



Date: February 20, 2019

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

From: Harry LaBonde      State of Wyoming's Representative to the GC  
Director, Wyoming Water Development Office  
Patrick T. Tyrrell      Wyoming State Engineer  
Jeff Cowley      State Coordinator, Wyoming Depletions Plan

Re: **Wyoming Depletions Report – Water Year 2018**

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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 2018 (October 1, 2017 to September 30, 2018).

Baseline No. 1

The State of Wyoming (Wyoming) complied with the Modified North Platte Decree intentionally irrigated acreage limitations for the 2018 irrigation season. On January 15, 2019, 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 2018 (WY 2018) water uses to the benchmarks under the existing Baseline No. 2 in Wyoming's Depletions Plan. As of WY 2018, Wyoming's total water uses are less than Baseline No. 2. The underruns, translated to the state line, are 67,917.37 acre-feet for the irrigation season and 4,808.65 acre-feet for the non-irrigation season.

Baseline No. 3

The development of post-1997 storage in the South Platte River basin is 179.32 acre-feet.

*Attachments 1 and 2* contain the detailed WY 2018 water use data and the reporting of new depletions.

**Attachment 1**  
**Wyoming Depletions Report – Water Year 2018**

**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 15, 2019. The intentionally irrigated acreage was 178,890 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. A phone call requesting verification of this total was made on January 29, 2019 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 January 29, 2019.

**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 2018.

*Attachment 2 – Table 2.4* compares the WY 2018 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 the State of Wyoming Department of Administration and Information and the U.S. Census Bureau 2017 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 and industries above Guernsey Dam have been offset by the agriculture underruns tabulated from Guernsey Dam to the state line. Due to the intervening

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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 2018, there was an increase in acre-feet of storage in the South Platte Basin in Wyoming. The 1997 to 2017 total was 90.02 acre-feet, and with an increase of 89.30 acre-feet in storage, the reported storage total for WY 2018 is 179.32 acre-feet. Most of these facilities are small reservoirs for stock, wildlife, fish propagation or environmental purposes. Two of these facilities combined for 66.36 acre-feet in capacity, but both existed prior to 1997. 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 2018 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 2018, there were no new groundwater well applications submitted to the SEO which requires the approval of the Groundwater Wells Subcommittee (GWSC) of the NPDC.

**Attachment 2**  
**Wyoming Depletions Report – Water Year 2018**

**Table 2.1**  
**Exiting Water Related Baseline No. 1**

Decree Category	Benchmark Acreage	2018	Difference Acreage
Irrigated Acreage - Ab. Gu.	226,000	178,890	47,110
Irrigated Acreage - Kendrick	24,249	24,249	0

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

Sub-basin	Acreage Benchmark	2018	Overruns (Underruns)	Unit C.U.	Overruns (Underruns)
	(acres)	(acres)	(acres)	(af/acre)	(acre-feet)
Guernsey-State Line	106,221	84,658	-21,563	1.32	-28,463.16
Horse Creek	41,179	*		1.16	
Upper Laramie	91,255	83,162	-8,093	0.79	-6,393.47
Lower Laramie	85,711	34,558	-51,153	1.31	-67,010.43
Total	324,366	202,378	-80,809		-101,867.06
* 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 2018.					

**Table 2.3**  
**Total Depletions from New Water Activities – Post 1997**

Sub-basin	Irrigation Season			Non-Irrigation Season		
	1997 to 2017	WY 2018	Total	1997 to 2017	WY 2018	Total
	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)
Above Pathfinder	142.88	0.10	142.98	35.05	1.30	36.35
Pathfinder to Guernsey	40.04	96.85	136.89	67.68	98.25	165.93
Guernsey to State Line	50.52	0.00	50.52	34.29	0.00	34.29
Horse Creek	38.22	0.00	38.22	26.11	0.00	26.11
Upper Laramie	39.49	0.00	39.49	21.63	0.00	21.63
Lower Laramie	95.61	1.00	96.61	40.17	1.00	41.17
<b>Total</b>	406.76	97.95	504.71	224.93	100.55	325.48

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**Table 2.4**  
**Water Year 2018 Overruns / Underruns**

Sub-basin	<b>Table 2.4 - Irrigation Season - Overruns / Underruns AF</b>							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	-----	-1,432.33	242.53	-111.67	-1.29	142.98	-1,159.78	0.90	-1,043.80
Pathfinder to Guernsey	-----	-849.38	-2,462.40	408.60	-40.90	136.89	-2,807.19	0.98	-2,737.01
Guernsey to State Line	-28,463.16	-562.36	290.02	-88.87	-30.29	50.52	-28,804.14	1.00	-28,804.14
Horse Creek	-----	13.33	0.00	16.20	-1.95	38.22	65.80	0.00	0.00
Upper Laramie	-6,393.47	-795.23	0.00	4.33	-0.79	39.49	-7,145.67	0.25	-1,786.42
Lower Laramie	-67,010.43	-156.70	0.00	-20.87	-0.62	96.61	-67,092.01	0.50	-33,546.00
<b>WY 2018 Total</b>	-101,867.06	-3,782.67	-1,929.85	207.73	-75.84	504.71	-106,942.98		-67,917.37

Sub-basin	<b>Table 2.4 - Non-Irrigation Season - Overruns / Underruns AF</b>							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	-----	-624.19	373.19	-55.83	-94.90	36.35	-365.39	0.93	-339.81
Pathfinder to Guernsey	-----	-195.31	-2,334.02	204.30	-41.85	165.93	-2,200.95	1.00	-2,200.95
Guernsey to State Line	-----	-185.82	-2,010.10	-39.43	0.00	34.29	-2,201.06	1.00	-2,201.06
Horse Creek	-----	54.20	0.00	8.10	0.00	26.11	88.41	1.00	88.41
Upper Laramie	-----	-220.70	0.00	7.17	0.00	21.63	-191.90	0.50	-95.95
Lower Laramie	-----	-90.03	0.00	-10.43	0.00	41.17	-59.29	1.00	-59.29
<b>WY 2018 Total</b>	-----	-1,261.85	-3,970.93	113.87	-136.75	325.48	-4,930.18		-4,808.65