Broken Levees: Why They Failed[1]

The failure of the levees in New Orleans was catastrophic for the city and for its most vulnerable citizens. In the aftermath of Hurricane Katrina, it is important to understand why the levees failed and what actions, had they been taken, would have prevented, or reduced, the flooding of New Orleans.

The failure of the levees was not just predictable; it was predicted. Scientists have warned for years that a strong storm could breach the levees. Likewise, efforts to make New Orleans safer go back years. In 1965, Congress authorized the Corps of Engineers to improve hurricane protection for New Orleans. The Corps considered two options, pursued one of them for a while, and then changed to the second option. Neither project, however, was designed to protect New Orleans from more than a category 3 hurricane. Thus, neither option was intended to save New Orleans from a hurricane like Katrina.

The failure to protect New Orleans resulted from an inadequate plan by the Army Corps of Engineers to save the city and from the failure of federal government to fund badly needed improvements in that plan. The Corps also constructed a little used ship canal through the middle of New Orleans that made the city considerably more vulnerable to the flooding that occurred.

Right-wing pundits and politicians, however, have attempted to blame the flooding on environmental litigation that temporarily halted the Corps from pursuing the first option.[2] They argue that if the law suit had not been initiated, the Corps would have been able to complete the first option and the city would therefore have been better protected. As this report documents, these claims are wholly unfounded. It is beyond dispute that the litigation would have only temporarily delayed the Corps from pursing option one had it chosen to do so. In the process of responding to the lawsuit, however, the Corps decided to switch to the second option because it believed that one represented the better policy. This switch also responded to the widespread local public opposition to the first option. In any case, the first option would not have prevented the flooding in New Orleans even if it had been completed. Neither the first or second option was designed to protect New Orleans from more than a category 3 hurricane. Moreover, the first option, had it been completed, would not have stopped the flooding that occurred along the ship canal.

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[2] See, e.g., R. Emmett Tyrell, Jr., Eco-Catastrophe Echoes, *Washington Times*, September 16, 2005; John Berlau, Greens vs. Levees, *National Review*, Online, September 8, 2005, available at http://www.nationalreview.com; You Can Pay Me Now, or You Can Pay Me Later, *The Quando Blog*, available at http://www.quando.net/details.aspx?Entry=2595.

We Knew This Would Happen

Not long after the levees broke and water from Lake Pontchartrain on the north and Lake Borgne on the east began to fill New Orleans, President Bush's told television correspondent Diane Sawyer that no one could have foreseen the breach of those levees.[3] In fact, over a period of many years, scientists had predicted that a strong storm could breach the levees. Scientists especially feared that even a relatively weak storm coming from the right direction would push a wall of water into the heart of New Orleans from Lake Borgne through the funnel-shaped Mississippi River Gulf Outlet canal and into the Industrial canal, destroying the levees along the canal and flooding much of St. Bernard Parrish and the Lower Ninth Ward. It now appears that this is exactly what happened.[4]

The President's comments were addressed to the question of the adequacy of huge and complex levee system that surrounds New Orleans and makes the continued existence of that city possible. Hurricane Katrina may have been an act of Nature, but the levees and associated flood protection systems that are an indispensable part of the infrastructure of New Orleans and surrounding areas are clearly the works of human beings. And the level of protection afforded by the New Orleans flood control apparatus is primarily a function of the level of resources, political will, and competence that federal and state governments applied to planning, construction, and maintenance of that system. In short, the security provided by the levee system and associated protections have always been the responsibility of government, and the government failed to fulfill its responsibility.

Overview of the Levee System

There are three flood risks in New Orleans. Because New Orleans is situated in the delta formed at the mouth of the Mississippi River, it has always maintained a flood control system in place to protect it from the risks of flooding from the river to the south, Lake Pontchartrain to the north and Lake Borgne and the Gulf of Mexico to the east.[5]

There is a risk of flooding from the Mississippi River because of flood waters coming down the Mississippi River from rainfall occurring hundreds of miles to the north. The primary line of defense against river flooding is an extensive system of levees and dikes that extends along the length of the river. That system, which contains the city's highest levees, averaging 25 feet above sea level in height, was not involved in the Hurricane Katrina disaster. Claims that environmental litigation involving the Mississippi River levees caused the New Orleans floods are therefore uninformed and unfounded.[6]

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[3] Dan Froomkin, White House Briefing: A Dearth of Answers (Sept. 1, 2005), available at http://www.washingtonpost.com/wp-dyn/content/blog/2005/09/01/BL2005090100915.html?nav=rss_politics.

[4] Michael Grunwald, Canal May Have Worsened City's Flooding, *Washington Post*, September 14, 2005, at A21.

[5] Mark Fischetti, Drowning New Orleans, *Scientific American*, October 1, 2001.

[6] See, e.g., R. Emmett Tyrell, Jr., Eco-Catastrophe Echoes, *Washington Times*, September 16, 2005; John Berlau, Greens vs. Levees, *National Review*, Online, September 8, 2005, available at http://www.nationalreview.com

New Orleans is protected from Lake Pontchartrain and Lake Borgne, which are located almost side-by-side on the north side of New Orleans, by an interconnected series of levees that extends along the lakes. (A map of the lakes and levees by the *Times Picayune* can be found at http://www.nola.com/hurricane/popup/nolalevees_jpg.html.) These levees are considerably smaller than the ones that protect New Orleans from flooding of the Mississippi. They range from 13.5 to 18 feet above sea level in height.

Another series of somewhat lower levees provides protection to Eastern New Orleans and St. Bernard Parish, which are located to the north and east of New Orleans, from Lake Pontchartrain on the north and from Lake Borgne and the Gulf on the west. Parts of the parish are located between the two lakes.

Because New Orleans is below sea level and rapidly sinking, rainwater that flows into the city must be removed not by natural drainage, but with huge pumps that force the water to move along three man-made canals, called "outfall canals," to Lake Pontchartrain. The canals are lined with concrete walls that prevent the water from spilling into the city. Water flowing through the canals is nearly as high as the rooftops of some houses adjoining the canals.[7] All of the levees were built by the Corps of Engineers and are maintained by various local levee districts.[8]

In addition to the drainage canals, the Corps of Engineers constructed two very large canals to permit ocean-going vessels to move from the Mississippi River through the city to Lake Pontchartrain or the Gulf of Mexico to the south of Lake Borgne. The Industrial Canal slices north/south across the city between the river and the lake at the point where they are closest to each other. The Mississippi River-Gulf Outlet (MRGO) canal bisects the Industrial Canal and travels east/west to the Intracoastal Canal near Lake Bourne. The shipping canal levees consist of concrete floodwalls and earthen levees.

Levee Planning and Construction

In the wake of Hurricane Betsy, which struck in September 1965, Congress authorized a massive hurricane protection improvement effort called the Lake Pontchartrain and Vicinity Hurricane Protection Project (LPVHPP) to provide hurricane protection to the Greater New Orleans metropolitan area.[9] To implement this statute, the Corps of Engineers studied two major options -- the "high level" option and the "barrier" option.

The High Level Option

The "high level" option consisted simply of raising all of the existing levees and, where necessary, constructing new high level levees to a height that would prevent flooding

[7] First Line of Defense: Hoping the Levees Hold, available at http://www.nola.com/hurricane/popup/nolalevees_jpg.html.
[8] Id.
[9] Hearings on Hurricane Protection Plan for Lake Pontchartrain and Vicinity before the Subcommittee on Water Resources of the House Committee on Public Works and Transportation, 95th Cong., 2d Sess. (1978) [hereinafter cited as 1978 House Hearings], at 20 (testimony of Colonel Early J. Rush III).

that could result from the "standard project hurricane," a mythical hurricane that was designed to simulate a hurricane that would hit New Orleans once every 200 to 300 years.[10] Although the Corps later determined that the model hurricane was impossible, it was roughly equivalent to a fast moving category 3 storm on the Saffir-Simpson hurricane scale.[11] In practice this would have resulted in raising the levees from between 9.3 and 13.5 feet above sea level to between 16 and 18.5 feet above sea level.[12]

The Barrier Option

Under the "barrier" option, the Corps was to construct levees along the far eastern edge of Lake Pontchartrain where it flows into Lake Borgne and the Gulf of Mexico through two relatively narrow channels at the Rigolets and Chef Menteur. The Corps was supposed to construct huge structures at the two passes that would allow water to flow back and forth between the lakes but could be closed as a hurricane approached. The Corps believed that the levees and the barrier structure would prevent the storm surge preceding the hurricane from crossing from Lake Bourne into Lake Pontchartrain.[13] Like the high level option, the barrier option was designed to protect against the standard project hurricane, a hypothetical hurricane that was the equivalent of a fast moving Category 3 hurricane.

First Choice: The Barrier Option

The high option had several drawbacks, including the need to obtain rights of way for additional land near the levees to allow them to be widened so that they could be raised. In addition, the high level plan would not prevent the flooding of the industrial areas that were located outside the levees.[14] The Corps therefore decided to implement the barrier option, and construction began on floodwalls along the east and west sides of the Industrial Canal in 1967.[15]

To speed the project along, the Orleans Levee Board financed and constructed portions of the floodwalls, and this relative inexpensive aspect of the project was virtually completed by 1973.[16] Work on the barrier structures and levees running from New Orleans to the those structures, however, was greatly delayed because landowners opposed to the project demanded high prices for the property that the Corps needed for those levees, forcing the Corps to exercise its power of eminent domain.[17]

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[10] 1978 House Hearings, supra, at 21 (testimony of Colonel Early J. Rush III).
[11] Jerry Mitchell, E-Mail Suggests Government Seeking to Blame Groups, Mississippi *Clarion-Ledger*, September 16, 2005, at A1 (quoting Corps of Engineers spokesperson John Hall); John McQuaid & Mark Schleifstein, Evolving Danger, New Orleans *Times-Picayune*, June 23, 2002, at J12.
[12] United States General Accounting Office, Cost, Schedule, and Performance Problems of the Lake Pontchartrain and Vicinity, Louisiana, Hurricane Protection Project (PSAD-76-161 (August 31, 1976) [hereinafter cited as 1976 GAO Report], at 3.
[13] 1978 House Hearings, supra, at 22 (testimony of Colonel early J. Rush III).
[14] Id. at 21 (testimony of Colonel early J. Rush III).
[15] The Orleans Levee District -- A History, available at http://www/orleanslevee.com/history.htm [hereinafter cited as Levee District History]
[16] Id.
[17] 1976 GAO Report, supra, at 16.

In 1976, a coalition of local fishermen and an environmental group called Save Our Wetlands sued the Corps of Engineers alleging that the final environmental impact statement (FEIS) for the project was inadequate.[18] On December 30, 1977, a federal judge issued an injunction preventing the Corps from conducting any work on the barrier project until it had prepared an adequate FEIS. The injunction was subsequently modified to permit continued construction of the levees between the lake and the City of New Orleans.[19]

Second Choice: The High Level Plan

The lawsuit temporarily prevented the Corps from doing further work on the barrier option, but the Corps abandoned this option for other reasons. When the injunction sent the Corps back to the drawing board, it reconsidered the costs and benefits of the barrier and high level options. At the same time, it was encountering strong opposition to the barrier plan from local citizens who did not want to pay a very high price for a project that might endanger the vitality of Lake Pontchartrain and from representatives of areas on the Lake Borgne side of the barrier who would have been at greater risk of flooding during hurricanes.[20]

The intense public opposition was in evidence in congressional hearings conducted in New Orleans the week after the injunction issued. A spokesperson for the League of Women Voters argued that the Corps had never undertaken a study of the cost to taxpayers of maintaining the urbanization of wetlands that the project envisioned, and she noted that the voters of New Orleans had defeated proposals to participate in the financing of the barrier project on three separate occasions, but had voted to approve a similar project without the barriers the previous year.[21] An informal poll conducted by Representative Robert Livingston indicated that a substantial majority of the New Orleans citizens either opposed the project (38.5 percent) or favored discontinuation until the studies could be completed (23.6 percent).[22] Not known for his antipathy to federally financed public works projects in his district, Representative Livingston expressed considerable reservations about the wisdom of this particular project. The state representative from St. Tammany Parish, part of which was on the Lake Borne side of the barrier project warned that the project would put his parish at risk when the gates were closed because it would deflect the surge from Lake Bourne into St. Tammany parish.[23]

By 1982, the New Orleans district of the Corps of Engineers had changed its mind and favored the high level plan "because it would cost less than the barrier plan" and "have fewer detrimental effects on Lake Pontchartrain's environment."[24] One of the factors underlying the changed cost assessment was no doubt the escalating cost of acquiring rights of way from

[18] Levee District History.
[19] Id.
[20] See discussion of the opposition below.
[21] 1978 House Hearings, supra, at 11 (testimony of Charlotte H. Nelson).
[22] 1978 House Hearings, supra, at 12.
[23] 1978 House Hearings, supra, at 47-48 (testimony of Edward G. Scogin).
[24] United States General Accounting Office, Improved Planning Needed by the Corps of Engineers to Resolve Environmental, Technical and Financial Issues on the Lake Pontchartain Hurricane Protection Project (GAO/MASAD-82-39 (August 17, 1982), at 2.

property owners who opposed the barrier project.[25] The Corps did not make a final decision on how to proceed until 1985 when it decided to implement the high level plan because by then it was considerably less expensive. The high level plan of 1985 was substantially completed prior to Hurricane Katrina and repair and maintenance projects along the levees and floodwalls were ongoing.[26]

Why the Levees Failed

Lake Pontchartrain

The water that flooded New Orleans did not flow over the high level levees situated between the lake and the city. Instead, it appears that the surge flowed up the 17th Street and London Avenue canals and caused one breach of the floodwall along the 17th Street canal and two breaches of the floodwall along the London Avenue canal.

The floodwalls along the two "outlet" canals were breached even though they had recently been remodeled. The Corps had enhanced these floodwalls pursuant to the "high level" hurricane protection plan. In the aftermath of the storm, the Corps of Engineers stressed that the two specific outlet levees that had breached were "fully completed" and not on the list of unfunded projects.[27]

Nevertheless, the breach should have been anticipated. The hurricane protection plan that was implemented after 1985 was designed to protect the city against the "standard project" hurricane that roughly corresponds to a fast-moving category 3 storm. Scientists had for years prior to the storm predicted that the levee system could not withstand a Category 4 or Category 5 storm.[28] Hurricane Katrina struck the Louisiana/Mississippi coast as a Category 4 storm.

Lake Borgne

Although the Corps enhanced the levees protecting Eastern New Orleans and St. Bernard Parish as part of the high level plan, these areas were not protected from the "end around" exposure that occurred during Hurricane Katrina. The hurricane surge entered Lake Borgne from the Gulf of Mexico and proceeded up the MRGO canal to the Industrial canal in the heart of New Orleans. Hurricane Katrina appears to have destroyed as much as 90 percent of the levees and flood walls along the MRGO canal in St. Bernard parish as it pushed up the narrowing canal from Lake Borgne to the conjunction of the MRGO canal with the Industrial canal. Colonel Richard Wagenaar, the Corps' head engineer for the New Orleans district,

[25] 1976 GAO Report, supra, at 16.
[26] Levee District History, supra.
[27] Andrew Martin & Andrew Zajac, Flood-Control Funds Short of Requests, *Chicago Tribune*, September 1, 2005, at 7.
[28] Jerry Mitchell, E-Mail Suggests Government Seeking to Blame Groups, Mississippi *Clarion-Ledger*, September 16, 2005, at A1 (quoting Corps of Engineers spokesperson John Hall); John McQuaid & Mark Schleifstein, Evolving Danger, New Orleans *Times-Picayune*, June 23, 2002, at J12.

reported that the eastern levees were "literally leveled in places."[29] That same surge probably caused the breaches in the floodwalls along the Industrial canal.

The MRGO canal, which was completed in 1968, is a deep draft seaway channel that extends for approximately 76 miles east and southeast of New Orleans into Breton Sound and the Gulf of Mexico. It was designed to shorten the distance for ships from the eastern shipping lanes of the Gulf to New Orleans, but it has never lived up to its economic expectations. Less than three percent of the New Orleans port's cargo traffic uses the MRGO; this amounts to less than one ship per day.[30] According to one estimate, the government spends $7 million to $8 million per year (about $10,000 for every large vessel that uses the canal) just to maintain the canal.[31]

This very scenario was predicted long before Hurricane Katrina struck. In 2002, the Corps of Engineers acknowledged that "[t]he MRGO levee is more likely to be affected than the area in the lake itself."[32] Proponents of closing the canal pointed out that, with the erosion of the wetlands in the unleveed stretches south and east of the city, it had "evolved into a shotgun pointed straight at New Orleans."[33]

More recently, Professor Hassan Mashriqui of Louisiana State University undertook an extensive modeling exercise of the "shotgun" scenario.[34] Professor Mashriqui warned that the MRGO created a "funnel" that would direct a storm surge from Lake Bourne to the Industrial Canal with resulting destruction of flood walls along that canal.[35] Satellite images and Corps of Engineers flyovers confirmed that the storm surge destroyed levees along the MRGO canal in a way that was entirely consistent with Professor Mashriqui's model, and it is likely that the same surge destroyed portions of the floodwall along the Industrial Canal.[36] G. Paul Kemp, an oceanographer at the LSU Hurricane Center, agreed that the MRGO "funnel" was "a back door into New Orleans," and he had little doubt that it "was the initial cause of the disaster."[37] In addition to its potential to channel hurricane surges into the heart of New Orleans, the MRGO canal has over the years severely eroded the wetlands south of New

[29] Ralph Vartabedian, Much Wider Damage to Levees Is Disclosed, *Los Angeles Times*, Sept. 13, 2005, available at http://www.latimes.com/news/nationworld/nation/la-na-corps13sep13,0,5962987.story?coll=la-home-headlines.
[30] Michael Grunwald, Canal May Have Worsened City's Flooding, *Washington Post*, September 14, 2004, at A21.
[31] Lake Pontchartrain Basin Association, Martello Castle Background Information, available at http://wetmaap.org/Martello_Castle/Supplement/mc_background.html [hereinafter cited as Martello Castle Background Information].
[32] Jerry Mitchell, E-Mail Suggests Government Seeking to Blame Groups, Mississippi *Clarion-Ledger*, September 16, 2005, at A1 (quoting Corps of Engineers spokesperson John Hall); John McQuaid & Mark Schleifstein, Evolving Danger, New Orleans *Times-Picayune*, June 23, 2002, at J12.
[33] John McQuaid & Mark Schleifstein, Evolving Danger, New Orleans *Times-Picayune*, June 23, 2002, at J12.
[34] Michael Grunwald, Canal May Have Worsened City's Flooding, *Washington Post*, September 14, 2004, at A21.
[35] Id.
[36] Id.
[37] Id.

Orleans.[38] In 1998, the St. Bernard parish Council unanimously passed a resolution demanding that the MRGO be closed.[39]

Why New Orleans Was Not Better Protected

Not a National Priority

The vulnerability of New Orleans to a catastrophe were well known and widely predicted, yet recent efforts to enhance the protection of New Orleans from Lake Pontchartrain have floundered. An attempt in 1996 to re-evaluate the Lake Pontchartrain levees broke down in disputes over modeling and other bureaucratic disagreements.[40] More recently, the Bush Administration rejected a Corps of Engineers request for $27 million to pay for hurricane protection projects along Lake Pontchartrain and proposed a budget of only $3.7 million. Congress ultimately appropriated $5.7 million for the projects, but the Corps still had to delay seven levee improvement contracts.[41]

Joseph Suhayda, an Emeritus Professor of Engineering at LSU, observed that the part of the 17th Street floodwall where a recent breach occurred was four feet lower than the rest of the floodwall. He believes that "they could have significantly reduced the impact" of Hurricane Katrina if the improvement projects had been fully funded.[42] The chief of engineers for the Corps, however, responded that had the pending projects "been fully complete," flooding of the business district and the French Quarter would still have resulted from the intensity of the storm.[43]

Mike Parker, a former Republican Congressman from Mississippi who was until 2002 the chief of the US Army Corps of Engineers, was forced to resign when he publicly stated to the Senate Budget Committee that the national interest was being harmed by President Bush's proposal to cut over $2 billion from the Corps' $6 billion budget.[44] After Hurricane Katrina struck, Mr. Parker added that President Bush had not adequately funded improvements to the very levees in New Orleans that had been breached; indeed, Mr. Parker stated that had full funding been authorized "there would have been less flooding than you have."[45] An official Corps of Engineers memo dated May 2005, long after Parker left the agency, seemed to corroborate this possibility. It stated that the Bush Administration's

[38] Martello Castle Background Information, supra.
[39] Michael Grunwald, Canal May Have Worsened City's Flooding, *Washington Post*, September 14, 2004, at A21.
[40] John McQuaid & Mark Schleifstein, Evolving Danger, New Orleans *Times-Picayune*, June 23, 2002, at J12.
[41] Andrew Martin & Andrew Zajac, Flood-Control Funds Short of Requests, *Chicago Tribune*, September 1, 2005, at 7.
[42] Id.
[43] Id. See also Michael Grunwald, Money Flowed to Questionable Projects, *Washington Post*, September 8, 2005, at A1.
[44] John McQuaid & Mark Schleifstein, Shifting Tides, New Orleans *Times-Picayune*, June 26, 2002, at 14.
[45] Andrew Martin & Andrew Zajac, Flood-Control Funds Short of Requests, *Chicago Tribune*, September 1, 2005, at 7.

funding levels for fiscal years 2005 and 2006 were not enough to pay for new construction on the New Orleans levees.[46]

Although it is tempting to blame the Bush Administration for the failure to fund critical levee improvement projects, the truth is that improving the Lake Pontchartrain levees has been a low priority for many administrations, Democratic and Republican, and for Congress. The Administration and Congress have had other priorities over a longer period of time than the last four years. In fact, it seems clear that even the Louisiana congressional delegation has on occasion insisted that the Corps direct its resources to projects, like a $194 million project for deepening the Port of Iberia and replacing the lock on the Industrial canal, unrelated to the New Orleans levee protection system.[47]

Not a Corps Priority

The Corps of Engineers aided and abetted the lack of attention paid to protecting New Orleans in three ways. First, the Corps is very reluctant to participate in the process of setting priorities for its projects. Once the Corps has determined that the benefits of a proposed project exceed its costs, the Corps leaves it to Congress to decide through the appropriations process those projects that receive funding and those that do not.[48]

Second, the Corps' cost-benefit analysis procedures do not require the analysts doing the assessment to take potential loss of life into account in the analysis. According to the GAO, the Corps' guidance (Engineer Regulation 1105-2-100) directs analysts to address the issue of prevention of loss of life when evaluating alternative plans, but they are not required to formally estimate the number of lives saved or lost as a potential effect of a project.[49] In situations where historical data exist, the analysts have the option to estimate the number of persons potentially affected by a project and include this number as an additional factor for the consideration of decision makers. Hence, a high cost project that has few economic benefits, but which would save many lives, may not pass the cost-benefit test if the Corps does not include the lives saved as a monetized benefit.

Finally, even when Congress has appropriated money to protect New Orleans better, the Corps apparently has not been in a hurry to get the job done. For example, Congress in 1999 appropriated money for a $12 million study to determine how much it would cost to protect New Orleans from a Category 5 hurricane, but the study had not even been launched as of September 2005.[50]

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[46] Andy Sullivan, Budget Cuts Delayed New Orleans Flood Control Work, Reuters, Sept. 1 2005, available at http://www.alertnet.org/thenews/newsdesk/N01279059.htm

[47] Michael Grunwald, Money Flowed to Questionable Projects, *Washington Post*, September 8, 2005, at A1.

[48] Id. (quoting Tim Searchinger, senior attorney, Environmental Defense).

[49] Government Accountability Office, Improved Analysis of Costs and Benefits Needed for Sacramento Flood Protection Project 20 n.13 (2003) (GAO-04-3). Also, Jim Barnett, Instead of Shoring Up Levees, Corps Built More, *The Oregonian*, September 18, 2005, http://www.oregonlive.com/search/index.ssf?/base/exclude/112695455718420.xml?oregonian?lcg&coll=7.

[50] Andrew Martin & Andrew Zajac, Corps: Lack of Funds Did Not Contribute to Flooding, *Chicago Tribune*, September 2, 2005, at 1.

The Right Wing's Blame Game

The reasons why New Orleans and its vulnerable citizens were not better protected are clear. The levee system was not designed to protect the city from more than a category 3 hurricane system, and there was little budget support for improving the levee system even though its limitations were widely recognized.

Some conservatives, however, are attempting to tell another story. Not long after the damage to New Orleans became apparent, retired Corps of Engineers officials and conservative pundits began a concerted campaign to blame the damage on the litigation that Save Our Wetlands and Lake Pontchartrain fishermen brought against the Corps of Engineers in 1976.[51] Citing the barrier project litigation and irrelevant litigation involving the Mississippi River levee system far upstream of New Orleans, conservative Commentator R. Emmett Tyrell, Jr. claims that "[f]or too long, environmentalist fanatics with no sense of a broad-based commonweal have had a veto over government and private-sector projects essential to the health and well-being of millions of Americans."[52] A conservative blogger referred to the lawsuit against the barrier project, described above, as "green genocide."[53] A house task force has decided to add the litigation to its agenda as it considers reforms for the National Environmental Policy Act (NEPA).[54] And the Bush Administration Justice Department has, at the request of Senator James Inhofe, circulated an email to its attorneys asking for information on any case in which they have defended the Corps from environmental claims involving the levees protecting New Orleans.[55] These claims are wholly unfounded.

Temporary Interruption

The lawsuit brought by the environmentalists was entirely justified. The EIS filed by the Corps was clearly inadequate. Nevertheless, it is clear beyond dispute that the injunction should have only delayed the project slightly until the Corps remedied the problems that the court had identified in the FEIS.

The court in the *Save Our Wetlands* litigation found that "the picture of the project painted in the FEIS was not in fact a tested conclusion but a hope by the persons planning the project that it could in fact be constructed so as to meet the environmental objectives set out in the FEIS."[56] The court noted that the Corps' chief engineer for the New Orleans Division had

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[51] Ralph Vartabedian & Peter Pae, A Barrier that Could Have Been, *Los Angeles Times*, September 9, 2005, at A1 (quoting former Corps of Engineers chief counsel Joseph Towers).
[52] R. Emmett Tyrell, Jr., Eco-Catastrophe Echoes, *Washington Times*, September 16, 2005.
[53] Michael Tremoglie, New Orleans: A Green Genocide, *FrontPageMagazine*.com, September 8, 2005, available at http://www.frontpagemag.com/Articles/rintable.asp?ID=19418.
[54] Ralph Vartabedian & Richard B. Schmitt, Mid-60s Project Fuels Environmental Fight, *Los Angeles Times*, September 17, 2005, at A17.
[55] Dan Egan, Senate Panel Investigating Challenges to Levees, *Washington Post*, September 17, 2005, at A10; Jerry Mitchell, E-Mail Suggests Government Seeking to Blame Groups, Mississippi *Clarion-Ledger*, September 16, 2005, at A1; Mark Sherman, Justice Dept. Looks at Lawsuits, Levees, *Seattle Post-Intelligencer*, September 16, 2005.
[56] Save Our Wetlands v. Rush, Civ. No. 75-3710, Slip Opinion (E.D. La. 1977).

requested further model studies because the studies upon which the draft EIS relied were undertaken more than a decade earlier for an obsolete version of the project. The chief engineer feared that the flow of water between the lakes, which was critical to maintaining the integrity of marine life in Lake Pontchartrain, was far less in the new version of the project than in the earlier version. The requested model studies were initiated, but they had not been completed when the FEIS came out, and it continued to rely upon the obsolete studies.[57]

More importantly, the biological analysis undertaken in the FEIS relied entirely on a single telephone conversation with a single marine biologist who was asked to speculate on the impact of the project on marine organisms using the inter-lake flow rates predicted by the obsolete model. The Corps of Engineers official who was responsible for preparing the EIS expressed reservations about the statements on the effects of the structures on marine life in the lake, and he suggested that the conclusion that the project "would not" have a significant impact on lake biology should be changed to "should not." He was, however, overruled. The court further noted that the assessment of the benefits of the project included the benefits of further urban development on wetlands that would be reclaimed from the lake after the project was completed, but it failed to take into consideration that the area had also been designated as a protected wetland. A Corps economist pointed this out and asked that the analysis be changed, but he was overruled.[58]

Finally, the court concluded that in light of "the problems of which the Corps was aware with respect to the possibility of significantly decreased tidal flow through the structures," the analysis of alternatives in the FEIS was inadequate. The court concluded that the FEIS "precludes both the public and the governmental parties from the opportunity to fairly and adequately analyze the benefits and detriments of the proposed plan and any alternatives to it."[59]

The court therefore enjoined further work on the barrier structures aspect of the project until the Corps had completed an adequate FEIS. It stated in no uncertain terms, however, that its opinion and order should "in no way be construed as precluding the Lake Pontchartrain project as proposed or reflecting on its advisability in any manner," and it stressed that "[u]pon proper compliance with the law with regard to the impact statement, this injunction will be dissolved and any hurricane plan thus properly presented will be allowed to proceed."[60]

Although some recent commentators have stated unequivocally that the court's injunction prevented the barrier project from going forward, there is simply no dispute that the injunction should have delayed the barrier option only until the Corps remedied the problems that the court had identified in the EIS. The court would have lifted the injunction as soon as the Corps of Engineers simply updated the EIS with adequate hydrologic modeling, as requested by its own chief engineer, conducted a more thorough biological assessment, and considered a few reasonable alternatives.

[57] Id. at 5.
[58] Id. at 6.
[59] Id.
[60] Id. at 7.

The Real Story

The real story is considerably different from the version being promoted by conservative commentators and politicians. As established earlier, the Corps did not abandon the project because of the lawsuit. In the process of responding to the EIS, the Corps reevaluated the "high level" alternative and decided to adopt that approach instead. There was also intense public opposition to the barrier plan from local political officials and local citizens.

Moreover, it is now becoming clear that Hurricane Katrina destroyed as much as 90 percent of the levees and flood walls along the MRGO canal in St. Bernard parish as it pushed up the narrowing canal from Lake Bourne to the conjunction of the MRGO canal with the Industrial canal and that the same surge probably caused the breaches in the floodwalls along the Industrial canal. The barrier plan that Corps was considering at the time of the litigation would not have prevented the surge from moving from Lake Bourne through the funnel of the MRGO canal into the heart of New Orleans, and it might well have exacerbated that surge.

Finally, as discussed earlier, the 1977 barrier project would not have protected New Orleans from Hurricane Katrina, even if it had been built. The project was designed to withstand only a fast-moving Category 3 hurricane, based on a model called the "standard project hurricane,"[61] and it was never clear that the project would in fact have worked as envisioned, because the model was flawed. A spokesperson for the New Orleans division of the Corps acknowledged that he was not sure "how much [the barrier project] would have prevented anything."[62] It should not be equated with the recently proposed barrier projects designed to withstand a Category 5 hurricane and to be more environmentally friendly. It is by no means clear that the barrier project as envisioned in 1977 would have protected New Orleans from the Lake Pontchartrain surge of Hurricane Katrina.

Conclusion

The failure of the levees in New Orleans was predicted. Scientists have warned for years that a strong storm could breach the levees. The reason is simple. The levees were not designed and built to protect the city and its most vulnerable citizens from more than a fast moving category 3 hurricane. Efforts to improve the levees have fallen victim to budget cuts in the Bush administration and previous administrations. The Corps also constructed a little used ship canal through the middle of New Orleans that made the city considerably more vulnerable to the flooding that occurred.

The right wing attempt to blame the environmentalists, while politically convenient, is completely rebutted by the facts. It is beyond dispute that the EIS litigation would have only temporarily delayed the Corps from pursuing the barrier option had it chosen to do so. We

[61] Jerry Mitchell, E-Mail Suggests Government Seeking to Blame Groups, Mississippi *Clarion-Ledger*, September 16, 2005, at A1 (quoting Corps of Engineers spokesperson John Hall); John McQuaid & Mark Schleifstein, Evolving Danger, New Orleans *Times-Picayune*, June 23, 2002, at J12.
[62] Jerry Mitchell, E-Mail Suggests Government Seeking to Blame Groups, Mississippi *Clarion-Ledger*, September 16, 2005, at A1.

also know that the Corps decided to switch to the high level option because it believed that it was the better policy. This switch also responded to broad-scale local public opposition to the barrier option. In any case, the barrier option would not have prevented the flooding in New Orleans even if it had been completed. Neither the barrier nor high level option was designed to protect New Orleans from more than a category 3 hurricane. Moreover, the barrier option, had it been completed, would not have stopped the flooding that occurred along the ship canal.

About the Center for Progressive Reform

Founded in 2002, the Center for Progressive Reform is a nonprofit research and educational organization dedicated to protecting health, safety, and the environment through analysis and commentary. CPR believes sensible safeguards in these areas serve important shared values, including doing the best we can to prevent harm to people and the environment, distributing environmental harms and benefits fairly, and protecting the earth for future generations. CPR rejects the view that the economic efficiency of private markets should be the only value used to guide government action. Rather, CPR supports thoughtful government action and reform to advance the well-being of human life and the environment. Additionally, CPR believes people play a crucial role in ensuring both private and public sector decisions that result in improved protection of consumers, public health and safety, and the environment. Accordingly, CPR supports ready public access to the courts, enhanced public participation, and improved public access to information. Direct media inquiries to Matthew Freeman at mfreeman@progressivereform.org. For general information, email info@progressivereform.org. Visit CPR's website at www.progressivereform.org. The Center for Progressive Reform is grateful to the Deer Creek Foundation for its generous support of this project and CPR's work in general.

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