HIGHLIGHTS FOR JUNE 2019

MONTANA AREA OFFICE

Precipitation during June was below average in the Upper Missouri River basin, ranging from 44 percent of average at Gibson Reservoir to 98 percent of average at Tiber Reservoir. Inflows were varied ranging from 60 percent of average at Clark Canyon Reservoir to 100 percent of average at Tiber Reservoir. Reservoir storage is above average, and ranges from 105 percent of average at Canyon Ferry Reservoir to 125 percent of average at Lake Elwell Reservoir.

For the Milk River Basin, precipitation was varied, ranging from 73 percent of average at Sherburne Reservoir to 102 percent of average at Fresno Reservoir. The inflows were varied, ranging from 70 percent of average at Fresno Reservoir to 90 percent of average at Sherburne Reservoir. End-of-month storage ranges from 121 percent of average at Sherburne Reservoir to 141 percent of average at Fresno Reservoir.

June precipitation was 70 percent of average at Yellowtail Dam. Inflows were 143 percent of average. As a result of holding back high flows to reduce the downstream impact on US Army Corps of Engineers' facilities, storage was above normal at 120 percent of average, ending the month with 31 percent of the flood pool filled.

WYOMING AREA OFFICE

June precipitation was below average in the Bighorn River Basin. June precipitation ranged from 68 percent of average at Boysen Reservoir to 89 percent of average at Bull Lake Reservoir. Reservoir inflow in the Bighorn basin was above average, ranging from 122 percent of average at Bull Lake Reservoir to 157 percent of average at Boysen Reservoirs. Storage in the Bighorn Basin is above average, ranging from 87 percent of average at Bull Lake Reservoir to 118 percent of average at Boysen Reservoir.

Precipitation during June was varied in the North Platte River Basin, ranging from 73 percent of average at Glendo Reservoir to 165 percent of average at Seminoe Reservoir. Inflows were above average, ranging from 89 percent of average at Pathfinder Reservoir to 211 percent of average at Glendo Reservoir. Reservoir storage is above average, and ranges from 88 percent of average at Guernsey Reservoir to 150 percent of average at Pathfinder Reservoir.

DAKOTAS AREA OFFICE

June precipitation was below average in the Heart River Basin with 47 and 89 percent of average precipitation at Dickinson and Heart Butte Dams, respectively. Within the Cheyenne, Grand and James River basins precipitation was varied, ranging from 52 percent of average at Angostura Reservoir to 151 percent of average at Deerfield Reservoir.

June inflows in the Heart River basin were below average, with 14 percent of average inflow at Dickinson and 28 percent of average inflow at Lake Tschida. For the Cheyenne River basin, inflows were above average, ranging from 58 percent of average at Keyhole Reservoir to 298 percent of average at Pactola Reservoir. The James and Grand River basins exhibited above average inflows, with 103 percent of average at Jamestown Reservoir and 209 percent of average at Shadehill Reservoir.

Reservoir storage in the Heart River basin finished the month near average; 122 percent of average for Dickinson Reservoir, and 93 percent of average at Heart Butte Reservoir. Storage in the Cheyenne River basin was above average at the end of June, ranging from 111 percent of average at Deerfield Reservoir to 225 percent of average at Keyhole Reservoir. Storage at Shadehill and Jamestown Reservoirs was varied for the end of June, displaying 117 percent and 91 percent of average, respectively.

EASTERN COLORADO AREA OFFICE

Precipitation was above average over the Colorado-Big Thompson Project (CBT) during June. The Willow Creek and Lake Granby Reservoirs reported the highest precipitation at 161 percent of average, while Lake Estes Reservoir had the lowest at 94 percent of average.

Inflows were above average over the CBT during June. The inflow to Lake Estes Reservoir was the lowest at 123 percent of average. The inflow to Willow Creek Reservoir was the highest at 157 percent of average.

The Lake Granby storage of 496,400 AF on June 30 was 54,600 AF above average and 25,600 AF lower than one year ago on this date. Terminal reservoir storage in Carter Lake and Horsetooth Reservoir was 115 and122 percent of average, respectively. The June end-of-month CBT storage water in Green Mountain, Lake Granby, Carter Lake, and Horsetooth Reservoirs was 890,300 AF; 92,800 AF above average.

Precipitation was varied over the Fryingpan-Arkansas Project (Fry-Ark) during June. The Twin Lakes Reservoir weather station reported the lowest precipitation at 49 percent of average, while Ruedi Reservoir had the highest at 145 percent of average.

Native inflows were above average over the Fry-Ark during June. The inflow to Twin Lakes Reservoir was the lowest at 103 percent of average, while Pueblo Reservoir had the highest with 171 percent of average.

Reservoir storage is varied for the Fry-Ark. Turquoise Reservoir is the lowest at 67 percent of average. Pueblo Reservoir is the highest at 126 percent of average. The total June end-of-month storage in the four reservoirs is 531,800 AF, 100 percent of average.

NEBRASKA-KANSAS AREA OFFICE

June precipitation was above average in the Republican River Basin, ranging from 79 percent of average at Bonny Reservoir to 158 percent of average at Lovewell Reservoir. Inflows were varied and ranged from 17 percent of average at Bonny Reservoir to 164 percent of average at Keith Sebelius Reservoir. Ignoring Bonny Reservoir, which has been drained for Compact compliance, storage ranges from 32 percent of average at Enders Reservoir to 180 percent of average at Keith Sebelius Reservoir.

For the Solomon Basin, the precipitation was varied, ranging from 57 percent of average at Webster Reservoir to 146 percent of average at Glen Elder Reservoir. The inflows were well above average, ranging from 205 percent of average at Kirwin Reservoir to 306 percent of average at Glen Elder Reservoir. End-of-month storage ranges from 156 percent of average at Glen Elder Reservoir to 219 percent of average at Webster Reservoir.

For the Smokey Hill, Niobrara, and Lower Platte Basins, precipitation was varied, ranging from 57 percent of average at Box Butte Reservoir to 131 percent of average at Cedar Bluff Reservoir. The inflows were above average, ranging from 118 percent of average at Davis Creek Reservoir to 239 percent of average at Box Butte Reservoir. End-of-month storage ranges from 91 percent of average at Merritt Reservoirs to 146 percent of average at Box Butte Reservoir.

OKLAHOMA-TEXAS AREA OFFICE

June precipitation was varied over the Arkansas River Basin, ranging from 59 percent of average at Sanford Reservoir to 130 percent of average at Sanford Reservoir. Inflows were above average, ranging from 83 percent of average at Sanford Reservoir to 229 percent of average at Cheney Reservoir. Storage in the Arkansas River basin is above average and ranges from 116 percent of average at Norman Reservoir to 158 percent of average at Cheney Reservoir.

For the Red River Basin, the June precipitation was varied, ranging from 68 percent of average at Mountain Park Reservoir to 199 percent of average at McGee Creek Reservoir. The inflows ranged from zero at Mountain Park Reservoir to 168 percent of average at McGee Creek Reservoir. Storage in the Red River basin ranges from 102 percent of average at McGee Creek Reservoir to 140 percent of average at Mountain Park Reservoir.

For the Nueces, Colorado and Washita Basins, the precipitation was varied, ranging from 19 percent of average at Choke Canyon Reservoir to 125 percent of average at Twin Buttes Reservoir. The inflows were varied, ranging from 24 percent of average at Choke Canyon Reservoir to 238 percent of average at Foss Reservoir. Storage in these basins ranges from 87 percent of average at Choke Canyon Reservoir to 250 percent of average at Twin Buttes Reservoir, which is at its highest storage content since June 1993.

CORPS OF ENGINEERS REPORT

Much-above average runoff in the upper Missouri River basin (above Sioux City, Iowa) extended into June following widespread and heavy rainfall in South Dakota and Nebraska. Additionally, widespread and heavy rainfall in the lower basin, particularly in Kansas, has resulted in high tributary and Missouri River flows downstream of the six main stem reservoirs on the Missouri River.

June runoff in the upper basin was 8.7 million acre feet (MAF), which is 159 percent of average. The average June runoff is 5.4 MAF. Runoff remained particularly high in the Fort Randall to Gavins Point and Gavins Point to Sioux City reaches, which were three and four times average, respectively.

The 2019 upper basin runoff forecast is 49.9 million acre-feet (MAF). If realized, this runoff total would be the second highest runoff in 121 years of record-keeping, only surpassed by 2011 (61.0 MAF) and exceeding the 49.0 MAF observed in 1997. Upper basin runoff in 2018 was 42.1 MAF, which is currently third highest.

System releases from Gavins Point Dam are currently 70,000 cfs, which is more than twice the average release for this time of the year. Gavins Point releases will be maintain at this rate to continue evacuating water from the Missouri River mainstem reservoir system (System).

The System was storing 68.0 MAF as of July 1, occupying 11.9 MAF of the 16.3 MAF flood control zone. System storage normally peaks in early July. Fort Peck and Garrison are currently in their respective exclusive flood control zones. As a result of the high reservoir levels and the forecast above-average runoff during the summer and fall, releases from all System projects will be above average for the next several months, and possibly as late as November, to ensure evacuation of all stored flood waters.

The Corps has been coordinating with the U.S. Bureau of Reclamation (USBR) regarding the USBR projects in Montana and Wyoming with designated flood control storage. Releases from several of the USBR projects are being adjusted, and flood control storage is being used. This measure provides additional ability to manage the pools at all the mainstem reservoirs during July.

Reservoir Forecasts

- **Gavins Point Dam**
  - **Average releases past month** – 74,400 cfs
  - **Current release rate** – 70,000 cfs
  - **Forecast release rate** – 70,000 cfs
  - **End-of-May reservoir level** – 1206.3 feet
  - **Forecast end-of-July reservoir level** – 1206.0 feet

- **Fort Randall Dam**
  - **Average releases past month** – 65,000 cfs
  - **End-of-June reservoir level** – 1363.0 feet (down 7.2 feet from May)
  - **Forecast end-of-July reservoir level** – 1356.6 feet
  - **Notes:** Releases will be adjusted as necessary to maintain the desired reservoir elevation at Gavins Point.

- **Big Bend Dam**
  - **Average releases past month** – 45,700 cfs
  - **Forecast average release rate** – 54,200 cfs
  - **Forecast reservoir level** – 1420.0 feet

- **Oahe Dam**
  - **Average releases past month** – 49,900 cfs
  - **Forecast average release rate** – 54,600 cfs
  - **End-of-June reservoir level** – 1616.6 feet (falling 2.2 feet during June)
  - **Forecast end-of-July reservoir level** – 1615.5 feet

- **Garrison Dam**
  - **Average releases past month** – 31,300 cfs
  - **Current release rate** – 46,000 cfs
  - **Forecast average release rate** – 46,000 cfs
  - **End-of-June reservoir level** – 1851.8 feet (rising 4.0 feet during June)
  - **Forecast end-of-July reservoir level** – 1850.8 feet
  - **Notes:** Releases were stepped up from 15,000 cfs to 46,000 cfs during June.

- **Fort Peck Dam**

- **Average releases past month** – 9,000 cfs
- **Current release rate** – 10,000 cfs
- **Forecast average release rate** – 15,000 cfs (middle July)
- **End-of-June reservoir level** – 2246.4 feet (up 2.6 feet from May)
- **Forecast end-of-July reservoir level** – 2245.7 feet

The six mainstem power plants generated 1225 million kWh of electricity in June. Typical energy generation for June is 842 million kWh. The power plants are projected to generate 12.7 billion kWh of electricity this year, 135 percent of the long-term average, 9.4 billion kWh.