

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

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

Little River National Wildlife Refuge was established on February 10, 1987 to preserve wetlands and the bottomland hardwood forest ecosystem for waterfowl and other migratory birds. The 15,000 acre refuge is located in the floodplain of the Little River, and serves to protect one of the last remaining remnants of the once extensive bottomland hardwood forest ecosystem of the Little River floodplain.

The Refuge supports a diversity of wildlife including both migratory and resident species. Over 191 bird species spend all or part of the year on the refuge. Numerous waterfowl species utilize the wetland habitats during the fall, winter, and spring. Mallards and wood ducks are found in large numbers with many other species of ducks found in smaller numbers. Neotropical migrant songbirds are the most colorful and abundant species present on the refuge from spring to fall. Numerous species of warblers, tanagers, flycatchers, and vireos utilize the bottomland forest habitat as a place to nest and forage. In addition to birds, the refuge host 109 species of fish, 79 species of amphibians and reptiles, and 48 species of mammals.

The wetlands come alive in the spring and resonate with the calls of green tree frogs, spring peepers, upland chorus frogs, and bird-voiced tree frogs. Reptiles, such as the timber rattlesnake, cottonmouth, green anole, and snapping turtle are common on the Refuge. The wetland swamps located throughout the Refuge are also home to the American alligator.

The Refuge protects the largest remaining tract of bottomland hardwood forest in the Little River floodplain, and significantly contributes to the diversity of plant and animal species in southeastern Oklahoma.

### Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 14,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 5,000 visits with residents comprising 74 percent of Refuge visitation.

**Table 1. Little River NWR: 2017 Recreation Visits**

Activity	Residents	Non-Residents	Total
<b>Non-Consumptive:</b>			
Pedestrian	780	520	1,300
Auto Tour	765	510	1,275
Boat Trail/Launch	568	142	710
Bicycle	-	-	-
Photography	90	90	180
Interpretation	18	8	26
Other Recreation	-	-	-
Visitor Center	984	246	1,230
<b>Hunting:</b>			
Big Game	540	360	900
Small Game	1,050	450	1,500
Migratory Birds	320	80	400
<b>Fishing:</b>	5,360	1,340	6,700
<b>Total Visitation</b>	<b>10,475</b>	<b>3,746</b>	<b>14,221</b>

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

### Regional Economic Analysis

The economic area for the Refuge is McCurtain County, Oklahoma. 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 \$520,000 with non-residents accounting for \$228,000 or 44 percent of total expenditures. Expenditures on non-consumptive activities accounted for 16 percent of all expenditures.

Spending in the local area generates and supports economic activity within McCurtain County (Table 3). The contribution of recreational spending in local communities was associated with about 6 jobs, \$206,000 in employment income, \$46,000 in total tax revenue, and \$561,000 in economic output.

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

<b>Activity</b>	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Non-Consumptive	\$34.8	\$50.0	\$84.8
Hunting	\$43.4	\$91.1	\$134.5
Fishing	\$214.3	\$86.7	\$301.0
<b>Total Expenditures</b>	<b>\$292.5</b>	<b>\$227.8</b>	<b>\$520.3</b>

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

	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Economic Output	\$333.6	\$227.0	\$560.6
Jobs	4	2	6
Job Income	\$123.3	\$83.0	\$206.4
State and Local Tax Revenue	\$26.8	\$19.0	\$45.8

## 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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