

CRS Report for Congress

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Mississippi River Gulf Outlet (MRGO): Issues for Congress

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Nicole T. Carter
Analyst in Natural Resources Policy
Resources, Science, and Industry Division

Charles V. Stern
Research Associate in Natural Resources Policy
Resources, Science, and Industry Division

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Summary

The Mississippi River Gulf Outlet (MRGO, or Outlet) is an element in the navigation network of the Mississippi River that connects the Gulf of Mexico to navigation facilities in central New Orleans. The MRGO, which was constructed by the Army Corps of Engineers (Corps) in the 1960s, is a 76-mile man-made, deep-draft navigation channel built to expedite travel; it is 40 miles shorter than traveling the Mississippi River between the Gulf and New Orleans. Interest in whether, and how, to decommission the congressionally authorized MRGO increased in the aftermath of Hurricane Katrina.

The MRGO engendered controversy prior to its construction and continues to be the subject of debate. Most recently, some stakeholders are pressing Congress to close the Outlet; they argue that its current economic benefits are exceeded by its costs, especially when the costs include its role in both the loss of coastal wetlands and potential augmentation of hurricane damage in St. Bernard and Orleans Parishes. Since Hurricane Katrina, there has been little opposition to closing the MRGO. For the most part, MRGO navigation supporters take the position that, if Congress deauthorizes MRGO for deep-draft navigation, federal funding should be provided to mitigate the economic impact to the deep-draft businesses that used the Outlet.

Although recent scientific studies indicate that only a portion of the Outlet contributed to Hurricane Katrina's flooding of New Orleans, these studies also concluded that the Outlet could increase storm surge experienced in the city during less intense storms. Economic studies and current data show that while the MRGO continues to contribute to the region's economy, its overall economic value in terms of freight has declined. Studies also document some of the MRGO's continuing ecological costs to salinity intrusion and bank erosion.

In mid-2006, Congress appropriated the Corps \$3.3 million to develop a plan to deauthorize deep-draft navigation on the MRGO, and funded the construction of closures of the portion of the Outlet shown to contribute to New Orleans flooding. Any decision to fully or partially close the Outlet is likely to require additional decisions and costs related to wetlands restoration, local economic assistance, and other navigation infrastructure.

This report introduces the primary issues related to congressional choices about the future of the MRGO; these issues include the Outlet's role in the economic and transportation network of Louisiana and the lower Mississippi River basin, as well as its role in regional vulnerability to hurricane storm surge propagation and wetlands loss. This report will be updated as events warrant.

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Mississippi River Gulf Outlet (MRGO): Issues for Congress

MRGO Primer and Recent Congressional Action

The Mississippi River Gulf Outlet (MRGO or Outlet, also known as Mr. Go) is a 76-mile deep-draft navigational channel between the Port of New Orleans and the Gulf of Mexico. Congress authorized the MRGO in 1956 (P.L. 84-455), and the Corps completed construction in 1965. The Outlet provides a shorter deep-draft alternative to access interior parts of the Port of New Orleans, compared to deep-draft access via the Mississippi River.¹

Since its construction, groups have pressured the federal government to close the MRGO because of its purported negative effects on local wetlands. Interest in whether, and how, to decommission the MRGO increased in the aftermath of Hurricane Katrina. Since Hurricane Katrina, there has been less opposition to those discussing deauthorizing deep-draft navigation on part of the MRGO; currently, much of the debate has shifted to deciding if the channel should be used for shallow-draft navigation or completely decommissioned for navigation.

Some stakeholders, most notably environmental groups, support complete closure of the Outlet and restoration of the area; they believe that the Outlet contributes to wetlands loss and eases the transport of waters from the Gulf to New Orleans during hurricanes. Navigation interests argue that discussions of closing the MRGO need to consider how to provide deep-draft access to the Port of New Orleans and the economic impact of MRGO deauthorization.

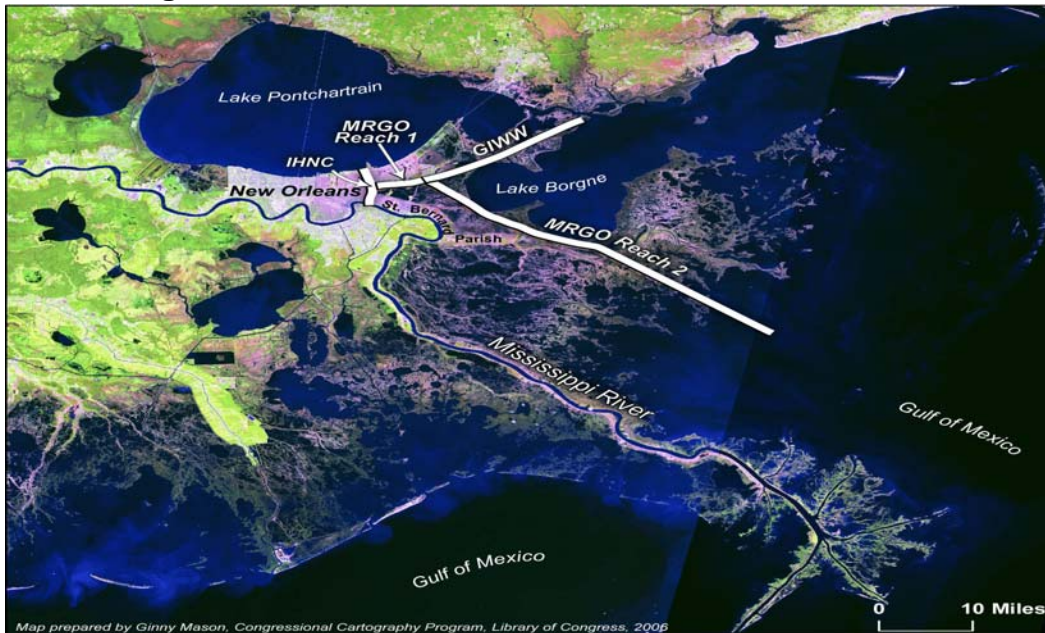
MRGO Location and Characteristics. The MRGO was commissioned as a 500-foot minimum width channel with a low tide depth of 36 feet. Construction of the channel involved the removal of 311 million cubic yards of soil and marshlands, an amount larger than that dredged in the construction of the Panama Canal. Since construction, the MRGO has eroded in places to an expanded width of 2,000 feet. Before Hurricane Katrina in 2005, the Corps maintained the authorized channel depth through dredging activities using annual federal appropriations to the Corps.

The MRGO is 40 miles shorter than the route from New Orleans to the Gulf via the Mississippi River. The Outlet is composed of two segments as shown in **Figure 1**. *Reach 1* is a 6-mile east-west channel in New Orleans; *Reach 2* is a 70-mile northwest to southeast channel from Reach 1 to the Gulf of Mexico. MRGO Reach 1 also serves as a route for shallow-draft navigation vessels on the Gulf Intercoastal Waterway (GIWW). At its westernmost end, Reach 1 intersects with the Inner

¹ While some deep-draft port facilities are located on the Inner Harbor Navigation Canal and the MRGO itself, other facilities are located on the lower Mississippi River.

Harbor Navigation Canal (IHNC, also known as the Industrial Canal), where part of the Port of New Orleans is located. While some portions of the Port of New Orleans are accessed via the MRGO, others are located directly on the Mississippi River. Therefore, the Mississippi River and the MRGO and the GIWW are connected by the IHNC and its lock, which is located at the southern end of the IHNC intersection where it intersects with the Mississippi River (see **Figure 1**).²

Figure 1. Southeast Louisiana, MRGO and the GIWW



Current Status. As of November 2005, the Corps suspended all dredging pending congressional action on the channel. In the wake of the 2005 hurricane season, much of the MRGO is currently between 23 and 28 feet deep, rendering it impassable for deep-draft navigation vessels.

The Outlet is expected to remain impassable to deep-draft vessels until Congress decides its future. Congress included two provisions related to MRGO in the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery of FY2006 (P.L. 109-234). First, the law provides \$350 million for construction of gates that would close Reach 1 during storms. The two gates are a shallow-draft gate at the IHNC and Lake Pontchartrain, and a deep-draft gate at the eastern end of MRGO Reach 1 where the GIWW and Reach 2 split off.³ Except when storms threaten the area, the gates would remain open for navigation vessels to pass. When completed, these gates will not completely separate Lake Pontchartrain and Lake Borgne; the gates will remain hydraulically connected to Lake Borgne through natural inlets located east of New Orleans along the GIWW.

² The lock lifts or lowers vessels to adjust for the difference in the water surface elevations of the IHNC and the Mississippi River.

³ Army Corps of Engineers, "Improvements to New Orleans Hurricane Protection System," at [<http://www.hq.usace.army.mil/cepa/releases/hpimprovements-layout.pdf>].

Second, the law provides \$3.3 million for the Corps to develop by the end of 2006 “a comprehensive plan ... to deauthorize deep draft navigation on the Mississippi River Gulf Outlet, Louisiana, extending from the Gulf of Mexico to the Gulf Intracoastal Waterway.” Although the legislative language may be interpreted as restricting the study to Reach 2, the Corps has decided that the study will include both Reach 1 and Reach 2, partly in response to interest in considering the interconnection between the MRGO and Lake Pontchartrain.⁴ Prior to this study, the Corps had undertaken in 1999 but not completed by Hurricane Katrina a reevaluation study of the MRGO; it is unclear if the 2006 study replaces the study initiated in 1999.

Balancing Navigation, Wetlands Loss, and Hurricane Protection

Part of the congressional challenge of deciding MRGO’s future is balancing tradeoffs between the use of coastal Louisiana’s resources for navigation, hurricane storm surge buffering, and other environmental and economic uses (e.g., bird and other species habitat, commercial fish and oyster habitat).

Navigation. By providing a direct deep-draft route to the Port from the Gulf, the channel was expected to attract shipping companies with large cargo loads, thus increasing traffic at the Port of New Orleans and increasing economic activity in the greater New Orleans area. Many of the calls for MRGO’s closure point to its more than 25-year declining trend in tonnage (see **Figure 2**) as an indicator of its declining economic benefits. The figure shows that overall tonnage transported on the MRGO peaked at 9.4 million short freight tons (sft)⁵ in 1978, and dropped to lower levels throughout the 1980s. Tonnage continued to drop in later years, with freight traffic decreasing from 7.2 million sft in 1993 to 1.2 million sft in 2004. Figure 2 also shows expenditures to maintain the channel, which have averaged \$16.1 million from 1995 to 2005 and \$12.3 million over the same time period when hurricane years are excluded.

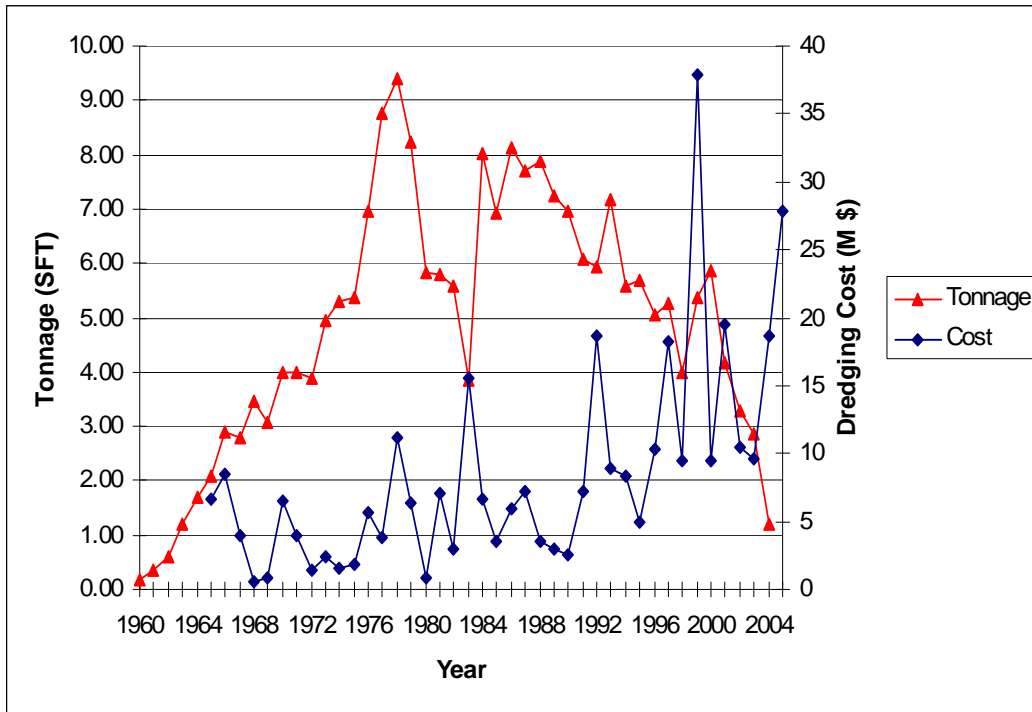
In the aftermath of Hurricane Katrina, several businesses remain on the MRGO; however, without dredging, none of these companies can utilize the channel for deep-draft transport. As of 2006, the MRGO remained the primary port for at least nine companies that depend on deep-draft navigation on the Outlet.⁶ A previous study indicated that deep-draft shipping companies on the MRGO contribute close to 1,000 jobs to the area.⁷

⁴ Personal Communication with George Alcala, Project Manager, Galveston District, U.S. Army Corps of Engineers, (Washington, DC, August 3, 2006).

⁵ One short freight ton equals 2,000 lbs.

⁶ Personal Communication with Chris Johnsen, Washington DC Representative for the Port of New Orleans (Washington, DC, August 2, 2006).

⁷ T. Ryan, *The Economic Impact of Various Depths for the Mississippi River Gulf Outlet*. University of New Orleans (New Orleans, LA: November 2003). Critics note that Dr. Ryan’s study used statistics from 1999-2001 and did not take into account decreasing traffic or the
(continued...)

Figure 2. MRGO Tonnage and Maintenance Costs, 1960-2005

Sources: Tonnage based on U.S. Army Corps of Engineers, *Water Borne Commerce Statistics, 1960-2004*, Waterborne Commerce Statistics Center. Costs based on personal communication with U.S. Army Corps of Engineers, New Orleans District (July 19, 2006).

Note: Costs have not been adjusted for inflation.

Wetlands Loss. Navigation channels, like the MRGO, that cut through coastal wetlands often disrupt the natural movement and balance of fresh and saline waters that create and maintain wetlands ecosystems. Navigation channels are one of many factors contributing to wetlands loss in Louisiana.⁸

A 1999 Corps report estimated that a total of more than 20,000 acres of coastal wetlands were lost or converted due to construction of the channel and the placement of the spoil materials from its construction.⁹ Since construction, another 3,400 acres of wetlands have been lost due to increased tides and salinity resulting from the MRGO. Increased salinity also converted some wetlands from less saline to more saline habitats. For example, in St. Bernard Parish, the MRGO caused 3,350 acres

⁷ (...continued)

moves of several deep-draft shipping companies; these criticisms imply that the Ryan study may overestimate the value of the businesses on the MRGO in favor of industry interests. CRS was unable to locate other recent studies estimating the value of these businesses.

⁸ For additional information on wetland loss and restoration efforts, see CRS Report RL32673, *Coastal Louisiana: Attempting to Restore an Ecosystem*, by Jeffrey Zinn.

⁹ The information in this paragraph is taken from U.S. Army Corps of Engineers, New Orleans District, *Habitat Impacts of the Construction of the MRGO*, Report for the Environmental Subcommittee of the Technical Committee convened by the U.S. Environmental Protection Agency (New Orleans, LA: December 1999).

of freshwater/intermediate marshes and 8,000 acres of cypress swamps to convert to brackish marshes, and 19,170 acres of brackish marsh and swamp to saline marsh. In addition to wetlands loss and conversion, shallow water habitat also was lost because of the MRGO; 4,800 acres of shallow-open water became deep-open water or disposal areas for dredged materials.

Wetland losses and wetlands conversion can entail costs, including economic, societal, and ecological costs. Although estimates are not available for the economic value of the wetlands lost and converted specifically because of the MRGO, one study encompassing all of Louisiana's remaining coastal wetlands estimated that these wetlands annually reduced hurricane damages by \$520 million to \$2.2 billion.¹⁰ Wetlands losses also have harmed economically significant fisheries, 75% of whose catches spend part or all of their lives in these coastal areas. Louisiana wetlands also are the winter home to 20% of the nation's migratory waterfowl, as well as 24 endangered or threatened species and 20 national wildlife refuges. There are no available estimates of the value of the wetlands losses and conversion due specifically to the MRGO. Although wetlands habitat has consequences for species that are valued by stakeholders locally and nationally, the ecological cost of wetland loss is difficult to quantify in traditional economic terms.

Hurricane Protection. Hurricane Katrina's flooding of New Orleans brought wider and greater attention to existing questions about the MRGO's role during hurricanes. Specifically, there is considerable debate regarding if, and how much, the MRGO augments the threat posed by hurricane storm surge in St. Bernard and Orleans Parishes. Many post-Katrina investigators have noted that the channel's impacts on storm surge and local hydraulics are complex, and point to differences between Reach 1 and Reach 2. Many national and local environmental groups, such as the Sierra Club and the Lake Pontchartrain Basin Foundation, argue that both Reach 1 and Reach 2 increase the threat posed by storm surges. They argue that during storms the MRGO carries Gulf waters toward the city without hindrance and increases the level and speed of storm waters through the area. These parties assert that, if the MRGO were closed, natural wetland barriers could be rebuilt and offer a natural buffer to storm surges. These groups often cite scientific studies that report that 2.7 miles of wetlands under specific circumstances can reduce storm surge by one foot on the Louisiana Gulf Coast.¹¹ More recent studies have been reported to have found that as much as 3.4 miles to 8.1 miles of wetlands may be required to lower storm surge levels by one foot in the same general area.¹²

Hurricanes and MRGO

Positions on whether, and how, to close the MRGO often are closely linked to perceptions on the Outlet's role in propagating storm surges during hurricanes. This

¹⁰ R. Costanza, S. Farber, and J. Maxwell, "Valuation and Management of Wetland Ecosystems," *Ecological Economics*, vol. 1 (1989), pp. 335-361.

¹¹ For example, see U.S. Army Corps of Engineers, *Overland surge elevations coastal Louisiana: Morgan City and Vicinity* (New Orleans: LA, 1963).

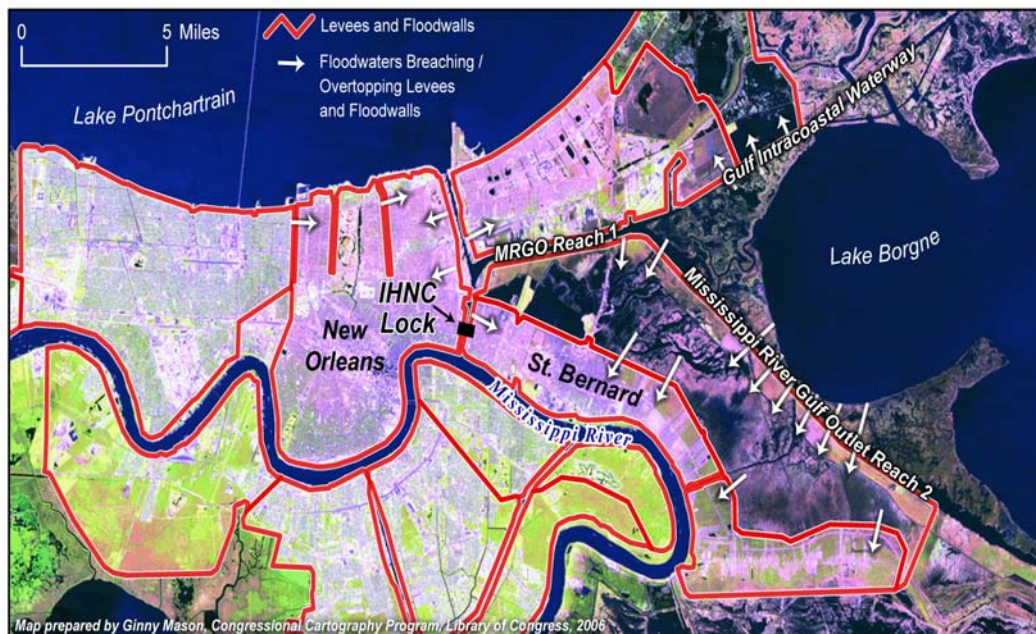
¹² A. Wold, "Levee Elevations Under Study," *New York Times*, July 7, 2006.

section discusses the three components of the MRGO's potential role — the facilitated movement of Gulf waters into New Orleans, an increased risk of levee overtopping in St. Bernard Parish, and the *funnel effect* at the intersection of Reach 1, Reach 2, and the GIWW.

Hurricane Highway from the Gulf to New Orleans? Several recent studies have researched the MRGO's role in Hurricane Katrina. Some of the studies have addressed the question of the MRGO as a hurricane highway — its role in moving water from the Gulf into the IHNC.

The Interagency Performance Evaluation Task Force (IPET) created by the Corps performed a post-Katrina analysis of New Orleans hurricane protection performance; it concluded on the basis of several computer models that Reach 2 did not transport a large amount of water from the Gulf toward the city's interior, and thus did not serve as a *hurricane highway* for storm surge from the Gulf during Hurricane Katrina. The IPET Report noted that Reach 2 did not convey a large amount of water toward the interior of New Orleans. This was the case for Hurricane Katrina because the storm's surge was sufficiently large to inundate the wetlands surrounding the MRGO, thus creating a flow area much larger than the channel itself; this made the channel's transport of water marginal compared to the quantity of water moving across the wetlands.¹³ The IPET Report found, however, that the transport of Gulf waters along Reach 2 during weaker storms may be more significant.

Figure 3. New Orleans Flooding During Hurricane Katrina



¹³ J. Westerink et al., "Note on the Influence of the Mississippi River Gulf Outlet on Hurricane Induced Storm Surge in New Orleans and Vicinity" (February 21, 2006), in IPET, *Draft Final Investigation of the Performance of the New Orleans Flood Protection Systems in Hurricane Katrina on August 29, 2005* (Washington, DC: May 22, 2006). Hereafter referred to as the IPET Report.

St. Bernard Parish Flooding. St. Bernard Parish, which includes an urban area to the southeast of New Orleans and several miles west of the MRGO, has received much attention since it flooded during Hurricane Katrina. Studies by the University of California-Berkeley,¹⁴ IPET,¹⁵ and a State of Louisiana Working Group¹⁶ demonstrated that levee overtopping, along with subsequent failures along the Outlet, were the chief factors in St. Bernard Parish flooding. **Figure 3** shows how the water moved past the levees, then inundated shorter local levees on the east side of the parish's urban areas. Many MRGO detractors point to wetland degradation between MRGO and Lake Borgne as facilitating the overwhelming of the MRGO levees, and the degradation of the Cypress swamp wetlands between the MRGO and the parish's urban area as contributing to the overwhelming of the local levee. Additionally, a 2006 book by Professor Ivor Van Heerden of Louisiana State University argues that had wetlands been present between the MRGO and St. Bernard Parish's urban areas, the Cypress swamps between MRGO's levees and the St. Bernard Parish east side levees would have slowed down Katrina's storm surge as it flowed westward.¹⁷

Funnel Effect. In contrast to continuing differences of opinion regarding the role of the MRGO as a hurricane highway for moving water from the Gulf to the City, there is a degree of consensus on the channel's funnel effect at the intersection of Reach 1, Reach 2, and the GIWW. The Berkeley, IPET, and Louisiana Working Group reports all noted that at the confluence of the MRGO and the GIWW, there was no barrier in place to prevent the channeling of the waters from Lake Borgne into the narrow confines of Reach 1. As a result, Reach 1 hydraulically connected Lake Pontchartrain and Lake Borgne, and allowed the Lake Borgne waters to be pushed into the interior of New Orleans and toward Lake Pontchartrain (see **Figure 3**). This connectivity is shown to have both amplified surge level and velocity through the interior of the city, and raised the level of Lake Pontchartrain. As pressure on the levees throughout this area increased, structural failures along the IHNC and Lake Pontchartrain canals occurred.

As previously noted, Congress has funded construction of gates to close the movement of water between Lake Borgne and Lake Pontchartrain through MRGO Reach 1 during storms. Stakeholders, however, place different emphasis on the degree to which hurricane protection for the area should rely on structural or nonstructural measures (e.g., surge buffering through wetlands restoration, damage reduction through elevating structures). While most observers acknowledge wetlands' role in reducing storm surge, there is a lack of agreement on the extent to

¹⁴ R. Seed et al., *Investigation of the Performance of the New Orleans Flood Protection Systems in Hurricane Katrina on August 29, 2005: Draft Final Report* (Berkeley, CA: May 22, 2006). Hereafter referred to as the Berkeley Report. The report is critical of the Corps, citing levee design flaws as a primary factor in St. Bernard Parish flooding.

¹⁵ IPET Report.

¹⁶ Working Group for Post-Hurricane Planning for the Louisiana Coast, *A New Framework for Planning the Future of Coastal Louisiana after the Hurricanes of 2005: Final Draft* (Cambridge, MD: January 26, 2006).

¹⁷ I. Van Heerden and M. Brian, *The Storm* (New York: Viking, 2006).

which wetlands can defend against storm surges from strong or large storms, like Hurricane Katrina, and the quantitative relationship between the amount of storm surge reduction by the surge traveling over different kinds of wetlands. This lack of agreement is one factor driving differences of opinion about the need for closing MRGO Reach 2 and the need for pursuing wetlands restoration in the area.

Options for MRGO's Future

The current array of options for the future of the MRGO include (1) to take no deauthorization action, and resume funding for dredging of the deep-draft channel; (2) to deauthorize deep-draft navigation and pursue limited usage of the channel for shallow-draft navigation and recreational usage; and (3) to deauthorize the MRGO and discontinue all navigation on the channel. Both deauthorization and limited usage options likely would entail a related decision on whether to provide federal aid to relocate deep-draft businesses on MRGO Reach 1 and the IHNC.

Maintain Deep-Draft MRGO. Since Hurricane Katrina, there has been little opposition to MRGO closure. If MRGO dredging resumed, traffic and economic activity on the channel would be expected to increase as deep-draft navigation returns, potentially resuming pre-Katrina levels. In light of the current absence of dredging, more dredging than in a typical year would be required to reopen the channel to deep-draft shipping. With resumed dredging and traffic, the aforementioned costs relating to wetlands loss and wetlands conversion would be expected to continue.

Partially Close MRGO. Some stakeholders favor pursuing options that would be a compromise between full closure and the current deep-draft channel. The MRGO Committee of the Louisiana Governor's Advisory Commission on Coastal Protection, Restoration and Conservation offered one intermediate option; it recommended that the MRGO channel be dredged to a depth of 12 feet and remain open for shallow-draft navigation, fishing, and recreational watercraft usage, at a fee. The commission noted that its support for such a plan would require concurrent congressional authorization of actions to mitigate channel damage, enhance storm protection, and facilitate coastal restoration. If the MRGO is deauthorized for deep-draft navigation but remains open, the businesses that rely on the channel will be forced to either move, shut down, or be converted for shallow-draft navigation. (See the section below, "Close MRGO to Navigation," for a discussion of the moving costs for these businesses.)

Close MRGO to Navigation. Full MRGO closure potentially would result in the loss of economic opportunity for which the channel was originally conceived and built; nonetheless, many local residents and environmental groups call for MRGO closure to all navigation in order to expedite wetland recovery. Even under *full* MRGO closure, the IHNC lock, the IHNC, and a shallow-draft Reach 1 would remain open for the movement of vessels traveling the GIWW.

The Port of New Orleans argues that in the case of deep-draft deauthorization, the federal government should be responsible for moving the businesses located on the MRGO Reach 1 and the IHNC that depend on deep-draft navigation. The MRGO Committee of the Louisiana Governor's Advisory Commission on Coastal

Protection, Restoration and Conservation also supports federally financed relocation of deep-draft facilities on the MRGO to the Mississippi River.¹⁸ Both argue that since facilities were constructed under the belief that the MRGO would remain a means for deep-draft access to the Gulf, the expenses for their move to the Mississippi River should be subsidized by the federal government.¹⁹ If these businesses were to close and not reopen in the area, the effect on the local economy is projected to be as high as 675 jobs and \$84.4 million in annual economic activity lost.²⁰

Recently, the Water Resources Development Act of 2006 (H.R. 2864) as agreed to in the Senate would authorize \$175 million in grants²¹ for the Port of New Orleans to relocate its publicly owned facilities to the Mississippi River, and would authorize \$185 million for long-term, low-interest loans to private businesses within the Port of New Orleans needing to relocate to the Mississippi River due to changes in MRGO operations.²² The version of WRDA passed by the House in July 2005 prior to Hurricane Katrina did not include similar MRGO provisions. For information on the status of WRDA, see CRS Report RL33504, *Water Resources Development Act (WRDA): Corps of Engineers Authorization Issues*, coordinated by Nicole T. Carter.

Full MRGO closure likely would entail more than just deciding what to do about affected businesses; there also would be decisions and funding issues related to what to do with the deauthorized channel. Closing the channel could lead to other federal actions requiring funding, such as actions to actively fill the MRGO or efforts to manage the erosion if the channel is not filled. Other post-closure investments could include mitigation of saltwater incursions and wetland restoration projects.²³

¹⁸ Committee on MRGO, Governor's Advisory Commission on Coastal Protection, Restoration and Conservation, *Final Report*, available at [<http://www.crcl.org/2-21-06MRGOcommittee.html>].

¹⁹ The Port of New Orleans asserts that two port-owned facilities, the New Orleans Cold Storage building at the Jourdan Road Terminal on the MRGO, and the France Road Container Complex on the IHNC, recently were constructed with a considerable investment by the Port and local businesses and thus should have their moves subsidized. The Port of New Orleans asserts that at least nine privately owned businesses that depend on deep-draft navigation on the MRGO will also need to be moved to the Mississippi River. (Personal Communications with Chris Bonura, Public Relations Officer for the Port of New Orleans, and Chris Johnsen, Washington DC Representative for the Port of New Orleans, August 2, 2006.)

²⁰ T. Ryan, *The Economic Impact of Various Depths for the Mississippi River Gulf Outlet*. University of New Orleans (New Orleans, LA: November 2003). As previously noted, the Ryan study has been criticized as overestimating the effects of closure. CRS was unable to locate any other studies on the economic impacts of closure.

²¹ The grants would be authorized through the Economic Development Act of 1965 (EDA), 42 U.S.C. 3149(c)(2), 3233.

²² These amounts are consistent with the latest estimates by the Port of New Orleans for the relocation of Port and privately owned facilities. (Personal Communication with Chris Johnsen, Washington DC Representative, Port of New Orleans, August 2, 2006.)

²³ Several projects relating to ecosystem restoration in the MRGO area are already underway. The projects, which are estimated to create a total of 514 acres of wetlands over
(continued...)

IHNC Lock Expansion: A Related Decision

The MRGO is part of the larger navigation network connecting the Mississippi River, the GIWW, and the Gulf of Mexico; therefore, any decision regarding closing the MRGO also may influence other decisions about the navigation system. For example, the MRGO closure decision would affect the role of the IHNC lock in the network and may affect decisions regarding the nature and timing of its expansion.

The IHNC Lock was originally built in 1923 to provide navigational access between the Mississippi River and Lake Pontchartrain. The current lock is 31.5 feet deep, 75 feet wide and 640 feet long. Average wait time for vessels trying to move through the lock is 11 hours, but can reach 24 to 36 hours.²⁴ These delays have fostered interest in lock expansion.

Congress authorized expansion of the lock in the Rivers and Harbors Act of 1956 (P.L. 84-455), then reauthorized expansion and cost-sharing requirements in the Water Resources Development Act of 1986 (P.L. 99-662). WRDA 1996 (P.L. 104-303) authorized a Community Impact Mitigation Plan for the expansion. The current expansion effort began construction preparation activities in 1998; the expansion project is for enlarging the current lock to 36 feet deep, 110 feet wide, and 1200 feet long. These improvements would make the lock equivalent in depth to the MRGO and passable for deep-draft navigation. The expansion's cost is estimated to be \$764 million — \$389 million in Corps appropriations, \$309 million from the Inland Waterway Trust Fund, and \$66 million from local project sponsors. Current Corps estimates are that construction would take 10 to 12 years.²⁵

Some navigation advocates have called for expedited lock expansion in order to resume access to deep-draft businesses located on the IHNC and MRGO Reach 1 that are inaccessible while the MRGO is not being dredged. Expedited construction would be unlikely to take less than five years, thus raising the question if there will be deep-draft businesses operating along Reach 1 and the IHNC by the time construction is complete, if the MRGO remains closed to deep-draft navigation.

Conclusion

The hurricanes that devastated the Gulf Coast in 2005 increased attention to the MRGO because some stakeholders believe that it augments the threat posed by storm surges to Southeast Louisiana. Disagreement continues as to the exact nature of its role in that threat. Congress directed the Corps to develop by December 2006 a MRGO deauthorization plan and approved \$350 million for the construction of flood

²³ (...continued)

10 to 20 years, are estimated to cost between \$20 million and \$30 million.

²⁴ Data obtained from Corps IHNC Lock Replacement Project Fact Sheet, available at [<http://www.mvn.usace.army.mil/prj/ihnc/factsheet.asp>].

²⁵ Ibid. Currently, the Corps has cleared the right-of-way and initiated work on the Community Impact Mitigation Plan. The estimated start date for physical construction is not available.

gates that, when closed, would separate MRGO Reach 1 and the IHNC from Lake Borgne and Lake Pontchartrain during storms.

Congress has several potential courses of action available for the MRGO. Reopening the channel to deep-draft navigation may allow for pre-Katrina economic activity to resume, while also continuing the wetlands loss and conversion processes caused by MRGO operations. Closing Reach 2 to deep-draft navigation or all navigation would economically impact the region as affected deep-draft businesses close, relocate, or convert. Closing Reach 2 to all navigation would afford opportunities for more extensive wetlands restoration, and the related reductions in the threat posed by storm surges, while maintaining Reach 2 for shallow-draft navigation would allow for some navigation benefits to continue while also providing opportunities for wetlands restoration. The decision on the future of the MRGO is not an isolated decision; it is likely to affect other federal investment decisions, such as expansion of the IHNC lock, support for ecosystem restoration and channel erosion mitigation projects, and funding of the moving expenses of IHNC and MRGO deep-draft businesses.