



Levee statistics point up their importance to nation's economy

By Mark Schleifstein, The Times-Picayune
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An Army Corps of Engineers contractor works on enlarging this section of Reach 2 levee just west of the Treasure Chest Casino in Kenner in this September 2009 file photo.

While those levees don't necessarily protect all the people living in the 881 counties that have them, a study for Levees.org by geographer Ezra Boyd concludes that the levees more than pay for themselves when their cost is compared to the investment they protect.

Counties with levees account for only 28 percent of the nation's counties and only 37 percent of the nation's land area. But they contain 55 percent of the nation's population, more than 156 million people, according to the study.

In Louisiana, 37 of 64 parishes contain levees, and those parishes contain 74 percent of the state's population, and 75 percent of its annual total income. On a per-capita basis, residents of those parishes earned about \$1,000 more a year in 2000 than their counterparts in parishes without levees.

Levees usually don't create the population living in the counties in which they're located, Boyd said.

"Rather, it is the landscape features associated with levees that explain this observed population trend," he wrote.

People are attracted to rivers, lakes and seashores and their associated floodplains because that's where the maritime industries, municipal and industrial water supplies, farmland irrigation, sustainable seafood harvests and recreational opportunities are located, he said. The levees often follow, as residents attempt to reduce the risk of flooding.

In recent years, especially in the aftermath of the flooding from Hurricanes Katrina, Rita, Gustav and Ike, a number of critics have argued that investments in levees should be limited, in favor of stronger measures aimed at discouraging people from living in flood-prone areas.

It's that criticism that prompted Levees.org to attempt to show how many people nationwide rely on levees for safety, said founder Sandy Rosenthal. The group sees its mission as educating the public about the role of levee design and construction errors in causing a majority of the flooding that occurred in New Orleans during Katrina. But it has expanded that mission during the past year to educating other communities about the potential effects of similar failures of their corps-designed levees.

"This analysis should answer any lingering questions about New Orleans' geographic location," said Sandy Rosenthal, executive director of Levees.org. "The data should quell any doubt that the region should be rebuilt."

In his paper, which has not gone through a formal peer-review process, Boyd argues that critics of levees fail to correctly compare the costs of floods to the benefits of living in flood-prone areas.

"While flood losses are unfortunate and should be minimized, the economic benefits -- including increased income and decreased poverty -- of direct access to the most productive types of ecosystem may still outweigh the risk of flood losses," he said.

Using 2000 census data, Boyd found that total productivity for counties containing levees was nearly 3.3 times greater than it was in those without levees; the average annual income of residents was \$1,500 more, and the rate of poverty was 2 percent lower.

Indeed, using a very conservative estimate of a 10 percent personal income tax rate, the residents of those counties contributed \$70 billion more to the federal treasury than counties without levees in 2000, much more than a typical year's federal expenditures resulting from flood losses, he said.

"In 1999, the U.S. endured an estimated \$5.3 billion in total flood losses and the federal government paid \$191 million in assistance to flood victims," wrote Boyd, a graduate student at

Louisiana State University whose work for Levees.org was not associated with the university.

The 2000 data represents only a snapshot in time and is outdated, Boyd said; new data will be available when the 2010 census is completed. But he said more recent census income and poverty estimates do not cover all of the counties containing levees.

Boyd found that between its inception in 1978 and the end of 2008, the National Flood Insurance Program had paid only \$36 billion in claims, including those stemming from Hurricanes Katrina and Rita in 2005.

"In other words, the public costs associated with flood disasters are considerably less than the excess tax contributions of flood-prone counties," he said.

Boyd's tax estimates don't include state and local taxes, and don't include corporate and other federal taxes and fees. And the flood insurance program also is normally underwritten by insurance premiums, except in the event of major disasters such as Katrina. However, the total federal costs of the four hurricanes would include much more than the federal flood insurance payouts.

"The numbers that I present are not meant to be the final answer to the questions about levee and floodplain policy," Boyd said. "They are all subject to debate and interpretation. I just hope that by putting some admittedly rough estimates out there that this paper can take this debate into a new direction and encourage more analysis along these lines."

Two college researchers who specialize in research on disasters agree that Boyd's research does not go far enough in describing the relationship between levees and the populations of the counties in which they are located.

"At best, the data presented in this paper are reason to reach the conclusion that more detailed research and analysis is needed to determine if the observed statistical differences have any 'causal' linkages," said Dennis Mileti, an emeritus professor of sociology with the Natural Hazards Center of the University of Colorado at Boulder and author of the book, "Disasters by Design: A Reassessment of Natural Hazards in the United States."

"Here's are two examples of why," he said. "It may be that productivity attracts -- causes -- levees, rather than the other way around, as the author would have us believe; or that productivity and levees are both 'caused' at the same time by something other than the few factors what were examined in this paper."

Also, in many locations, counties contain very large populations that really have little to do with the levees within their borders, said Gerald Galloway, a research engineer at the University of Maryland who also serves on the Governor's Advisory Commission on Coastal Protection,

Restoration and Conservation. New Orleans' near-total reliance on levees is unusual.

"For example, Washington, D.C.'s levee is the length of the reflecting pool in front of the Lincoln Memorial, hardly protecting 572,000," Galloway said. "Levees in Los Angeles are protecting large numbers, but again, not the entire city."