

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

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

Pelican Island National Wildlife Refuge, located on Florida’s east central coast near the cities of Sebastian and Vero Beach, enjoys the distinction of being the official birthplace of the National Wildlife Refuge System. Established in 1903, the Refuge welcomes over 80,000 visitors annually who come to experience the refuges upland trails and estuarine waters, and learn about the Refuge’s special status as a National Historic Landmark. Pelican Island National Wildlife Refuge has grown from its beginnings as a 5.5-acre island in 1903 to now include over 5,445 acres of marine and terrestrial ecosystems supporting hundreds of species of birds, fish, plants and mammals. Over 85 percent of refuge acres are aquatic/tidal marsh habitats including a central region of the Indian River Lagoon, one of the most biologically diverse estuaries in North America. The Lagoon is renowned for its recreational and ecotourism opportunities as well as its critical role in supporting important bird rookeries, fish spawning sites, and a globally important juvenile sea turtle nursery. Additional refuge habitats include coastal forest, scrub, impounded wetlands, and old field habitats.

The Refuge supports an estimated 300 species of plants 140 species of birds, 18 species of mammals, 27 species of reptiles and amphibians, and 220 fish species. Pelican Island proper remains an active rookery and seasonal destination for pelicans and multiple other species of water fowl, wading birds and shorebirds, with at least 16 species of birds nesting on the island.

The Refuge is a popular destination for wildlife enthusiasts, history buffs, birders, and photographers. The refuges 660 acres of upland habitat provide nearly 7 miles of hiking and wildlife observation trails. This includes two 3-mile berm trails lined with mangroves as well as the renowned Centennial Trail, a ¼-mile

paved trail and board walk leading to an observation platform for viewing the Pelican Island rookery. The Refuge provides specialized wildlife tours of the Refuge through the winter season.

### Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 156,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 141,000 visits with residents comprising 42 percent of Refuge visitation.

**Table 1. Pelican Island NWR: 2017 Recreation Visits**

Activity	Residents	Non-Residents	Total
<b>Non-Consumptive:</b>			
Pedestrian	12,950	22,050	35,000
Auto Tour	-	-	-
Boat Trail/Launch	-	-	-
Bicycle	-	-	-
Photography	45,000	55,000	100,000
Interpretation	1,850	3,150	5,000
Other Recreation	-	-	-
Visitor Center	120	380	500
<b>Hunting:</b>			
Big Game	-	-	-
Small Game	-	-	-
Migratory Birds	-	-	-
<b>Fishing:</b>	6,000	9,000	15,000
<b>Total Visitation</b>	<b>65,920</b>	<b>89,580</b>	<b>155,500</b>

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

### Regional Economic Analysis

The economic area for the Refuge is Indian River County, Florida. It is assumed that visitor expenditures occur primarily within this county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$3.9 million with non-residents accounting for \$3.4 million or 87 percent of total expenditures. Expenditures on non-consumptive activities accounted for 90 percent of all expenditures.

Spending in the local area generates and supports economic activity within Indian River County (Table 3). The contribution of recreational spending in local communities was associated with about 49 jobs, \$1.7 million in employment income, \$388,000 in total tax revenue, and \$5.2 million in economic output.

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

<b>Activity</b>	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Non-Consumptive	\$366.1	\$3,146.5	\$3,512.7
Hunting	\$0.0	\$0.0	\$0.0
Fishing	\$136.6	\$269.1	\$405.8
<b>Total Expenditures</b>	<b>\$502.8</b>	<b>\$3,415.6</b>	<b>\$3,918.4</b>

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

	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Economic Output	\$671.3	\$4,485.6	\$5,156.9
Jobs	7	42	49
Job Income	\$225.0	\$1,430.7	\$1,655.7
State and Local Tax Revenue	\$46.8	\$341.5	\$388.3

## 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 eight activity visits to the refuge; yet, they are only four visitors.

## References

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