

# **The Economic Contributions of Recreational Visitation at Aransas National Wildlife Refuge**

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This paper establishes the economic contribution baseline for recreational visitation at Aransas 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, Aransas 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**

Aransas National Wildlife Refuge, originally comprising 47,261 acres, was established in 1937 as a refuge and breeding ground for migratory birds and other wildlife. Today, the Refuge protects more than 116,000 acres along the Texas Gulf Coast, including blackland coastal prairie, wetlands, coastal woodlands, barrier island, and tidal and estuary habitats. The Refuge supports a vast diversity of wildlife. More than 400 species of birds have been documented on the refuge, ranking ANWR among the top birding refuges in the country; in fact, the Refuge was voted the #1 Birding Spot nationwide in USA Today (2016). Alligators, white-tailed deer, armadillos, javelina, raptors, songbirds and many species of fish are also found on the refuge throughout the year. The latest refuge checklists include 51 species of mammals, 76 species of reptiles and amphibians, and more than 150 species of flowering plants. In addition, the coastal regions provide a home for marine life such as dolphins, sea turtles and fish.

Aransas NWR is probably best known as the winter home of the last remaining wild flock of whooping cranes in the world. The latest aerial survey (2016-2017) estimated 431 Whooping Cranes in the wild population, up from a world total of 15 birds in 1941. The cranes generally begin to arrive on the Texas coast in mid-October and most are gone by mid-April. They migrate approximately 2,500 miles north to nest in Wood Buffalo National Park, located in northern Alberta and the Northwest Territories.

The Refuge also provides a variety of outdoor opportunities for families and nature lovers. Visitors can observe and photograph wildlife on a 16-mile auto tour, hike on one of six trails, fish from a pier or their kayak, view wildlife from several observation decks, or walk to the top of a fully-accessible 40-foot observation tower. Hunting opportunities are also available. Each year, the Refuge provides educational

and interpretive opportunities for visitors from all over the world, including an annual "Refuge Day" festival highlighting refuge recreational opportunities.

### Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 84,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 79,000 visits with non-residents comprising 72 percent of Refuge visitation. Interpretation activities include shuttle bus tours and programs led by volunteers and staff.

**Table 1. Aransas NWR: 2017 Recreation Visits**

Activity	Residents	Non-Residents	Total
<b>Non-Consumptive:</b>			
Pedestrian	1,414	5,657	7,071
Auto Tour	9,358	28,075	37,433
Boat Trail/Launch	-	-	-
Bicycle	459	51	510
Photography	2,004	6,012	8,016
Interpretation	532	532	1,063
Other Recreation	-	-	-
Visitor Center	7,598	17,728	25,325
<b>Hunting:</b>			
Big Game	213	1,205	1,418
Small Game	-	-	-
Migratory Birds	15	10	25
<b>Fishing:</b>	2,140	1,427	3,567
<b>Total Visitation</b>	<b>23,732</b>	<b>60,696</b>	<b>84,428</b>

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

### Regional Economic Analysis

The economic area for the Refuge is the three-county area of Aransas, Calhoun, and Refugio 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 about \$2.5 million with non-residents accounting for \$2.2 million or 88 percent of total expenditures. Expenditures on non-consumptive activities accounted for 86 percent of all expenditures.

Spending in the local area generates and supports economic activity within the three county area (Table 3). The contribution of recreational spending in local communities was associated with about 25 jobs, \$783,000 in employment income, \$244,000 in total tax revenue, and \$3.0 million in economic output.

**Table 2. Aransas NWR: Visitor Recreation Expenditures (2017 \$,000)**

<b>Activity</b>	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Non-Consumptive	\$227.9	\$1,911.2	\$2,139.2
Hunting	\$9.9	\$228.5	\$238.4
Fishing	\$57.0	\$61.6	\$118.6
<b>Total Expenditures</b>	<b>\$294.9</b>	<b>\$2,201.3</b>	<b>\$2,496.2</b>

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

	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Economic Output	\$338.6	\$2,655.8	\$2,994.4
Jobs	3	22	25
Job Income	\$94.0	\$688.7	\$782.7
State and Local Tax Revenue	\$27.2	\$217.2	\$244.5

## 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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