

STATE OF WYOMING



Wyoming Water Development Commission Wyoming State Engineer's Office

Date: March 13, 2009

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

From: Michael Purcell State of Wyoming's Representative to the GC
Director, Wyoming Water Development Office
Patrick T. Tyrrell Wyoming State Engineer
Harry LaBonde State of Wyoming's Alternate Representative to GC
Wyoming Deputy State Engineer

Re: Wyoming's Water Year 2008 Depletions Report

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 and December 12, 2007. This report summarizes any new depletion that commenced during Water Year 2008 (October 1, 2007 to September 30, 2008).

Baseline No. 1

Wyoming has complied with the Modified North Platte Decree acreage limitations for the 2008 irrigation season. On February 25, 2009, Wyoming submitted the intentionally irrigated acreage and reservoir storage accruals compliance report to the North Platte Decree Committee (NPDC).

Baseline No. 2

Wyoming State Engineer's Office (SEO) collected all the pertinent water use information to compare Water Year 2008 (WY 2008) water uses to the benchmarks under the existing water related Baseline No. 2 in Wyoming's Depletions Plan. *Attachments 1 and 2* contain the detailed WY 2008 water use data and the reporting of new depletions. As of WY 2008, Wyoming's total water uses are less than water related Baseline No. 2. The underruns, translated to the state line, are 56,137 acre-feet for the irrigation season and 2,450 acre-feet for the non-irrigation season.

Baseline No. 3

The development of post-1997 storage in the South Platte River basin is 35.32 acre-feet.

Attachment 1

Wyoming's Water Year 2008 Depletions Report

1. Existing Water Related Activities – Baseline No. 1

1.1. Compliance with the Modified North Platte Decree

Wyoming complied with Modified Decree as per the intentionally irrigated acreage report submitted to the NPDC on February 25, 2009. The intentionally irrigated acreage was 200,447 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 24,248.23 acres. In a letter received on March 13, 2009 from Mr. John Lawson, Bureau of Reclamation Area Manager, he indicated that the Casper-Alcova Irrigation District reported the area irrigated as 24,249 for WY 2008.

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 the 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 2008.

Attachment 2 – Table 2.4 compares the WY 2008 water use with the benchmarks. The irrigation, municipal, industrial, rural domestic, and post-1997 new water uses are included in each respective row.

The source of the rural domestic population data is the State of Wyoming Department of Administration and Information. The rural domestic use is based upon 2007 populations, which are the most current data available.

While there have been permanently retired water uses since 1996, none are contained within *Table 2.4*. In the future Wyoming plans to investigate rural subdivision development, Wyoming Board of Control (WBOC) water right abandonments, and other abandonment activities.

2.2. Mitigation

After the overruns and underruns are translated to the State line, the net effect is an underrun of 56,137 acre-feet for the irrigation season and 2,450 acre-feet for the non-irrigation season. No mitigation is required.

Attachment 1 Wyoming's Water Year 2008 Depletions Report

3. South Platte River Basin – Baseline No. 3

For WY 2008, the total increase in the South Platte Basin in Wyoming is 1.42 acre-feet. The 1997 to 2007 total was 33.90 acre-feet, and with the increase from WY 2008, the post-1997 storage developed in the South Platte River basin is 35.32 acre-feet. All of these facilities were small ponds for stock, wildlife, fish propagation, or environmental purposes. The cumulative effect of these facilities could not affect flows at the State Line during a large runoff event.

4. Proposed Changes to Benchmarks

Wyoming is working on a recommendation on changes to Baseline No. 2 concerning the amounts of irrigated acreage.

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 Water Year 2008 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.

The new water related activities initiated during Water Year 2008 consist of small ponds, alluvial impoundments, and miscellaneous wells. There have been increased depletions resulting from enlargements of feedlots, new wells associated with new private businesses, installation of stock ponds and wildlife reservoirs, and enlargements of public facilities and services (firehouses and rest areas).

The estimated net depletions of the miscellaneous wells during the irrigation and non-irrigation seasons are 42.04 acre-feet and 21.02 acre-feet; respectively. The small ponds are non-irrigation facilities that have capacities less than 20 acre-feet. The estimated net depletions of the small ponds and alluvial impoundments during the irrigation and non-irrigation seasons are 22.99 acre-feet and 10.84 acre-feet; respectively. The total number of new water related activities in WY 2008 for irrigation and non-irrigation seasons are 65.03 acre-feet and 31.86 acre-feet, respectively.

Our review of the baseline monitoring continues to indicate increased depletions from commercial and industrial growth in Evansville and an expansion of the Sinclair Refinery. While these activities can be covered under the existing water related Baseline No. 2 this year, we will continue to monitor these increases and may be requiring mitigation in the future.

Attachment 1
Wyoming's Water Year 2008 Depletions Report

6. Non-hydrologically Connected Groundwater Wells

No new permits were issued for non-hydrologically connected groundwater wells during WY 2008. Wyoming has requested review of two applications by the Groundwater Wells Subcommittee of the NPDC, and if completed, these two wells will be reported in the Depletions Report for WY 2009.

Attachment 2 Wyoming's Water Year 2008 Depletions Report

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

Decree Category	Benchmark Acreage	2008 Acreage	Difference Acreage
Irrigated Acreage - Ab. Guernsey	226,000	200,447	25,553
Irrigated Acreage - Kendrick	24,248	*	
* Less than 24,248 acres.			

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

Sub-basin	Acreage Benchmark	2008 Acreage	Overruns (Underruns)	Unit	C.U.	Overruns (Underruns)
	(acres)	(acres)	(acres)	(af/acre)		(acre-feet)
Guernsey-State Line	108,964	82,739	-26,225		1.32	-34,617.00
Horse Creek	41,179	*			1.16	
Upper Laramie	92,440	86,314	-6,126		0.79	-4,839.54
Lower Laramie	86,271	61,839	-24,432		1.31	-32,005.92
Total	328,854	230,892	-56,783			-71,462.46
*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 2008.						

Attachment 2
Wyoming's Water Year 2008 Depletions Report

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

Total Depletions from New Water Activities - Post 1997						
Sub-basin	Irrigation Season			Non-Irrigation Season		
	97 to 07	WY 2008	Total	97 to 07	WY 2008	Total
	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)
Above Pathfinder	106.00	6.65	112.65	24.00	1.88	25.88
Pathfinder to Guernsey	1.00	7.56	8.56	48.00	3.03	51.03
Guernsey to State Line	34.00	11.72	45.72	24.00	7.04	31.04
Horse Creek	37.00	1.22	38.22	25.00	1.11	26.11
Upper Laramie	10.00	2.95	12.95	3.00	1.35	4.35
Lower Laramie	24.00	34.93	58.93	11.00	17.47	28.47
Total	212.00	65.03	277.03	135.00	31.86	166.86

Attachment 2
Wyoming's Water Year 2008 Depletions Report

Table 2.4.
Water Year 2008 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 Uses	Post 1997 Activities	Total		
	1	2	3	4	5	6	7		
Above Pathfinder	-----	-506.73	371.37	-160.13	-----	112.65	-182.84	0.90	-164.56
Pathfinder to Guernsey	-----	-979.92	-2,269.93	34.00	-----	8.56	-3,207.29	0.98	-3,127.10
Guernsey to State Line	-34,617.00	-762.04	-27.67	-1.13	-----	45.72	-35,362.11	1.00	-35,362.11
Horse Creek	-----	13.65	0.00	-18.67	-----	38.22	33.20	0.00	0.00
Upper Laramie	-4,839.54	-758.69	0.00	16.27	-----	12.95	-5,569.01	0.25	-1,392.25
Lower Laramie	-32,005.92	-217.91	0.00	-17.73	-----	58.93	-32,182.63	0.50	-16,091.32
WY 2008 Total	-71,462.46	-3,211.64	-1,926.23	-147.40	-----	277.03	-76,470.69		-56,137.35

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 Uses	Post 1997 Activities	Total		
	1	2	3	4	5	6	7		
Above Pathfinder	-----	-193.40	220.29	-80.07	-----	25.88	-27.30	0.93	-25.39
Pathfinder to Guernsey	-----	-123.63	-2,172.09	17.00	-----	51.03	-2,227.69	1.00	-2,227.69
Guernsey to State Line	-----	-123.77	-85.21	4.43	-----	31.04	-173.51	1.00	-173.51
Horse Creek	-----	-24.42	0.00	-9.33	-----	26.11	-7.65	1.00	-7.65
Upper Laramie	-----	-107.84	0.00	13.13	-----	4.35	-90.36	0.50	-45.18
Lower Laramie	-----	10.22	0.00	-8.87	-----	28.47	29.82	1.00	29.82
WY 2008 Total	-----	-562.84	-2,037.01	-63.70	-----	166.86	-2,496.69		-2,449.60