



# Water Resources Issues in the 111<sup>th</sup> Congress

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## Summary

The federal government is involved in management of water resources throughout the country, primarily through construction, operation, and management of numerous infrastructure projects, such as dams, levees, and navigation works. Increasingly, the federal government is also involved in ecosystem restoration and protection of species and areas damaged by past construction and operations of federal projects, as well as restoration of other degraded ecosystems. This work involves restoration of some of the country's largest estuaries; for example, the California Bay-Delta and Chesapeake Bay.

Management of federal water resource facilities often involves trade-offs among project purposes, as well as local, regional, and national interests. Water resources development is particularly controversial because of budgetary constraints, conflicting policy objectives, environmental impacts, and demands for local control. Hurricane Katrina, hurricane Ike, and the 2008 Midwest floods have brought to the forefront long-simmering policy disputes involving local control and federal financing of projects, environmental and social tradeoffs, and multi-level accountability and responsibility for flood damage reduction projects, such as levees. Construction, improvement, and management of other federal water resource projects face similar challenges.

The 111<sup>th</sup> Congress faces numerous issues and trade-offs as it considers water resource development and protection legislation. These issues are likely to arise as Congress considers economic stimulus legislation, as well as other authorizations and appropriations for Bureau of Reclamation and Army Corps of Engineers projects. Some of these may be addressed as part of omnibus authorization bills such as S. 22 or potential Water Resources Development Act (WRDA) legislation), while others may be addressed via stand-alone legislation or as part of committee oversight of agency programs and policy changes. Congress will also likely play a role in overseeing federal responses to natural disasters such as droughts, hurricanes, and floods. Oversight issues related to the federal role in hurricane and flood protection, and levee construction and management, also are ongoing.

## **Contents**

Introduction .....	1
Background .....	1
Western Water Resources .....	2
Nationwide Flood Policy and Water Resource Protection .....	3
Water Resource Projects .....	3
Corps of Engineers .....	4
Reclamation.....	5

## **Contacts**

Author Contact Information .....	7
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## **Introduction**

The federal government has a long history of involvement in water resource development and management to facilitate navigation, expand irrigated agriculture, reduce flood losses, and, more recently, restore aquatic ecosystems. Increasing pressures on the quality and quantity of available water supplies—due to growing population and changing public interests—have resulted in heightened water use conflicts throughout the country, particularly in the West.

The late 1970s, 1980s, and 1990s, marked the end of expansionist federal policies of the early 20<sup>th</sup> century that had led to widespread federal investment in dams, navigation locks, irrigation diversions, and levees and basin-wide planning and development efforts. Federal water resource construction waned during the last decades of the 20<sup>th</sup> century in response to fiscal constraints, interest in more local control of water and land resources, and requirements to assess environmental impacts of federal actions and to protect fish and wildlife. Even so, demand continues for traditional water resource development projects, such as locks and dams, levees, and other flood damage reduction works.

Water resources debates in the 111<sup>th</sup> Congress likely will be dominated by different opinions of the desirability and need for changing the water resource agencies' policies, practices, and accountability, and for authorizing multi-billion dollar investments in ecosystem restoration, agricultural land drainage, navigation, and flood and storm damage reduction measures. A broad water resource issue significant to the water resources agencies and the nation is the changing federal role in water resources planning, development, and management, and changes in institutional structures to address an evolving federal role.

Natural disasters such as the 2008 Midwest flooding, Hurricane Katrina, and Hurricane Ike, have raised questions about this role; in particular, these disasters bring attention to the trade-offs in benefits, costs, and risks of the current division of responsibilities among local, state, and federal entities for flood mitigation, preparedness, response, and recovery. The question of the federal role also is raised by the increasing competition over water supplies, not only in the West but also for urban centers in the Southeast (e.g., Atlanta), which has resulted in a growing number of communities seeking financial and other federal assistance related to water supply development (e.g., desalination and water reuse projects, reservoir expansions and changes in project operations).

## **Background**

The 111<sup>th</sup> Congress is faced with numerous water resource development and management issues: the federal role in the planning, construction, maintenance, inspection, and financing of water resource projects; federal investment in water resources research and data collection; management and operation of existing projects; environmental protection; and climate variability and change. Congress makes water resource decisions within the context of multiple and often conflicting laws and objectives, competing legal decisions, and entrenched institutional mechanisms, including century-old water rights and long-standing contractual obligations (i.e., long-term water delivery and power contracts). Although most water resource legislation typically addresses site-specific needs, certain themes and issues appear in many local and regional water resources conflicts. For example, demand for new project services (e.g., improved navigation,

new water supply, improved or new flood facilities), protection of threatened and endangered species, and water quality concerns are common to many conflicts.

The 111<sup>th</sup> Congress is likely to consider authorizations and appropriations for numerous site-specific water resource development projects; management of existing projects and aging infrastructure; water resource protection and water rights issues; and regional aquatic ecosystem restoration programs (e.g., Great Lakes, San Joaquin River restoration, Everglades, and Chesapeake Bay). Site-specific restoration legislation enacted in the 110<sup>th</sup> Congress included programs for coastal Louisiana, the Upper Mississippi River System, and Platte River. However, the more typical site-specific measures, on a smaller scale, are the hundreds of individual water resources projects authorized through occasional Water Resources Development Acts (e.g., WRDA 2000 and WRDA 2007) and stand-alone bills addressing new water supply technologies and augmentation of existing water supplies, rural water supply development, and Indian water rights settlements. Oversight of existing laws and projects (e.g., the Central Valley Project, flood protection in New Orleans and Sacramento) and project operations is also expected, especially where court decisions, agency actions, or other circumstances (such as drought) may affect project operations (e.g., federal projects on the Appalachicola-Chattahoochee-Flint (ACF), Colorado, Columbia, Klamath, Missouri, and San Joaquin rivers and pumps in the California Bay-Delta).

It is not clear to what extent the 111<sup>th</sup> Congress may consider broad water policy reform such as water supply or flood policy. Congress rarely chooses to pursue broad legislation on federal water resources policies for many reasons, including the challenge of enacting changes that affect such a wide breadth of constituencies. Another practical challenge is the fractured nature of congressional committee jurisdictions over water resources and water quality issues and activities. Consequently, Congress traditionally has pursued incremental changes through occasional Water Resources Development Act (WRDA) legislation for the U.S. Army Corps of Engineers in the Department of Defense (Corps) and project-specific legislation for the Bureau of Reclamation (Reclamation) in the Department of the Interior.

## **Western Water Resources**

In the West, naturally scarce water supplies and increasing urban populations have exacerbated long-standing debates over water allocation—particularly over water for threatened and endangered species and impacts on agricultural water supplies. Drought conditions in California, the Southwest, and the Southeast, continue to challenge federal, state, and local water managers. Nationwide, observed changes in the timing of snowmelt and runoff and the potential for further climate variability due to climate change has increased concerns about the reliability of developed water supplies and the flexibility of existing management mechanisms.

Western water legislation during the 111<sup>th</sup> Congress is likely to center on project authorization issues, such as authorization for San Joaquin River restoration settlement legislation, Reclamation's Title 16 water reclamation, reuse, and recycling projects, Indian water rights settlements, San Luis drainage, and various water supply and climate change initiatives. Oversight of Reclamation's Central Valley Project (e.g., Operations Criteria and Plan [OCAP], San Francisco Bay-San Joaquin/Sacramento Rivers Delta [Bay-Delta] management issues), Klamath project, and Colorado River operations also may continue.

## Nationwide Flood Policy and Water Resource Protection

Congressional attention during the 111<sup>th</sup> Congress may focus on the federal role in levee construction, maintenance, inspection and their effects on water resources management generally. Hurricane Katrina, Hurricane Ike, and 2008 Midwest flood oversight issues—such as how to better coordinate federal activities and how to respond or rebuild in the wake of severe damages—may be a particular focus, as might the examination of other areas of the country that may also be vulnerable.

Also of concern nationwide is the status of threatened and endangered species and the health of the nation's rivers and riparian areas. Federal obligations to protect threatened and endangered species and other environmental quality requirements have resulted in increased attention to river and watershed restoration efforts. As noted earlier, the federal government is involved in several significant restoration initiatives ranging from the Florida Everglades to the California Bay-Delta.<sup>1</sup>

At the same time, the demand for traditional or new water supply projects, navigational improvements, flood control projects, and beach and shoreline protection continues. In fact, both the Everglades and Bay-Delta restoration efforts include significant water supply components. Controversy over how much water should be divided among recovering (threatened and endangered) species, protecting water quality, and supplying farms, cities, and other uses has been ongoing. Further, widespread drought throughout different parts of the country over the past several years has spurred new requests for developing and ensuring dwindling water supplies, and new security threats to water infrastructure have placed added pressures on budgetary resources. The 110<sup>th</sup> Congress left pending several national water policy proposals, ranging from new water study commissions and assessments to climate change research and monitoring, some of which have been reintroduced in the 111<sup>th</sup> Congress.

The 111<sup>th</sup> Congress also may address water resource issues during consideration of WRDA legislation and FY2010 appropriations for Reclamation and the Corps. Specific issues that are being or may be discussed during the 111<sup>th</sup> Congress are treated below. Other general issues may include federal reserved water rights in relation to federal lands, transfer of water across federal lands and through federal facilities, Indian water rights settlements, licensing of nonfederal hydropower facilities (i.e., private dams regulated by the Federal Energy Regulatory Commission (FERC)), and whether to establish a national water commission to address federal water policy and coordination.

## Water Resource Projects

Most of the large dams and water diversion structures in the United States were built by, or with the assistance of, Reclamation or the Corps. Traditionally, Reclamation projects were designed principally to provide reliable supplies of water for irrigation and some municipal and industrial uses; Corps projects were designed principally to reduce flooding, improve navigation, and

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<sup>1</sup> For more information on federal involvement in Everglades restoration, see CRS Report RS20702, *South Florida Ecosystem Restoration and the Comprehensive Everglades Restoration Plan*, by Pervaze A. Sheikh and Nicole T. Carter. For information on Bay-Delta issues, see CRS Report RL33565, *Western Water Resource Issues*, by Betsy A. Cody and Pervaze A. Sheikh.

generate power. Reclamation currently manages more than 600 dams and reservoirs in 17 western states,<sup>2</sup> providing water to approximately 10 million acres of farmland and 31 million people, as well as 58 power plants capable of producing 40 billion kilowatt hours of electricity (enough to serve six million homes). The Corps' operations are much more widespread and diverse, and include several thousand flood damage reduction and navigation projects throughout the country, including nearly 12,000 miles of commercially active waterways, nearly 1,000 harbors, and 600 dam and reservoir projects (with 75 hydroelectric plants generating 68 billion kilowatt hours annually). Additionally, the Corps constructed, usually with nonfederal participation, roughly 9,000 miles of the estimated 30,000 miles of the nation's levees, but only maintains 600 miles. The remaining levees are operated by nonfederal entities, often special districts of local governments, which are responsible for maintaining the level of protection they provide.

## **Corps of Engineers**

Congress authorizes Corps water resources activities and makes changes to the agency's policies generally in Water Resources Development Acts. It typically appropriates funds for these activities in annual Energy and Water Development Appropriations acts. Corps project authorizations generally do not expire, so WRDA is not a reauthorization bill. Instead WRDAs add authorizations to the agency's existing authorities. Although WRDA enactment is usually attempted on a biennial schedule, it is not required and has not always happened. The most recent WRDAs were enacted in 2000 and 2007.<sup>3</sup>

Interest in authorizing new studies and projects is likely to prompt consideration of a WRDA bill in the 111<sup>th</sup> Congress. However, the effect of additional authorizations on the agency and its existing "backlog" of projects may continue to be an issue. Debate over whether policy and program changes are needed to set priorities among the Corps' backlog of construction projects and maintenance activities may arise in the context of either WRDA deliberations or consideration of appropriations. Related to this discussion is past congressional concern over the Corps' financial management, particularly the reprogramming of funds across projects and the use of multiyear continuing contracts for projects.

The economic stimulus discussions have included funding Corps water resources projects without identifying specific projects. Which water resources activities may be funded as part of a stimulus is central to the types of benefits that may be expected and whether these investments would be controversial. Without information on which Corps projects or project types would receive stimulus funding, analysis of potential efficiency, equity, and long-term economic growth and environmental effects is highly constrained. The universe of Corps authorized projects is heterogeneous across purpose (i.e., the types of benefits to be produced by ecosystem restoration, flood damage reduction, improved navigation), size, and economic effect. Moreover, many Corps projects are highly controversial and proceeding with these could be politically problematic.

Implementation of numerous policy changes included in WRDA 2007 may be the subject of congressional oversight — revision of Corps project planning guidelines, independent review requirements for Corps studies, and status of the national levee database, inventory, and

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<sup>2</sup> Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

<sup>3</sup> For information on WRDA 2007, see CRS Report CRS Report RL33504, *Water Resources Development Act (WRDA) of 2007: Corps of Engineers Project Authorization Issues*, by Nicole T. Carter et al..

inspections. WRDA 2007 called for numerous reports to be completed during the 111<sup>th</sup> Congress. Results of the national flood risk assessment and the recommendations of the National Levee Safety Committee may also lead to congressional action or oversight. Hurricane Katrina in 2005 and Midwest flooding and Hurricane Ike in 2008 have raised many questions about the national flood risk and federal actions to reduce that risk. In particular, the disasters brought attention to the trade-offs between approaches to distributing federal appropriations among competing water resources projects, and the benefits, costs, and risks of the current division of responsibilities between local, state, and federal entities. For a discussion of flood policy issues, see CRS Report RL33129, *Flood Risk Management and Levees: A Federal Primer*, by Betsy A. Cody and Nicole T. Carter.

The 111<sup>th</sup> Congress also may provide oversight over certain Corps activities. For instance, the Corps is responsible for much of the repair and fortification of the hurricane protection system of coastal Louisiana, particularly in the greater New Orleans area. Since Hurricane Katrina, most of the Corps' work on the region's hurricane protection system has been funded through more than \$14 billion in emergency supplemental appropriations. In addition to the post-hurricane emergency repairs, these funds are being used for construction of levees, floodwalls, storm surge barriers, and pump improvements to reduce the hurricane flooding risk to the New Orleans area to a 100-year level of protection (i.e., protection against a storm surge of an intensity that has 1% probability of occurring in a given year) and to restore and complete hurricane protection in surrounding areas to previously authorized levels of protection by 2011.

Corps' river and reservoir management, in the context of drought conditions and climate change, may also receive congressional attention via WRDA legislation or other vehicles such as Energy and Water Resource Development acts. In many cases, Corps facilities and their operation are central to debates over multi-purpose river management. For example, water resources management by the Corps, such as in the Appalachian-Chattahoochee-Flint basin (which provides much of the water supply for Atlanta (GA)), can be controversial and is frequently challenged in the courts.

## **Reclamation**

Since the early 1900s, Reclamation has constructed and operated many large, multi-purpose water projects, such as Hoover Dam on the Colorado River and Grand Coulee Dam on the Columbia River. Water supplies from these projects have been primarily for irrigation; however, some municipalities also receive water from Reclamation projects. Construction authorizations slowed during the 1970s and 1980s due to several factors. In 1987, the Bureau announced a new mission: environmentally sensitive water resources management. In the following decade, increased population, prolonged drought, fiscal constraints, and increased water demands for fish and wildlife, recreation, and scenic enjoyment resulted in increased pressure to alter operation of many Reclamation projects. Such changes have been controversial, however, as water rights, contractual obligations, and the potential economic effects of altering project operations complicate any change in water allocation or project operations.

In contrast to the Corps, there is no tradition of a regularly scheduled authorization vehicle for Reclamation projects. Instead, Reclamation projects are generally considered individually; although, occasionally individual project authorizations are rolled into an omnibus bill such as S.



22 in the 111<sup>th</sup> Congress.<sup>4</sup> Reclamation-related water project and management issues that are under consideration or may be considered during the 111<sup>th</sup> Congress include:

- passage and oversight of economic stimulus legislation;
- San Joaquin River restoration settlement legislation;
- authorization of Title 16 (recycling and reuse) projects;
- oversight of Central Valley Project (CA) operations (e.g. proposed OCAP changes, Bay-Delta Conservation Plan, impact on Delta Smelt, salmon, and water deliveries);
- oversight of, and appropriations for, Bay-Delta restoration initiatives;
- San Luis Unit drainage issues;
- emergency response to drought, and effects of climate variability on federal reservoirs;
- authorization and appropriations to address aging infrastructure; and
- Colorado River water management issues.

A broader issue that could receive attention from Congress is oversight of Reclamation's mission and its future role in western water supply and water resource management generally. As public demands and concerns have changed, so has legislation affecting Reclamation. Further, many in Congress have questioned Reclamation's shift in focus from a water resources *development* agency to a water resource *management* agency. Some have also questioned the increasing number of proposals to fund new rural water supply projects with high federal cost-share ratios and grants for reclaiming and reusing water; others believe Reclamation is not doing enough to fund augmentation of water supplies in the West via new water reuse, recycling, and desalination technologies.

If Congress addresses this broader issue, critical questions to address could include: What should be the future federal role in water resources development and management? What do western water managers need from the Bureau and how can the Bureau help with western water management? Should (or to what extent should) the federal government develop or augment new supply systems designed primarily to serve communities/municipalities, or is this a local/regional responsibility? Who should pay, and how much? Should the Bureau be involved in environmental mitigation or is this best handled through new institutional arrangements (e.g., CALFED, Delta Vision) or other existing agencies (e.g., Fish and Wildlife Service and/or the Environmental Protection Agency)? Should existing projects be revamped or "re-operated" to accommodate changing demands, and, if so, do new policies and institutions (state-federal roles) need to be addressed, and again, who should pay? Relatedly, the issue of whether there should be a National Water Commission or periodic water resource assessments received attention in the 110<sup>th</sup> Congress, and at least one bill has been reintroduced in the 111<sup>th</sup> Congress.

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<sup>4</sup> Congress occasionally passes omnibus bills addressing key Reclamation policy changes, as well as new or revised project and program authorizations. The last time Congress enacted a Reclamation omnibus bill was in 1992, the Reclamation Projects Authorization and Adjustment Act (P.L. 102-575).

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