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Water Resources Development Act (WRDA): Corps of Engineers Authorization Issues

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Water Resources Development Act (WRDA): Corps of Engineers Authorization Issues

Summary

Congress authorizes Army Corps of Engineers water resources studies and projects before appropriating funds to them. The 109th Congress is considering authorizing Corps activities through a Water Resources Development Act (WRDA) — H.R. 2864. The House passed H.R. 2864 in July 2005; the Senate passed the bill in July 2006. Conferees were named in mid-September 2006. The conference committee is faced with numerous differences between the two versions. Issues reportedly shaping the negotiations include the specifics of Corps reform measures (such as independent review and fish and wildlife mitigation provisions) and general concerns about the overall level of authorizations in the bills, leading to differences of opinion about which projects to authorize and the cost-share and other specifics of those authorizations. The Administration has expressed concerns about both the level of authorizations in the House and Senate versions, and specific provisions in both versions related to Corps policy and specific projects.

Policy "Reforms." The two versions differ in their provisions for changes in Corps policy and procedures, with the independent review provisions receiving the greatest attention. The two versions differ on which projects could be reviewed (i.e., the scope of the review), which projects could be exempted or included for review, who would be performing and directing the reviews, and how recommendations resulting from the reviews would be treated. The Administration supports the independent peer review of proposed projects.

Coastal Louisiana. The (pre-Hurricane Katrina) House-passed WRDA would authorize $1.2 billion in Coastal Louisiana ecosystem restoration activities based on a January 2005 report by the Corps' Chief of Engineers; 64% of the costs would be a federal responsibility. The Administration supports a 50%-50% cost-share for coastal Louisiana restoration, as well as for other large restoration efforts such as the activities proposed for the Upper Mississippi River-Illinois Waterway (UMR-IWW).

The Senate's July 2006 WRDA language would use the same Corps report as the basis for its authorization, while also providing the Corps authority to modify the activities identified in the report in response to Hurricanes Katrina and Rita. The language also directs the Corps to give priority to protecting populated areas of the coast and to integrate the restoration efforts with hurricane protection projects.

Pending WRDA language also contains other provisions authorizing Corps hurricane protection and navigation projects in Louisiana. The Senate-passed H.R. 2864 includes provisions authorizing hurricane protection projects for coastal Louisiana contingent upon committee resolutions; the Administration objects to this conditional pre-authorization of projects, noting the projects are yet to be identified and may cost tens of billions of dollars.

This report replaces CRS Issue Brief IB10133, *Water Resources Development Act (WRDA): Corps of Engineers Authorization Issues*, coordinated by Nicole T. Carter.

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Water Resources Development Act (WRDA): Corps of Engineers Authorization Issues

Most Recent Developments

WRDA Bill Status. The pending Water Resources Development Act (WRDA) bills — H.R. 2864 — passed the House in July 2005, and the Senate in July 2006. Conferees were named in mid-September 2006. The conference committee is faced with numerous differences between the two versions. Some of the differences concern water resources policy issues and others relate to projects receiving attention in the wake of Hurricane Katrina — for example, in the Senate version, Subtitle C (§§2051-2055), creating a National Levee Safety Program, and §2026, reauthorizing the National Dam Safety Program through 2011. Other differences are in provisions on Corps policy and procedures (e.g., independent review of Corps projects). The Administration, through OMB and the Assistant Secretary of the Army (Civil Works), has expressed strong concern about the overall level of authorizations in both versions of H.R. 2864, as well as expressing concern and objecting to a number of specific provisions.

Recent Issues in WRDA Consideration. The performance of the Corps-constructed hurricane protection infrastructure in New Orleans heightened concerns about the quality of the agency's work and increased support for changing the agency's processes and for stronger oversight of its projects. Provisions in the WRDA bills (often labeled "Corps reform" provisions) would change independent review of Corps project proposals and agency planning guidance. The content of the provisions differs in the two bills. For example, the independent review provisions in the Senate-passed H.R. 2864 reflect an amendment adopted on the Senate floor that provided for broader application of independent review of Corps projects than either the provision supported by the bill's Senate sponsors or the one included in the House-passed H.R. 2864.

Specific project authorizations receiving attention are for coastal Louisiana wetland restoration and hurricane protection activities; Upper Mississippi River-Illinois Waterway (UMR-IWW) navigation and ecosystem restoration projects; and, to a lesser extent, two Florida Everglades projects — Indian River Lagoon-South and Picayune Strand ecosystem restoration efforts. Other controversial authorizations included in the House version are for "environmental infrastructure" projects, which are projects focused on either municipal water supply and wastewater treatment facilities or surface water resource protection and development. Before 1992, the Corps had not been involved in these types of projects. The proposed authorization of additional environmental infrastructure projects continues the debate about what the central missions of the agency are and how best to focus the agency's resources and budget on projects that address those missions.

Background and Analysis

The Corps is a federal agency in the Department of Defense with military and civilian responsibilities. At the direction of Congress, the Corps plans, builds, operates, and maintains a wide range of water resources facilities in U.S. states and territories. The agency's traditional civil responsibilities are creating and maintaining navigable channels and controlling floods; in the last two decades, Congress has increased the Corps' responsibilities in ecosystem restoration, municipal water and wastewater infrastructure, disaster relief, and other activities. The agency's regulatory responsibility for navigable water extends to issuing permits for private actions that might affect wetlands and other waters of the United States.

Congressional direction comes primarily through authorization and appropriations legislation and oversight activities. WRDA is the main legislative vehicle for Corps civil works authorizations. After background on WRDA and WRDAs in recent Congresses, this report discusses the current status of WRDA and major issues shaping WRDA consideration in the 109th Congress — changes to Corps project development practices and policies, coastal Louisiana wetlands restoration activities, UMR-IWW investments, and Everglades restoration projects.

WRDAs: Authorizing Corps Studies and Projects

WRDA legislation provides the Corps with authority to study water resource problems, construct projects, and make major modifications to projects. The provisions and contents of a WRDA are cumulative and new acts do not supersede or replace previous acts unless explicit language modifies, replaces, or terminates previous authorizations. A new WRDA adds to the original language and often amend provisions of previous acts.

Congress generally authorizes Corps water resources studies as part of a periodic consideration of a WRDA, or in a survey resolution by an authorizing committee — the House Transportation and Infrastructure Committee or the Senate Environment and Public Works Committee. Authorization to construct projects and changes to the policies guiding the Corps civil works program, such as project cost-share requirements, are also typically in WRDAs. The authorizations of Corps projects generally do not expire; however, there is a process to deauthorize projects that have not received appropriations for seven years. Although Congress has historically authorized Corps projects as part of a WRDA, authorizations also have been included in appropriations bills, especially in years when a WRDA has been delayed or not enacted at all. Corps authorizing committees generally discourage authorizations in appropriations bills; authorization in appropriations bills may be subject to a point of order.

Authorization establishes a project's essential character, which is seldom substantially modified during appropriations. The appropriations process, however, plays a significant role in the realization of a project; appropriations determine which

studies and projects receive federal funds.[1] Many authorized activities never receive appropriations. Fiscal priorities and public attitudes in recent decades have resulted in declining federal funding for water resources activities, thus increasing competition for funding among authorized activities.[2] Moreover, during the last 15 years, Congress has authorized not only navigation and flood control projects, but also ecosystem restoration, environmental infrastructure assistance, and other nontraditional activities, exacerbating competition for construction funds. The Corps now has a "backlog" of more than 800 authorized projects, with more than 500 not consistently receiving construction appropriations.

WRDAs in Recent Congresses

WRDA 1986 (P.L. 99-662) marked the end of a decade-long stalemate between Congress and the executive branch regarding authorizations. In addition to authorizing numerous projects, WRDA 1986 resolved long-standing disputes related to cost-sharing, user fees, and environmental requirements. A cycle of biennial consideration of a WRDA has loosely been followed. Biennial *enactment* has been less consistent, with WRDAs enacted in 1988 (P.L. 100-676), 1990 (P.L. 101-640), 1992 (P.L. 102-580), 1996 (P.L. 104-303), 1999 (P.L. 106-53), and 2000 (P.L. 106-541). Many of these WRDAs authorized or modified the authorization of more than a hundred projects. Pressure to authorize new projects, increase authorized funding levels, and modify existing projects is often intense, thus promoting a fairly regular (if not always biennial) consideration of WRDA. WRDA legislation was considered, but not enacted, during the 107th and 108th Congresses.

WRDA in the 109th Congress

WRDA consideration by the House and Senate in the 109th Congress has been shaped by many issues: Hurricane Katrina, authorized spending (e.g., the amount of authorizations in the bill and the bill's potential budgetary impact); change to Corps policies and practices (see "Project Development Reform," below); and authorization of a few controversial projects (see project-specific sections of this report). Hurricane Katrina increased interest in flood control projects and activities and Louisiana projects (including coastal wetlands restoration activities). At the same time, the disaster increased interest in streamlining federal spending generally. There is considerable support among some stakeholders for enacting a WRDA bill because of the number of projects awaiting authorization and the length of time since Congress enacted the last WRDA in 2000. Others are critical of numerous provisions of both the House and Senate versions of the bill.

The Congressional Budget Office (CBO) estimated the cost of the House bill, as passed by the House Transportation and Infrastructure Committee in early 2005,

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[1] For more information on the Corps' appropriations, see CRS Report RL33346, *Energy and Water Development*: *FY2007 Appropriations*, and CRS Report RL32852, *Energy and Water Development: FY2006 Appropriations*, coordinated by Carl Behrens.

[2] For example, the civil works budget has experienced a substantial decline in *real dollar* amounts; the annual funding for the Corps' construction account fell from an average of $4 billion (in 2000 dollars) in the 1960s and 1970s to less than $2 billion recently.

at $4.1 billion from 2006 to 2010 and an additional $5.9 billion from 2011 to 2020. A current CBO cost estimate of the Senate-passed version is not available; numerous changes have been made to the bill since the CBO estimates on the version of S. 728 passed by the Senate Environment and Public Works Committee. (The Senate incorporated S. 728 into H.R. 2864.) A simple summation of the new authorizations in the current Senate version exceeds $15 billion.

The Administration, in its Statements of Administration Policy and in a September 22, 2006, letter from the Assistant Secretary of the Army to the Chairman of the House Committee on Transportation and Infrastructure, has expressed concerns about the authorization levels of the bills. The Administration's position is to recommended new authorizations only for priority projects in the agency's core mission areas of navigation, flood control, and ecosystem restoration, and to control the federal financial commitment through lower federal responsibility in the cost-share for projects.

Project authorizations in the WRDA bills receiving attention and causing debate include:

- Coastal Louisiana: more than $1 billion for immediate actions to restore coastal wetlands over the next decade, and conditional pre-authorization of hurricane protection measures (no cost estimate available).[3]
- Upper Mississippi River-Illinois Waterway (UMR-IWW): $2.0 billion for navigation improvements and $1.58 billion for ecosystem restoration.
- Everglades: $1.21 billion for the Indian River Lagoon-South project for wetlands and estuarine restoration and $0.35 billion for the Picayune Strand ecosystem restoration project.

Current Issues

Project Development Reform

Support for changing the Corps' practices gained momentum in 2000 in the wake of a series of critical articles in the *Washington Post*, whistleblower allegations, and ensuing investigations. The failure of Corps-constructed floodwalls in New Orleans and the findings of subsequent investigations have strengthened support for some Corps reform measures.

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[3] House-passed H.R. 2864 would authorize $1.2 billion. An authorization amount for is not specified in the Senate language; instead, the language authorizes the activities identified in the report by the Corps' Chief of Engineers (known as the Chief's report) that recommended $1.1 billion in immediate actions and estimated an additional cost of $0.9 billion. The Senate language also gives the Corps authority to modify the activities identified in the Chief's report in response to Hurricanes Katrina and Rita, while also lifting the limitations on the size and scope of modifications that do not require congressional authorization.

Many advocates for changes, primarily environmental groups, sought to modify Corps project planning (e.g., by changing the cost-benefit analysis and consideration of environmental impacts and benefits), to require additional review of Corps projects (e.g., through external review of Corps feasibility reports), and to strengthen environmental protection (e.g., through modifications to fish and wildlife mitigation requirements); these kinds of changes often were referred to as "Corps reform." Although Corps reforms were discussed in the 106th,[4] 107th, and 108th Congresses, no significant changes were enacted. The Corps argues that it has transformed itself by changes it has implemented since 2000; these include refinements in planning, peer review (with the possibility of external review), and internal review.[5]

Other stakeholders argue that any changes should move the agency in a different direction than the measures pursued by environmental groups. Supporters of streamlining the Corps practices, which include many of the nonfederal project sponsors for Corps projects, argue that the provisions supported by the environmental groups are unnecessary and add delay, cost, and uncertainty to an already lengthy project development and constructions process. They want to increase the predictability of the Corps planning process by making changes such as standardizing planning procedures, models, and data; limiting the length of studies; and requiring tracking of the agency's construction backlog.

Independent Review. The two versions differ in their provisions for changes in Corps policy and procedures, with the independent review provisions receiving the greatest attention. The two versions differ on the scope of the independent reviews, which projects could be exempted or included for review, who would be performing and directing the reviews, and the treatment of the recommendations resulting from the reviews.

The Administration supports the independent peer review of proposed projects. The independent review provisions in the Senate-passed bill reflect a broader application of independent review than the House provision. For example, the Senate version includes requirements for independent safety reviews of the construction of Corps flood and storm damage reduction projects, a requirement prompted by the

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[4] Although the 106th Congress did not enact Corps changes, it asked the National Academy of Sciences to review Corps planning in §216 of WRDA 2000. In April 2004, the Academy's National Research Council (NRC) published four reports from this review. Each report recommended changes in Corps practices and the larger federal water resources management and organizational context. The four 2004 National Research Council reports (Washington, DC: National Academy Press) were *Adaptive Management for Water Resources Planning; Analytic Methods and Approaches for Water Resources Project Planning; River Basins and Coastal Systems Planning Within the U.S. Army Corps of Engineers;* and *U.S. Army Corps of Engineers Water Resources Planning: A New Opportunity for Service.*

[5] The Corps released five new policy documents in 2005 to be tested as guidance for the agency's planning activities. One, on collaborative planning of Corps projects, is an update to Corps planning guidance. Another set out processes for the peer review of scientific, engineering, and economic information and assessments used to inform decision-making. Another established a Civil Works Review Board that approves the final planning reports before submitting them to the Chief of Engineers.

floodwall failures in New Orleans. The Senate provision was added as an amendment on the Senate floor; the provision is broader than was supported by the bill's Senate sponsors. This raises particular uncertainty regarding the negotiation of this provision by the conference committee.

Planning and Coordinating Committee. The changes to Corps planning that the two versions propose also differ. The House version, in §2029, would provide direction to the Corps on what benefits to consider when evaluating projects during planning. The Senate planning provision (§2005) would provide deadlines for milestones for the planning process and related reports; it also provides direction on the consideration of risk in flood damage reduction projects, consideration of project alternatives, and assessments of the cost-effectiveness of elements of a project. Under the Senate version (§2006), every five years, a Coordinating Committee composed of Secretaries from numerous federal departments would recommend changes to the planning principles guiding the agency's evaluation and development of projects. The Coordinating Committee also would be required to submit within two years of enactment a report on the vulnerability of the United States to flood and storm damages.

Other Policy Changes. The planning and review provisions are not the only ones in the two versions of H.R. 2864 that change Corps practices and policies. Other provisions of each version could be analyzed in the context of Corps reform; these include §2005 of the Senate-passed H.R. 2864, requiring a Corps fiscal transparency report; §2015 of the Senate-passed H.R. 2864, requiring cost-sharing for monitoring of ecosystem restoration projects; and §2025 of the House-passed H.R. 2864, streamlining environmental review of Corps projects. For example, §2001 of the Senate-passed bill would allow in-kind construction work by nonfederal project sponsors to be credited against local cost-share responsibilities for Corps projects. The Administration opposes the provision, citing diminished accountability, consistency, and Corps oversight.

Coastal Louisiana

The Corps has a prominent role in New Orleans and southeast Louisiana hurricane recovery efforts, including repairing damaged floodwalls and levees and strengthening hurricane resiliency through infrastructure fortification and long-term wetlands restoration. The Corps is repairing and strengthening much of the area's hurricane protection levees and floodwalls using existing authority and through funding provided in supplemental appropriations legislation.

Hurricanes Katrina and Rita altered the debate over restoration proposals and the cost-share for restoration investments. Many restoration proponents are calling for more extensive efforts than are in the current versions of WRDA; generally, their support has centered on a $14 billion proposal developed in the *Coast 2050 Plan* from 1998. Decisions facing Congress include whether to authorize any coastal Louisiana restoration effort and the extent of the authorized effort; these decisions may take place in the context of WRDA or other legislation (e.g., S. 1765 or S. 1766). For more information on how the hurricanes might influence consideration of restoration legislation, see CRS Report RS22276, *Coastal Louisiana Ecosystem Restoration After Hurricanes Katrina and Rita*, by Jeffrey A. Zinn.

Wetlands Restoration and Protection.[6]

Corps' Pre-Katrina Plan. Coastal wetlands in Louisiana have been disappearing at a high rate, and those losses are forecast to continue if no actions are taken to reverse current trends. Federal agencies, led by the Corps and in coordination with the state, developed several versions of plans to slow the rate of loss and restore some of these wetlands. The current Corps feasibility report was released, before Hurricanes Katrina and Rita, in November 2004; it received a favorable recommendation in January 2005 in a report by the Corps' Chief of Engineers.

The feasibility report recommended measures totaling $1.997 billion. The Chief's report subdivided this total into three parts; it recommended that projects and programs totaling $1.123 billion be authorized immediately, that an additional $145 million be spent on already authorized investigations of "large-scale concepts," and that future authorization be pursued for ten features totaling $728 million.

The Corps' feasibility report proposed activities to divert water from the Mississippi River to convey sediments into nearby wetlands, and to help stabilize the coastline. The federal government would pay about 64% of the total estimated cost. In the diversions, wetlands would gradually reestablish themselves on newly deposited sediments. For more information on the status of wetlands in coastal Louisiana and the evolution of the restoration plans, see CRS Report RL32673, *Coastal Louisiana: Attempting to Restore an Ecosystem*, by Jeffrey A. Zinn; and on the Corps' recommended actions, see CRS Report RS22110, *Coastal Louisiana Ecosystem Restoration: The Recommended Corps Plan*, by Jeffrey A. Zinn.

Authorization Amount. Title VII of the House-passed version of H.R. 2864 does specify dollar amounts, and would authorize a total of $1.218 billion primarily for activities recommended in the Corps report. By contrast, §1003 of the Senate language does not specify any dollar amounts, or the federal and nonfederal share. The Senate language would authorize the Louisiana Coastal Area program "substantially in accordance with" the Chief's report, while providing the Corps authority to modify, without limitations on the scope or cost of the modifications, the projects identified in the report in order to respond to Hurricanes Katrina and Rita. Provisions in §1003 direct the Corps to give priority to critical restoration features, to Mississippi River diversion projects that protect specified population centers and provide coastal environmental benefits, and to coastal barrier projects that are related to diversion projects and protect population centers. It also authorizes non-governmental organizations to pay the nonfederal portion of project costs.

Specifics of the Authorizing Language. While generally being supportive of the effort, the Administration's position differs from the legislative language in many respects. The Statement of Administrative Policy on the Senate-version recommended a single generic (programmatic) authorization covering all studies, construction, and science activities, rather than the separate authorizations provided

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[6] Prepared by Jeffrey A. Zinn, Specialist in Natural Resources Policy, Resources, Science, and Industry Division.

in the pending legislation. The Administration argues that this would provide more flexibility and expediency. The Statements of Administration Policy for the House and Senate versions of the bill recommended a cost-share of 50% federal-50% nonfederal.

Section 1003 of the Senate-passed bill contains additional provisions. It calls on the Secretary, in coordination with the state, to develop a comprehensive plan for protection, preservation, and restoration within one year, to be updated every five years, and specifies that it include discussions of three topics and consider incorporating related projects into the program laid out in the Chief's report. It would create a federal-state task force to make recommendations to the Secretary on many specified aspects of the coastal Louisiana effort, including the comprehensive plan. It also would create the Louisiana Water Resources Council, which would oversee and manage implementation of a system-wide plan for Corps projects that address issues raised by the hurricanes. Council members would be appointed by the President of the Mississippi River Commission, in consultation with the Louisiana governor. The Administration objects to the creation of the Council, citing a circumvention of the executive branch processes thus reducing accountability and citing constitutional concerns with regard to the Appointments Clause.

Section 1003 of the Senate version also would create a new science and technology program to develop better information about baseline conditions in coastal Louisiana. An amendment adopted during committee markup added language describing the content of a National Academy of Sciences study, to be initiated within 180 days of enactment, on the causes and sources of degradation caused by any activities approved by the Secretary. The language in this subsection also would require the Corps to submit a feasibility report on the ten features identified in the Chief's report that are estimated to cost a total of $728 million, for which the agency anticipates seeking future authorization; §1003 would authorize $10 million for this report.

Title VII of House-passed H.R. 2864 also contains additional provisions, many of which are similar to those in §1003. In addition to having nearly identical requirements for a report on MRGO, it would also require the Corps to submit to Congress reports on the Barataria-Terrebonne Estuary and the Chenier Plain. It would require that a comprehensive plan be completed within five years of enactment. Like the Senate bill, it would create a federal-state task force to make recommendations to the Secretary on many specified aspects of the coastal Louisiana effort, including the comprehensive plan. However, the membership would be slightly different, with two additional federal agencies added to the roster, and the three state positions being specified. Also, this bill would require a biennial report to Congress, rather than a report every five years. Title VII would also allow credit for certain prior nonfederal contributions to projects, and also allow them to be transferred to any other project authorized in this title.

Hurricane Protection and Navigation.[7] In addition to provisions authorizing coastal wetlands restoration efforts, both versions of H.R. 2864 also contain numerous provisions related to Corps hurricane protection and navigation projects in Louisiana. Both versions would authorize the Morganza to the Gulf of Mexico hurricane protection project; this project had been recommended by the Corps' Chief of Engineers in 2002. Specific measures proposed following Hurricane Katrina to fortify the structural elements of the hurricane protection system protecting New Orleans and other portions of southeast Louisiana may require congressional authorization; H.R. 5461 — Meeting Authorization Requirements for the Coast Act of 2006 — provides examples of some of these measures. These specific measures are absent from the Senate-passed H.R. 2864, and were not in the pre-Katrina House-passed bill.

Although the Senate-passed H.R. 2864 does not have these specific authorizations, it includes general provisions related to authorizing hurricane protection projects for coastal Louisiana. In the Louisiana Coastal Area ecosystem restoration section (§1003), there is a provision that would require that a report on comprehensive hurricane protection be submitted to Senate Environment and Public Works Committee and the House Transportation and Infrastructure Committee; the report would be based on the results of an ongoing study (which was authorized in the Energy and Water Development Appropriations Act for FY2006, P.L.109-103). The Senate-version of the WRDA bill would provide the Secretary of the Army authorization to construct the projects identified in the report following committee resolutions by the two committees. This would differ from the typical Corps process of projects requiring specific authorization by Congress in enacted legislation before appropriations are directed to the Corps for construction activities. The Administration in its Statement of Administration Policy on the Senate-version objects to conditional pre-authorization of projects; its statement notes that the projects are yet to be identified, and the costs are likely to measure in the tens of billions.

The Senate version includes provisions for financial assistance for moving deep-draft navigation facilities that may be affected by the possible permanent closure of the Mississippi River Gulf Outlet (MRGO). For more information on the MRGO, see CRS Report RL33597, *Mississippi River Gulf Outlet (MRGO): Issues for Congress*, by Nicole T. Carter and Charles V. Stern.

Upper Mississippi River-Illinois Waterway[8]

The Upper Mississippi River and Illinois Waterway (UMR-IWW) is at the center of a debate over the future of inland navigation, the restoration of rivers used for multiple purposes, and the reliability and completeness of the Corps analyses justifying investments. Consequently, authorization of investments in navigation and ecosystem restoration of the UMR-IWW is playing a role in WRDA debates in the

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[7] Prepared by Nicole T. Carter, Analyst in Environmental Policy, Resources, Science, and Industry Division.

[8] Prepared by Nicole Carter, Analyst in Environmental Policy, Resources, Science, and Industry Division.

109th Congress; topics being debated include the urgency, necessity, and national benefit of expanded UMR-IWW navigation capacity and ecosystem restoration.

The UMR-IWW is a 1,200-mile, 9-foot-deep navigation channel created by 37 lock-and-dam sites and thousands of channel structures. The UMR-IWW makes commercial navigation possible between Minneapolis and St. Louis on the Mississippi River, and along the Illinois Waterway from Chicago to the Mississippi River. It permits upper midwestern states to benefit from low-cost barge transport. Since the 1980s the system has experienced increasing traffic delays, purportedly reducing competitiveness of U.S. products in some global markets. The river is also losing the habitat diversity that allows it to support an unusually large number of species for a temperate river system. This loss is partially attributable to changes in the distribution and movement of river water caused by navigation structures and operation of the 9-foot navigation channel.

The Corps' Chief of Engineers approved the agency's completed feasibility report on UMR-IWW improvements in December 2004.[9] The Corps' feasibility report failed to significantly reduce the debate over the urgency, necessity, and national benefit of expanded navigation capacity. (For an analysis of the navigation expansion decisions, see CRS Report RL32470, *Upper Mississippi River-Illinois Waterway Navigation Expansion: An Agricultural, Transportation, and Environmental Context*, coordinated by Randy Schnepf.)[10] The Corps' ecosystem restoration plan has been less controversial than the navigation plan. There is general agreement that the ecosystem is declining and support for the 15-year increment of the Corps' 50-year ecosystem restoration plan. Debate over the restoration proposal focuses primarily on implementation strategies, including linkages between the ecosystem restoration and navigation investments, and the federal-nonfederal cost-share for restoration activities. For more information, see CRS Report RL32630, *Upper Mississippi River System: Proposals to Restore an Inland Waterway's Ecosystem*, by Kyna Powers and Nicole T. Carter.

The Corps' UMR-IWW feasibility report has been reviewed for compliance with Administration policy by the Assistant Secretary of the Army (Civil Works), and is being reviewed by OMB. In contrast to the Corps' Chief of Engineers, who has signed off on the proposed project, the Assistant Secretary of the Army (Civil Works) reportedly chose to support proceeding with design, and recommended waiting until additional economic data and analysis are available before initiating construction.

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[9] U.S. Army Corps of Engineers, *Final Integrated Feasibility Report and Programmatic Environmental Impact Statement for the UMR-IWW System Navigation Feasibility Study* (Rock Island District, St. Louis District, St. Paul District, Sept. 24, 2004), pp. 230 and 490. Hereafter referred to as UMR-IWW Final Feasibility Report. Available at [http://www2.mvr.usace.army.mil/umr-iwwsns/documents/FINAL_FES_EIS_Report_Cover(2004).pdf], visited on June 9, 2006.

[10] The National Research Council (Washington, DC: National Academy Press) has reviewed and reported on the UMR-IWW proposals in *Inland Navigation System Planning: The Upper Mississippi River-Illinois Waterway* (2001), *Review of the U.S. Army Corps of Engineers Upper Mississippi-Illinois Waterway Restructured Study: Interim Report* (2003), and *Review of the U.S. Army Corps of Engineers Restructured Upper Mississippi River-Illinois Waterway Feasibility Study: Second Report* (2004).

The Statements of Administration Policy have been critical of the bill's estimated 91% federal-9% nonfederal cost-share for ecosystem restoration for the Upper Mississippi River Basin. The Administration recommended a 50%-50% cost-share.

UMR-IWW Navigation and Ecosystem Restoration Investments. The authorizations of navigation and ecosystem restoration investments for the UMR-IWW in the House-passed and Senate-passed bills are largely similar.[11] Section 1002 of the Senate-passed H.R. 2864 and §8003 of the House-passed H.R. 2864 would authorize $2.03 billion for the initial set of navigation improvements — seven new locks, small-scale and non-structural measures, and related environmental mitigation, in general conformance with the feasibility report. The bills, however, do not explicitly mention the adaptive implementation process recommended by the Corps or many of the monitoring and study recommendations.[12]

A House floor amendment to H.R. 2864 related to UMR-IWW failed; the amendment would have required that construction of UMR-IWW navigation locks proceed only if tonnage, reporting, and other requirements were met. An amendment requiring annual reports on comparable progress of UMR-IWW navigation and ecosystem restoration was adopted. No similar amendments were offered during Senate floor consideration.

Section 1002 of the Senate-passed bill and §8004 of the House-passed bill would authorize $1.58 billion for ecosystem restoration for the Upper Mississippi River Basin in accordance with the general framework outlined in the Corps feasibility report. However, neither bill mentions the Corps' proposal for an adaptive management approach, nor do they explicitly authorize dual-purpose management of the river for ecosystem restoration and navigation. The bills appear to link ecosystem restoration and navigation improvements through a comparable progress provision. For a comparison of the ecosystem restoration and navigation authorization language and the Corps' recommendations, see CRS Report RL32915, *Upper Mississippi River-Illinois Waterway Investments: Legislation in the 109th Congress*, by Nicole T. Carter and Kyna Powers.

Everglades Restoration[13]

To date, the Corps' largest authorization for an ecosystem restoration effort has been in the Florida Everglades, with a three-decade, $10.9 billion restoration

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[11] One of the differences is that the Senate-passed H.R. 2864 directs that the investments are to be implemented in "general conformance" with Corps documents, while H.R. 2864 directs implementation to be "substantially in accordance with the [Corps documents] and subject to the conditions described therein."

[12] The feasibility report was the result of a controversial feasibility study process that began in 1993. The final feasibility report stated that sufficient analysis had been completed to support an initial investment decision to be implemented using an adaptive approach that minimizes risk by controlling the magnitude of investment decisions; the report recommended that additional monitoring and study be performed in order to support decisions made under the adaptive implementation approach.

[13] Prepared by Pervaze A. Sheikh, Analyst in Environmental and Natural Resources Policy, Resources, Science, and Industry Division.

program.[14] Congress approved the Corps' implementation of the Comprehensive Everglades Restoration Plan (CERP) as a framework for Everglades restoration in WRDA 2000. For more information on Everglades restoration and implementation issues, see CRS Report RS22048, *Everglades Restoration: The Federal Role in Funding*, by Pervaze A. Sheikh and Nicole T. Carter.

The principal objective of CERP is to redirect and store freshwater currently diverted away from the Everglades to the ocean, and use the retained water to restore the natural hydrologic functions of the south Florida ecosystem. WRDA 2000 authorized an initial set of CERP restoration projects, as well as $700 million in federal funds to implement them, and established a process for additional projects contemplated in the 1999 CERP plan to be developed and authorized.[15] Authorization language for two of these additional projects — Indian River Lagoon-South (IRL-S) wetlands and estuarine restoration and the Picayune Strand ecosystem restoration (also known as Southern Golden Gates Estates ecosystem restoration) — is included in both the Senate-passed and House-passed H.R. 2864. These two projects are the first projects to be developed under the process established in WRDA 2000; consequently, some view their fate as a test case of the CERP framework. Further, both bills would include the Hillsboro and Okeechobee Aquifer project as a part of CERP, and H.R. 2864 would increase the authorization of that project by $12.2 million to $39.2 million. This would place the project within the framework of CERP and the requirements of WRDA 2000.

With regard to modified water deliveries to the Everglades, the House-passed H.R. 2864 states that the Secretary of the Army shall not raise Tamiami Trail until the project is specifically authorized by law; and that the Secretary shall submit to Congress reports requesting authorization for changes in the projects to improve water deliveries to Everglades National Park, raise Tamiami Trail, and modify the C-111 canal. The Senate-passed bill does not contain these conditions.[16]

Indian River Lagoon. Both the House-passed H.R. 2864 and the Senate-passed H.R. 2864 would authorize an IRL-S project, as recommended by the Corps to restore the IRL-S wetlands and estuary.[17] The House-passed H.R. 2864 would authorize $1.2 billion for the project, whereas the Senate-passed H.R. 2864 would

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[14] This amount represents the estimated cost in Oct. 2004 dollars according to the U.S. Army Corps of Engineers, *Comprehensive Everglades Restoration Plan, 2005 Report to Congress* (Washington, DC: Dec. 2005).

[15] U.S. Army Corps of Engineers, *Central and Southern Florida Project Comprehensive Review Study: Final Integrated Feasibility Report and Programmatic Environmental Impact Statement for the Indian River Lagoon-South* (Jacksonville, FL, April 1999). Hereafter referred to as Corps, *CERP Plan.* Available at [http://www.evergladesplan.org/pub/restudy_eis.cfm#mainreport], visited on June 9, 2006.

[16] For more information on the Modified Water Deliveries Project, see CRS Report RS21331, *Everglades Restoration: Modified Water Deliveries Project*, by Pervaze Sheikh.

[17] U.S. Army Corps of Engineers, *Final Integrated Project Implementation Report and Environmental Impact Statement for the Indian River Lagoon-South* (Jacksonville, FL: March 2004). Hereafter known as Corps, *IRL-S Final PIR*. Available at [http://www.evergladesplan.org/pm/studies/irl_south_pir.cfm], visited on June 9, 2006.

authorize $1.4 billion. (The federal share would be 50% of this total.) The Senate version reflects the inflation-adjusted project cost of IRL-S at FY2006 price levels. The Indian River Lagoon is a 156-mile-long estuary, located at the mouth of the St. Lucie River in eastern Florida. The IRL-S has been altered by unnaturally large and poorly timed freshwater discharges arriving from the St. Lucie Canal and other elements of the Central and Southern Florida drainage project. These discharges have altered water quality, and may have contributed to depleted water supplies in the Everglades ecosystem. The significance of these ecosystem problems is exacerbated by the high biodiversity found in the IRL-S.[18]

The Corps' report on the feasibility and implementation of the IRL-S has been reviewed for compliance with Administration policy by the Assistant Secretary of the Army (Civil Works) and OMB, and formally submitted to Congress. The recommended plan would divert some of the current flow to planned storage reservoirs as well as to disperse water throughout the IRL-S ecosystem. Four artificial reservoirs would store excess freshwater for agricultural uses in the area. Natural storage areas would be restored by acquiring nearly 93,000 acres of land. These storage areas would also improve native habitat (which is a goal of the larger Everglades restoration plan) and reduce phosphorus and nitrogen loads into the IRL-S. Further, the plan calls for removing an estimated 7.7 million cubic yards of "muck" and disposing it elsewhere. The recommended project has evolved since the activities proposed in CERP; in that document, the estimated cost for the activities that now make up the recommended IRL-S project was less than $1 billion and consisted primarily of artificial storage reservoirs.[19]

Some supporters of the Indian River Lagoon restoration project argue that the project will improve the seabed floor and revive bottom-dwelling communities.[20] In the *IRL-S Final PIR*, the Corps states that IRL-S restoration will result in clean water transferred to Lake Okeechobee, thus improving the quality of water that moves through the ecosystem from the lake.[21] Others, however, suggest that even though the project will help the estuarine ecosystem, it will not completely attenuate freshwater flows from Lake Okeechobee, a problem that may have to be dealt with separately. Further, some believe that IRL-S restoration is localized and will have little impact on the Greater Everglades ecosystem. Another concern that has been raised is steadily increasing project costs.

Picayune Strand Restoration. The Picayune Strand restoration project (also known as the Southern Golden Gates Estates project) is expected to provide freshwater flows to natural areas. Both the House-passed and Senate-passed H.R. 2864 would authorize the Picayune Strand restoration project; however, the House-

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[18] Corps, *IRL-S Final PIR.*

[19] Corps, *CERP Plan.*

[20] For example, testimony of Eric Draper, Director of Policy, Audubon of Florida, before the U.S. Senate, Committee on Environment and Public Works, *U.S. Army Corps of Engineers and Water Resource Programs*, Hearing, 108th Cong., 2nd Sess., June 18, 2002 (Washington, DC: U.S. GPO).

[21] Corps, *IRL-S Final PIR.*

passed H.R. 2864 would authorize $350 million for the project, and the Senate-passed H.R. 2864 would authorize $362 million. The Senate version reflects the inflation adjusted project cost of Picayune Strand at FY2006 price levels. The Corps prepared a final Project Implementation Report and Environmental Impact Statement for Picayune Strand and solicited comments through December 19, 2004. After responding to comments and finalizing the report, the Chief of Engineers approved the final report on September 15, 2005. It is being reviewed for Administration policy compliance by the Assistant Secretary of the Army (Civil Works); and awaiting subsequent review by OMB. The proposal is to remove roads, canals, and other infrastructure, and is expected to increase freshwater flows to natural areas, lower freshwater surges to the ocean, and improve water quality.[22] The nonfederal sponsor (the State of Florida) has spent nearly $100 million of its share on land acquisition; most of the remaining project expenses are for design and construction of the project.[23]

The Picayune Strand project encompasses 94 square miles in Collier County, FL, and includes several federal and state lands, such as the Florida Panther National Wildlife Refuge, 10,000 Islands National Wildlife Refuge, and others. Residential development in the region has altered the landscape, changing the ecosystem. Some alterations include a lower watertable, which has diminished cypress-dominated wetlands and has led to colonization by invasive species.[24] Other ecosystem alterations are degraded water quality and an increase in the severity and frequency of wildfires.

Nearly 98% of the land needed for restoring Picayune Strand is in public ownership and all 1,800 parcels (representing almost 1,500 landowners) have been acquired, some through eminent domain.[25] Some are concerned that the accessibility of Picayune Strand for recreation will be lowered due to restoration activities. The state has responded that it will provide areas for off-road vehicles and other recreational activities.

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[22] Ibid.

[23] U.S. Army Corps of Engineers, *Southern Golden Gate Estates Hydraulic Restoration Project, Picayune Stand Restoration* (Washington, DC: June 2004), at [http://www.evergladesplan.org/docs/fs_sgge_061504_english.pdf], visited on June 9, 2006.

[24] U.S. Army Corps of Engineers, *Picayune Stand Restoration Final Integrated Project Implementation Report and Environmental Impact Statement* (Washington, DC: Sept. 2004), at [http://www.evergladesplan.org/pm/projects/docs_30_sgge_pir_final.cfm#pir], visited on June 9, 2006.

[25] Florida Dept. of Environmental Protection, *Statement by Florida Department of Environmental Protection Secretary Colleen M. Castille Regarding the Restoration of America's Everglades* (Tallahassee, FL: May 24, 2004); available at [http://www.dep.state.fl.us/secretary/news/2004/may/0525_hardy.htm], visited on June 9, 2006.

For Additional Reading

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CRS Report RL32064, *Army Corps of Engineers Water Resources Activities: Authorization and Appropriations*, by Nicole T. Carter and H. Steven Hughes.

CRS Report RS20569, *Water Resources Issues in the 109th Congress*, by Betsy A. Cody and H. Steve Hughes.

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CRS Report RL32673, *Coastal Louisiana: Attempting to Restore an Ecosystem*, by Jeffrey Zinn.

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CRS Report RS22467, *Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA): Effects of Hurricanes Katrina and Rita*, by Jeffrey A. Zinn.

CRS Report RS22276, *Coastal Louisiana Ecosystem Restoration After Hurricanes Katrina and Rita*, by Jeffrey A. Zinn.

CRS Report RL33597, *Mississippi River Gulf Outlet (MRGO): Issues for Congress*, by Nicole T. Carter and Charles V. Stern.

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Upper Mississippi River-Illinois Waterway

CRS Report RL32470, *Upper Mississippi River-Illinois Waterway Navigation Expansion: An Agricultural Transportation and Environmental Context*, Coordinated by Randy Schnepf.

CRS Report RL32630, *Upper Mississippi River System: Proposals to Restore an Inland Waterway's Ecosystem*, by Kyna Powers and Nicole T. Carter.

CRS Report RL32915, *Upper Mississippi River-Illinois Waterway Investments: Legislation in the 109th Congress*, by Nicole T. Carter.

Everglades Restoration

CRS Report RS20702, *South Florida Ecosystem Restoration and the Comprehensive Everglades Restoration Plan*, by Pervaze A. Sheikh and Nicole T. Carter.

CRS Report RS22048, *Everglades Restoration: The Federal Role in Funding*, by Pervaze A. Sheikh and Nicole T. Carter.

CRS Report RL32131, *Phosphorus Mitigation in the Everglades*, by Pervaze Sheikh and Barbara Johnson.