Order Code IB10133

Water Resources Development Act (WRDA) and Other Army Corps of Engineers Legislation

Updated September 3, 2004

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SUMMARY

The 108th Congress is considering authorizing Army Corps of Engineers civil works activities and changing Corps policies and practices through a Water Resources Development Act (WRDA) and other legislation. The Corps plans, constructs, and operates water resources facilities primarily for flood control, navigation, and environmental purposes. The last WRDA was enacted in 2000.

108th Congress and WRDA. The House passed a WRDA 2003 (H.R. 2557) on September 24, 2003. The Administration does not support the bill primarily because of the level of newly authorized appropriations. The Senate Committee on Environment and Public Works ordered reported a WRDA 2004 (S. 2554) on June 23, 2004. On August 25, 2004, the committee instead reported a new bill — S. 2773 — which has been placed on the Senate calender. It authorizes a few controversial projects that had not been developed in 2003 for the House WRDA bill, such as navigation improvements and ecosystem restoration of the Upper Mississippi River-Illinois Waterway (UMR-IWW) and two components of Everglades restoration — Indian River Lagoon-South and Southern Golden Gates Estates.

Project Development Reform. Although both WRDA bills contain provisions changing how the Corps formulates and reviews projects, the bills differ in the number and content of those provisions.

Upper Mississippi River-Illinois Waterway (UMR-IWW) Investments. In April 2004, the Corps released a draft feasibility report recommending a 50-year plan for combined UMR-IWW navigation and ecosystem restoration investments and authorization of an initial set of measures. A final report is anticipated by November 2004. Some environmental and taxpayer advocacy groups continue to oppose the large-scale navigation improvements recommended by the Corps. Navigation and agricultural interests insist that these measures are essential for reducing lock delays and maintaining competitiveness of U.S. products in international markets.

Everglades Restoration. In 2004, the Corps has advanced the planning of the first two large-scale projects developed under the Everglades framework approved in WRDA 2000. The two projects — Indian River Lagoon and Southern Golden Gates Estates/ Picayune Strand — are being prepared for presentation to Congress for authorization. This is bringing attention to implementation issues with the $7.8 billion effort. A primary objective of Everglades restoration is to redirect freshwater that is currently diverted from the Everglades to the ocean, store the water, and use it to restore the natural hydrologic functions of the South Florida ecosystem. Critics question the extent to which the two proposed projects satisfy this objective.

Coastal Louisiana Restoration and Protection. In early July 2004, the Corps released a revised draft report describing proposed activities to restore coastal wetlands in Louisiana over the next decade at a total cost of $2 billion. Both S. 2773 and H.R. 2557 include language related to restoration generally, but neither bill authorizes a large-scale restoration effort; the most recent action on both bills occurred before the Corps released the draft report.

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MOST RECENT DEVELOPMENTS

On August 6, 2004, the Chief of Engineers signed a report recommending that Congress proceed with the $1.2 billion Indian River Lagoon-South project for wetlands and estuarine restoration; the project is part of the larger Everglades restoration effort. The Assistant Secretary of the Army (Civil Works) and the Office of Management and Budget are reviewing the report.

On June 23, 2004, the Senate Environment and Public Works Committee ordered reported S. 2554, the Water Resources Development Act (WRDA) of 2004. On August 25, 2004, the Committee instead reported a new bill — S. 2773 — which has been placed on the Senate calender. Provisions in S. 2773 authorize navigation and ecosystem restoration investments in the Upper Mississippi River-Illinois Waterway System (UMR-IWW), the Indian River Lagoon and another Everglades restoration project, and a limited set of activities for a Coastal Louisiana restoration effort.

The House passed a WRDA 2003 (H.R. 2557) on September 26, 2003. H.R. 2557 does not authorize either the Everglades projects or the UMR-IWW investments. During the summer of 2004, the House Transportation and Infrastructure Subcommittee on Water Resources and Environment held three hearings related to Corps projects: a hearing on the UMR-IWW on June 24, a hearing on Coastal Louisiana restoration on July 15, and a hearing on Everglades restoration efforts on July 22.

On July 2, 2004, the Corps submitted a draft 10-year, $2 billion Louisiana Coastal Restoration Plan to the U.S. Environmental Protection Agency for review and public comment.

BACKGROUND AND ANALYSIS

The Corps is a unique federal agency in the Department of Defense, with military and civilian responsibilities. This report focuses on issues related to the Corps domestic civil works program. At the direction of Congress, the Corps plans, builds, operates, and maintains a wide range of water resources facilities in all 50 states and U.S. territories.

Congress authorizes Corps water resources studies generally as part of a biennial 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 authorization 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 have also been included in appropriations bills, especially in years when passage of a WRDA has been delayed. Authorizations in appropriations bills, however, are generally discouraged as standard procedure and 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 because it determines which studies and projects receive federal funds; many authorized activities do not receive appropriations.[1] 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. The Corps now has a "backlog" of more than 500 authorized projects that have not received construction appropriations.

Water Resources Development Acts. Authorizations in WRDAs usually fall into one of three general categories: studies, projects, and modifications to existing authorizations. WRDA 1986 (P.L. 99-662) marked the end of a decade-long stalemate between the 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 biennial WRDA cycle has loosely been followed since, 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). Recent WRDAs have each authorized projects whose potential federal appropriations could reach between $3 billion and $4.3 billion; 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. Controversial projects and policy changes have complicated (or even derailed) the passage of some WRDAs. For example, some Members of the 107th Congress were interested in including provisions in a proposed WRDA 2002 to change how the Corps evaluates and undertakes projects (i.e., "Corps reform"). Failure to address Corps reform in committee legislation reportedly contributed to the bill not being voted on by the House.

108th Congress and WRDA. On September 24, 2003, the House passed H.R. 2557 (H.Rept. 108-265) — WRDA 2003. During committee markup, selected Corps reform provisions were added. (See "Project Development Reform" section for more information.) The Administration does not support the bill, primarily because in its view the bill creates false expectations by authorizing appropriations of more than $4 billion, despite current fiscal constraints and the Corps backlog of projects.

The Senate Environment and Public Works Committee reported a WRDA 2004 (S. 2773) on August 25, 2004. The debate over the Senate's bill is being shaped by conflicting pressures — the Administration's interest in a bill that limits new authorizations, and constituent demand for Corps projects. S. 2773 includes provisions for a few high-profile projects that are not included in H.R. 2557: UMR-IWW navigation improvements and ecosystem restoration, and two Everglades restoration projects. S. 2773 also includes some Corps reform provisions. The Administration has taken no position on this bill.

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[1] For more information on the Corps' appropriations, see CRS Report RL32307, *Appropriations for FY2005: Energy and Water Development*, 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 1999 dollars) in the 1960s and 1970s to $1.4 billion in the 1990s.

Some environmental groups have expressed opposition to S. 2773 because it does not contain provisions to ensure the fiscal and scientific integrity of the Corps civil works program, and it authorizes seven new locks on the UMR-IWW. Other interests are dissatisfied with S. 2773 for opposite reasons. They argue that the reform provisions in S. 2773 are too burdensome and will delay Corps projects, and that funding for UMR-IWW ecosystem restoration and navigation appropriations should not be linked. If S. 2773 passes the Senate, the conference committee will have to resolve the differences in the two bills — the number of projects authorized, the authorization of a few controversial projects, and differences in Corps reform measures. After describing in more detail the two bills, this report discusses the Corps reform provisions, UMR-IWW investments, Everglades restoration implementation, and Coastal Louisiana restoration in the context of their role in the debate over WRDA bills in the 108th Congress.

The House WRDA 2003 Bill. H.R. 2557 contains about 300 provisions authorizing projects or changes to projects and 34 general provisions that alter various aspects of Corps operations and policies. The bill authorizes 12 major projects and conditionally authorizes (subject to a favorable Chief of Engineer's report) 5 additional projects that fall under the Corps navigation, flood control, environmental restoration, and storm damage reduction responsibilities. The bill would deauthorize 31 projects. One of the more controversial sections of the bill, §2028 Project Streamlining, is intended to expedite project environmental review by authorizing the Corps to coordinate the activities of the federal, state, and local agencies and Indian tribes with jurisdiction over the project. The provision requires the Corps to develop a process to have the reviews and permitting by the agencies conducted concurrently to the maximum extent practicable and completed within a time frame established by the Secretary of the Army in cooperation with other agencies. Another provision, §2003, would increase the federal cost-share responsibilities by 25% for construction and 50% for operation and maintenance for deep draft navigation projects between 45 and 53 feet in depth. For more information on the topic of harbor maintenance funding, see CRS Report RL32192, *Harbors and Inland Waterways: An Overview of Federal Financing*, by Nicole T. Carter and John F. Frittelli.

The Senate WRDA 2004 Bill. S. 2773 contains approximately 120 provisions authorizing projects or changes to projects and 24 general provisions that alter aspects of Corps operations and policies. The bill conditionally authorizes 16 projects. Controversial projects authorized in S. 2773 that are not in H.R. 2557 include the UMR-IWW navigation improvements ($1.73 billion) and ecosystem restoration ($1.46 billion) and two Everglades restoration projects ($1.21 billion and $363 million). Other authorizations and changes in the bill include Coastal Louisiana restoration and protection ($325 million), California's Salton Sea restoration ($26 million), removal of the federal Matilija dam for ecosystem restoration ($130 million), and expansion of continuing authority programs (which are programmatic authorities under which multiple projects are undertaken). S. 2773's measure on continuing authority programs would :

- create two new programs — a dam removal or rehabilitation program,[3] and a program to enhance estuaries and coastal habitats (both programs are

[3] Another section of the bill — §5305 — expands the list of dams and provides the Corps with the authority to carry out measures for dam remediation in Vermont.

authorized at $25 million annually, with a cap of $5 million per project and a project cost-share of 65% federal and 35% nonfederal);
- increase the authorized appropriations level for the streambank and shoreline protection and restoration program (from $15 million to $20 million annually) and its projects (from $1 million to $1.5 million each);
- increase the authorized appropriations level for the aquatic ecosystem restoration program (from $25 million to $75 million annually) and the modification of existing projects for ecosystem benefits program (from $25 million to $50 million annually);
- increase the authorized appropriations level for projects under the navigation enhancements program (from $4 million to $7 million each);
- modify an existing authorization for providing planning and design assistance for abandoned mine sites into a program for planning, design, and construction with annual authorized appropriations of $45 million at a cost-share of 75% federal and 25% nonfederal.

S. 2773 also would deauthorize 65 projects, and includes some Corps reform provisions. A budget priority process for flood control projects undertaken by nonfederal entities is set forth in §3001. The bill also contains a number of provisions related to beach protection projects. Section 3401 requires the revision of planning guidelines for shore protection and beach renourishment projects. This section requires that the Corps establish an advisory council on the environmental impacts of beach replenishment projects to coordinate with on the revisions. The next section, §3402, alters the regional sediment management program, and §3403 extends the national shoreline erosion control development and demonstration program. A proposal to stop federal funding for periodic beach nourishment had been proposed in the Administration's FY2005 request.

Project Development Reform. Support for changing the Corps' decision-making process gained momentum in 2000 in the wake of a series of critical articles in the *Washington Post*, whistleblower allegations, and ensuing investigations.[4] Although some Members of the 106th Congress supported Corps reform, other Members, along with agriculture and navigation industries, were satisfied with existing practices. That Congress did not enact changes; instead, in §216 of WRDA 2000, it asked the National Academy of Sciences to review Corps planning. In April 2004, the Academy's National Research Council published its four reports from this review. Each report makes recommendations for changes to the Corps and the larger water resources management context.

H.R. 2557 Reform Provisions. After reportedly lengthy negotiations, the House Transportation and Infrastructure Committee added three procedural Corps reform provisions to H.R. 2557. These provisions address some of the concerns raised by the House Corps Reform Caucus and Representative Kind's Corps reform bill, H.R. 2566. Other provisions of H.R. 2557, such as the streamlining and permitting provisions, are viewed by environmental groups as counter to reform (see "108th Congress and WRDA" section).

[4] For background information on Corps reform, see CRS Report RL30928, *Army Corps of Engineers: Civil Works Reform Issues in the 107th Congress*, by Nicole T. Carter.

The Corps reform provisions in H.R. 2557 cover peer review of projects, additional requirements for mitigating projects' damage to fish and wildlife, and project planning criteria that consider both economic and ecosystem restoration benefits. Section 2033 would establish a process for identifying projects to be peer-reviewed and formulating the peer review panel. Under this provision, the peer review process could encompass a broad range of activities, including environmental and economic assumptions and analyses. Peer review would be limited to scientific or technical matters and would not cover policy or legal compliance. The panel's recommendations would be advisory in nature and included as an appendix to the Chief of Engineer's report.

Section 2030 seeks to tighten requirements for the timing of mitigation and to specify the contents of mitigation plans. This section does not appear to change the nature of the mitigation requirements for Corps projects, as some proposed (and then withdrawn) amendments would have; the provision calls primarily for procedural and planning changes.

Section 2032 appears to make three primary changes to the planning process by adding guidance on the development of multiple alternatives for addressing a problem and the selection of the preferred alternative. Specifically, §2032 (1) adds flexibility by permitting the consideration of both economic and ecosystem restoration benefits of projects during analysis and selection of the alternative to be pursued; (2) allows for the study and recommendation of additional economic or ecosystem restoration benefits for projects with a different primary purpose; and (3) increases the scope of the benefit-cost analysis of flood damage reduction activities to include residual risk of flooding following project completion, upstream or downstream impacts of the project, and an equitable comparison of structural and nonstructural alternatives.

S. 2773 Reform Provisions. Like the House WRDA bill, S. 2773 contains provisions on peer review, mitigation, and the planning process. It also contains some provisions are similar to measures in S. 2188, Corps of Engineers Modernization and Improvement Act of 2004. Section 1010 of S. 2773 would establish a peer review process. Although the peer review process could encompass a broad range of activities, including environmental and economic assumptions and analyses, it would be limited to scientific or technical matters and would not cover policy or legal compliance. If the peer review panel for a project submits its report at least 14 days before the Corps is to submit a study to Congress, the Corps shall take into consideration any recommendations and prepare a written response.

Fish and wildlife mitigation is addressed in §1011; the provision was amended during markup to require acre-for-acre mitigation that fully replaces the hydrologic and ecological functions and characteristics of the affected area. The section also would tighten requirements for both the timing of mitigation and contents of mitigation plans.

Changes to the planning process are in §1008, which provides for the regular revision of the Corps planning guidance and clarifies the elements of a benefit-cost analysis. It also states that a Corps feasibility study may take no longer than three years.

In addition to measures like those in the House WRDA bill, the Senate bill would also:

- establish a River Stewardship Commission to investigate river management by the Corps, including concerns of Native American tribes (§1005);
- require a fiscal transparency report that includes, among other elements, information on the backlog of Corps projects, the status of trust funds, and inland waterway operations and maintenance (§1007);
- establish a Water Resources Planning Council to guide the Corps' use of economic, environmental, and technical information (§1009);
- authorize the Corps to annually provide $10 million in technical assistance to nonfederal entities for managing water resources (§1013);
- require that the Corps develop a program to provide public access to the Corps' water resources and quality data (§1014);
- require a study and report on the ability of coastal or deepwater ports to meet current and projects needs (§2211); and
- require that the monitoring of ecosystem restoration projects be shared according to the cost-share formula for the original construction project for up to 10 years (subject to other limitations (§4001).

Some of these provisions may be seen as implementing changes similar to those recommended by the National Research Council in its planning review reports. For example, §1007 may be seen as an initial step toward the council's recommendation for inventorying and ranking of funding priorities among authorized but unfunded Corps projects.

Stakeholder Responses to Corps Reform Provisions. Many reform advocates see the reform provisions in H.R. 2557 as a first step; however, they generally prefer that measures be stronger and that additional reform issues be addressed. Environmental groups criticized the reform measures in the Senate WRDA bill for failing to improve the Corps' project planning and implementation. Supporters of the agency's current practices argue there is no need for reforms because the Corps has a thorough project development and review process.

Because of differing opinions of the need for and purpose of changes to the Corps, some interests may see some measures of the WRDA bills as reform measures, and other interests may seem the same measures as counter to their vision of reform. For example, the three-year restriction on feasibility studies in §1008 of S. 2773 may be seen by environmental groups as cutting short feasibility studies and the environmental studies that often accompany them. Other interests are likely to see the same measure as streamlining a process that has become too long and costly from their perspective. Other examples of provisions of S. 2773 that may be viewed differently by interests with divergent views on what type of change, if any, is needed include §1012, which allows district engineers (rather than the Secretary) to sign project partnership agreements; §2256, which eliminates previous restrictions on two Corps hopper dredges; and §4335, which extends and modifies activities under the Estuary Restoration Act of 2000 (P.L. 106-457).

Upper Mississippi River-Illinois Waterway Investments.[5] The Upper Mississippi River is at the center of a debate over the future of inland navigation, the

[5] Prepared by Nicole Carter, Analyst in Environmental Policy, and Kyna Powers, Analyst in Energy and Environmental Policy, Resources, Science, and Industry Division.

restoration of rivers used for multiple purposes, and the reliability and completeness of the Corps analyses justifying investments. The UMR-IWW is a 1,200-mile, 9-foot-deep navigation channel created by 37 lock and dam sites and thousands of channel training 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, reducing competitiveness of U.S. products in some global markets.

The Corps has been studying the feasibility of navigation improvements since 1993. The feasibility study has been controversial. In 2000, a Corps economist alleged that the Corps manipulated the analysis to support navigation investments, and a series of newspaper articles criticized the Corps' planning process for the UMR-IWW study and other Corps studies. In response, the Corps halted the study, and reinitiated it in 2001 with a reformulated economic analysis and an ecosystem restoration objective. Ecosystem restoration was included to respond to criticisms that the original study was too limited in its environmental analysis. The study's objective for restoration is to identify measures that address ecosystem decline, including the ongoing effects of navigation operation and maintenance; the goal is to benefit a broad array of species by reducing the loss of habitat, habitat quality, and habitat diversity. Under the reformulated study, in April 2004, the Corps produced a draft feasibility report recommending (1) a combined 50-year plan for navigation improvements and ecosystem restoration, and (2) authorization of an initial set of measures, including seven new locks.[6] The analysis in the draft report has not significantly reduced the debate over the urgency, necessity, and national benefit of expanded UMR-IWW capacity. A final report is anticipated by November 2004, and a recommendation by the Chief of Engineers is expected in late November 2004. Although the National Research Council had planned to release an independent review of the draft report in August 2004, it is not yet available.

Three pieces of legislation in the 108th Congress — H.R. 4785, S. 2470, and S. 2773 (Water Resources Development Act (WRDA) of 2004) — would authorize investments in navigation ($1.73 billion) and ecosystem restoration ($1.46 billion). The draft feasibility report and the bills differ from the standard Corps feasibility report and authorizing language. The bills authorize most of the initial set of activities recommended in the Corps' draft report; the authorization, however, is not contingent on a final feasibility report or a recommendation by the Chief of Engineers. A fourth bill — H.R. 4686 — proposes investing in ecosystem restoration using an existing Environmental Management Program, without authorizing navigation improvements, thereby decoupling restoration investments from navigation improvements. H.R. 2557 was passed in September 2003 before the Corps' draft report; the bill contains no UMR-IWW authorization provision.

Navigation Investments. The 50-year, $2.4 billion navigation plan consists of small-scale measures (structural and nonstructural) and large-scale improvements — seven new locks and five lock extensions. In the draft, the Corps recommends that Congress

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[6] U.S. Army Corps of Engineers, *Draft 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, April 29, 2004). Hereafter referred to as Corps, *April 2004 Draft Feasibility Report and PEIS.*

authorize a first increment of $1.88 billion, including seven new locks and small-scale measures for use during lock construction. Half of the funds for the navigation improvements would come from the Inland Waterway Trust Fund (which is funded by a fuel tax paid by commercial users of the national inland waterway system), and half from general federal revenues. The seven new locks would be 1,200-foot locks parallel to existing 600-foot locks, which will remain functional. With a 1,200-foot lock, a 1,100-foot barge tow (a prevalent size on the UMR-IWW) can pass through in one movement. In contrast, a 1,100-foot barge tow must undergo a multistep process to break the freight into two segments so that it can pass through the existing 600-foot locks; the barge tow is then recoupled until the next 600-foot lock.

The Corps arrived at its preferred navigation alternative through an analysis that lead to three general findings. First, no single navigation alternative was a clear best choice across a range of economic conditions. Second, the preferred navigation alternative depends on two variables: (1) traffic forecasts derived from future trade scenarios, and (2) price sensitivity of shippers. Third, the risks are high if no action is taken and high traffic occurs. Risks are also high if a large investment is made and increases in traffic do not materialize. Stated another way, the Corps found every alternative to contain risk in the face of an uncertain future. Satisfaction of a fundamental justification for federal involvement — national economic development benefits exceed costs — depends on what the future holds. For example according to the Corps' analysis, if UMR-IWW traffic continues at the fairly constant level of the last 20 years, costs of large-scale measures would likely exceed benefits.[7] If navigation traffic on the system increases (i.e., follows the longer 50-year growth trend), benefits probably will exceed costs.[8]

These findings are useful for understanding why proceeding with navigation capacity expansion remains a polarizing issue. Some national environmental groups and Taxpayers for Common Sense argue that available information indicates that large-scale navigation improvements are not economically justified based on agricultural and transportation trends and costs. Navigation supporters argue that those opposed to proceeding with large-scale investments ignore both the realities of increasing delays and their impacts, and the limitations of small-scale measures. For more information, see CRS Report RL32401, *Agriculture as a Source of Barge Demand on the Upper Mississippi and Illinois Rivers: Background and Issues*, by Randy Schnepf.

The Corps states that sufficient analysis has 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.[9] The adaptive implementation strategy is designed to incorporate information gained during implementation into decisions and subsequent investments by establishing three checkpoints for Congress and the Administration. Although H.R. 4785, S. 2470, and S. 2773 would authorize the specific navigation activities recommended by the Corps, the bills neither establish the draft

[7] Ibid., p. 442.

[8] Ibid., p. 442.

[9] Ibid., p. 217.

navigation plan as a framework nor adopt the adaptive implementation approach; the bills rely on congressional input to occur through the annual appropriations process.

Ecosystem Restoration Investments. The Upper Mississippi River System (UMRS) is declining due to multiple stressors, including the infrastructure that makes commercial UMR-IWW navigation feasible. The UMRS consists of the UMR-IWW and the aquatic and terrestrial habitats and species critical to the river floodplain ecosystem. This ecosystem is losing the habitat, habitat quality, and habitat diversity that allows the UMRS to support an unusually large number of species for a temperate river.

The preferred ecosystem restoration plan recommended by the Corps is for a 50-year restoration framework at $5.3 billion aimed at maintaining and restoring a broad array of habitats and ecosystem processes. The plan expands large-scale floodplain restoration, initiates fish passage measures, and restores off-channel habitat. According to the Corps, the recommended plan would not harm commercial navigation, water supply, or hydropower uses of the UMR-IWW.

Under the Corps' recommended cost-share option, of the total $5.3 billion ecosystem restoration cost, $4.25 billion would be paid 100% by federal general revenues because these projects address impacts of the existing 9-foot navigation project or are on federal land. The remaining $1.05 billion would be cost-shared with local sponsors at 65% federal and 35% nonfederal. More than 90% of the cost to implement the 50-year plan would be a federal responsibility.

15-Year Restoration Increment. In the draft feasibility report, the Corps recommends that Congress authorize an initial 15-year restoration increment at $1.46 billion. The $1.46 billion would break down as 93% federal and 7% nonfederal. The recommended 15-year increment includes 225 measures from the 1010 in the 50-year plan. The three main activities in the 15-year plan are:

- *Fish Passage and Dam Operations*. Fish passage construction at four dams and fish passage planning and design at two dams ($209 million), and new dam operating procedures (and related land acquisition or easements) at two dams ($41 million) ($250 million total — 100% federal).
- *Programmatic Restoration Authority*. Programmatic authority to implement island building, floodplain restoration, water level management, backwater restoration, side channel restoration, wing dam/dike alternation and shoreline protection ($935 million total, not to exceed $25 million/measure — 100% federal).
- *Land Acquisition*. Land acquisition of 35,000 acres from willing sellers, for floodplain connectivity and wetland and riparian habitat protection and restoration ($277 million total — 65% federal).[10]

H.R. 4785, S. 2470, and S. 2773 would authorize $1.46 billion for ecosystem restoration to be implemented *consistent with requirements to avoid any adverse effects on navigation* and adopt the Corps-recommended cost-share option. The bills require that restoration be

[10] Ibid, p. 522.

implemented in accordance with the general framework outlined in the draft feasibility report. The authorization would not be contingent on a final feasibility report or a Chief's recommendation. H.R. 4686 does not use the Corps' preferred ecosystem restoration plan as a starting point for restoration investments; instead, it expands investments under an existing environmental management program.

Ecosystem Restoration Authorization Concerns. A main area of disagreement over UMR-IWW ecosystem restoration is the question of how closely investments in navigation expansion should be tied to restoration investments. Some environmental groups argue that ecosystem restoration is necessary to mitigate damage caused by ongoing navigation operations and maintenance; they want investments in restoration and new navigation infrastructure linked. They fear that if the two are not linked, ecosystem restoration may get authorized but receive minimal appropriations. Navigation and agricultural groups believe that restoration should proceed and be funded separately. They do not want to have navigation construction slowed down due to the constrained federal appropriations for ecosystem restoration, especially in light of multiple multibillion-dollar, large-scale restoration projects already underway or under development nationally. On the topic of linking funding, S. 2773 requires the Corps to establish milestones for the ecosystem restoration and navigation projects. It also requires the Secretary of the Army to determine if the projects are being carried out at "comparable rates." If the projects are not moving toward completion at a comparable rate, annual funding will be adjusted to promote comparable progress. S. 2470 and H.R. 4785 contain no similar provision.

Two other concerns that have been raised regarding ecosystem restoration investments are: (1) what will be achieved both under the first increment of authorized activities and the longer, 50-year plan, and when will restoration be complete, and (2) should investments in ecosystem restoration measures that restore natural river processes have priority over more engineered solutions. To address uncertainty regarding restoration outcomes, H.R. 4785, S. 2470, and S. 2773 require a restoration implementation report due every four years beginning June 2005. The reports are to establish baselines, benchmarks, goals, and priorities for restoration projects and to measure progress in meeting goals. S. 2773 also has a provision requiring that the restoration projects be designed to include target goals, performance measures, completion timelines, and monitoring programs. To address interest in restoring river processes, S. 2773 requires the Secretary of the Army to develop a ranking system for restoration projects that emphasizes projects that restore *natural river processes*; S. 2470 and H.R. 4785 contain no similar provision. The Corps' feasibility report is designed to restore *ecological processes*; it proposes restoration of natural river processes when feasible, and when the navigation project and study limit the Corps' ability to restore river processes, it proposes engineered solutions.

Everglades Restoration Implementation.[11] In the last two decades, the Corps' environmental protection efforts have changed as the agency increasingly reworks existing projects to provide not only mitigation but also ecosystem restoration. Ecosystem restoration is new for the Corps and remains a relatively young science; these factors contribute to risk and uncertainty as to how to best undertake restoration and what outcomes to anticipate. To

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

date, the Corps' largest involvement in a restoration effort has been in the Florida Everglades, with a three-decade, $7.8 billion restoration program. Congress approved the Corps' implementation of the Comprehensive Everglades Restoration Plan (CERP) as a framework for Everglades restoration in WRDA 2000.

The principal objective of CERP is to redirect and store freshwater currently diverted away from the Everglades to the ocean, and use it to restore the natural hydrologic functions of the south Florida ecosystem. An initial set of CERP restoration projects and $700 million in federal funds to implement them were authorized in WRDA 2000. S. 2773 would authorize two more projects under CERP — Indian River Lagoon-South (IRL-S) wetlands and estuarine restoration and the Southern Golden Gates Estates restoration (Golden Gates, also known as Picayune Strand Ecosystem Restoration). The funds for these projects are included in the $7.8 billion estimate for implementing CERP, yet were not included in the initial authorization for federal funds in WRDA 2000. Under S. 2773, IRL-S would receive an authorization for $1.21 billion with an estimated federal cost of $603.0 million, and Golden Gates would receive $362.6 million with an estimated federal cost of $181.3 million. Both projects are authorized subject to a favorable report by the Chief of Engineers of the Corps. No similar provisions are in H.R. 2557, which was passed in 2003 before feasibility reports for these two projects were completed. These two projects would also be authorized under other pending legislation, H.R. 4344 and S. 2209. Because these two projects are the first projects to be developed under the congressionally approved CERP, some view their fate as test cases of the CERP framework and its other 66 projects.

Indian River Lagoon. The Corps recommends that Congress authorize a $1.2 billion plan to restore the IRL-S wetlands and estuary.[12] 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 project. One consequence of these discharges is the accumulation of muck[13] on the bottom of the estuary, which has resulted in reduced water transparency, altered communities of seagrass beds, and depleted populations of bottom-dwelling organisms such as oysters. These discharges also bring unnaturally high levels of phosphorus and nitrogen into the estuary, which, according to scientists, alters native vegetation and habitat for native wildlife. In a broad sense, the high outflow of freshwater through the IRL-S to the ocean is argued by some to be one cause of depleted water supplies in the Greater Everglades ecosystem. The significance of these ecosystem problems is exacerbated by the high biodiversity found in the IRL-S. The IRL-S has been recognized as an estuary of national significance and is considered one of the most bio-diverse estuaries in the country.[14]

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[12] 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*. This document is available at [http://www.evergladesplan.org/pm/studies/irl_south_pir.cfm], visited July 7, 2004.

[13] Muck is composed mainly of eroded upland soils and contains high levels of nitrogen and organic debris.

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

The recommended plan is to 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 directs the removal of an estimated 7.7 million cubic yards of muck and its disposal at a 1-square-mile site.

Some supporters of the Indian River Lagoon restoration project, including some representatives of regional sugar companies, argue that the project will improve the seabed floor and revive bottom-dwelling communities.[15] 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.[16] Further, some believe that IRL-S restoration is localized and will have little impact on the Greater Everglades ecosystem. In the *Final Integrated Project Implementation Report and Environmental Impact Statement for the Indian River Lagoon-South*, 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.[17]

Southern Golden Gates Estates Restoration. The Southern Golden Gates Estates restoration project (Golden Gates) is expected to cost $363 million, of which the federal share would be $181 million. The nonfederal sponsor (the state of Florida) has already spent nearly $100 million of its share on land acquisition; most of the remaining funds would be for design and construction of the project, according to the Corps.[18]

The Golden Gates encompasses 86 square miles (approximately 55,000 acres) 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. Some alterations include a reduction in the watertable, which has diminished cypress-dominated wetlands and has led to colonization by invasive species.[19] Other ecosystem alterations are an increase in the severity and frequency of wildfires and degraded water quality. The Corps has prepared a draft Project Implementation Report and Environmental Impact Statement (PIR/EIS) for Golden Gates and solicited comments through July 13, 2004. A final PIR/EIS is expected by the end

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[15] Robert Coker, Senior Vice President, U.S. Sugar Corp. "Face Facts About the Lake, the St. Lucie and Sugar Farming," *The Stuart News/Port St. Lucie News* (Nov. 13, 2003), p. A9; and 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).

[16] Libby Wells, "Residents Get Last Shot At Restoration Proposal," *The Palm Beach Post* (Jan. 14, 2004), p. 1B.

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

[18] U.S. Army Corps of Engineers, *Southern Golden Gate Estates Hydraulic Restoration Project, Picayune Stand Restoration* (Washington, DC, June 2004), visited on July 8, 2004 at [http://www.evergladesplan.org/docs/fs_sgge_061504_english.pdf].

[19] Ibid.

of 2004. The proposed restoration plan would include the removal of roads, canals, and other infrastructure. This plan is expected to increase freshwater flows to natural areas, lower freshwater surges to the ocean, and improve water quality.[20]

Some are concerned that unwilling sellers may delay or stall Golden Gates restoration activities that depend on land acquisition. Recently, a landowner in the Golden Gates region has resisted offers from the state of Florida for a 160-acre parcel reportedly important for restoration.[21] Eminent domain proceedings are expected by the state of Florida, a precedent that has been set in earlier land dealings in the Golden Gates and other Everglades restoration projects.[22] Indeed, nearly 98% of the land needed for restoring the Golden Gates is in public ownership and over 1,800 parcels (representing almost 1,500 landowners) have been acquired through eminent domain.[23] The accessibility of the Golden Gates for recreation is another controversial issue for local residents. Some are concerned over the loss of recreational opportunities; the state has responded that it will provide areas for off-road vehicles and other recreational activities.[24]

Coastal Louisiana Restoration and Protection.[25] 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 a plan to slow the rate of loss and restore some of these wetlands. An initial draft of this plan, completed earlier this year, was rejected by the Bush Administration as being too expensive. It had several options that could have cost as much as $14 billion over 30 years.

The Corps then prepared a revised draft, released in July 2004, with an estimated cost of $2 billion for projects it proposes to initiate over the next 10 years. This set of proposals includes activities that would divert water from the Mississippi River to convey sediments into nearby wetlands and that would help stabilize the coastline. In the diversions, wetlands would gradually reestablish themselves on newly deposited sediments. This proposal will be subject to public hearings over the next several months. The Corps has stated that it could issue a final report before the end of the year and start the initial projects as soon as 2006.

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[20] U.S. Army Corps of Engineers, *Draft Integrated Project Implementation Report and Environmental Impact Statement, Southern Golden Gate Estates Ecosystem Restoration* (Jacksonville, FL, April 2004).

[21] R. Santiago, "Keep Out: Glades Settler Awaits Showdown With State Over Land," *Miami Herald* (July 6, 2004), p. F1.

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

[23] Florida Department 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 July 12, 2004.

[24] P. Hayford, "Restoration Drives Area to Adapt," *News Press* (May 31, 2004).

[25] Prepared by Jeff Zinn, Specialist in Natural Resources Policy, Resources, Science, and Industry Division.

The Bush Administration has reportedly endorsed this less expensive effort, in which the federal government would pay more than 60% of the total estimated cost, according to news reports. The Corps will seek congressional support for the revised plan and authorization for the specific projects. Currently, §3421 of S. 2773 would establish a multi-agency task force to develop a comprehensive plan by July 2008 and authorize $325 million in construction-related activities. Section 5058 of H.R. 2557 as passed in September 2003 would also establish a task force to develop a comprehensive plan by 2004.

LEGISLATION

Authorizations and WRDA

H.R. 2557 (Young)

Water Resources Development Act of 2003. Contains approximately 300 provisions authorizing projects or changes to projects and 34 general provisions that alter various aspects of Corps operations and policies. Passed House September 24, 2003.

S. 2554 (Inhofe)

Water Resources Development Act of 2004. Ordered reported by the Senate Committee on Environment and Public Works on June 23, 2004. Instead on August 25, 2004, the committee reported a new bill — S. 2773 — which has been placed on the Senate calender.

S. 2773 (Inhofe)

Water Resources Development Act of 2004. Original measure reported to Senate, and placed on Senate calendar on August 25, 2004. It is now available for floor action.

Project Development Reform

H.R. 2566 (Kind)

Army Corps of Engineers Reform Act of 2003. Establishes economic development and environmental protection and restoration as co-equal goals for the Corps. The bill establishes stakeholder advisory committees, independent project review, and public access to project analyses. The bill refines the economic evaluation of environmental impacts and establishes stricter mitigation and tracking requirements. Introduced June 23, 2003, and referred to Committee on Transportation and Infrastructure.

S. 2188 (Feingold)

Corps of Engineers Modernization and Improvement Act of 2004. Establishes economic development and environmental protection and restoration as co-equal goals. The bill establishes independent project review, requirements for public access to information, and stricter mitigation and tracking requirements. It includes a process for review of the Corps' planning guidance. It increases non-federal financial responsibility for some project types, applies a benefit-cost ration of 1.5 to 1 (instead of 1 to 1), and establishes a more stringent deauthorization process. The bill would also focus activities on navigation, flood control, and environmental protection. Introduced March 10, 2004, and referred to Committee on Environment and Public Works.

Upper Mississippi River-Illinois Waterway Investments

H.R. 4686 (Kind)

Mississippi River Protection and Restoration Act of 2004. The bill provides for ecosystem restoration of the UMR-IWW system by expanding the existing Environmental Management Program and establishing a trust fund to fund the program. It amends the existing program by increasing the authorized appropriation level for the entire program, and recreation projects in particular. The bill also addresses other environmental and flooding issues along the entire Mississippi River. Introduced June 24, 2004; referred to the Committee on Transportation and Infrastructure and the Committee on Resources.

H.R. 4785 (Hulshof)

Authorizes appropriations for UMR-IWW navigation improvements and ecosystem restoration. The bill authorizes small-scale measures, construction of seven new locks, and implementation of ecosystem restoration projects. Introduced on July 8, 2004; referred to Committee on Transportation and Infrastructure.

S. 2470 (Bond)

Authorizes appropriations for UMR-IWW navigation improvements and ecosystem restoration. The bill authorizes small-scale measures, construction of seven new locks, and implementation of ecosystem restoration projects. Introduced May 20, 2004; referred to Committee on Environment and Public Works.

Everglades Restoration

H.R. 4344 (Foley)/S. 2209 (Bob Graham)

Restoring the Everglades, an American Legacy Act of 2004. Authorizes the Corps to construct IRL-S and Southern Golden Gates Estates projects. Authorization is conditioned on a favorable Chief of Engineers report. H.R. 4344 was introduced May 12, 2004; referred to House Committee on Transportation and Infrastructure. S. 2209 was introduced March 12, 2004; referred to Senate Committee on Environment and Public Works.

FOR ADDITIONAL READING

Background

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CRS Report RL30928, *Army Corps of Engineers: Civil Works Reform Issues in the 107th Congress*, by Nicole T. Carter.

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Everglades Restoration

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

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