

The 1999 Economic Contributions of Fisheries and Boating Resources in the Acadiana Bay Region

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Executive Summary

Many thousands depend on the Acadiana Bay¹ region's water resources for recreation, work and as a source of nourishment. These resources not only contribute to the standard of living and economic health of the region's residents, they also contribute significantly through state and federal tax revenues. To develop a better understanding of the economic importance of the region's waters, the Acadiana Bay Association, Inc. commissioned a study to estimate the economic contributions of the region's recreational and commercial fisheries and its boating resources. The major results are for 1999 and include:

	<u>Retail Sales</u>	<u>Multiplier Effect</u>	<u>Salaries/Wages</u>	<u>Jobs</u>	<u>State Tax Revenue</u>	<u>Federal Tax Revenue</u>
Recreational Fishing:	\$31.2 million	\$60.0 million	\$15.9 million	850	\$2.1 million	\$2.0 million
Recreational Boating:	\$12.9 million	\$25.7 million	\$7.3 million	230	\$623,000	\$550,000
Commercial Fisheries:	\$311.7 million ²	\$415.6 million	\$66.8 million	4,660	\$15.9 million	\$15.1 million
TOTAL:	\$355.8 million	\$501.3 million	\$90.0 million	5,740	\$18.6 million	\$17.7 million

In addition to the above activities, the waters of Acadiana Bay provide additional benefits through hunting, bird watching/ecotourism, and trapping. All of these important economic industries depend on a healthy bay system. Any human activities that disrupt the natural balance of the Acadiana Bay ecosystem have the potential to harm the region's economy. Likewise, any human activities that help the Acadiana Bay ecosystem achieve its maximum potential can boost the region's economy.

¹ Acadiana Bay is defined as the coastal waters of St. Mary, Iberia and the eastern half of Vermilion parishes.

² Retail sales in commercial fisheries includes ex-vessel (dockside) landings of \$46.9 million and sales at the processing, wholesale, retail and restaurant levels.

INTRODUCTION

This reports estimates the economic contributions of fisheries and recreational boating in the Acadiana Bay region in 1999. This region includes the coastal waters of St. Mary, Iberia and the eastern half of Vermilion parishes. For each of these activities, estimates are provided for the total revenues or retail sales generated within the Acadiana Bay region in 1999, and the resulting jobs, income, sales and income tax revenues and total economic (multiplier) effect supported by each activity across the Louisiana economy.

Time and resource limitations would not permit the examinations required to produce precise estimates. To overcome this limitation, information from studies conducted for others were used to help estimate the economic impacts within the region and state. While this may not be a statistically perfect methodology, the results do provide a good idea of the benefits produced from Acadiana Bay's fisheries and boating resources. The results are intended to help the reader understand the size and importance of the Acadiana Bay's fisheries and water resources and help guide the decision making process that may affect the future of the region's ecosystem, economy, and the people who depend on both.

ECONOMIC CONCEPTS AND DEFINITIONS

The economic benefits of outdoor recreation and resource harvests can be estimated by two types of economic measures: economic impacts and economic values. An economic impact addresses the business and financial activity resulting from users' expenditures. Economic value measures the intrinsic value received by the user in the course of their outdoor activity. This concept is also known as "consumer surplus". Only **economic impacts** are addressed in this report and are often referred to as "economic contributions."

There are three types of economic impacts: direct, indirect and induced. A direct impact is created by the initial purchase made by the consumer. For example, when a person buys a fishing reel for \$39 there is a direct impact to the retailer of \$39. Indirect impacts are secondary effects generated from a direct impact. For example, the retail store must purchase a replacement reel; the reel manufacturer must purchase additional metals, finishes, etc. for production; metal refiners must buy inputs, and so on. Therefore, the original expenditure of \$39 benefits a host of other industries. An induced impact results from the wages and salaries paid by the directly and indirectly impacted industries. The employees of these industries spend their income on various goods and services. These expenditures are known as induced impacts which, in turn, create a continual cycle of additional indirect and induced effects.

The sum of the direct, indirect and induced impacts equals the total economic impact. As the original retail purchase goes through round after round of indirect and induced effects, the economic impact of the original purchase is multiplied, benefiting many industries and individuals. Likewise, the reverse is true. If a particular item or industry is removed from the economy, the economic loss is greater than the original lost retail sale. Once the original retail purchase is made, each successive round of spending is smaller than the previous round. When the economic benefits are no longer measurable, the economic examination ends.

Definitions:

Retail Sales: Retail sales equals the dollars spent by the participants to partake in their recreation including meals, lodging, travel and equipment.

For commercial fisheries, retail sales equals the income the harvesters receive for their catch. Retail sales is the same as dock side or ex-vessel price. Additional retail sales are generated as their product moves through fish house, processors, wholesalers, retailers and restaurants.

Total Economic, or Multiplier, Effect: The total multiplier (or ripple) effect in the economy created by successive rounds of retailer, manufacturer and others' expenditures. These successive rounds of spending generate additional economic benefits with each round becoming smaller and smaller until they cannot be measured any longer.

Jobs: The total jobs supported by the many rounds of spending describe above.

Income: The total wages and salaries paid to employees by all of the industries enhanced by the total rounds of spending.

Tax Revenues: The total sales and income tax revenues paid to government as a result of the retail sales, wages and salaries described above.

METHODS

Marine Recreational Fishing:

The sport fishing estimates were obtained from The 1996 Economic Impact of Sport Fishing in Louisiana produced by the American Sportfishing Association. The raw data for this study came from the U. S. Fish and Wildlife Service's 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Survey). The Survey contains data on trip-related expenditures (such as food, lodging, fuel) where the primary purpose of the purchase was for fishing related activities. The Survey also contains data on equipment expenditures such as rods, reels, boats, etc., made for fishing.

The ASA study used the RIMS-II Regional Input-Output model to calculate the economic effects of angler expenditures. The RIMS-II model was developed by the U.S. Dept. of Commerce, Bureau of Economic Analysis for primary use by the Federal government. Input-output models describe how sales in one industry impact other industries. For example, once a sportsman makes a purchase, the retailer buys more merchandise from wholesalers, who buy more from manufacturers, who, in turn, purchase new inputs and supplies. In addition, the wages and salaries paid by these businesses stimulate more benefits. Simply, the first purchase creates numerous rounds of purchasing. Input-output analysis tracks how the various rounds of purchasing benefits other industries and generates economic benefits.

Tax Revenues

State sales tax estimates are based on state sales and fuel tax rates and not on the economic model. Sales tax revenues are calculated by multiplying all retail purchases (except exempt items) by the 1996 state tax rate (excluding local and city taxes). Due to the widely differing fees for wholesaler/manufacturer and use taxes, these were not included in this study.

State and federal income tax revenues were determined by dividing the total earnings by total jobs to receive the average income per job. Next, a standard deduction was subtracted (based on state and federal deduction rates) and the remaining amount was multiplied by the respective 1996 income tax rates. The results were then multiplied by the total jobs to derive the final income tax estimates.

Adjusting 1996 recreation-based results to 1999

The economic impacts reported in the ASA report were divided by the total number of marine fishing trips also provided by the 1996 Survey. These per-trip figures were then adjusted for inflation between 1996 and 1999 based on the CPI (6.12 percent), and then multiplied by the number of recreational fishing trips in 1999 as reported by the National Marine Fisheries Service's Marine Recreational Fishing Statistics Survey (MRFSS). The U.S. Fish and Wildlife Service Survey does not provide data for 1999. The results are the estimated 1999 economic contributions of marine recreational fishing in Louisiana.

Converting results to represent the Acadiana Bay region only

The marine recreational fishing impacts occurring in the Acadiana Bay region were estimated by using the percentage of Louisiana's coast within the Acadiana Bay region (St. Mary, Iberia and the eastern half of Vermilion parishes). Using two sources (Rand McNally scaled maps and data reported by the Center for Landscape Interpretation's web pages (www.lapage.com/page)), it was determined that the Acadiana Bay region represents 15.2 and 16.71 percent of the state coastline. The average of these two is 15.95 percent. The assumption was then made that fishing activity is distributed evenly across the state, and thus 15.95 percent of the state's marine recreational fishing economic impacts are assigned to the Acadiana Bay region. There are problems with this assumption including:

- recreational fishing participation varies along the coast based on the quality of the fishing (determined by environmental conditions), and
- participation varies based on the concentration of people along the coast.

Within the Acadiana Bay region, the quality of fishing may vary based on the environment. Alterations in the environment such as salinity changes and water flows may result in an actual economic impact that could be different than estimated here. However, until time and resources exist to measure any differences, the assumptions made here must stand.

Recreational Boating:

The boating impacts reported herein are based on Louisiana boating estimates produced in 1997 for the Louisiana Department of Wildlife and Fisheries titled "The Economic Benefits of Fisheries, Wildlife and Boating Resources in the State of Louisiana." These boating estimates were based on the economic impacts per boater in other states, then adjusted to reflect the number of registered boats in Louisiana. The results were applied to the Acadiana Bay area by calculating the percentage of Louisiana's total water surface area within the Acadiana Bay parishes. The data for this was obtained from the Center for Landscape Interpretation's web pages (www.lapage.com/page). In all, 14.02% of Louisiana's surface water is within the Acadiana Bay's parishes. Therefore, 14.02% of the State's economic contribution of boating was assigned to the Acadiana Bay region. While

there are problems inherent with such an assumption, this assumption must be accepted until resources are available to produce better data.

Commercial Fisheries:

The commercial fisheries impacts reported herein are also based on the Louisiana Department of Wildlife and Fisheries (LDWF) report titled “The Economic Benefits of Fisheries, Wildlife and Boating Resources in the State of Louisiana.” This reports estimates the economic contributions of commercial finfish, shellfish, marine and freshwater fisheries to the state economy. Estimates were generated based on commercial fishery models produced previously by Kearney/Centaur for the Gulf and South Atlantic Fisheries Development Foundation, Inc (Economic Impact of the Commercial Fishing Industry in the Gulf of Mexico and South Atlantic Regions (1984)). While the models are dated, no newer models are available according to communications with the National Marine Fisheries Service. Newer models should be produced if additional detailed examinations are to be made in the future.

The commercial fisheries impacts in the LDWF report were for 1995 and were based on the value of all Louisiana commercial landings, otherwise known as ex-vessel or dockside prices as reported by the National Marine Fisheries Service (NMFS). To convert the 1995 data to 1999, the change in dockside value between 1995 and 1999 was determined. The value of the harvest decreased 6.93 percent during this period. Therefore, based on the assumption that the value-added applied to commercial fishery products from the harvester through the processor, wholesaler, retail and restaurant stages remained the same over this time period, the 1995 commercial fisheries impacts were adjusted downward by 6.93 percent to represent 1999 contributions. Then, as done with the recreational fishing data, 16.7 percent was then used to represent the Acadiana Bay’s share based on the percent of coastline within the region.

RESULTS

The 1999 economic contributions of the Acadiana Bay's fisheries and boating resources to the state economy are presented:

Marine Recreational Fishing:

Expenditures:	\$ 31,165,000
Total Economic Effect:	\$ 59,930,000
Salaries/Wages:	\$ 15,888,000
Jobs:	850
State sales tax revenues:	\$ 1,650,000
State income tax revenues:	\$ 404,000
Federal income tax revenues:	\$ 1,989,000

Commercial Fisheries:

Ex-vessel landings (dock side value):	\$ 46,877,000
Retail sales:	\$ 311,722,000
(sales generated at processing, wholesale, retail and restaurant levels)	
Total Economic Effect:	\$ 415,629,000
Salaries/Wages:	\$ 66,827,000
Jobs:	4,660
State sales tax revenues:	\$ 12,810,000
State income tax revenues:	\$ 3,073,000
Federal income tax revenues:	\$ 15,133,000

Recreational Boating:

Expenditures:	\$ 12,865,000
Total Economic Effect:	\$ 25,731,000
Salaries/Wages:	\$ 7,256,000
Jobs:	230
State sales tax revenues:	\$ 511,000
State income tax revenues:	\$ 111,000
Federal income tax revenues:	\$ 549,000

CONCLUSION

The fisheries and boating resources of the Acadiana Bay region provide the state economy with important sources of jobs, income, tax revenues and other benefits. These benefits are particularly important in the region's rural areas where other sources of income are limited. Outdoor sportsmen and recreationists spend millions which benefit many other industries. Consumers spends millions more purchasing food and other products harvested from the region's waters. These activities are of great value not only to industry and local businesses, but to every resident and community across Louisiana. In addition to benefiting a variety of industries, outdoor recreation contributes hundreds of millions of dollars annually in state tax revenues.

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