029*	3/28/2019	5	9	11	W	2019	3.19
CPNRD	Mitigation	2029	3/28/2019	9	9	11	W	2019	5.81
CPNRD	Mitigation	2029	3/28/2019	9	9	11	W	2019	0.81
CPNRD	New Use	2034	3/28/2019	2	8	17	W	2019	27.54
CPNRD	Mitigation	2034*	3/28/2019	23	9	20	W	2019	21.58
CPNRD	Mitigation	2034	3/28/2019	35	9	17	W	2019	1.1
CPNRD	Mitigation	2034	3/28/2019	2	8	17	W	2019	2.15
CPNRD	Mitigation	2034	3/28/2019	2	8	17	W	2019	4.01
CPNRD	New Use	2053	5/17/2019	14	10	22	W	2019	6.03
CPNRD	Mitigation	2053	5/17/2019	3	9	23	W	2019	4.11
CPNRD	New Use	2060*	6/18/2019	14	9	15	W	2019	4.45
CPNRD	New Use	2060*	6/18/2019	14	9	15	W	2019	1.11
CPNRD	New Use	2060	6/18/2019	23	9	15	W	2019	0.28
CPNRD	Mitigation	2060*	6/18/2019	14	9	15	W	2019	5.17
CPNRD	Mitigation	2060*	6/18/2019	14	9	15	W	2019	0.67
TBNRD	Mitigation	TBAT-0343	1/8/2019	28	8	19	W	2019	3.95
TBNRD	New Use	TBAT-0343	1/8/2019	28	8	19	W	2019	3.95
TBNRD	New Use	TBAT-0349	6/18/2019	25	8	15	W	2019	7.75
TBNRD	Mitigation	TBAT-0349	6/18/2019	2	7	15	W	2019	10.5
TPNRD	Mitigation	TP-TRANS-19.01	1/31/2019	15	12	28	W	2019	12.85
TPNRD	Mitigation	TP-TRANS-19.01	1/31/2019	15	12	28	W	2019	1.72
TPNRD	Mitigation	TP-TRANS-19.01	1/31/2019	14	12	28	W	2019	7.93
TPNRD	Mitigation	TP-TRANS-19.02	4/18/2019	14	11	26	W	2019	7.87
TPNRD	Mitigation	TP-TRANS-19.02	4/18/2019	14	11	26	W	2019	9.33
TPNRD	New Use	TP-TRANS-19.02	4/18/2019	14	11	26	W	2019	16.1
TPNRD	New Use	TP-TRANS-19.02	4/18/2019	14	11	26	W	2019	1.1
TPNRD	New Use	TP-TRANS-19.03	1/31/2019	28	12	27	W	2019	12.85

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
TPNRD	Mitigation	TP-TRANS-19.03	6/13/2019	19	13	39	W	2019	1.8
TPNRD	Mitigation	TP-TRANS-19.03	6/13/2019	19	13	39	W	2019	1.28
TPNRD	Mitigation	TP-TRANS-19.03	6/13/2019	19	13	39	W	2019	2.4
TPNRD	Mitigation	TP-TRANS-19.03	6/13/2019	19	13	39	W	2019	0.7
TPNRD	Mitigation	TP-TRANS-19.03	6/13/2019	31	13	39	W	2019	8.5
TPNRD	New Use	TP-TRANS-19.03	6/13/2019	24	13	36	W	2019	6
TPNRD	Mitigation	TP-TRANS-19.03	6/13/2019	18	13	39	W	2019	22.17
TPNRD	New Use	TP-TRANS-19.03	6/13/2019	24	13	36	W	2019	28.35
TPNRD	New Use	TP-TRANS-19.04	10/18/2019	12	13	38	W	2020	134.3
TPNRD	Mitigation	TP-TRANS-19.06	12/12/2019	23	15	38	W	2019	45.3
TPNRD	Mitigation	TP-TRANS-19.06	12/12/2019	8	14	37	W	2019	33.92
TPNRD	New Use	TP-TRANS-19.06	12/12/2019	7	14	36	W	2020	31.5
TPNRD	New Use	TP-TRANS-19.06	12/12/2019	7	14	36	W	2020	23.5

*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 2019 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
CPNRD	Replacement	CPRP61-19-008	G-012686	12/4/2019	2020	18	12	7	W	NDY as of 12/31/19.
CPNRD	Replacement	CPRP24-19-008	G-000344	12/23/2019	2020	33	11	22	W	NDY as of 12/31/19.
CPNRD	Replacement	CPRP24-19-001	G-007911	2/4/2019	2019	9	11	24	W	No New Use.
CPNRD	Replacement	CPRP24-19-002	G-033677	2/8/2019	2019	20	12	25	W	No New Use.
CPNRD	Supplemental Groundwater	CPSG10-19-004	G-187497	4/10/2019	2019	27	9	18	W	# 2004
CPNRD	Replacement	CPRP10-19-005	G-025858	4/24/2019	2019	26	9	18	W	No New Use.
CPNRD	Replacement	CPRP10-19-007	G-008666	4/25/2019	2019	5	8	13	W	No New Use.
CPNRD	Replacement	CPRP10-19-006	G-012427	4/25/2019	2019	27	9	18	W	No New Use.
CPNRD	Supplemental Groundwater	CPSG10-19-008	G-188203	5/16/2019	2019	35	9	16	W	No New Use.
CPNRD	Dewatering Well	CPDW10-19-009	G-187314	5/16/2019	2019	11	8	16	W	No New Use.
CPNRD	Dewatering Well	CPDW10-19-010	G-187309	5/16/2019	2019	11	8	16	W	No New Use.
CPNRD	Dewatering Well	CPDW10-19-011	G-187310	5/16/2019	2019	11	8	16	W	No New Use.
CPNRD	Dewatering Well	CPDW10-19-012	G-187311	5/16/2019	2019	11	8	16	W	No New Use.
CPNRD	Dewatering Well	CPDW10-19-013	G-187312	5/16/2019	2019	11	8	16	W	No New Use.
CPNRD	Dewatering Well	CPDW10-19-014	G-187313	5/16/2019	2019	11	8	16	W	No New Use.
CPNRD	Replacement	CPDW24-19-004	G-090692	7/30/2019	2019	31	10	21	W	No New Use.
CPNRD	Municipal	CPMU24-19-007	NR	8/5/2019	2020	9	9	21	W	NDY as of 12/31/19.
NPNRD	Aquaculture	RP-19002	G-187947	5/22/2019	2019	28	24	56	W	
NPNRD	Supplemental Groundwater	SG-19005	NDY	10/30/2019	2019	30	23	57	W	NDY
NPNRD	Industrial/Commercial	IN-9001	G-186818	1/14/2019	2019	31	22	54	W	--
NPNRD	Industrial/Commercial	IN-19003	G-117573	7/22/2019	2019	3	19	50	W	--
TBNRD	Replacement	TBRP-G050564-R1	G-050564	1/8/2019	2019	2	8	21	W	--
TBNRD	Replacement	TBRP-G072067-R1	G-072067	1/18/2019	2019	19	8	16	W	--
TBNRD	Supplemental Groundwater	TBSG-1525	G-187210	1/29/2019	2019	21	8	14	W	--
TBNRD	Supplemental Groundwater	TBSG-1527	G-187945	5/9/2019	2019	13	8	20	W	--

Table 6: Groundwater Well Permits

NRD	Permit Type	NRD Permit	DNR Well Registration	Permit Date	Year Implemented*	S	T	R	E/W	Notes
TBNRD	Replacement	TBRP-G129696-R1	G-129696	7/2/2019	2019	14	7	19	W	--
TBNRD	Replacement	TBRP-G021609-R1	G-021609	9/5/2019	2020	21	7	17	W	--
TBNRD	Replacement	TBRP-G011569-R1	NDY	12/2/2019	2020	27	8	19	W	--
TBNRD	Replacement	TBRP-G049662-R1	NDY	12/3/2019	2020	32	8	18	W	--
TPNRD	Dewatering Well	TP-DW-19.01	G-188178	9/12/2019	2019	32	14	30	W	Permanent de-watering well to help with water issues around the school.
TPNRD	Industrial/Commercial	TP-IN-19.01	NR as of 3/20/2020	9/13/2019	2019	10	13	39	W	Industrial well that pumps 65 gpm that will be used for a truck wash near Ogallala.
TPNRD	Industrial/Commercial	TP-IN-19.02	NR as of 3/20/2020	9/13/2019	2019	10	13	39	W	Industrial well that pumps 65 gpm that will be used for a truck wash near Ogallala.
TPNRD	New Well	TP-NP-19.01	G-188777	10/11/2019	2020	12	13	38	W	No New Use

*All permits in the table were issued in the 2019 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. NDY in the table stands for Not Drilled Yet. NR in the table stands for Not Registered.

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
SPNRD	VAR-19-Lechman	G-021605	3/12/2019	24-12-43W	Transfer Across Subarea Boundary	Allocation from certified irrigated tract #12N43W130003 containing 51.6 acres tied to well G-021605 was converted into a gallon amount for industrial use and transferred to well G-074242. The amount pumped cannot exceed the existing irrigation allocation for tract #12N43W130003. Variance because the transfer would cross subarea boundaries.	2019	N/A	TR-IND-19-Lechman
TBNRD	PBV_2019-1	G-009329	2/12/2019	5-7-17W	Certified Acre Correction	Historic and Current Proof provided as required for correction.	2019	N/A	N/A
TBNRD	PBV_2019-2	G-174591	4/9/2019	26-8-20W	Certified Acre Correction	Historic and Current Proof provided as required for correction.	2019	N/A	N/A
TBNRD	PBV_2019-3	N/A	4/9/2019	4-8-22W	Certified Acre Correction	Assessor made request for correction _ irrigated proof from 1978. This property does not currently have or use well water.	2019	N/A	N/A

*All permits in the table were issued in the 2019 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	Use	Grant in CFS	Grant in AF	Surface Water or Groundwater Mitigation	Associated Variances
A-19679	11/21/2019	8-13-29W	RC - Recharge	950	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7722
A-19633	3/21/2019	36-13-45W	MF - Manufacturing	1*	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-7264
A-19634	3/26/2019	8-13-29W	MF - Manufacturing	--	5	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-7261
A-19637	5/13/2019	18-14-36W	RC - Recharge	81	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7351
A-19638	5/13/2019	13-14-34W	RC - Recharge	201	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7352
A-19639	5/13/2019	18-14-33W	RC - Recharge	103	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7353
A-19640	5/13/2019	14-12-43W	RC - Recharge	176	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7354
A-19641	5/13/2019	7-14-32W	RC - Recharge	77	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7355
A-19647	5/28/2019	18-20-51W	RC - Recharge	100	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7410
A-19648	5/28/2019	3-21-54W	RC - Recharge	88	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7411
A-19649	5/28/2019	28-22-55W	RC - Recharge	33	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7412
A-19650	5/28/2019	1-20-53W	RC - Recharge	60	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7413
A-19651	5/28/2019	27-23-57W	RC - Recharge	40	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7414

Table 8: Surface Water Permits

Appropriation Number	Approval Date	S-T-R-W	Use	Grant in CFS	Grant in AF	Surface Water or Groundwater Mitigation	Associated Variances
A-19652	5/28/2019	10-23-58W	RC - Recharge	500	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7415
A-19654	5/28/2019	32-22-54W	RC - Recharge	40	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7417
A-19656	5/28/2019	10-23-58W	RC - Recharge	150	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7419
A-19657	5/28/2019	17-22-55W	RC - Recharge	50	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7420
A-19672	9/5/2019	19-12-26W	RC - Recharge	100	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7551
A-19673	9/5/2019	18-10-23W	RC - Recharge	100	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-7552
A-19675	9/27/2019	23-24-58W	MF - Manufacturing	--	2	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-7584

*The order states the total amount of water diverted shall not exceed 10 acre-feet. For the depletions analysis, a total of 10 acre-feet was deducted for this permit.

Table 9: Effects to streamflow from 2019 to 2032 in the Platte River resulting from all groundwater and surface water permitting activities in 2019. A positive for the net effect indicates that the permitted activities have an overall positive effect on streamflow. Values are in acre-feet.

	Upstream of Critical Habitat Reach			Within Critical Habitat Reach			Aggregate Net Effect from Both Reaches
Year	Effect of Mitigations	Effect of New Uses	Net Effect	Effect of Mitigations	Effect of New Uses	Net Effect	Total Net Effect
2019	25.83	-22.71	3.12	1.38	-1.1	0.29	3.41
2020	35.99	-16.65	19.35	4.04	-3.11	0.93	20.28
2021	42.04	-26.4	15.64	6.35	-4.89	1.45	17.1
2022	46.2	-33.06	13.14	8.21	-6.36	1.85	15
2023	49.3	-37.94	11.36	9.74	-7.57	2.16	13.53
2024	51.73	-41.7	10.03	11.01	-8.59	2.41	12.44
2025	53.7	-44.72	8.98	12.08	-9.47	2.61	11.59
2026	55.34	-47.22	8.12	13.01	-10.23	2.78	10.9
2027	56.73	-49.32	7.41	13.81	-10.9	2.91	10.33
2028	57.94	-51.13	6.81	14.52	-11.49	3.03	9.84
2029	58.99	-52.7	6.29	15.16	-12.02	3.14	9.42
2030	59.92	-54.09	5.84	15.73	-12.5	3.22	9.06
2031	60.75	-55.32	5.43	16.24	-12.94	3.3	8.74
2032	61.5	-56.43	5.08	16.71	-13.34	3.37	8.45

*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.