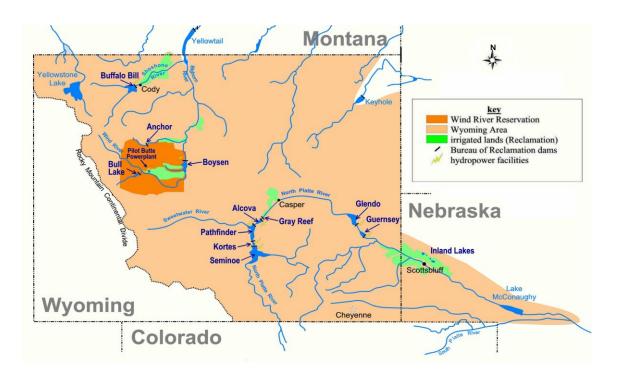
# RECLAMATION Managing Water in the West

North Platte River Basin Water Supply and Utilization Report Wyoming Area Office Report for April 2016



The Wyoming Area Office of the Bureau of Reclamation is responsible for the operation of Reclamation reservoirs in Wyoming east of the Continental Divide except for Keyhole Reservoir. Four off-stream reservoirs in Nebraska commonly referred to as the Inland Lakes also fall within the Wyoming Area. The North Platte River Basin Reservoirs have a combined storage capacity of 2,800,000 acre-feet. The major reservoirs in the Shoshone and Wind/Bighorn Basins have a combined storage capacity of 1,600,000 acre-feet.



United States of America Department of the Interior Bureau of Reclamation P.O. Box 1630 Mills, Wyoming 82644-1630

# Report for April 2016 WATER SUPPLY AND UTILIZATION REPORT NORTH PLATTE RIVER BASIN WYOMING AREA OFFICE

This report concerns the operation of Reclamation facilities in the North Platte River Basin.

Reclamation defines a water year as the time period of October 1 through September 30. Water year is abbreviated in this report as W. Yr.

Other organizations furnished information for the Water Supply and Utilization Report. Their cooperation is greatly appreciated.

This report is available on the Internet and can be accessed by following these steps:

- 1. Log on to the Great Plains Home Page at: <a href="http://www.usbr.gov/gp">http://www.usbr.gov/gp</a>
- 2. On left side of page Select Water Operations.
- 3. Under Water Operations Select Water Management Information.
- 4. Under Water Management Select Water Supply Report.
- 5. Under North Platte River Basin, select Current Month or reports from the previous 12 months.

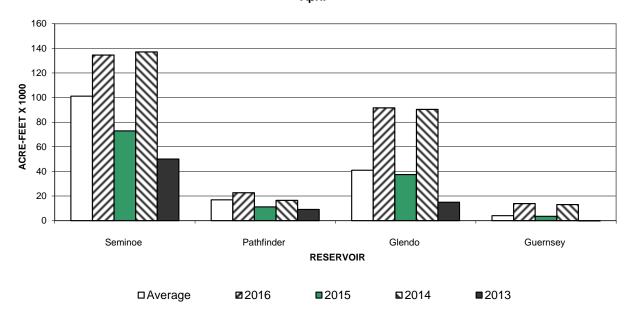
### NORTH PLATTE RIVER BASIN INFLOW

(1000 acre-feet)

	April Inflow			His	April Historical Inflow			Accumulated Inflow (October - April)		
Reservoir	W. Yr. 2016	30 Yr. Avg. ⁵	% of Avg.	W. Yr. 2015	W. Yr. 2014	W. Yr. 2013	W. Yr. 2016	30 Yr. Avg. ⁵	% of Avg.	
Seminoe	134.5	101.2	133	72.9	137.1	50.0	314.3	297.9	106	
Pathfinder 1,2	22.7	16.9	134	11.2	16.5	9.1	55.3	54.0	102	
Glendo <sup>3</sup>	91.6	41.0	223	37.4	90.4	14.9	146.6	110.7	132	
Guernsey <sup>4</sup>	13.8	4.0	345	3.5	13.0	-0.7	27.0	13.5	200	
System Total	262.6	163.1	161	125.0	257.0	73.3	2559.2	476.1	540	

- 1 It is assumed that there is no gain between Seminoe and Kortes Dams.
- 2 River gain between Kortes and Pathfinder Dams.
- 3 River gain between Pathfinder and Glendo Dams.
- 4 River gain between Glendo and Guernsey Dams.
- 5 30 year average. (1986-2015)

### NORTH PLATTE RIVER BASIN RESERVOIR INFLOW April



### NORTH PLATTE RIVER BASIN OUTFLOW

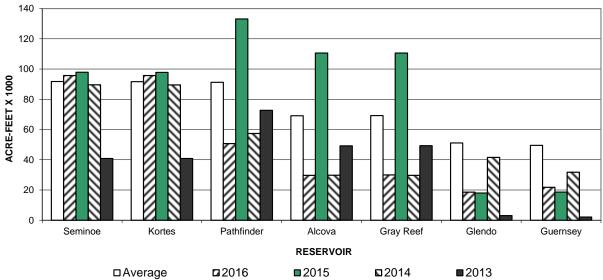
(1000 acre-feet)

	April Outflow			His	April Historical Outflow			Accumulated Outflow (October - April)		
Reservoir	W. Yr.	30 Yr.	% of	W. Yr.	W. Yr.	W. Yr.	W. Yr.	30 Yr.	% of	
	2016	Avg. <sup>2</sup>	Avg.	2015	2014	2013	2016	Avg. <sup>2</sup>	Avg.	
Seminoe	95.7	91.7	104	97.9	89.6	40.8	364.9	377.4	97	
Kortes	95.7	91.6	104	97.7	89.5	40.8	364.8	377.3	97	
Pathfinder	50.7	91.2	56	133.1	57.4	72.7	230.7	304.4	76	
Alcova	29.7	69.1	43	110.6	29.8	49.2	229.4	301.9	76	
Gray Reef	30.0	69.2	43	110.6	29.7	49.3	229.4	301.9	76	
Glendo <sup>1</sup>	18.6	51.1 ¹	36	18.0	41.5	3.1	27.7	79.1	35	
Guernsey	21.8	49.5	44	18.6	31.8	2.1	23.2	72.9	32	

<sup>1</sup> In 1993 an outlet was constructed at Glendo Dam which is used to provide a flow of approximately 25 cubic feet per second, 22 year average (1994-2015).

# **NORTH PLATTE RIVER BASIN RESERVOIR OUTFLOW**





<sup>2 30</sup> year average (1986-2015).

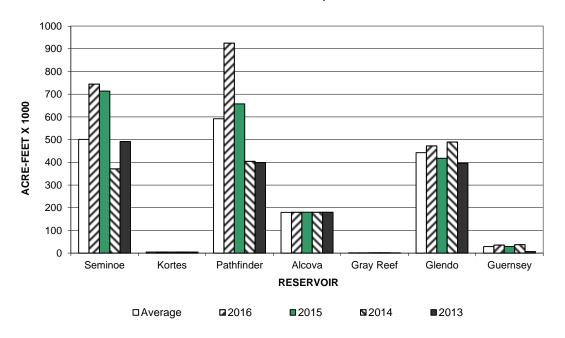
### NORTH PLATTE RIVER BASIN RESERVOIR STORAGE

(1000 acre-feet)

		Total Storage End of April			End of Apri torical Stor		Total Conservation	Percent of
Reservoir	W. Yr.	30 Yr.	% of	W. Yr.	W. Yr.	W. Yr.	Storage	Capacity
	2016	Avg. 1	Avg.	2015	2014	2013	Capacity	
Seminoe	744.5	501.2	149	714.0	371.1	492.1	1017.3	73
Kortes	4.7	4.7	100	4.9	4.6	4.7	4.7	100
Pathfinder	925.1	591.7	156	657.5	404.0	399.0	1070.0	86
Alcova	180.0	179.6	100	180.1	180.0	180.4	184.4	98
Gray Reef	1.2	1.4	86	1.6	1.4	1.3	1.8	67
Glendo	472.4	442.4	107	417.8	489.5	396.2	492.0	96
Guernsey	35.6	28.6	124	29.6	37.0	6.8	45.6	78
Total	2363.5	1749.6	135	2005.5	1487.6	1480.5	2815.8	84

<sup>1</sup> Average is based on the 1986-2015 period.

## NORTH PLATTE RIVER BASIN RESERVOIR STORAGE End of April



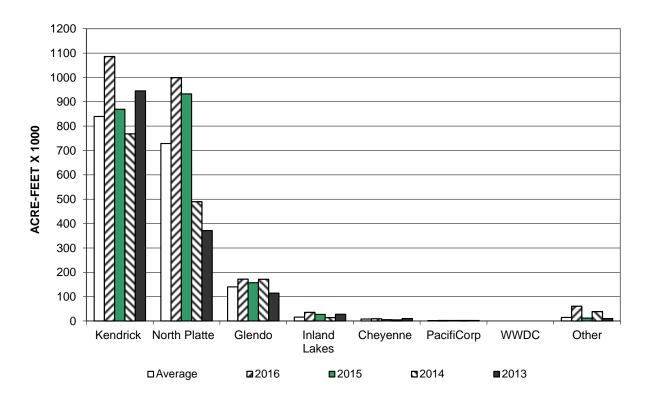
### NORTH PLATTE RIVER BASIN RESERVOIR STORAGE OWNERSHIP

(1000 acre-feet)

		Ownership of water End of April				End of Apri prical Owne		Total	Percent of
Ownership		W. Yr. 2016	30 Yr. Avg. ⁵	% of Avg.	W. Yr. 2015	W. Yr. 2014	W. Yr. 2013	Storage Capacity	Capacity
Kendrick		1085.9	839.5	129	869.1	768.1	944.9	1201.7	90
North Platte	1	999.3	728.8	137	932.1	489.6	371.0	1115.6	90
Glendo		171.7	140.2	122	157.2	171.4	114.7	171.7	100
Inland Lakes	2	35.2	15.9	221	27.3	13.8	27.5	46.0	77
Cheyenne	3	9.2	8.0	115	5.6	4.3	10.3	10.0	92
PacifiCorp	4	2.0	1.6	125	2.0	2.0	2.0	2.0	100
WWDC		0.0	N/A	N/A	0.0	0.0	0.0	N/A	N/A
Other	6	60.4	14.9	405	12.1	38.4	10.2	N/A	N/A

- 1 This includes North Platte Guernsey and North Platte Pathfinder.
- 2 Water stored temporarily in mainstem facilities for later transfer to the Inland Lakes. This table does not reflect water currently stored in the Inland Lakes.
- 3 The City of Cheyenne has a storage contract to store water in Seminoe Reservoir by exchange of Upper North Platte Basin water through a system of trans-basin diversions.
- 4 PacifiCorp has a storage contract to store water in Glendo Reservoir for Dave Johnston Powerplant.
- 5 Average is based on the 1986-2015 period.
- 6 Water which is captured in the re-regulation space of Glendo in addition to storage rights, operational water account, and replacement of evaporation losses is labeled as "Re-regulation of Natural Flow" per Wyoming Board of Control Order Docket Number I-2000-3-8 in water Division Number One. In accordance with 2016 Natural Flow and Ownership Procedures, the operational account may contain up to 15,000 acre-feet. On April 30, 2016, the Operational account contained 15,000 Acre-feet, the Re-Regulation space contained 45,357 Acre-feet.

### NORTH PLATTE RIVER BASIN OWNERSHIP OF WATER End of April



### **INLAND LAKES RESERVOIR STORAGE**

( acre-feet)

				( 4010 1001)
	Total	30 Year	Percent of	Total
Reservoir	Storage	Average 5	Average	Storage
	End of April		_	Capacity
Lake Alice	1,156	3,400	34	11,034 1
Little Lake Alice	286	300	<sup>6</sup> 95	1,166 <sup>2</sup>
Lake Winters Creek	742	600	<sup>6</sup> 124	1,746 <sup>3</sup>
Lake Minatare	32,296	30,600	106	58,795 ⁴

- 1 At Elevation 4182.0
- 2 At Elevation 4139.0
- 3 At Elevation 4125.0
- 4 At Elevation 4125.0
- 5 30 year average. (1986-2015)
- 6 25 year average. (1991-2015)

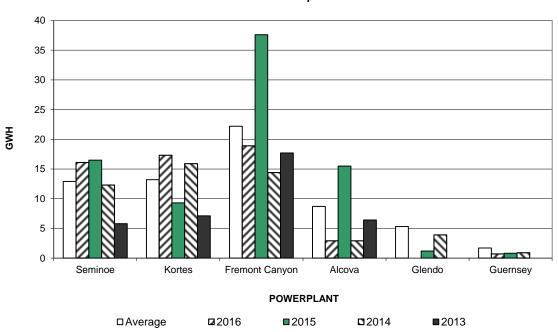
### NORTH PLATTE RIVER BASIN GROSS GENERATION

(Energy in giga-watt hours)

	April Gross Generation			April Historical Generation			Accumulated Gross Gen. (October - April)		
Powerplant	W. Yr. 2016	30 Yr. Avg. <sup>2</sup>	% of Avg.	W. Yr. 2015	W. Yr. 2014	W. Yr. 2013	W. Yr. 2016	30 Yr. Avg. <sup>2</sup>	% of Avg.
Seminoe	16.1	12.9	125	16.5	12.3	5.8	58.6	55.0	107
Kortes	17.3	13.2	131	9.3	15.9	7.1	57.0	59.1	96
Fremont Canyon 1	18.9	22.2	85	37.6	14.4	17.7	62.3	74.4	84
Alcova	2.9	8.7	33	15.5	2.9	6.4	22.7	35.5	64
Glendo	0.0	5.3	0	1.2	3.9	0.0	0.0	7.1	0
Guernsey	0.7	1.7	41	0.8	0.9	0.0	0.7	2.4	29

<sup>1</sup> The powerplant for Pathfinder Dam is Fremont Canyon.

### NORTH PLATTE RIVER BASIN GROSS GENERATION April



<sup>2</sup> Average is based on the 1986-2015 period.

### NORTH PLATTE ESTIMATED APRIL-JULY RUNOFF

(1000 acre-feet)

Forecast		/ 1, 2016 Fore April-July Rur	30 Yr. April-July	Expected	Comparative Actual April - July Runoff				
Points	Reasonable Minimum <sup>1</sup>	Expected	Reasonable Maximum <sup>1</sup>	Runoff Avg. <sup>2</sup>	% of Avg.	W. Yr. 2015	W. Yr. 2014	W. Yr. 2013	W. Yr. 2012
Seminoe Reservoir	650	850	1050	690	123	654	1079	328	268
Sweetwater River									
Above Pathfinder									
Reservoir	50	70	90	53	132	41	42	10	24
Alcova to Glendo	200	250	300	130	192	196	238	50	47

<sup>1</sup> The probability is estimated to be 9 chances in 10 that the actual volume will fall between the reasonable minimum and reasonable maximum.

(1000 acre-feet)

							(1000 acre-reet)	
Forecast Points		May 1, 2016 Forecast of April-July Runoff  Chance of Exceeding						
	95%	75%	50%	% of Avg	25%	5%	Avg. <sup>1</sup>	
Seminoe Reservoir	650	768	850	123	932	1050	690	
Sweetwater River Above Pathfinder								
Reservoir	50	62	70	132	78	90	53	
Alcova to Glendo Gain	200	230	250	192	270	300	130	

<sup>&</sup>lt;sup>1</sup> Average is based on the 1986-2015 period.

<sup>&</sup>lt;sup>2</sup> Average is based on the 1986-2015 period.

### NORTH PLATTE SNOWPACK WATER CONTENT

The tables shown below display the Snotel Stations used in the development of the April-July snowmelt runoff forecasts displayed on page eight of this report.

SWE in inches 1

		May 1, 2016 snow-water content			Comparative May 1 snow-water content		
WATERSHED	W. Yr. 2016	30 Yr. Median <sup>2</sup>	W. Yr. 2015	W. Yr. 2014	W. Yr. 2013		
Seminoe Reservoir	26.5	25.2	105	16.9	24.1	18.5	
Pathfinder Reservoir	18.2	16.0	114	10.1	11.5	5.6	
Glendo Reservoir	14.9	9.0	165	6.2	12.9	8.2	

### **Seminoe Reservoir Watershed**

SWE in inches 1

Stations		Water	30 Yr.
(Elevation)		Content	Median <sup>2</sup>
Brooklyn (10,200)	4	26.5	23.3
Columbine Lodge(9,160)	4	20.9	18.2
Divide Peak (8,880)	4	21.0	18.0
Joe Wright (10,120)	4	20.3	23.3
North French (10,130)	4	32.6	32.9
Old Battle (9,800)	4	37.7	34.7
Sand Lake (10,050)	4	34.1	31.4
South Brush (8,440)	4	9.6	9.2
Tower (10,500)	4	45.9	50.0
Webber Springs (9,250)	4	24.3	21.7
Willow Creek Pass (9,540)	4	18.3	14.2
Watershed Average		26.5	25.2

### Pathfinder Reservoir Watershed

SWE in inches 1

Stations	Water	30 Yr.
(Elevation)	Content	Median <sup>2</sup>
South Pass (9,040) 4	16.9	14.9
Deer Park (9,700) 4	19.5	16.0
Watershed Average	18.2	15.5

### **Glendo Reservoir Watershed**

SWE in inches 1

Stations	Water	30 Yr.
(Elevation)	Content	Median <sup>2</sup>
Casper (7,900) 4	20.6	13.3
Laprele Creek (8,375) 4	9.4	6.1
Reno Hill (8,500)	19.2	12.6
Windy Peak (7,900)	10.2	4.0
Watershed Average	14.9	9.0

<sup>&</sup>lt;sup>1</sup> SWE (Snow Water Equivalent is the amount of water in the snowpack expressed in inches)

<sup>&</sup>lt;sup>2</sup> Median for the 1981-2010 period

<sup>&</sup>lt;sup>3</sup> Represents a Natural Resources Conservation Service (NRCS) Snow Course Site.

<sup>&</sup>lt;sup>4</sup> Represents a NRCS Snowpack Telemetry Network (SNOTEL) Site.

<sup>&</sup>lt;sup>5</sup> Estimated.