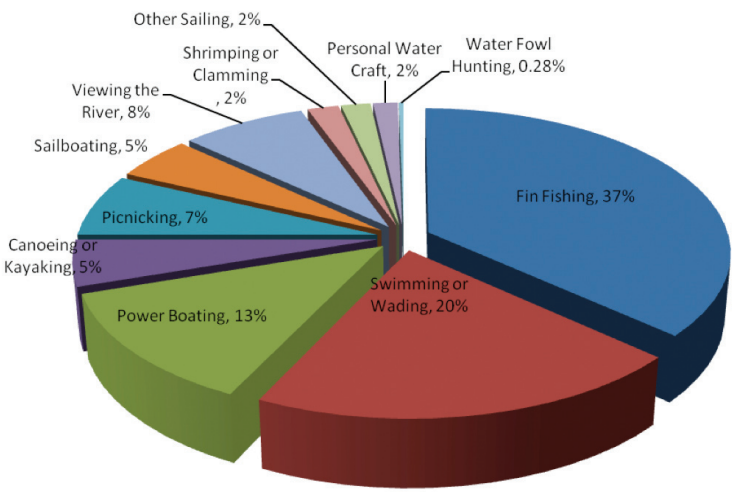
DETERMINING AN ESTUARY'S ECONOMIC VALUE

Placing an economic value on the Indian River Lagoon system is one of the important steps the Indian River National Estuary Program (IRLNEP) has taken to increase support and justify spending for its many restoration and protection projects. With three main water bodies—the Mosquito Lagoon, Banana River Lagoon, and the Indian River Lagoon—as well as their associated tributaries, the Indian River Lagoon system is considered the most diverse estuarine ecosystem in North America, with over 4,000 species of plants and animals inventoried and more discovered every year. Showing Federal, state, and local partners that the Lagoon is worthy of protection and continued restoration because of its ecological and economic importance is critical.

In 1996, the IRLNEP conducted an economic assessment and analysis of the five-county study area—and those values have served them well—but the figures no longer reflect today's economy. The IRLNEP and its hosting agencies, St. Johns and South Florida Water Management Districts, realized they needed to collect current numbers that would. When they updated the economic study, the results were substantial, with overall economic benefits of the Indian River Lagoon totaling more than $3.7 billion in 2007. The report attracted immediate attention from the local media as well as the state's Department of Environmental Protection. The best news is that IRLNEP and its partners expect the update to help bolster their leveraging efforts and generate the support required to accomplish future restoration and protection work around the Lagoon.

To produce the most accurate update possible, the economists used advanced technology tools such as the Geographical Information System (GIS) to perform a more comprehensive assessment of properties adjacent to or near the Lagoon compared to properties that are further away. Unlike the last assessment, in which researchers only counted developed properties, new tools enabled them to include all property located in the five-county study area. Therefore, the coastal values totaling $824 million (1995 dollars) in the last report showed a remarkable jump in the new study, which was based on 2007 figures. The new and more accurate capitalized value of the Indian River Lagoon is estimated at $46.7 billion today, with activities dependent on the Lagoon generating $630 million in income to residents, $112 million in state and local tax revenues, and 15,000 full-and part-time jobs. In addition, the recreational and non-use value of the Lagoon would increase by about $80 million per year if there were a significant increase in the amount and diversity of wildlife on the Lagoon and increased water quality throughout the Lagoon system resulting from restoration and water quality improvement projects. The update

also included a brief focus on the economic value of the Lagoon's 72,400 acres of seagrass as they support recreational and commercial fisheries. Resource managers and the economists assessed seagrass value at $329 million per year or $4,600 per year per acre of seagrass. Furthermore, if the seagrass value were to remain unchanged, the study showed that over the next 100 years, at a two percent annual discount rate (the rate at which future benefits are reduced each year), the Lagoon's seagrass value would be $227,000 per acre. Although not a focus of the current study, the researchers also pointed out the likelihood that seagrass provides additional economic values related to water quality and aesthetics. The St. Johns and South Florida Water Management Districts provided $100,000 to fund the study and the IRLNEP contributed $12,000 to produce outreach materials and to support one of the study's economists in her efforts to present the new information to the public, various advisory boards, and committees throughout the community, including:



- Brevard County Board of Commissioners
- Indian River Lagoon Advisory Board
- Martin County Business Development Committee
- South Florida Water Management District's Water Resources Advisory Commission
- St. John's River Water Management District's Projects and Lands Committee

The new report has captured the attention of local media, including a newspaper that featured details of the assessment on the front page of its business section—an appealing placement that could help enlarge the pool of local businesses interested in lending support for restoration and protection activities. Some of the IRLNEP's partners are also using the updated figures and additional information in their grant applications, and Michael Sole, secretary of the Florida's Department of Environmental Protection, frequently touted the study and its findings during a recent speech he gave to commemorate the Marine Resources Council's 25th anniversary. The Council, a longtime IRLNEP partner, is a local nonprofit environmental organization that organizes a lagoon-wide citizens' volunteer water quality monitoring network. To enhance its outreach activities, the IRLNEP developed new traveling displays featuring the new economic study results and information for its own public education events and meetings. Furthermore, the updated figures will play a critical role in justifying legislative expenditures for restoration and protection dollars in the future. The IRLNEP plans to feature the economic values in its state legislative request, which they are submitting in the spring of 2009. Clearly, the $112,000 spent to update the Indian River Lagoon Economic Assessment was a sound investment that pays big dividends.

Visit **www.sjrwmd.com/itsyourlagoon** to learn more about this and other IRLNEP efforts.

EPA's National Estuary Program (NEP) is a unique and successful coastal watershed-based program established in 1987 under the Clean Water Act Amendments. The NEP involves the public and collaborates with partners to protect, restore, and maintain the water quality and ecological integrity of 28 estuaries of national significance located in 18 coastal states and Puerto Rico.

For more information about the NEP go to www.epa.gov/owow/estuaries.