

The Economic Contributions of Recreational Visitation at Tishomingo National Wildlife Refuge

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

Tishomingo National Wildlife Refuge visitor services were primarily provided by one full time education specialist, augmented by one biologist, supported by management and two maintenance staff.

Personnel services in 2017 focused on the delivery of curriculum based outreach programs to area grade schools in a six month sequence. A wildlife club was sponsored at a nearby high school. The Refuge provided information/activity booths at community events and conservation talks at area universities. Plans for outdoor education areas and school yard pollinator gardens were developed at three schools, with two pollinator gardens planted. A nature festival for school groups in April is the biggest interpretive event at the Refuge, attended by 650 students and 200 additional adults. Public programs, citizen science activities and hands-on biology and wildlife related experiences included workshops focused on identification and removal of invasive species, monarch tagging and planting of native species to restore pollinator habitat.

Refuge staff invested time and resources in partnerships and collaborative opportunities. The Refuge supported and participated in state wide conservation programs and focused educational efforts in local cities and townships. These efforts have subsequently resulted in partner commitments to pollinator habitat restoration on city properties and park lands and greater emphasis on science content in classrooms.

Outdoor recreation opportunities included three controlled hunt programs; a youth hunt, a non-ambulatory hunt, and one general hunt. The Refuge is open year round for fishing, and 1/3 of the area is co-managed by the State of Oklahoma and open to hunting in accordance with state hunting seasons. Seven fee-free

primitive campgrounds, one group camp area, a covered picnic pavilion and many boat ramps were available for public use. Other recreational uses included permits issued for community bicycle and running events.

Non-personnel services included a self-guided walking trail and roadside stops with interpretive waysides. Visitor use structures were restored and upgraded by Refuge staff and federal partners. Work continued on a public demonstration garden located within a pollinator restoration area.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 61,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 51,000 visits with residents comprising 82 percent of Refuge visitation.

Table 1. Tishomingo NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	3,440	860	4,300
Auto Tour	27,600	6,900	34,500
Boat Trail/Launch	553	98	650
Bicycle	1,170	130	1,300
Photography	5,525	975	6,500
Interpretation	2,141	714	2,855
Other Recreation	360	40	400
Visitor Center	208	52	260
Hunting:			
Big Game	1,320	330	1,650
Small Game	176	44	220
Migratory Birds	115	20	135
Fishing:	7,380	820	8,200
Total Visitation	49,988	10,983	60,970

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the two-county area of Johnston and Marshall Counties in 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 \$1.1 million with non-residents accounting for \$378,000 or 35 percent of total expenditures. Expenditures on non-consumptive activities accounted for 61 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 14 jobs, \$384,000 in employment income, \$116,000 in total tax revenue, and \$1.2 million in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$390.8	\$268.2	\$658.9
Hunting	\$63.1	\$65.8	\$128.9
Fishing	\$245.9	\$44.2	\$290.1
Total Expenditures	\$699.7	\$378.2	\$1,077.9

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

	Residents	Non-Residents	Total
Economic Output	\$798.5	\$431.6	\$1,230.2
Jobs	10	4	14
Job Income	\$260.1	\$123.6	\$383.7
State and Local Tax Revenue	\$78.3	\$37.3	\$115.5

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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