

The Economic Contributions of Recreational Visitation at San Bernard National Wildlife Refuge

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This paper establishes the economic contribution baseline for recreational visitation at San Bernard National Wildlife Refuge (Refuge). The paper addresses the levels of Refuge recreational activities and the economic effects of Refuge recreational activities. The analysis is followed by a glossary of terms. For more information regarding the methodology, please refer to “Banking on Nature – The Economic Contributions to Local Communities of National Wildlife Refuge Visitation” at <https://www.fws.gov/economics/divisionpublications/divisionpublications.asp>.

From an economic perspective, San Bernard National Wildlife Refuge provides a variety of environmental and natural resource goods and services used by people either directly or indirectly. The use of these goods and services may result in economic effects to both local and state economies. The various services the Refuge provides can be grouped into five broad categories: (1) maintenance and conservation of environmental resources, services and ecological processes; (2) protection of natural resources such as fish, wildlife, and plants; (3) protection of cultural and historical sites and objects; (4) provision of educational and research opportunities; and (5) outdoor and wildlife-related recreation. A comprehensive economic profile of the Refuge would address all applicable economic effects associated with the use of refuge-produced goods and services. However, some of the major contributions of the Refuge to the natural environment, such as watershed protection, maintenance and stabilization of ecological processes, and the enhancement of biodiversity are beyond the scope of this paper. Therefore, this paper focuses on economic effects associated with recreational visitation. As a result, benefits represent conservative estimates and do not represent the Refuge’s total social impacts.

Refuge Description

The San Bernard National Wildlife Refuge was established in 1969 to provide wintering habitat for migratory waterfowl on the Texas gulf coast. The Refuge also serves as rest stop for neotropical migratory song birds as they move north to breeding grounds. Comprised of more the 62,000 acres, the San Bernard National Wildlife Refuge stretches from the beaches of Gulf Of Mexico across marshes and prairies approximately 40 miles inland protecting Columbia Bottomland Hardwoods along the Brazos and San Bernard Rivers.

More than 320 species of birds utilize the Refuge for all or part of the year. Another 250 plus species call the refuge home from large and small mammals, herptiles including the endangered Kemps Ridley sea turtle to invertebrates like to Monarch butterfly.

The San Bernard National Wildlife Refuge provides visitors with multiple wildlife related recreations including wildlife observation, photography, environmental education, hunting and fishing. A series of walking trails, an auto tour route, observation platforms, photo blinds and a boat ramp give outdoor enthusiasts greater opportunity to explore and enjoy the unique habitats of the Texas gulf coast.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 103,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 82,000 visits with residents comprising 71 percent of Refuge visitation.

Table 1. San Bernard NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	14,400	1,600	16,000
Auto Tour	23,760	15,840	39,600
Boat Trail/Launch	100	-	100
Bicycle	48	3	50
Photography	14,400	9,600	24,000
Interpretation	1,800	200	2,000
Other Recreation	15	-	15
Visitor Center	30	270	300
Hunting:			
Big Game	12	17	29
Small Game	-	-	-
Migratory Birds	3,040	160	3,200
Fishing:	16,200	1,800	18,000
Total Visitation	73,804	29,490	103,294

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the three-county area of Brazoria, Matagorda, and Fort Bend Counties in Texas. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$1.2 million with non-residents accounting for \$527,000 or 43 percent of total expenditures. Expenditures on non-consumptive activities accounted for 60 percent of all expenditures.

Spending in the local area generates and supports economic activity within the four county area (Table 3). The contribution of recreational spending in local communities was associated with about 13 jobs, \$44,000 in employment income, \$116,000 in total tax revenue, and \$1.6 million in economic output.

Table 2. San Bernard NWR: Visitor Recreation Expenditures (2017 \$,000)

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$279.4	\$450.6	\$730.0
Hunting	\$82.7	\$17.9	\$100.6
Fishing	\$323.8	\$58.2	\$382.0
Total Expenditures	\$685.8	\$526.8	\$1,212.6

Table 3. San Bernard NWR: Local Economic Contributions Associated with Recreation Visits (2017 \$,000)

	Residents	Non-Residents	Total
Economic Output	\$878.4	\$699.9	\$1,578.3
Jobs	8	5	13
Job Income	\$259.1	\$185.2	\$444.3
State and Local Tax Revenue	\$63.2	\$52.5	\$115.7

Glossary

Economic Contribution: The economic activity generated in a region by residents and non-resident recreation spending.

Expenditures: The spending by recreational visitors when visiting refuges. Expenditure categories include food, lodging, transportation, and other. Expenditure information is based on the 2011 National Survey of Fishing, Hunting and Wildlife Associated Recreation (NSFHWR).

Economic Output: The total spending by final consumers on all goods. The amount reported in this study is the change in spending by final consumers in the region attributable to refuge visitation. Economic output includes spending by people who earn income from refuge visitors' activities as well as spending by refuge visitors themselves.

Impact: The new economic activity generated in a region as a refuge attracts non-residents to the area. This figure represents economic activity that would be lost if the refuge were not there.

IMPLAN: An economic modeling software package that applies input-output analysis techniques to regional economies.

Jobs: Full and part time jobs.

Job Income: Income to households from labor including wages and salaries.

Resident/Non-Resident: People living more than 50 miles from the refuges are considered non-residents for this study.

Tax Revenue: Local, county and state taxes: sales tax, property tax, and income tax

Visitors: A visitor is someone who comes to the refuge and participates in one or more of the activities available at the refuge.

Visits (visitation): A visit is not the same as a visitor. One visitor could be responsible for several visits on a refuge. For example, if a family of four went fishing in the morning and hiked a short nature trail in the afternoon, they would have contributed 8 activity visits to the refuge; yet, they are only four visitors.

References

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