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U.S. Army Corps of Engineers Omaha District Monthly Drought Report, September 2006

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U.S. Army Corps of Engineers Omaha District Monthly Drought Report September 2006





US Army Corps of Engineers Omaha District

Table of Contents

Current Conditions	3
Drought Outlook	11
Ft. Peck, Montana Reservoir Elevation Overview Water Intake Overview Access Overview Noxious Weeds Overview Cultural Resources Overview	14 15 15 15 15
Garrison, North Dakota Reservoir Elevation Overview Water Intake Overview Access Overview Boat Ramp Information Noxious Weeds Overview Cultural Resources Overview Other Areas of Interest/Concern	16 17 20 21 23 23 23
Oahe, South Dakota Reservoir Elevation Overview Water Intake Overview Access Overview Noxious Weeds Overview Cultural Resources Overview	24 25 27 27 27
Mainstem Reservoir Information, Weekly Elevation Comparison 7 AUG 2006 through 28 AUG 2006	28
Mainstem Reservoir Storage Comparison Water Years 2004, 2005, 2006 Ft. Peck, MT Garrison, ND Oahe, SD	29 30 31

CURRENT CONDITIONS

The drought in the south and on the high plains, including the Missouri River Basin, continues with no immediate, foreseeable relief. There are still large areas of "severe" and "extreme" drought, as indicated by the U.S. Drought Monitor. Also, there are still no areas within the Missouri River Basin exhibiting "normal" long-term moisture conditions.

A good indication of the severity of the drought is reflected in the recent relief measures proposed by Agricultural Secretary Mike Johanns. The relief is aimed at farmers and ranchers who have suffered through another year of drought and are experiencing significant crop and livestock losses.

Precipitation Departures

Precipitation departures from normal during the last 72 months for the United States are shown in Figure 1. In Montana, accumulated precipitation ranges from near normal to nearly a 15-inch deficit. Wyoming's accumulated precipitation varies widely from near normal to a 20-inch deficit. Nebraska ranges from near normal to a 15-inch deficit. The Dakotas generally range from near normal to a 30-inch deficit. The South Platte River Basin in Colorado still shows precipitation deficits of 5 to 15 inches during a majority of the 72-month period.

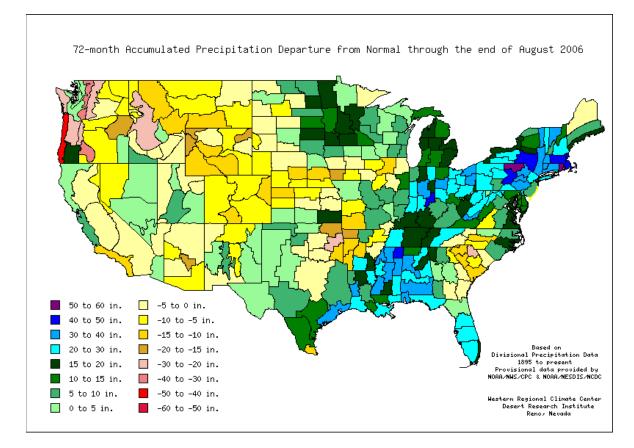
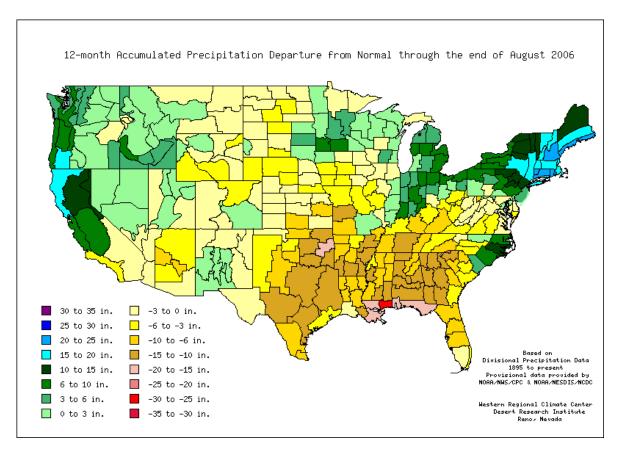
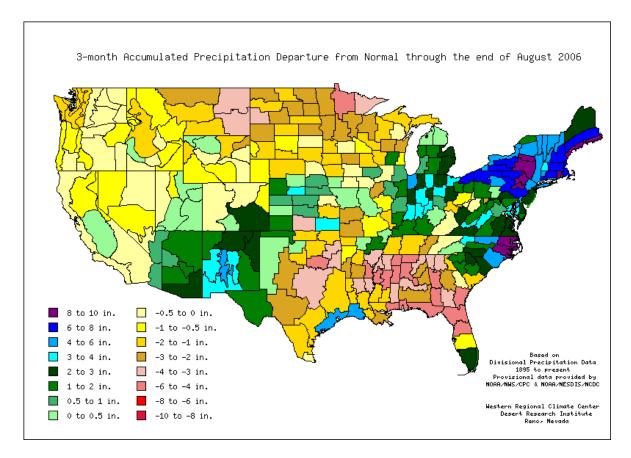


Figure 1 – 72 month Precipitation Departure From Normal http://www.wrcc.dri.edu/cgi-bin/spiFmap.pl?dep72



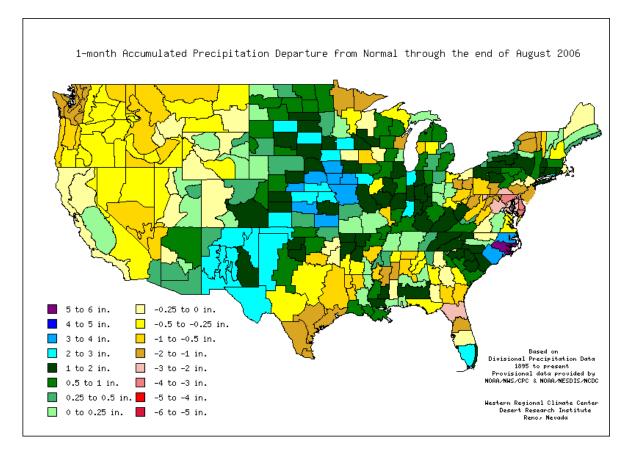
The 12-month precipitation accumulation in Figure 2 indicates that precipitation throughout much of the western and northwestern District is from normal to a six-inch deficit.

Figure 2 – 12 month Precipitation Departure From Normal http://www.wrcc.dri.edu/cgi-bin/spiFmap.pl?dep12



The three-month period (Figure 3) shows deficits up to six-inches within the basin.

Figure 3 – 3 month Precipitation Departure From Normal http://www.wrcc.dri.edu/cgi-bin/spiFmap.pl?dep03



A large portion of the basin received favorable precipitation in August. Some areas actually received a surplus of several inches (Figure 4).

Figure 4 – 1 month Precipitation Departure From Normal http://www.wrcc.dri.edu/cgi-bin/spiFmap.pl?dep01

Drought Indicators

The Palmer Drought Severity Index and the Drought Monitor are two commonly used drought-indicator products that convey both short-term and long-term drought conditions and impacts. Both the Palmer Index and Drought Monitor depict some regions exhibiting varying degrees of drought in Nebraska, South Dakota, Wyoming, and Montana, which have been suffering from drought since 2000.

Palmer Drought Severity Index

The Palmer Drought Severity Index (PDSI) is a meteorological drought index that monitors the hydrologic water balance including the basic terms such as precipitation, evapotranspiration, soil recharge, runoff, and moisture loss. The purpose of this index is to provide standardized measurements of the moisture balance in a region without taking into account streamflow, lake and reservoir levels, and other hydrologic impacts. PDSI is a multi-month drought index; therefore, it responds well and is more suitable for shortterm droughts.

Changes to the PDSI are more immediate in response to heavy precipitation over short periods. The PDSI shown in Figure 5 reflects near normal to extreme drought conditions across the Omaha District. The near normal areas are indicative of the rains received in eastern Nebraska and eastern South Dakota.

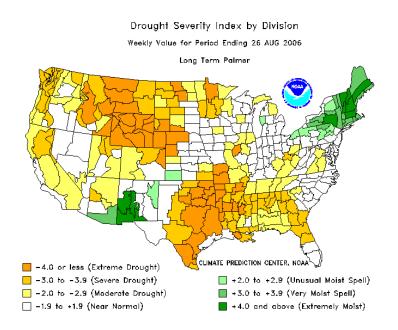
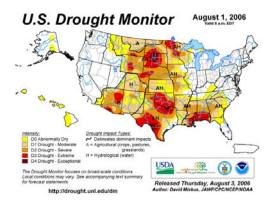


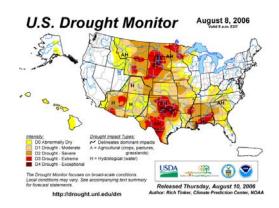
Figure 5 – Long-Term Palmer Drought Indicator Ending 26 AUG 2006 http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer.gif

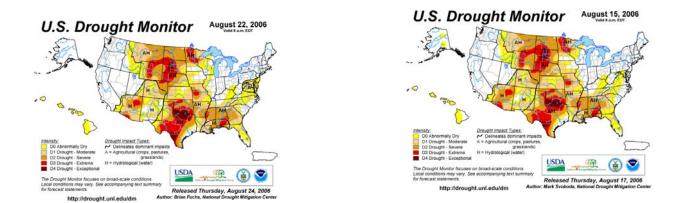
Drought Monitor

The Drought Monitor is a multi-agency comprehensive drought classification scheme updated weekly by the National Drought Mitigation Center. The Drought Monitor combines information from the Palmer Drought Index, the Climate Prediction Center's soil moisture model, USGS weekly streamflow percentiles, the standard precipitation index, the crop moisture index, and during the snow season basin snow water content, basin average precipitation, and the surface water supply index. Since this product considers streamflow conditions and reservoir water supply, and it allows manual adjustment; it is a good depiction of long-term drought impacts to the affected areas. The Drought Monitor uses four levels of drought classification (moderate, severe, extreme, and exceptional), and it notes the type of impact caused by the drought (agricultural and hydrologic).

Similar to July, the basin has large areas suffering from "severe" to "exceptional" drought conditions. The figures below illustrate the extent and severity of the drought.







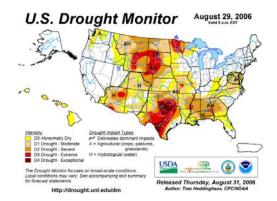


Figure 6 – U.S. Drought Monitor – August 1, 2006 through August 29, 2006 http://www.drought.unl.edu/dm/monitor.html

DROUGHT OUTLOOK

The basin drought outlook uses several expert products that indicate precipitation needs necessary to reduce the Palmer Drought to normal conditions, a one- and three-month climate outlook, and the impacts that future climate predictions could have on the current drought situation. The three-month Drought Outlook (Figure 7) indicates that large portions of the effected area could show improvement.

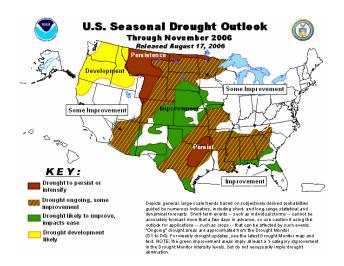


Figure 7 – Three-Month Seasonal Drought Outlook through November 2006 http://www.cpc.ncep.noaa.gov/products/expert_assessment/seasonal_drought.html

Weekly Precipitation Need

Figure 8 is the weekly precipitation needed to reduce the current Palmer Drought Severity Index value to -0.5 or near normal conditions.

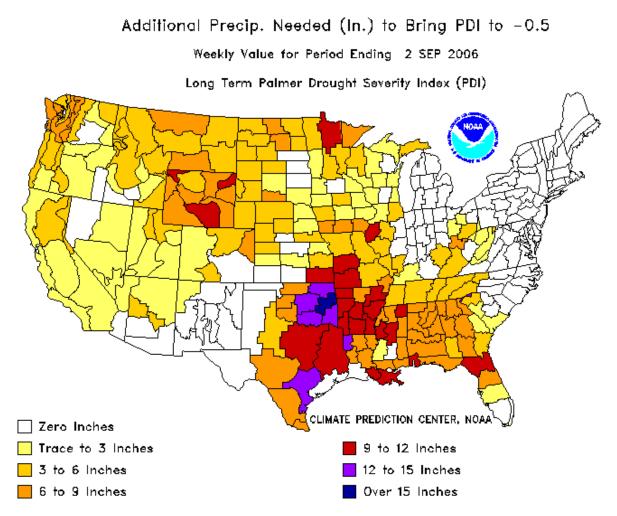


Figure 8 – Weekly Precipitation Need to Bring PDI to -0.5

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/addpcp.gif

In order to reach near normal Palmer Drought conditions, Montana would need from 3 to 9 inches of precipitation across the state, the North Platte River basin in Wyoming would require up to 3 to 12 inches of precipitation while Nebraska would require up to 6 inches. Water supply deficits in large reservoirs, groundwater reserves, and possibly subsoil moisture reserves would receive limited benefit from the weekly Palmer precipitation needs. Mitigation of a multi-year drought would likely require multiple years of normal and above-normal water inflow conditions.

Mainstem Reservoir Information

The mainstem reservoir system conditions continued to deteriorate throughout August. The Ft. Peck reservoir is higher than at this time last year, however, it is beginning to fall. The Oahe reservoir experienced a new record low and the Garrison reservoir has begun its decline. The level of the Oahe reservoir will be closely monitored and coordinated with Garrison releases to make sure that no adverse impacts are realized at any Oahe reservoir municipal water intakes. Based on the current reservoir conditions and the latest predictions from Northwestern Division Water Management Division, no municipal water intakes within the reservoirs appear to be in jeopardy.

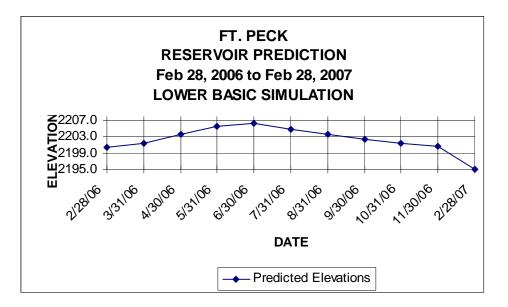
Fort Peck, Montana

Reservoir Elevation Overview

		30-Day	150-Day
	Current Lake	Projected	Projected
Lake Elevation	Elevation	Elevation*	Elevation*
8/31/2005	8/31/2006	(9/30/2006)	(01/31/2007)
(ft. msl)	(ft. msl)	(ft. msl)	(ft. msl)
2202.3	2203.5	2202.3	2196.5

Comments:

- 1. Current reservoir elevation is 30.5-feet below the top of conservation pool (elevation 2234.0 ft. msl).
- 2. Projections provided are based upon the Lower Basic Simulation prepared by the Reservoir Control Center.
- 3. Current elevation is 1.2-ft. higher than elevation on 7/31/05 (2203.2).
- * Normally use 180-day projections; however, since the water year ends Jan. 31, the end of water year projection is used.



Water Intake Overview

Intake	Comments
	No issues.
Hell Creek State Park	Well completed 22 NOV 2004

Access Overview

- 1. 8 ramps usable (Corps and State); 3 ramps unusable. No permanent ramps operational.
- 2. Remaining concessionaires marginal.

Noxious Weeds Overview

- 1. As the reservoir elevation dropped, the noxious weeds spread along the shoreline.
- 2. Main concern is Saltcedar, which thrives along the shoreline as the reservoir elevation declines.
- 3. Noxious weed control is being addressed.

Cultural Resources Overview

1. No issues to date.

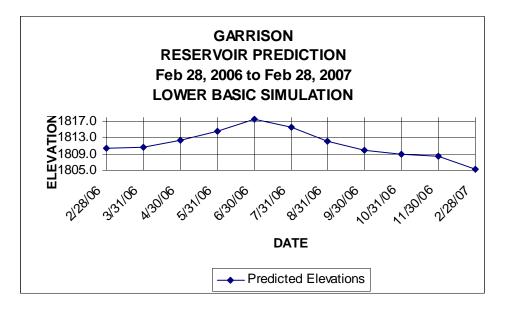
Garrison, North Dakota

Reservoir Elevation Overview

		30-Day	150-Day
	Current Lake	Projected	Projected
Lake Elevation	Elevation	Elevation	Elevation*
8/31/2005	(8/31/2006)	(9/30/2006)	(1/31/2007)
(ft. msl)	(ft. msl)	(ft. msl)	(ft. msl)
1816.5	1812.0	1809.8	1806.0

Comments:

- 1. Current reservoir elevation is 25.5-feet below the top of conservation pool (elevation 1837.5 ft. msl).
- 2. Projections provided are based upon the Lower Basic Simulation prepared by the Reservoir Control Center.
- 3. Current reservoir elevation is 4.5 ft. lower than elevation on 8/31/05 (1816.5).
- * Normally use 180-day projections; however, since the water year ends Jan. 31, the end of water year projection is used.



Water Intake Overview

		Current Reservoir	Top of Screen	Operational Concern	Shutd Ele		Population	Contingency Plan?	Resp.
Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Whiteshield	Operational	1816.5	1787	1805	1787	1792	720	Ν	TAT/BOR

Comments:

1. Top of Screen Elevation taken from survey completed by the Corps in 2005. The intake was extended and lowered 2-feet since the Corps' survey in 2005.

Future Plans:

- 1. Ft. Berthold Rural Water System (FBRW) secured \$1.0 million funding through USDA Emergency Community Water Assistance Grant Program for improvements in 2006.
- 2. Project design includes a 940-feet bored pipeline into the lake at elevation 1763. The line will be 24" polyethylene pipe. New SCADA control and pumps are included in the project design.
- 3. FBRW has the option of discontinuing existing system or keeping the system in operation as a backup.
- 4. Project bids were opened 19 JUL 2006. The low bid was \$318,000 over the project estimate. FBRW is negotiating with the low bidder in an attempt to lower the project costs. If negotiations are successful, project construction will begin in September 2006 and will be completed by the Fall of 2007.

		Current Reservoir	Top of Screen	Operational Concern	Shutd Ele		Population	Contingency Plan?	Resp.
Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Twin Buttes	Operational	1816.5	1784.4	1805	1788	1790	425	Ν	TAT/BOR

- 1. Top of Screen Elevation taken from survey completed by the Corps in 2005.
- 2. Erosion due to low reservoir levels have caused increased sediment in the intake piping. This has increased maintenance cost to remove the sediment and increased the cost of treating the water.

Future Plans:

- 1. Ft. Berthold Rural Water System has secured funding through the Indian Health Services, the Bureau of Reclamation, and the USDA Emergency Community Water Assistance Grant Program to improve the system in 2006.
- 2. Project design includes a 760-feet bored pipeline into the lake at elevation 1741. The line will be a 24" polyethylene pipe. New SCADA control and pumps are included in the design.
- 3. FBRW has the option of discontinuing existing system or keeping the system in operation as a backup.
- 4. Project bids were opened 19 JUL 2006. The low bid was \$209,000 over the project estimate. FBRW is negotiating with the low bidder in an attempt to lower the project costs. If negotiations are successful, project construction will begin in September 2006 and will be completed by the Fall of 2007.

		Current	Top of	Operational	Shutde Elev			Contingency	_
		Reservoir	Screen	Concern			Population	Plan?	Resp.
Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Mandaree	Operational	1816.5	1786	1789.0	1789	1794	780	Ν	TAT/BOR

Comments:

- 1. The new intake screen is at elevation 1786.
- 2. Grant monies for the project were secured from USDA Emergency Community Water Assistance Grant Program and Indian Health Services and work on the intake was completed in 2005.

			Current	Top of	Operational	Shutdown Elev.			Contingency	_
			Reservoir	Screen	Concern			Population	Plan?	Resp.
In	ıtake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Four	r Bears	Operational	1816.5	1789.9	1800.0	1792	1794	900	Ν	TAT/BOR

- 1. Top of Screen Elevation taken from survey completed by the Corps in 2005.
- 2. The screen has been checked by divers and it was confirmed that approximately 20-feet of water is over the intake.
- 3. Erosion due to low reservoir levels have caused increased sediment in the intake piping. This has increased maintenance cost to remove the sediment and increased the cost of treating the water.

Future Plans:

- 1. Ft. Berthold Rural Water System has secured funding through USDA Emergency Community Water Assistance Grant Program to improve the intake in 2006.
- 2. The project design includes 1,160-feet of 24-inch polyethylene pipe bored into the reservoir at elevation 1741. The design includes SCADA control and new pumps.
- 3. FBRW has the option of discontinuing existing system or keeping the system in operation as a backup.
- 4. Project bids were opened 19 JUL 2006. The low bid was \$180,000 over the project estimate. FBRW is negotiating with the low bidder in an attempt to lower the project costs. If negotiations are successful, project construction will begin in September 2006 and will be completed by the Fall of 2007.

ſ			Current	Top of	Operational	Shutd Ele			Contingency	
			Reservoir	Screen	Concern			Population	Plan?	Resp.
	Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
	Parshall	Operable	1816.5	1803.6*	1806.6	1797.5	1801.5	1000	Ν	Parshall

Comments:

- 1. Top of Screen Elevation taken from survey completed by the Corps in 2005.
- 2. The City had a telescoping riser attached to the intake by 30 July 2005. The riser extended the intake to within 3- to 4-feet of the water's surface.
- 3. Require at least 3 feet of water over the intake for proper operation.
- 4. Water quality at current level is good following water treatment.

Future Plans:

1. Discussions have been held between Parshall and New Town regarding future water supply. No formal decisions have been reached. Parshall is a proposed supplier for the Rural Water System.

*Screen is raised or lowered according to reservoir elevations.

					Shutde	Shutdown			
		Current	Top of	Operational	Ele	v.		Contingency	
		Reservoir	Screen	Concern			Population	Plan?	Resp.
Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Pick City	Operational	1816.5	1795	1800	1798	1800	200		Pick City

- 1. Top of Screen Elevation taken from survey completed by the Corps in 2005.
- 2. At least 5-feet of water is necessary to operate this intake. If continued usage is planned, the intake will have to be lowered.

Future Plans:

1. Rural water is available to the City, however, they have chosen to continue using their intake until the water no longer meets State Health Standards or work is required on their intake.

		Current	Top of	Operational	Shutd Ele			Contingency	D
		Reservoir	Screen	Concern			Population	Plan?	Resp.
Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Garrison	Operational	1816.5	1787.2	1805	1792	1792	1830	Ν	Garrison

Comments:

- 1. Top of Screen Elevation taken from survey completed by the Corps in 2005.
- 2. A regulatory permit was currently issued for the reinstallation of existing 950-feet of 8" poly pipe and installation of new 250-feet of 8" poly pipe to extend the intake system.

		Current Reservoir	Top of	Operational	Shutde Ele		Population	Contingency	Resp.
Intake	Status	Elev.	Screen Elev.	Concern Elev.	Summer	Winter	Supported	Plan? (Y/N)	Agency
SW Pipeline	Operational	1816.5	1779.0	1782	1776		34,000	Ν	SW Pipeline

Comments:

1. This system provides water for the City of Dickinson, Antelope Valley Power Plant, Coal Gasification Plant, and the Southwest Water Authority.

Access Overview

1. Ft. Stevenson State Park Marina design is completed. However, no federal funding is available for construction.

Updated 9/5/2006

Reservoir Elevation 8/31/06 – 1816.5

Location	Туре	Top Elevation	Bottom Elevation	Comments	Managing Agency	Contact Person	Phone
Beaver Bay (low-water-COE)	poured concrete	1829	1808	Usable	Corps of Engineers	Linda Phelps	654-7411
Beulah Bay	poured concrete	1852.4	1799	Usable	Beulah Park Board	Bev Sullivan	870-5852
Camp of the Cross	Slide-in metal sections	1819	1806	Usable	Lutheran Bible Camp	Larry Crowder	337-2246
Charging Eagle Bay (1st low water)	poured concrete	1829.2	1810.6	Unusable	Three Affiliated Tribes	Jim Mossett	880-1203
Dakota Waters Resort (low-water)	poured concrete, planks	1853.4	1797	Usable	Beulah Park Board	Kelvin Heinsen	873-5800
Deepwater Creek (2nd low water)	concrete planks & metal	1820	1808	Usable	Corps of Engineers	Linda Phelps	654-7411
Deepwater Creek (1st low water)	poured concrete	1838.5	1809	Unusable	Corps of Engineers	Linda Phelps	654-7411
Douglas Creek (low water)	poured concrete, planks	1831	1801	Usable	Corps of Engineers	Linda Phelps	654-7411
Fort Stevenson State Park (low water)	poured concrete	1821.8	1790	Usable	ND Parks & Rec	Dick Messerly	337-5576
Four Bears Park (south low water)	concrete planks	1820.7	1803	Usable	Three Affiliated Tribes	Alan Chase	627-4018
Garrison Creek Cabin Site	poured concrete	1857	1802	Usable	Garrison Cabin Assc.	Percy Radke	337-2247
Government Bay (low water)	slide-in metal sections	1815	1803	Unusable	Corps of Engineers	Linda Phelps	654-7411
Government Bay (main ramp)	poured concrete	1857	1810	Unusable	Corps of Engineers	Linda Phelps	654-7411
Hazen Bay (2nd low water)	poured concrete	1830.6	1808	Usable	Hazen Park Board	Jeff Gustafson`	748-6948
Indian Hills (2nd low water)	concrete planks	1817.6	1807	Usable	Parks & Rec/Tribes	Kelly Sorge	743-4122
Indian Hills (1st low water)	concrete planks	1826.4	1811.8	Usable	Parks & Rec/Tribes	Kelly Sorge	743-4122
McKenzie Bay (east ramp)	poured concrete	1850.9	1796	Usable	McKenzie Marine Club	Rhonda Logan	579-3366

Location	Туре	Top Elevation	Bottom Elevation	Comments	Managing Agency	Contact Person	Phone
Parshall Bay (2nd low-water)	poured concrete	1817.8	1808.5	Usable	Mountrail County Park Board	Clarence Weltz	627-3377
Pouch Point (3rd low-water)	slide-in metal sections	1819	1809	Unusable	Three Affiliated Tribes	Paul Danks	627-3627
Pouch Point (2nd low-water)	poured concrete	1834.8	1813	Unusable	Three Affiliated Tribes	Paul Danks	627-3627
Reunion Bay (2nd low water)	concrete planks	1826.6	1808	Usable	Corps of Engineers	Linda Phelps	654-7411
Sakakawea State Park (main)	poured concrete	1850	1800	Usable	ND Parks & Rec	John Tunge	487-3315
Sanish Bay (Aftem) (low water)	poured concrete	1830.8	1807.4	Unusable	Aftem Lake Development	Gerald Aftem	852-2779
Skunk Creek Recreation Area (main)	poured concrete	1840	1806.5	Usable	Three Affiliated Tribes	Ken Danks	290-2841
Sportsmen's Centennial Park	poured concrete	1831.6	1808.5	Usable	McLean County	Les Korgel	462-8541
Steinke Bay	poured concrete	1833.1	1813.4	Unusable	North Dakota Game & Fish	Bob Frohlich	328-6346
Van Hook (Gull Island north low- water)	metal bridge deck sections	1817.8	1805	Usable	Mountrail County Park Board	Clarence Weltz	627-3377
Van Hook (west low water ramps)	poured concrete	1821.2	1808	Usable	Mountrail County Park Board	Clarence Weltz	627-3377
White Earth Bay (main)	poured concrete	1850.9	1801	Usable	Mountrail County Park Board	Greg Gunderson	755-3277
Wolf Creek Recreation Area (1st low water)	poured concrete	1833.8	1802.5	Usable	Corps of Engineers	Linda Phelps	654-7411

Noxious Weeds Overview

1. Project personnel are continuing efforts to combat noxious weeds.

Cultural Resources Overview

1. Project personnel continue to monitor the shoreline for the protection of cultural resources.

Other Areas of Interest/Concern

- 1. Garrison National Fish Hatchery Three issues exist and are of concern to the State of North Dakota and the U.S. Fish and Wildlife Service.
 - a. Addition of a fifth boiler and necessary power for operation.
 - b. Ability to fill 40 rearing ponds.
 - c. Adequacy of the existing 20-inch water supply line from the penstocks.
- 2. Fact sheets for the hatchery issues exist. OP-TM is investigating a design for additional power requirements to the hatchery. An MOU may need to be set up to address future operating needs and requirements.
- 3. Garrison Cold Water Fishery The modification to the trashracks of intakes 2 and 3, was completed 22 July 2005. The modifications were kept in place throughout the winter period, as the cost to remove and replace was comparable to lost power generation costs. The plates will be inspected in the spring with an underwater camera to ensure structural adequacy.

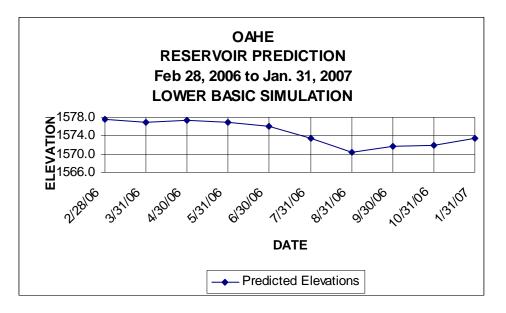
Oahe, South Dakota

Reservoir Elevation Overview

		30-Day	150-Day
	Current Lake	Projected	Projected
Lake Elevation	Elevation	Elevation	Elevation*
8/31/2005	(8/31/2006)	(9/30/2006)	(1/31/2007)
(ft. msl)	(ft. msl)	(ft. msl)	(ft. msl)
1573.9	1570.4	1572.9	1573.8

Comments:

- 1. Current reservoir elevation is 37.1-feet below the top of conservation pool (elevation 1607.5 ft. msl).
- 2. Projections provided are based upon the Lower Basic Simulation prepared by the Reservoir Control Center.
- 3. Current reservoir elevation is 3.5 feet lower than 8/31/05 (1573.9).
- * Normally use 180-day projections; however, since the water year ends Jan. 31, the end of water year projection is used.



Water Intake Overview

		Current	Top of	Operational	Shutdown Elev.			Contingency	
		Reservoir	Screen	Concern			Population	Plan?	Resp.
Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Ft. Yates	Operational		1571.2	1573	1572.2*	1575.2*	3,400	Y	SRST/BOR

Comments:

- 1. Top of Screen Elevation taken from survey completed by the Corps in 2005.
- 2. A backup well has been drilled and tested.
- 3. New well and plumbing is installed at Fort Yates and can be used as a backup water source.

*Intake is in riverine conditions and flow to the intake may be influenced by releases from Garrison reservoir.

Future Plans:

- 1. The intake at Fort Yates remains in a river condition and may continue to have sedimentation problems as long as Oahe remains below elevation 1580. Sediment levels in the sump are measured weekly and the river channel is monitored.
- 2. Contingency plans are in place and have been exercised.

			Current	Top of	Operational		Shutdown Elev.		Contingency	
			Reservoir	Screen	Concern			Population	Plan?	Resp.
	Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Ī	Wakpala	Operational		1563	1563	1566	1569	>500	Ν	SRST/BOR

Comments:

- 1. Top of Screen Elevation taken from survey completed by the Corps in 2005, a new low profile screen was installed lowering the top of the screen elevation to 1563.
- 2. Contingency plans are being drafted to respond to an intake failure. Initial response to an intake failure at Wakpala would be hauling water from the city of Mobridge to the treatment plant to be distributed using the existing transmission lines.

		Current Reservoir	Top of Screen	Operational Concern	Shutd Ele		Population	Contingency Plan?	Resp.
Intake	Status	Elev.	Elev.	Elev.	Summer	Winter	Supported	(Y/N)	Agency
Mni Wasté	Operational		1555.7	1580	1561.9	1560.4	14,000	Y(DRAFT)	CRST

- 1. Top of Screen Elevation taken from survey completed by the Corps in 2005.
- 2. Construction of a temporary intake approximately 16 miles from the existing intake is underway and is proceeding well. The construction project is a collaborative effort between the Tribe, the State, the Corps and many other entities.

3. Trigger Points for continuation of construction are being closely monitored.

Access Overview

- 1. The State of South Dakota is responsible for maintaining recreational areas and access to the reservoir in South Dakota. The Oahe Project maintains the access in North Dakota.
- 2. Ramps on Oahe Project in North Dakota:

AREA	Status
Sibley Park	Usable
Little Heart Bottoms	Usable
Kimball (Desert)	Usable
Graner's Bottoms	Usable
Maclean Bottoms	Usable
Hazelton	Usable
Ft. Rice	Usable
North Beaver Bay	Usable
Walker Bottoms	Usable
Jennerville (Rivery)	Usable
Fort Yates	Unusable
Cattail Bay	Unusable
Langeliers Bay	Unusable
Beaver Creek	Unusable
State Line	Unusable

http://gf.nd.gov/fishing/mo-riv-system-boatramps-status.html.

Noxious Weeds Overview

1. The Oahe Project has a \$325,000 budget for salt cedar and other noxious weed control for FY 06.

Cultural Resources Overview

1. Project personnel continue to monitor the shoreline for the protection of cultural resources. As the reservoir elevation falls, more opportunities are uncovered for looters, which collect artifacts and sell them on the open market.

Other

1. The Oahe Project Manager met with County Commissioners at Pollack to discuss constructing a firebreak between the reservoir and the park. Project personnel will investigate constructing a firebreak. This will require working with/coordinating with the State of South Dakota, the current landowner of the proposed construction site.

7 Aug 2006	Project Information		Rese	rvoir Elevati	on	Reservoir Storage			
						Current	Previous		
			Current	Previous		Storage	Storage		
	Multi-Purpose	Flood Control	Elevation	Elevation		(MAC-FT)	(MAC-FT)	Change	
Project	Pool Elev.	Pool Elev.	(8/7/06)	(7/31/06)	Change	(8/7/06)	(7/31/06)	(MAC-FT)	
Ft. Peck, MT	2160 - 2246	2246 - 2250	2204.6	2205.0	-0.4	9.705	9.757	-0.052	
Garrison, ND	1775 – 1850	1850 - 1854	1814.8	1815.6	-0.8	12.019	12.196	-0.177	
Oahe, SD	1540 - 1617	1617 - 1620	1572.6	1573.4	-0.8	10.248	10.413	-0.165	
Big Bend, SD	1415 - 1422	1422 - 1423	1421.0	1420.5	0.5	1.688	1.650	0.038	
Ft. Randall, SD	1320 - 1365	1365 - 1375	1352.8	1353.9	-1.1	3.348	3.439	-0.091	
Gavins Point, SD	1204.5 - 1208	1208 - 1210	1206.1	1205.2	0.9	0.362	0.337	0.025	

Mainstem Reservoir Information, Weekly Elevation Comparison

14 Aug 2006	Project In	formation	Rese	rvoir Elevati	on	Reservoir Storage		
						Current	Previous	
			Current	Previous		Storage	Storage	
	Multi-Purpose	Flood Control	Elevation	Elevation		(MAC-FT)	(MAC-FT)	Change
Project	Pool Elev.	Pool Elev.	(8/14/06)	(8/7/06)	Change	(8/14/06)	(8/7/06)	(MAC-FT)
Ft. Peck, MT	2160 - 2246	2246 - 2250	2204.3	2204.6	-0.3	9.657	9.705	-0.048
Garrison, ND	1775 – 1850	1850 - 1854	1814.2	1814.8	-0.6	11.845	12.019	-0.174
Oahe, SD	1540 - 1617	1617 - 1620	1571.9	1572.6	-0.7	10.084	10.248	-0.164
Big Bend, SD	1415 - 1422	1422 - 1423	1420.3	1421.0	-0.7	1.640	1.688	-0.048
Ft. Randall, SD	1320 - 1365	1365 - 1375	1353.3	1352.8	0.5	3.388	3.348	0.040
Gavins Point, SD	1204.5 - 1208	1208 - 1210	1207.1	1206.1	1.0	0.387	0.362	0.025

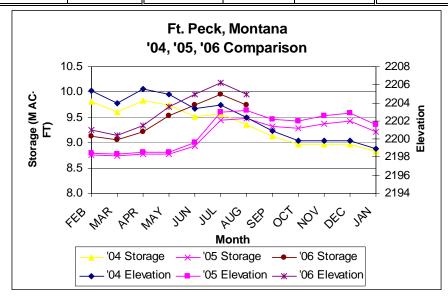
21 Aug 2006	Project Ir	formation	Reser	rvoir Elevatio	on	Reservoir Storage			
						Current	Previous		
			Current	Previous		Storage	Storage		
	Multi-Purpose	Flood Control	Elevation	Elevation		(MAC-FT)	(MAC-FT)	Change	
Project	Pool Elev.	Pool Elev.	(8/21/06)	(8/14/06)	Change	(8/21/06)	(8/14/06)	(MAC-FT)	
Ft. Peck, MT	2160 - 2246	2246 - 2250	2204.0	2204.3	-0.3	9.600	9.657	-0.057	
Garrison, ND	1775 – 1850	1850 - 1854	1813.4	1814.2	-0.8	11.685	11.845	-0.160	
Oahe, SD	1540 - 1617	1617 - 1620	1571.3	1571.9	-0.6	9.975	10.084	-0.109	
Big Bend, SD	1415 - 1422	1422 - 1423	1421.3	1420.3	1.0	1.710	1.640	0.070	
Ft. Randall, SD	1320 - 1365	1365 - 1375	1352.4	1353.3	-0.9	3.343	3.388	-0.045	
Gavins Point, SD	1204.5 - 1208	1208 - 1210	1207.6	1207.1	0.5	0.399	0.387	0.012	

28 Aug 2006	Project Ir	nformation	Resei	voir Elevatio	on	Reservoir Storage		
						Current	Previous	
			Current	Previous		Storage	Storage	
	Multi-Purpose	Flood Control	Elevation	Elevation		(MAC-FT)	(MAC-FT)	Change
Project	Pool Elev.	Pool Elev.	(8/28/06)	(8/21/06)	Change	(8/28/06)	(8/21/06)	(MAC-FT)
Ft. Peck, MT	2160 - 2246	2246 - 2250	2203.6	2204.0	-0.4	9.547	9.600	-0.053
Garrison, ND	1775 – 1850	1850 - 1854	1812.6	1813.4	-0.8	11.506	11.685	-0.179
Oahe, SD	1540 - 1617	1617 - 1620	1570.4	1571.3	-0.9	9.842	9.975	-0.133
Big Bend, SD	1415 - 1422	1422 - 1423	1421.0	1421.3	-0.3	1.697	1.710	-0.013
Ft. Randall, SD	1320 - 1365	1365 - 1375	1353.4	1352.4	1.0	3.391	3.343	0.048
Gavins Point, SD	1204.5 - 1208	1208 - 1210	1207.7	1207.6	0.1	0.402	0.399	0.003

Mainstem Reservoir Storage Comparison - Water Years 2004, 2005, 2006

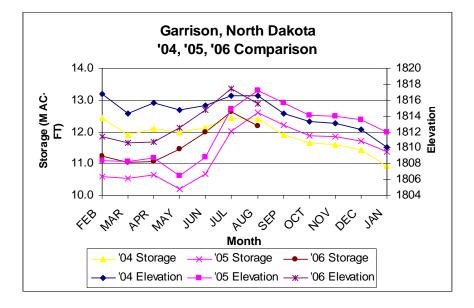
Fort Peck, Montana

	ater Year 200 2004 – JAN 2	-		ater Year 20 2005 – JAN			/ater Year 20 2006 – JAN	
		Storage			Storage			Storage
Date	Elevation	(MAC-Ft.)	Date	Elevation	(MAC-Ft.)	Date	Elevation	(MAC-Ft.)
2/1/2004	2205.3	9.806	2/1/2005	2198.4	8.749	2/1/2006	2201.0	9.134
3/1/2004	2204	9.603	3/1/2005	2198.3	8.732	3/1/2006	2200.4	9.048
4/1/2004	2205.5	9.837	4/1/2005	2198.5	8.773	4/1/2006	2201.5	9.222
5/1/2004	2204.9	9.740	5/1/2005	2198.5	8.773	5/1/2006	2203.6	9.540
6/1/2004	2203.4	9.507	6/1/2005	2199.6	8.935	6/1/2006	2204.9	9.741
7/1/2004	2203.8	9.565	7/1/2005	2203.0	9.448	7/1/2006	2206.2	9.958
8/1/2004	2202.4	9.357	8/1/2005	2203.2	9.472	8/1/2006	2204.9	9.750
9/1/2004	2200.9	9.121	9/1/2005	2202.2	9.325	9/1/2006		
10/1/2004	2199.8	8.969	10/1/2005	2202.0	9.286	10/1/2006		
11/1/2004	2199.8	8.963	11/1/2005	2202.6	9.371	11/1/2006		
12/1/2004	2199.8	8.961	12/1/2005	2202.9	9.432	12/1/2006		
1/1/2005	2198.9	8.829	1/1/2006	2201.5	9.222	1/1/2007		



Garrison, ND

Water Year 2004 (FEB 2004 – JAN 2005)			Water Year 2005 (FEB 2005 – JAN 2006)			Water Year 2006 (FEB 2006 – JAN 2007)		
Date	Elevation	Storage (MAC-Ft.)	Date	Elevation	Storage (MAC-Ft.)	Date	Elevation	Storage (MAC-Ft.)
2/1/2004	1816.7	12.446	2/1/2005	1808.4	10.574	2/1/2006	1811.4	11.230
3/1/2004	1814.3	11.891	3/1/2005	1808.2	10.537	3/1/2006	1810.6	11.040
4/1/2004	1815.6	12.110	4/1/2005	1808.65	10.632	4/1/2006	1810.7	11.076
5/1/2004	1814.7	11.989	5/1/2005	1806.47	10.189	5/1/2006	1812.5	11.460
6/1/2004	1815.3	12.121	6/1/2005	1808.8	10.665	6/1/2006	1814.7	11.992
7/1/2004	1816.5	12.426	7/1/2005	1814.9	12.026	7/1/2006	1817.4	12.629
8/1/2004	1816.5	12.401	8/1/2005	1817.17	12.591	8/1/2006	1815.5	12.172
9/1/2004	1814.3	11.914	9/1/2005	1815.56	12.216	9/1/2006		
10/1/2004	1813.3	11.645	10/1/2005	1814.11	11.861	10/1/2006		
11/1/2004	1813.1	11.589	11/1/2005	1814.00	11.837	11/1/2006		
12/1/2004	1812.3	11.422	12/1/2005	1813.50	11.707	12/1/2006		
1/1/2005	1810	10.936	1/1/2006	1812.0	11.371	1/1/2007		



Oahe, SD

Water Year 2004 (FEB 2004 – JAN 2005)			Water Year 2005 (FEB 2005 – JAN 2006)			Water Year 2006 (FEB 2006 – JAN 2007)		
Date	Elevation	Storage (MAC-Ft.)	Date	Elevation	Storage (MAC-Ft.)	Date	Elevation	Storage (MAC-Ft.)
2/1/2004	1577.6	11.204	2/1/2005	1575.2	10.715	2/1/2006	1576.8	11.037
3/1/2004	1579.2	11.504	3/1/2005	1576.2	10.924	3/1/2006	1577.6	11.209
4/1/2004	1582.1	12.110	4/1/2005	1574.29	10.568	4/1/2006	1576.7	11.024
5/1/2004	1581.6	12.056	5/1/2005	1574.82	10.608	5/1/2006	1577.4	11.150
6/1/2004	1578.4	11.338	6/1/2005	1576.47	10.980	6/1/2006	1577.0	11.088
7/1/2004	1576.8	11.045	7/1/2005	1577.6	11.214	7/1/2006	1575.8	10.880
8/1/2004	1574.3	10.540	8/1/2005	1576.38	10.958	8/1/2006	1573.4	10.378
9/1/2004	1572.1	10.112	9/1/2005	1572.64	10.363	9/1/2006		
10/1/2004	1573.2	10.316	10/1/2005	1572.63	10.267	10/1/2006		
11/1/2004	1574.8	10.608	11/1/2005	1573.90	10.501	11/1/2006		
12/1/2004	1576	10.866	12/1/2005	1575.6	10.814	12/1/2006		
1/1/2005	1575.8	10.824	1/1/2006	1575.6	10.778	1/1/2007		

