

Nebraska's Annual Report
Under Bullet 3 Section IV of the
Platte River Recovery Implementation Program
Nebraska New Depletion Plan
January 1, 2020, to December 31, 2020

VIA ELECTRONIC MAIL ONLY

DATE: December 29, 2021

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, 2020, to December 31, 2020

This report fulfills the annual reporting requirement for Nebraska for the period of January 1, 2020, to December 31, 2020, 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 2020 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.

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

In 2020, the NRDs and the Department issued the following permits:

- 23 groundwater transfer permits ([Table 1](#));
- 33 groundwater well permits ([Table 2](#));
- 11 groundwater variance permits ([Table 3](#)); and
- 9 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 2020, ([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 2020 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 2020. 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 use, 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.

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Most of 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 without new use 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. Well permits with potential new use include: 1) a temporary well for road construction and 2) a well for a public water supply. Both of these uses will be monitored by the local NRD and will be offset as needed.

The groundwater variance permits, described in Table 7, did not result in any new or expanded uses. The permits issued were for: 1) exemption to allocation with the permittee responsible for mitigation.

The surface water permits issued, listed in Table 8, were temporary (one-year) permits. All nine (9) were temporary permits for groundwater recharge. These permits only allow the diversion of streamflows in excess of already permitted uses and target flows when they are available and are intended to supply baseflow accretions back to the river. All temporary permits expire one (1) year from the issued date. The conditions under which each permit can operate are specified in detail in the order for each permit.

Figure 1 illustrates that 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 2020 is positive. For 2020, Nebraska's new permitted activities and associated mitigation efforts within the 28/40 area resulted in a net increase in streamflow upstream of the PRRIP CHR, a net increase within the CHR, and a net increase to streamflow overall.

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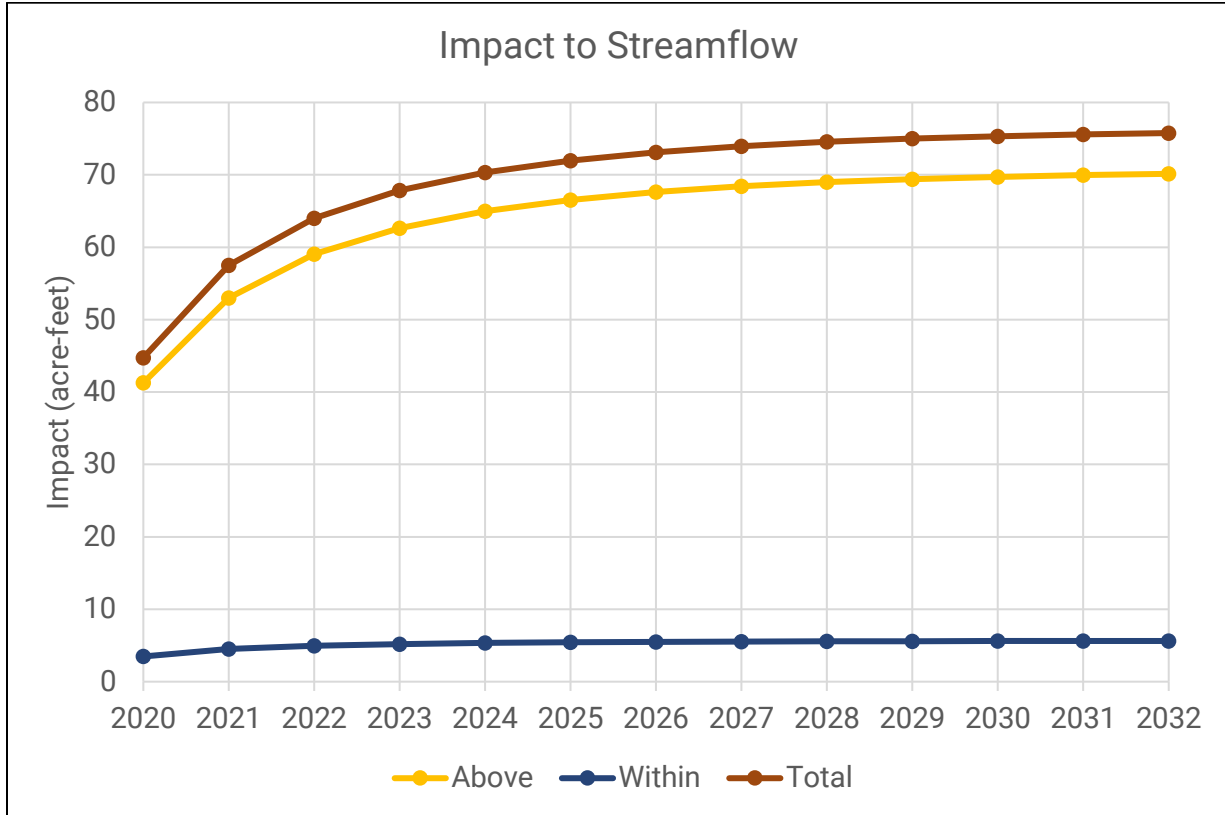


Figure 1: Aggregate net effect to streamflow resulting from all activities permitted in 2020, through the end of the second 10-year planning increment in 2032.

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 2020 and their cumulative depletions and mitigation accretions, no additional mitigation measures for 2020 permitted activities are required at this time.

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

As reported last year, 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 indicated 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.

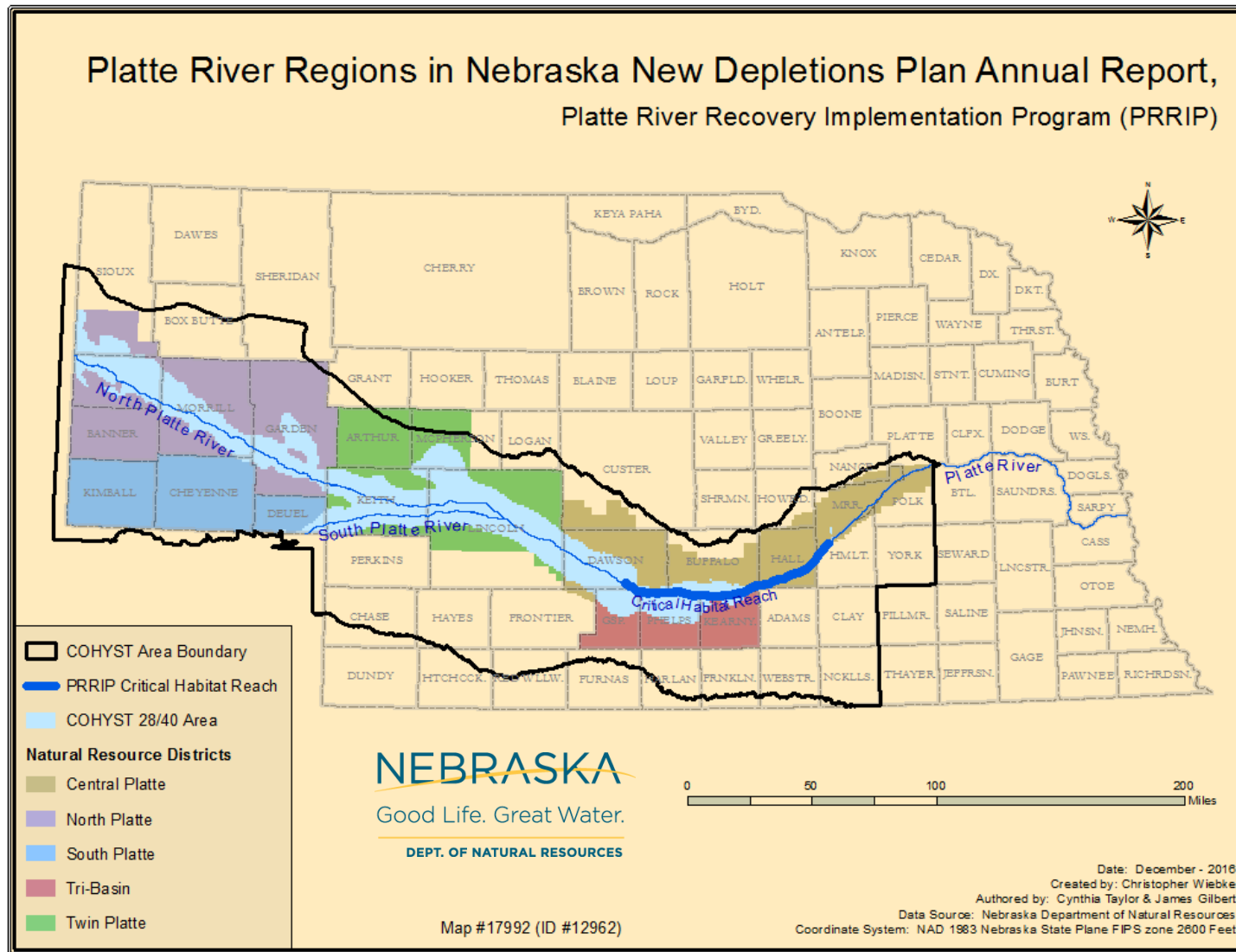
Future Robust Reviews are planned for 2023 and 2027. Current activities and progress being made on the 2023 Robust Review is made available to and shared with PRRIP members through Platte Over Appropriated Committee (POAC) Technical Committee meetings, and general POAC meetings, as well. Nebraska will 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	Galen Wittrock
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	16	7	23

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

Use	Upstream	Within	Below	Total
Public Water Supplier with Spacing Protection	1	--	--	1
Road Construction	1	--	--	1
Irrigation	5	2	--	7
Replacement	8	15	--	23
Supplemental GW	--	1	--	1
Total	14	19	--	33

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

Use	Upstream	Within	Total
Exemption to Allocation	11	--	11
Total	11	--	11

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

Use	Upstream	Within	Total
Recharge	9	--	9
Total	9	--	9

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	Mitigation	2076	1/10/2020	27	10	24	W	2020	3.18
CPNRD	New Use	2076	1/10/2020	27	10	24	W	2020	3.18
CPNRD	Mitigation	2079	2/4/2020	15	10	22	W	2020	3.26
CPNRD	New Use	2079	2/4/2020	15	10	22	W	2020	7.62
CPNRD	Mitigation	2079	2/4/2020	15	10	22	W	2020	4.36
CPNRD	Mitigation	2084	2/25/2020	11	8	15	W	2020	30.61
CPNRD	New Use	2084	2/25/2020	11	8	15	W	2020	30.61
CPNRD	New Use	2085	2/25/2020	17	10	21	W	2020	2.86
CPNRD	New Use	2085	2/25/2020	17	10	21	W	2020	1.73
CPNRD	New Use	2085	2/25/2020	17	10	21	W	2020	0.24
CPNRD	New Use	2085	2/25/2020	17	10	21	W	2020	0.62
CPNRD	Mitigation	2085	2/25/2020	17	10	21	W	2020	5.86
CPNRD	New Use	2085	2/25/2020	17	10	21	W	2020	0.41
CPNRD	Mitigation	2088	2/28/2020	10	11	8	W	2020	2.82
CPNRD	Mitigation	2088	2/28/2020	10	11	8	W	2020	11.53
CPNRD	Mitigation	2088	2/28/2020	10	11	8	W	2020	4.99
CPNRD	Mitigation	2088	2/28/2020	10	11	8	W	2020	0.66
CPNRD	New Use	2088*	2/28/2020	25	14	5	W	2020	42.51
CPNRD	Mitigation	2089	3/2/2020	23	11	23	W	2020	0.99
CPNRD	Mitigation	2089	3/2/2020	23	11	23	W	2020	1.04
CPNRD	New Use	2089	3/2/2020	23	11	23	W	2020	2.03
CPNRD	Mitigation	2090	3/2/2020	31	11	22	W	2020	1.14
CPNRD	New Use	2090	3/2/2020	31	11	22	W	2020	4.89
CPNRD	New Use	2090	3/2/2020	31	11	22	W	2020	1.67
CPNRD	Mitigation	2090	3/2/2020	31	11	22	W	2020	5.26
CPNRD	Mitigation	2090	3/2/2020	31	11	22	W	2020	0.16
CPNRD	Mitigation	2099	4/2/2020	31	9	15	W	2020	7.58
CPNRD	Mitigation	2099*	4/2/2020	32	10	11	W	2020	16.18

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
CPNRD	Mitigation	2099*	4/2/2020	32	10	11	W	2020	3.88
CPNRD	New Use	2099*	4/2/2020	32	10	11	W	2020	13.19
CPNRD	New Use	2099*	4/2/2020	32	10	11	W	2020	21.35
CPNRD	Mitigation	2099*	4/2/2020	32	10	11	W	2020	5.66
CPNRD	Mitigation	2100	4/2/2020	31	9	15	W	2020	23.52
CPNRD	Mitigation	2100*	4/2/2020	21	10	10	W	2020	0.58
CPNRD	Mitigation	2100*	4/2/2020	21	10	10	W	2020	1.17
CPNRD	Mitigation	2100*	4/2/2020	21	10	10	W	2020	1.19
CPNRD	New Use	2100*	4/2/2020	21	10	10	W	2020	28.99
CPNRD	New Use	2108	5/12/2020	24	10	22	W	2020	3.06
CPNRD	Mitigation	2108	5/12/2020	24	10	22	W	2020	3.06
CPNRD	New Use	2112	6/2/2020	34	10	22	W	2020	1
CPNRD	Mitigation	2112	6/2/2020	34	10	22	W	2020	1
CPNRD	Mitigation	2118	9/10/2020	22	9	24	W	2020	0.74
CPNRD	Mitigation	2118	9/10/2020	22	9	24	W	2020	0.67
CPNRD	Mitigation	2118	9/10/2020	22	9	24	W	2020	1.3
CPNRD	New Use	2118	9/10/2020	22	9	24	W	2020	2.71
CPNRD	New Use	2128	11/20/2020	23	10	21	W	2020	3.26
CPNRD	Mitigation	2128	11/20/2020	23	10	21	W	2020	1.32
CPNRD	Mitigation	2128	11/20/2020	23	10	21	W	2020	1.66
CPNRD	Mitigation	2128	11/20/2020	23	10	21	W	2020	0.28
TBNRD	Mitigation	TBAT-0355	1/14/2020	21	7	17	W	2020	4
TBNRD	New Use	TBAT-0355*	1/14/2020	24	7	16	W	2020	4
TPNRD	Mitigation	TP-TRANS-20.01	1/15/2020	21	13	40	W	2020	29.65
TPNRD	Mitigation	TP-TRANS-20.01	1/15/2020	21	13	40	W	2020	7.75
TPNRD	Mitigation	TP-TRANS-20.01	1/15/2020	21	13	40	W	2020	29.4
TPNRD	Mitigation	TP-TRANS-20.01	1/15/2020	20	13	40	W	2020	19.2
TPNRD	Mitigation	TP-TRANS-20.01	1/15/2020	20	13	40	W	2020	6
TPNRD	Mitigation	TP-TRANS-20.01	1/15/2020	20	13	40	W	2020	1

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
TPNRD	New Use	TP-TRANS-20.01	1/15/2020	27	13	35	W	2020	93
TPNRD	Mitigation	TP-TRANS-20.02	1/21/2020	13	13	39	W	2020	3.5
TPNRD	Mitigation	TP-TRANS-20.02	1/21/2020	13	13	39	W	2020	5.72
TPNRD	Mitigation	TP-TRANS-20.02	1/21/2020	13	13	39	W	2020	2.61
TPNRD	New Use	TP-TRANS-20.02	1/21/2020	13	13	39	W	2020	14.5
TPNRD	Mitigation	TP-TRANS-20.02	1/21/2020	13	13	39	W	2020	1.27
TPNRD	New Use	TP-TRANS-20.02	1/21/2020	13	13	39	W	2020	0.35
TPNRD	Mitigation	TP-TRANS-20.02	1/21/2020	13	13	39	W	2020	1.75
TPNRD	Mitigation	TP-TRANS-20.03	2/6/2020	10	13	37	W	2020	4.45
TPNRD	Mitigation	TP-TRANS-20.03	2/6/2020	10	13	37	W	2020	5.7
TPNRD	Mitigation	TP-TRANS-20.03	2/6/2020	10	13	37	W	2020	3.45
TPNRD	New Use	TP-TRANS-20.03	2/6/2020	10	13	37	W	2020	13.6
TPNRD	New Use	TP-TRANS-20.04	3/12/2020	27	13	35	W	2020	6.7
TPNRD	Mitigation	TP-TRANS-20.04	3/12/2020	31	13	39	W	2020	10
TPNRD	Mitigation	TP-TRANS-20.05	3/12/2020	35	13	40	W	2020	0.33
TPNRD	New Use	TP-TRANS-20.05	3/12/2020	35	13	40	W	2020	12.3
TPNRD	Mitigation	TP-TRANS-20.05	3/12/2020	35	13	40	W	2020	0.6
TPNRD	Mitigation	TP-TRANS-20.05	3/12/2020	35	13	40	W	2020	0.7
TPNRD	Mitigation	TP-TRANS-20.05	3/12/2020	35	13	40	W	2020	5.05
TPNRD	Mitigation	TP-TRANS-20.05	3/12/2020	35	13	40	W	2020	5.62
TPNRD	Mitigation	TP-TRANS-20.06	3/12/2020	1	12	41	W	2020	4.15
TPNRD	New Use	TP-TRANS-20.06	3/12/2020	6	12	40	W	2020	1.6
TPNRD	Mitigation	TP-TRANS-20.06	3/12/2020	6	12	40	W	2020	8.5
TPNRD	Mitigation	TP-TRANS-20.06	3/12/2020	6	12	40	W	2020	8
TPNRD	New Use	TP-TRANS-20.06	3/12/2020	6	12	40	W	2020	23.55
TPNRD	New Use	TP-TRANS-20.06	3/12/2020	6	12	40	W	2020	2.1
TPNRD	New Use	TP-TRANS-20.06	3/12/2020	6	12	40	W	2020	6.75
TPNRD	Mitigation	TP-TRANS-20.06	3/12/2020	6	12	40	W	2020	13.35
TPNRD	Mitigation	TP-TRANS-20.09	5/14/2020	1	16	36	W	2020	18.54

Table 5: Groundwater Transfer Permits

NRD	Permit Type	NRD Permit	Permit Date	S	T	R	E/W	Year Implemented**	Acres
TPNRD	Mitigation	TP-TRANS-20.09	5/14/2020	1	16	36	W	2020	66.03
TPNRD	Mitigation	TP-TRANS-20.09	5/14/2020	1	16	36	W	2020	8.62
TPNRD	Mitigation	TP-TRANS-20.09	5/14/2020	1	16	36	W	2020	1.56
TPNRD	Mitigation	TP-TRANS-20.09	5/14/2020	1	16	36	W	2020	0.04
TPNRD	Mitigation	TP-TRANS-20.09	5/14/2020	12	16	36	W	2020	74
TPNRD	New Use	TP-TRANS-20.09	5/14/2020	28	17	34	W	2020	75
TPNRD	New Use	TP-TRANS-20.09	5/14/2020	28	17	34	W	2020	3.25
TPNRD	New Use	TP-TRANS-20.09	5/14/2020	28	17	34	W	2020	53
TPNRD	New Use	TP-TRANS-20.11	10/8/2020	24	13	33	W	2021	9
TPNRD	Mitigation	TP-TRANS-20.11	10/8/2020	24	13	33	W	2021	48.3
TPNRD	New Use	TP-TRANS-20.11	10/8/2020	24	13	33	W	2021	39.3
TPNRD	New Use	TP-TRANS-20.12	11/13/2020	6	11	26	W	2021	1.93
TPNRD	Mitigation	TP-TRANS-20.12	11/13/2020	6	11	26	W	2021	1.93

*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 2020 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	CPRP24-20-001	G-099639	2/20/2020	2020	18	10	21	W	No New Use
CPNRD	Replacement	CPRP24-20-002	G-018443	4/3/2020	2020	11	9	21	W	No New Use
CPNRD	Replacement	CPRP10-20-005	G-013552	4/24/2020	2020	27	9	14	W	No New Use
CPNRD	Replacement	CPRP10-20-006	G-005022	5/26/2020	2020	15	8	14	W	No New Use
CPNRD	Replacement	CPRP10-20-007	G-016336	6/24/2020	2020	32	9	14	W	No New Use
CPNRD	Replacement	CPRP10-20-008	G-135700	7/10/2020	2020	10	8	17	W	No New Use
CPNRD	Supplemental to Groundwater	CPSG10-20-010	G-191766	9/10/2020	2021	10	8	16	W	No New Use
CPNRD	Municipal	CPMU24-20-004	G-191764	10/7/2020	2020					Changes in population will be monitored via Robust Review and offsets provided as necessary
CPNRD	Supplemental to Groundwater	CPSG24-20-005	G-191555	10/14/2020	2020	5	11	25	W	No New Use
CPNRD	Replacement	CPRP24-20-006	G-003528	10/14/2020	2021	20	10	21	W	No New Use
CPNRD	Irrigation	CPRO10-20-011	G-016326	11/4/2020	2021	7	8	15	W	No New Use
CPNRD	Supplemental to Groundwater	CPSG24-20-007	G-191004	11/13/2020	2021	29	11	22	W	No New Use
CPNRD	Replacement	CPRP24-20-008	G-129273	12/3/2020	2021	2	10	22	W	Associated Transfer #2140
CPNRD	Supplemental to Groundwater	CPSG24-20-010	G-191399	12/16/2020	2021	34	11	22	W	Associated Transfer #2162
NPNRD	Replacement	NPSG 20001	G-189622	3/25/2020	2020	17	21	51	W	No New Use
SPNRD	Replacement	SP-RP-224-2020	G-014271	3/17/2020	2020	1	12	42	W	No New Use
SPNRD	Replacement	SP-RP-226-2020	G-019338	6/30/2020	2020	2	12	42	W	No New Use
TBNRD	Supplemental to Groundwater	TBSG-1528	G-189345	1/10/2020	2020	26	8	15	W	Supplemental to A-005796
TBNRD	Replacement	TBRP-G010206-R1	G-010206	5/15/2020	2020	14	8	18	W	No New Use

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-G013426-R1	G-013426	6/24/2020	2020	23	8	20	W	No New Use
TBNRD	Replacement	TBRP-A007219-R1	A-007219	9/30/2020	2021	6	8	21	W	No New Use
TBNRD	Replacement	TBRP-G055251-R1	G-055251	10/2/2020	2021	35	8	18	W	No New Use
TBNRD	Replacement	TBRP-G031362-R1	G-031362	10/9/2020	2021	20	8	16	W	No New Use
TBNRD	Replacement	TBRP-G004157-R2	G-004157	10/13/2020	2021	27	8	15	W	No New Use
TBNRD	Replacement	TBRP-G014160-R1	G-014160	10/14/2020	2021	15	7	19	W	No New Use
TBNRD	Replacement	TBRP-G047106-R1	G-047106	12/9/2020	2021	17	7	19	W	No New Use
TPNRD	Irrigation	TP-NP-20.01	G-189126	1/10/2020	2020	27	13	35	W	Associated Transfer
TPNRD	Replacement	TP-RP-20.01	G-027337	2/20/2020	2020	11	13	37	W	No New Use
TPNRD	Replacement	TP-RP-20.02	G-171568	3/27/2020	2020	29	14	33	W	No New Use
TPNRD	Replacement	TP-RP-20.03	G-036402	6/22/2020	2020	6	12	41	W	No New Use
TPNRD	Replacement	TP-RP-20.05	G-032255	10/20/2020	2021	12	12	30	W	No New Use
TPNRD	Industrial	TP-IN-20.01	Not registered	11/12/2020	2021	16	13	39	W	Road Construction: concrete and dust control. Will be metered and NRD will provide any necessary offsets.
TPNRD	Replacement	TP-RP-20.06	A-010510G	12/7/2020	2021	16	13	30	W	No New Use

*All permits in the table were issued in the 2020 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	E/W	Type of Variance	Notes	Year Implemented*	Associated Well Permits	Associated Transfers
NPNRD	VAR-2020-06	G-032360	3/18/2020	26	24	56	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-01	G-033840	3/18/2020	16	24	57	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-04	G-062324 G-023669 A-007085A A-007085B	3/18/2020	15	23	58	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-09	G-082685	3/18/2020	9	23	58	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-11	G-013714	3/18/2020	27	23	56	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-08	G-146398	3/18/2020	16	23	58	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-07	G-052317	3/18/2020	16	23	58	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-02	G-109797	3/18/2020	1	22	56	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-10	G-021422	3/18/2020	4	19	50	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-05	G-143247	3/18/2020	20	17	44	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A
NPNRD	VAR-2020-03	G-073487 G-019366	3/18/2020	31	16	41	W	Exemption to Allocation	Permittee responsible for mitigation	2020	N/A	N/A

*All permits in the table were issued in the 2020 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-19682	2/14/2020	18-10-23W	Temporary RC - Recharge	100		Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-7771
A-19683	2/14/2020	19-12-26W	Temporary RC - Recharge	100		Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.06	VAR-7772
A-19708	5/13/2020	18-14-33W	Temporary RC - Recharge	102.78		Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-8941
A-19709	5/13/2020	18-14-36W	Temporary RC - Recharge	80.56		Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-8942
A-19710	5/13/2020	12-14-33W	Temporary RC - Recharge	77.47		Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-8943
A-19711	5/13/2020	13-14-34W	Temporary RC - Recharge	201		Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-8944
A-19712	5/13/2020	14-12-43W	Temporary RC - Recharge	176.26	--	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-8945
A-19719	7/17/2020	3-14-38W	Temporary RC - Recharge		4000	Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-9007
A-19735	11/30/2020	8-13-29W	Temporary RC - Recharge	950		Variance granted pursuant to 457 Neb. Admin. Code Ch. 23 § 001.03	VAR-9231

Table 9: Effects to streamflow from 2020 to 2032 in the Platte River resulting from all groundwater and surface water permitting activities in 2020. 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
2020	51.7	-10.43	41.27	5.47	-1.99	3.48	44.75
2021	76.11	-23.09	53.02	9.81	-5.31	4.51	57.52
2022	91.92	-32.88	59.04	13.07	-8.1	4.96	64.01
2023	103.55	-40.9	62.64	15.56	-10.35	5.2	67.85
2024	112.66	-47.7	64.96	17.54	-12.19	5.35	70.31
2025	120.1	-53.57	66.53	19.15	-13.71	5.44	71.97
2026	126.33	-58.71	67.62	20.5	-15	5.5	73.13
2027	131.66	-63.25	68.41	21.65	-16.1	5.54	73.95
2028	136.28	-67.29	68.99	22.64	-17.07	5.57	74.56
2029	140.34	-70.93	69.41	23.51	-17.91	5.59	75
2030	143.94	-74.21	69.73	24.28	-18.67	5.61	75.33
2031	147.17	-77.21	69.97	24.96	-19.35	5.62	75.58
2032	150.09	-79.94	70.14	25.58	-19.96	5.62	75.77

*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.