



Date: March 13, 2023

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

From: Brandon Gebhart State of Wyoming's Representative to the GC,
Wyoming State Engineer
Jason Mead Interim Director Wyoming Water Development
Michelle Gess State Coordinator, Wyoming Depletions Plan

Re: Wyoming Depletions Report – Water Year 2022

This document is provided pursuant to the PRRIP, *Attachment 5, Section 7*, and *Paragraph II.B.* of Wyoming's Depletions Plan, approved by the GC on October 24, 2006 and revised on April 10, 2007, December 12, 2007, and August 11, 2009. This report summarizes any new depletion that commenced during Water Year 2022 (October 1, 2021 to September 30, 2022).

Baseline No. 1

The State of Wyoming (Wyoming) complied with the Modified North Platte Decree intentionally irrigated acreage limitations for the 2022 irrigation season. On January 17, 2023, the Wyoming State Engineer's Office (SEO) submitted the intentionally irrigated acreage and reservoir storage accruals compliance report to the North Platte Decree Committee (NPDC).

Baseline No. 2

The SEO collected all the pertinent water use information to compare Water Year 2022 (WY 2022) water uses to the benchmarks under the existing Baseline No. 2 in Wyoming's Depletions Plan. As of WY 2022, Wyoming's total water uses are less than Baseline No. 2. The underruns, translated to the state line, are 50,937 acre-feet for the irrigation season and 5,507 acre-feet for the non-irrigation season.

Baseline No. 3

The development of post-1997 storage in the South Platte River basin is 80.56 acre-feet.

Attachments 1 and 2 contain the detailed WY 2022 water use data and the reporting of new depletions.

Attachment 1
Wyoming Depletions Report – Water Year 2022

1. Existing Water Related Activities – Baseline No. 1

1.1. Compliance with the Modified North Platte Decree

Wyoming complied with the Modified Decree as per the intentionally irrigated acreage report submitted to the NPDC on January 17, 2023. The intentionally irrigated acreage was 190,212 acres for the sub-basin above Guernsey Reservoir. Irrigation water use in the Benchmark No. 1 sub-basins appears in *Attachment 2 – Table 2.1*.

1.2. Kendrick Project

The Kendrick Project did not exceed the acreage limitation of 24,249 acres. An email requesting verification of this total was made on February 23, 2023 to the Wyoming Area Office of the Bureau of Reclamation (BOR) and verification that 24,249 acres were irrigated was received from the BOR on March 6, 2023.

1.3. Mitigation

No mitigation is required.

2. Existing Water Related Activities – Baseline No. 2

2.1. Annual Water Use versus Benchmarks

Irrigation water use in the Benchmark No. 2 sub-basins appears in *Attachment 2 – Table 2.2*. Since Horse Creek sub-basin irrigation has no affect on depletions at the State Line during the irrigation season, irrigated acres in this sub-basin were not counted in WY 2022.

Attachment 2 – Table 2.4 compares the WY 2022 water use with the benchmarks. The irrigation, municipal, industrial, rural domestic, retired/mitigation uses, and post-1997 new water uses are included in each respective row.

The sources of the rural domestic and municipal population data is from the State of Wyoming Department of Administration and Information and the U.S. Census Bureau 2020 Report.

Attachment 2 – Table 2.4 Column 5 includes water right abandonments derived from searching the Wyoming Board of Control records for permanently retired irrigation water uses between 2005–2008. In the Pathfinder to Guernsey sub-basin, the records were searched back to 1998. These numbers are updated as new abandonments occur.

Additionally in *Table 2.4 Column 5*, the non-irrigation season overruns from municipalities, industries, and rural domestic above Guernsey Dam have been offset by the agriculture underruns tabulated from Guernsey Dam to the state line. Due to

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Wyoming Depletions Report – Water Year 2022

the intervening reservoirs on the North Platte River, the effects of the depletions resulting from the basins above Guernsey Dam in both the irrigation and non-irrigation seasons arrive at the Guernsey to State Line reach during the irrigation season. Therefore, any municipal and industrial overruns above Guernsey Dam can be offset by agriculture underruns in the Guernsey Dam to State Line portion of the North Platte River basin (*Wyoming Depletions Plan* – Attachment No. I, page 4, October 24, 2006).

2.2. Mitigation

After the overruns and underruns are translated to the state line, the net effect is an underrun for both the irrigation season and the non-irrigation season. No mitigation is required.

3. South Platte River Basin – Baseline No. 3

For WY 2022, the reported acre-feet of storage in the South Platte Basin in Wyoming is 80.56 acre-feet. The cumulative effect of these facilities does not affect flows at the Wyoming/Colorado state line during a large runoff event.

4. Proposed Changes to Benchmarks

At this point in time, Wyoming has no plans to propose changes to the benchmarks.

5. New Water Related Activities

5.1. In *Attachment 2 – Table 2.3*, Wyoming reports by sub-basin the new water related activities commencing during WY 2022 that are covered by existing water related Baseline No. 2 in Wyoming's Depletions Plan. *Table 2.3* also includes the total number of new water related activities implemented since 1997. This post-1997 total is integrated into Column 6 of *Table 2.4* and contributes to the overruns / underruns that occur.

6. Non-hydrologically Connected Groundwater Wells

During WY 2022, there were no new groundwater well applications seeking the non-hydrologically connected status submitted to the SEO which require the approval of the Groundwater Wells Subcommittee (GWSC) of the NPDC.

Attachment 2
Wyoming Depletions Report – Water Year 2022

Table 2.1
Exiting Water Related Baseline No. 1

Decree Category	Benchmark Acreage	2022	Difference Acreage
Irrigated Acreage - Ab. Gu.	226,000	190,212	36,236
Irrigated Acreage - Kendrick	24,249	24,249	0

Table 2.2
Existing Water Related Baseline No. 2 – Irrigation Water Use

Sub-basin	Acreage Benchmark	2022	Overruns (Underruns)	Unit C.U.	Overruns (Underruns)
	(acres)	(acres)	(acres)	(af/acre)	(acre-feet)
Guernsey-State Line	106,221	86,293	-19,928	1.32	-26,304.96
Horse Creek	41,179	*		1.16	
Upper Laramie	91,255	78,575	-12,680	0.79	-10,017.20
Lower Laramie	85,711	58,126	-27,585	1.31	-36,136.35
Total	324,366	222,994	-60,193		-72,458.51
* Since Horse Ck. sub-basin depletions have no affect on depletions at the State Line during the irrigation season irrigated acres were not counted in WY 2022.					

Table 2.3
Total Depletions from New Water Activities – Post 1997

Sub-basin	Irrigation Season			Non-Irrigation Season		
	97 to 21	WY 2022	Total	97 to 21	WY 2022	Total
	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)
Above Pathfinder	159.80	0.50	160.30	53.21	19.00	72.21
Pathfinder to Guernsey	300.40	0.00	300.40	254.69	0.00	254.69
Guernsey to State Line	55.63	0.00	55.63	39.40	0.42	39.82
Horse Creek	38.22	0.00	38.22	26.11	0.10	26.21
Upper Laramie	53.41	0.00	53.41	37.19	0.00	37.19
Lower Laramie	111.53	6.66	118.19	51.83	3.33	55.16
Total	718.99	7.16	726.15	462.42	22.85	485.27

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Table 2.4
Water Year 2022 Overruns / Underruns

Sub-basin	Table 2.4 - Irrigation Season - Overruns / Underruns AF							Tracking Factors Table I	Effects State Line (AF)
	Irrigation Use	Municipal Use	Industrial Use	Rural Domestic	Retired / Mitigation	Post 1997 Activities	Total		
	1	2	3	4	5	6	7	8	9
Above Pathfinder	-----	-1,516.09	414.14	-77.80	-1.29	160.30	-1,020.74	0.90	-918.66
Pathfinder to Guernsey	-----	510.34	-3,807.97	15.93	-40.90	300.40	-3,022.19	0.98	-2,946.64
Guernsey to State Line	-26,304.96	-376.58	-28.61	2.27	290.81	55.63	-26,361.44	1.00	-26,361.44
Horse Creek	-----	39.61	0.00	31.67	-1.95	38.22	107.55	0.00	0.00
Upper Laramie	-10,017.20	-660.29	0.00	80.53	-0.79	53.41	-10,544.34	0.25	-2,636.08
Lower Laramie	-36,136.35	-113.76	0.00	-15.67	-0.62	118.19	-36,148.20	0.50	-18,074.10
WY 2022 Total	-72,458.51	-2,116.76	-3,422.44	36.93	245.26	726.15	-76,989.37		-50,936.93

Sub-basin	Table 2.4 - Non-Irrigation Season - Overruns / Underruns AF							Tracking Factors Table II	Effects State Line (AF)
	Irrigation Use	Municipal Use	Industrial Use	Rural Domestic	Retired / Mitigation	Post 1997 Activities	Total		
	1	2	3	4	5	6	7	8	9
Above Pathfinder	-----	-479.37	445.44	-38.90	-429.39	72.21	-430.01	0.93	-399.91
Pathfinder to Guernsey	-----	11.24	-4,090.06	7.97	-28.46	254.69	-3,844.63	1.00	-3,844.63
Guernsey to State Line	-----	-65.21	-1,135.70	6.13	0.00	39.82	-1,154.96	1.00	-1,154.96
Horse Creek	-----	-25.94	0.00	15.83	0.00	26.21	16.10	1.00	16.10
Upper Laramie	-----	-236.79	0.00	45.27	0.00	37.19	-154.33	0.50	-77.17
Lower Laramie	-----	-94.25	0.00	-7.83	0.00	55.16	-46.92	1.00	-46.92
WY 2022 Total	-----	-890.31	-4,780.32	28.47	-457.85	485.27	-5,614.74		-5,507.48