Our Missouri River … The Corps Vision for 2024

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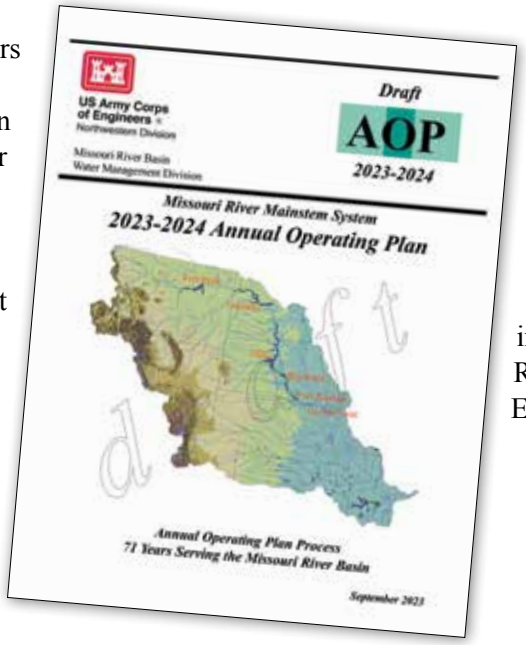
Every year, the US Army Corps of Engineers provides an analysis of current and projected climatic conditions in the Missouri River Basin as part of its river system management plan for the coming year.

The effort yields an Annual Operating Plan commonly referred to as the AOP. The Corps notes that the AOP is not an attempt to forecast snowfall, rainfall or runoff conditions for the coming year, but is intended to examine a wide range of potential runoff scenarios that fit into an 80% chance of occurrence. That leaves a 10% chance of each, higher- and lower-than-anticipated runoff occurring. As actual real time runoff conditions occur, the Corps can make operational changes to accommodate either condition.



The AOP is developed using not only current and foreseeable runoff conditions, but also historical patterns of runoff. Historically, the system is projected to have a system-wide runoff of approximately 28.5 million acre-feet per year (MAFY). However, that average can vary as much as 155% during the spring and 50% during the summer of any given year. And in any given year there may be significant outliers – recall the significant record high runoff in the wet year of 2011 (total system runoff of approximately 61.0 MAF), and the significant low runoff in the dry year of 1931 (total system runoff of approximately 10.7 MAF).

In preparing the AOP and managing the river system, the Corps has a primary responsibility to regulation objectives providing benefits to basin states as outlined by the Flood Control Act of 1944. The current AOP, based on an expectation of a "median" flow into the basin, shows that all authorized purposes can be achieved. However, if lower flows based on extended drought or other conditions prevail, then all authorized purposes except flood control will be interrupted.

So, what is coming in 2024? According to the National Oceanic and Atmospheric Administration (NOAA), we likely will see an El Nino weather pattern for the first time in four years. For the Missouri River basin, the typical winter El Nino pattern leads to:

- Increased chances for above normal temperatures across the upper basin, and
- Increased chances for a reduced snowpack in the northern Rockies and Plains.

North Dakota is likely to see warmer-than-average temperatures and continued lower-than-average precipitation. Those expectations will be shared, significantly, with Montana, resulting in lower-than-average mountain runoff into the basin for 2024.

Based on those NOAA projections, a brief summary of the Corps plan to meet benefit requirements includes:

- **Flood Control**. The AOP anticipates added storage capacity in the reservoir system for flood storage based on drought conditions of the upper basin. However, many spring floods occur due to ice jams or protracted and localized heavy rains. Neither condition is mitigated by added flood storage that may be available in system reservoirs.
- **Water Supply**. Ongoing drought conditions present a challenge for the supply of adequate water and river flows for water supply facilities. However, the Corps has noted that it can, and will, adjust river flows as much as possible to mitigate any water service disruptions.
- **Irrigation.** The Corps projects that scheduled releases from reservoirs will be sufficient to meet

the requirements for irrigation, but if drought conditions persist there is a possibility of irrigators losing access to the water.

- **Navigation.** River management for navigation depends on July storage checks. Currently the AOP projects a slight decrease in navigation flows to July 1, with a likely full-service navigation flow after July 1.
- **Power.** Power generation is expected to be at 98% of the long-term average, dependent on conditions. If a drought develops or continues, power output will be decreased.
- **Recreation, Fish and Wildlife**. Recreational access is anticipated to be slightly below normal levels in 2024. Emergency funding in 2022 allowed some mitigation of drought conditions relative to recreation, and those efforts may be extended in 2024 if low water levels occur.

In terms of system operations, river flow and reservoir conditions are projected as follows:

Lake Sakakawea: Releases will be maintained near 22,000 cubic feet per second (cfs) into the fall and drop to near 17,000 cfs in late fall and early winter. The lake level will steadily drop through the fall and by the beginning of the new year will be near 1838.8 feet, or 3.6 feet below the August 1 elevation.

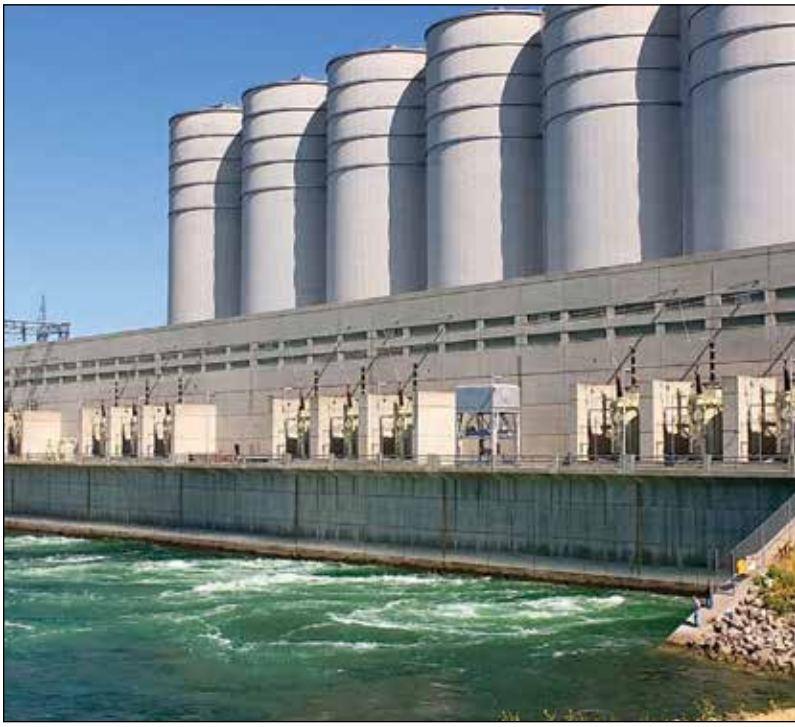
Lake Oahe: Releases will be reduced in the late fall from 19,400 cfs to near 15,900 cfs by late fall, thereby allowing downstream reservoirs to draw down for flood storage. The lake level is anticipated to be at 1599.2 feet by late fall, or 4.5 feet below the August 1 elevation.

In addition to providing an expected river system operating plan, the Corps also takes agency and public comments on all its activities relative to system management. At the Nov. 7, 2023, AOP meeting in Bismarck, Missouri River Joint Water Board Chair Wade Bachmeier offered the following:

- "*Can the Corps assist in the complex permitting process, particularly relating to securing access easements to the river and lakes; can the process be streamlined?"*
- *"What is the Corps doing to address aquatic nuisance species within the basin?"*
- *"Can the Corps keep us informed of planned large downstream water diversion projects and allow us opportunity to review and comment on such projects?"*
- *"What are opportunities from the Corps to promote low-cost power for irrigation projects in our state?"*

If you have an interest in the Corps' ongoing river system management or with the issues raised by Bachmeier as noted, please contact the Missouri River Joint Water Board for more information.

Lake Sakakawea



Lake Oahe