United States Senate
WASHINGTON, DC 20510

December 7, 2011

The Honorable Gene L. Dodaro
Comptroller General
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Dodaro:

Record flooding this summer along the Missouri River overwhelmed dams and levees, swamped small communities and forced large cities into emergency measures to hold the water back. Officials from the U.S. Army Corps of Engineers (Corps), the agency responsible for operating the Missouri River reservoir system, have said that the reservoir levels were drawn down to "full flood capacity," when rain unexpectedly filled the space set aside for snowmelt — forcing the Corps to release more water from its dams than ever before.

The Missouri River reservoir system is a critical national resource that provides a variety of benefits, including navigation, flood control, irrigation, hydropower, municipal and industrial water supply, recreation, and fish and wildlife habitat. Between 1933 and 1964, the Corps built six dams on the Missouri River to serve the water resource needs within the Missouri River basin. The resulting reservoirs form a series of lakes from Montana to the South Dakota-Nebraska border. The Corps manages the system of dams and reservoirs according to the water control plan presented in its Missouri River Master Manual, which was first published in 1960 and most recently revised in 2006. The master manual provides water control criteria for the reservoir system for a spectrum of anticipated runoff conditions. Annual operating plans based on these criteria provide detailed reservoir regulation for each operating year.

There are varying viewpoints surrounding the recent flooding of the Missouri River. Various parties have suggested that more water than necessary was being held back in the upstream reservoirs in March and April in order to increase the levels of the reservoirs following the previous drought years. Many of the residents along the Missouri River believe that the Corps waited too long to begin releasing water through the Missouri's six dams in response to increased inflows into the system during the months of March and April. Some lawmakers have also suggested that changes to the management of the river by the Corps are needed—stating that there are too many demands for the Corps to meet and that the manual for managing the river needs to be revised. Still others have suggested that the impact on the fish and wildlife that inhabit the Missouri River carried too great an influence on the Corps' decision making process.

Corps officials, on the other hand, contend that the unprecedented amount of rain changed their picture completely, forcing them to release record levels of water through the system. According to the Corps, this is the first time since the construction of the main stem system that flooding has been caused by the Corps' releases. The agency believes it managed releases in accordance

with its manual. The Corps further maintains that no operational decisions this year were driven by the needs of fish and wildlife or the Endangered Species Act and that they operated solely for flood risk reduction.

Given the varying viewpoints on this issue, we request the Government Accountability Office (GAO) examine key issues related to the Missouri River Flood of 2011. Specifically,

1. Did the Corps fully adhere to the Master Manual?

a) Did the Master Manual and operating plan hinder the ability of the Corps to respond to this flood event in a timely manner?

b) Are there steps the Corps could have taken under the Master Manual and operating plan to better mitigate the impacts of the flood? Does the current operating plan have sufficient flexibility to respond adequately to an unprecedented flood event?

2. Did the timing of Corps' reservoir releases (as directed by the Manual) contribute to the severity of the flood's impact?

a) Did the Corps lower the reservoirs to the appropriate or optimal flood capacity level by the time it needed to do so?

b) Was the Corps at all constrained in its ability to increase releases in response to increased inflows in the months leading up to the flood? For example, given prescriptions in the Master Manual and the annual operating plan, could the Corps have released flood waters earlier? If so, should it have done so given conditions that were known or predicted at different points in the spring?

3) What roles did assessment of on-the-ground and meteorological conditions and forecasts play in the 2011 flooding events?

a) Did the Corps take full advantage of long-term precipitation trends as it implemented its flood control plan?

b) How did the Corps take snowpack into consideration for runoff projections? Did it take into account the unusually high water content of the 2011 snowpack? Did the Corps estimate both registered runoff and ungaged runoff in developing runoff forecasts?

c) How does the Corps coordinate short- and long-range precipitation forecasts or projections with snowpack and runoff-off projections? Who evaluates these projections?

d) The Corps' Master Manual notes that both the Bureau of Reclamation and the Natural Resources Conservation Service (NRCS) forecasters may occasionally observe unusual

hydrologic conditions and "subjectively" alter or adjust the forecast parameters to account for unusual observed conditions (pp.VI-3 and VI-4) and provide a range of runoff possibilities. Was this type of analysis done this year? If so, what did it show? How did Reclamation's monthly composite runoff forecasts compare to actual events? How did the NRCS Water Supply Outlook Report compare with actual events? What about the Corps' Reservoir Control Center projections?

e) Multiple agencies are involved in various levels of data collection and forecasting in the Missouri River Basin. Is there a need for better coordination among federal agencies predicting or assessing on-the-ground and meteorological conditions and projections? How is this done in other basins (e.g. Sacramento-American rivers, Columbia, and Colorado river basins)?

4. Did endangered species, environmental concerns, or flooding along the Mississippi River system factor into the Corps' flood control efforts?

a) Did the Corps make releases this year for pallid sturgeon, piping plover, or any other threatened or endangered species? Why or why not?

5. What are some of the potential changes to the Master Manual that could prevent similar flooding events on the Missouri River in the future?

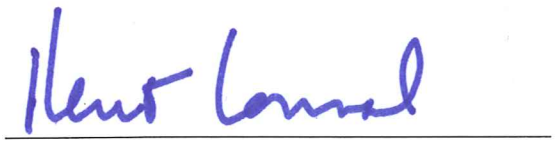
a) Are there operational changes that could have been (or could in the future be) made absent a change in the manual itself?

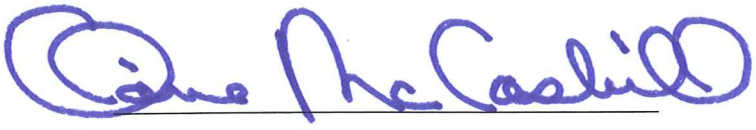
6. How does the Corps expect the 2011 event to change its operations going forward?

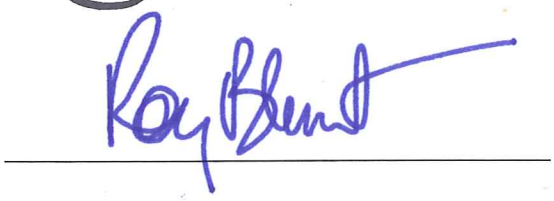
Finally, we request that GAO provide its recommendations for improving flood control operations along the Missouri River system that would be both timely and effective in mitigating future flood risks, particularly in the years the basin is in a wet cycle.

We appreciate your attention to this request.

Sincerely,







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