

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

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

Chickasaw National Wildlife Refuge encompasses 26,519 acres and lies in the Lower Mississippi River floodplain along the Chickasaw Bluff in western Tennessee. Many of the major ecological communities found in the Lower Mississippi Alluvial Valley Ecosystem can be found on the Refuge. When visiting the Refuge a person can explore extensive bottomland hardwood forest (the largest block of bottomland hardwood forest in Tennessee is on Chickasaw NWR); riverine habitat of streams, oxbow lakes, and sloughs; open grasslands managed for migratory birds; sandy grassland savannahs along the Mississippi River; and a remarkable upland bluff ecotone.

The Refuge is famous for the more than 270 migratory bird species that use the refuge for migration, wintering, or breeding. The Refuge provides migration and wintering habitat for waterfowl, shorebirds, songbirds, and raptors. The Refuge and adjacent lands are known to be important wintering and stop-over areas for a large portion of the Mississippi Flyway mallard population. Under optimum conditions, peak waterfowl numbers may exceed 320,000 including mallards, black ducks, gadwall, pintail, teal, wigeon, wood duck, ring-necked duck, and hooded merganser. Situated between Dyersburg, Tennessee and Memphis, Tennessee and within 60 miles of more than 1 million people, visitors come to enjoy and learn about these sensitive natural resources.

## Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 80,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 33,000 visits with residents comprising 85 percent of Refuge visitation.

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

Activity	Residents	Non-Residents	Total
<b>Non-Consumptive:</b>			
Pedestrian	6,750	2,250	9,000
Auto Tour	2,600	650	3,250
Boat Trail/Launch	468	83	550
Bicycle	-	-	-
Photography	98	53	150
Interpretation	570	30	600
Other Recreation	-	-	-
Visitor Center	17,000	3,000	20,000
<b>Hunting:</b>			
Big Game	7,600	1,900	9,500
Small Game	18,000	2,000	20,000
Migratory Birds	9,452	1,668	11,120
<b>Fishing:</b>	5,400	600	6,000
<b>Total Visitation</b>	<b>67,937</b>	<b>12,233</b>	<b>80,170</b>

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

## Regional Economic Analysis

The economic area for the Refuge is the two-county area of Dyer and Lauderdale Counties in Tennessee. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$1.7 million with non-residents accounting for \$627,000 or 37 percent of total expenditures. Expenditures on hunting activities accounted for 70 percent of all expenditures.

Spending in the local area generates and supports economic activity within the two county area (Table 3). The contribution of recreational spending in local communities was associated with about 22 jobs, \$712,000 in employment income, \$133,000 in total tax revenue, and \$2.0 million in economic output.

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

<b>Activity</b>	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Non-Consumptive	\$138.8	\$226.4	\$365.2
Hunting	\$786.4	\$382.4	\$1,168.8
Fishing	\$123.0	\$17.9	\$140.9
<b>Total Expenditures</b>	<b>\$1,048.2</b>	<b>\$626.8</b>	<b>\$1,674.9</b>

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

	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Economic Output	\$1,260.8	\$721.3	\$1,982.2
Jobs	15	8	22
Job Income	\$452.7	\$259.0	\$711.7
State and Local Tax Revenue	\$84.5	\$48.6	\$133.2

## 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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