

# GAO Highlights

Highlights of [GAO-16-685](#), a report to congressional committees

## Why GAO Did This Study

The Corps owns and operates water resource projects, including more than 700 dams and their associated reservoirs across the country, for such purposes as flood control, hydropower, and water supply. To manage and operate each project, the Corps' districts use water control manuals to guide project operations. These manuals include water control plans that describe the policies and procedures for deciding how much water to release from reservoirs. However, many of the Corps' projects were built more than 50 years ago, and stakeholders have raised concerns that these manuals have not been revised to account for changing conditions.

The Water Resources Reform and Development Act of 2014 included a provision for GAO to study the Corps' reviews of project operations, including whether practices could better prepare the agency for extreme weather. This report (1) examines the extent to which the Corps has reviewed or revised selected water control manuals and (2) describes the Corps' efforts to improve its ability to respond to extreme weather. GAO reviewed the Corps' guidance on project operations; examined agency practices; and interviewed Corps officials from headquarters, all 8 divisions, and 15 districts—selected, in part, on regional differences in weather conditions.

## What GAO Recommends

GAO recommends that the Corps develop guidance on what constitutes a water control manual's review and how to document it and track which manuals need revision. The agency concurred with the recommendations.

View [GAO-16-685](#). For more information, contact Anne-Marie Fennell at (202) 512-3841 or [fennella@gao.gov](mailto:fennella@gao.gov).

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## ARMY CORPS OF ENGINEERS

### Additional Steps Needed for Review and Revision of Water Control Manuals

## What GAO Found

According to U.S. Army Corps of Engineers (Corps) officials, the agency conducts ongoing, informal reviews of selected water control manuals and has revised some of them, but the extent of the reviews and revisions is unclear because they are not documented or tracked, respectively. The Corps' engineer regulations state that water control manuals should be reviewed no less than every 10 years so that they can be revised as necessary. However, officials from all 15 districts GAO interviewed said they do not document informal reviews of water control manuals because they consider such reviews part of the daily routine of operating projects. The Corps does not have guidance, consistent with federal standards for internal control, on what activities constitute a review or how to document the results of reviews. Without such guidance, the Corps does not have reasonable assurance that it will consistently conduct reviews and document them to provide a means to retain organizational knowledge. The Corps' engineer regulations also state that water control manuals shall be revised as needed, but the extent to which manuals have been revised or need revision remains unknown because the Corps' divisions do not track consistent information about manuals. For example, based on GAO's review of the Corps' documents, one of the eight divisions tracked whether the water control plans in its water control manuals reflected actual operations of a project, but the remaining seven did not. While the Corps has revised certain water control manuals as called for by its regulations, district officials GAO interviewed said additional manuals need revision. However, the Corps does not track consistent information on manuals needing revision, in accordance with federal internal control standards. Without tracking which manuals need revision, it is difficult for the Corps to know the universe of projects that may not be operating in a way that reflects current conditions as called for in the Corps' engineer regulations.

The Corps has efforts under way to improve its ability to respond to extreme weather, including developing a strategy to revise drought contingency plans and studying the use of forecasting to make decisions on project operations. To better respond to drought, the Corps is developing a strategy to analyze drought contingency plans in its water control manuals to account for a changing climate. As of May 2016, the Corps was conducting, as a pilot, updates of five projects' drought contingency plans to help test methods and tools for future use in other plans. The Corps is also studying the use of forecasting tools to improve water supply and flood control operations at two projects in California by evaluating if they can retain storm water for future supply as long as the retained water can safely be released, if necessary, prior to the next storm. Knowledgeable stakeholders GAO interviewed said it is important for the Corps to consider forecast-based operations at its projects to help ensure efficient operations and to be able to respond to changing patterns of precipitation. Corps officials said the agency may consider doing so once the two California projects are completed in 2017.