

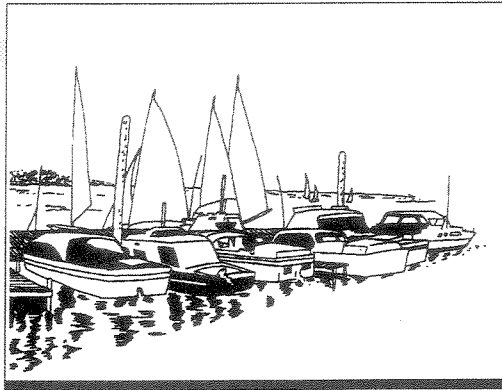
Galveston Bay:

What's It Worth to You?

The economic value of improving the environmental quality of Galveston Bay

People often ask about the economic value of a natural resource such as Galveston Bay. Some want to rigorously compare the benefits of cleaning up or protecting the Bay with the costs of improving its environmental quality. Others want to determine, "Is Galveston Bay worth a lot or a little?" Because any plan for cleaning up, protecting and managing Galveston Bay will inevitably cost millions of dollars, the Galveston Bay National Estuary Program (GBNEP) felt that people in the greater Houston-Galveston area—and elsewhere in Texas—deserved to have the best information available about the economic benefits they could expect to obtain from implementing a management plan for the Bay.

The GBNEP contracted with the University of North Carolina at Chapel Hill to carry out a "nontraditional" economic valuation study. In this context, "nontraditional" meant that researchers were not to restrict the focus just to the goods and services provided by Galveston Bay for which market prices are available.



The economic value of a natural resource is not simply its *use value*, or the amount of income that individuals can receive by using it (e.g., from harvesting fish). Instead, economists attempt to measure how much people's well-being would decrease if a natural resource—Galveston Bay—were lost, or how much people's well-being, in terms of intangible and aesthetic values, would increase if Galveston Bay was better managed or its quality improved.

The principal approach used to measure the economic value of improving the environmental quality of Galveston Bay is termed the *contingent valuation method* (CVM). Respondents to a survey were asked a series of questions about how much they value a good or service. The researchers also tried to answer a related question: "What is the most people would be willing to

pay for a specified improvement in the quality of Galveston Bay?"

The research team carried out a large contingent valuation survey of randomly selected households in the five counties in the greater Houston-Galveston area (Harris, Galveston, Liberty, Chambers and Brazoria). Two methods of data collection were used: 1) a mail survey to 750 households, followed up by an in-person interview, and then by a second, short written questionnaire, and 2) a mail-only survey to 1,000 randomly-selected households.

In both instances, respondents were asked how they would vote if there were a referendum on whether or not to implement this management plan if it would require adding a specified dollar amount as a surcharge to their monthly water (or other utility) bill.

The results suggest that a slight majority of the population of the greater Houston-Galveston area would vote (in a referendum) for a plan that increased their water bills by \$5 per month for five years. Such a surcharge on households' water bills would raise about \$60 million per year for the manage-

ment plan's initiatives. The researchers believe there would be broad support across all population groups for a surcharge in the range of \$1-2 per month (surcharges at this level would raise \$10-25 million per year).

The typical user of the Bay was willing to pay substantially more than the average nonuser (about \$7 per month more). However, a typical nonuser was still willing to pay about \$5 per month for the implementation of the management plan. Over 90 percent of the respondents felt that reducing water pollution in the Bay was important, and of these people, almost 60 percent said that the most important reason for reducing water pollution was so that future generations could use and enjoy the Bay.

The survey also provided an extensive set of information on the recreational use of Galveston Bay by residents of the greater Houston-Galveston area, and about people's attitudes and perceptions of the Bay. These data

show that approximately 19 percent of the mail-only sample respondents used the Bay as a site for recreational fishing, boating, picnicking, bird-watching, or hiking more than ten times per year. About 44 percent of the sample used the Bay for some recreational purpose at least once a year. Approximately 26 percent of the population of the five-county area used the Bay for recreational boating and fishing at least once a year.

However, for the majority of people in the greater Houston-Galveston area, Galveston Bay is not perceived as a site for recreational activities. Most of the respondents had a negative perception of the quality of Galveston Bay. Only about 18 percent felt that the quality of Galveston Bay had improved over the last five years. More

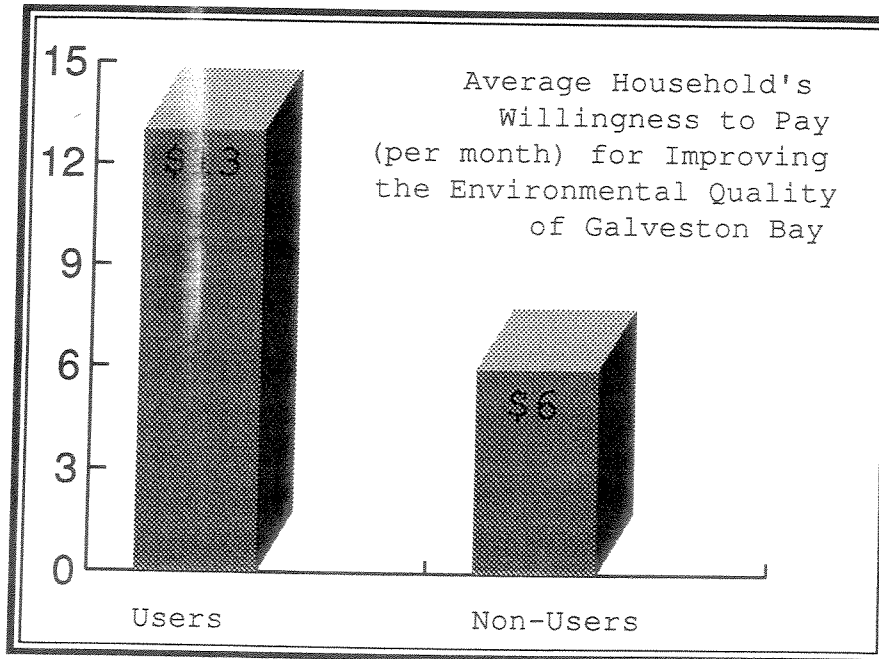
than a third thought it was getting worse, and almost 20 percent said they did not know. Even so, the researchers estimate that Galveston Bay is used by residents of the greater Houston-Galveston area for recreational purposes over 7 million times per year (i.e. 7 million "user-days"). This number would certainly increase if public perception of the environmental quality of the Bay improved.

Most people in the sample do eat seafood from the Bay a few times a year, and in this sense have a direct interest in cleaning up the Bay. However, only about 10 percent reported eating seafood from the Bay as often as three times a month.

Based on the results of the contingent valuation survey, the researchers estimate that the economic value to residents of the

greater Houston-Galveston area of cleaning up the Bay is in the range of \$100 to \$150 million per year. This conservative estimate is based on the results of the mail-only survey.

The published study can be found at area libraries and at the Galveston Bay Information Center. Call (409) 740-4703.



This fact sheet is one of a series produced through a cooperative agreement between the Galveston Bay Foundation and the U.S. Fish and Wildlife Service. The information in this series was developed by authors from the Galveston Bay Foundation, National Marine Fisheries Service, Sea Grant College Program, Texas Natural Resource Conservation Commission, Texas Parks and Wildlife Department, Texas Water Development Board and the U.S. Fish and Wildlife Service.

The Galveston Bay Foundation is a nonprofit organization whose mission is to preserve and enhance the Bay for its multiple uses through education, conservation, research and advocacy. The mission of the U.S. Fish and Wildlife Service is to conserve, protect and enhance the nation's fish and wildlife and their habitats for the continuing benefit of the American people.

For more information, contact the Galveston Bay Foundation at 17324-A Highway 3, Webster, Texas 77598, or call 713/332-3381.

