

The Economic Contributions of Recreational Visitation at Tallahatchie National Wildlife Refuge

May 2019
Division of Economics
U.S. Fish & Wildlife Service

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

Tallahatchie National Wildlife Refuge was established in 1991 under the Migratory Bird Conservation Act and the Consolidated Farm and Rural Development Act. Under these Acts, the refuge purpose is “for use as inviolate sanctuary, or for any other management purpose, for migratory birds” and for conservation purposes.

Tallahatchie NWR is located within the Mississippi Alluvial Valley in the Yazoo River drainage basin, a portion of the historic floodplain of the Mississippi River. The closest major water body is the Tallahatchie River, less than 1 mile west of the refuge. Historically, the area would have been subject to seasonal flooding, as the Tallahatchie River over-topped its banks and spread into the surrounding floodplain. Tippecanoe Bayou, a tributary of the Tallahatchie River that passes through the refuge, would have also flooded seasonally. This seasonal flooding replenished nutrients in the bottomland area and allowed the formation of a bottomland hardwood forest, probably dominated by oaks, sweet gum, and sugarberry. The numerous sloughs and oxbows associated with Tippecanoe Bayou were likely flooded most of the year and would have been dominated by cypress and tupelo. In dry years, these areas would have supported annual grasses and sedges, which would provide additional seeds for waterfowl in the winter.

The moist soil units, old oxbows and low-lying fields along Tippecanoe Bayou flood almost every winter and hold large concentrations of waterfowl. Wood ducks, eastern screech owls, barred owls, great-horned owls, loggerhead shrikes, and red-tailed hawks are common year-round residents. Blue grosbeaks, dickcissels, and indigo and painted buntings can be seen during summer. Bobwhite quail can be heard

within the fallow fields north of Highway 8 and in unit 36. The Refuge also supports a healthy deer population.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 4,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 2,000 visits with residents comprising 40 percent of Refuge visitation. The Refuge has a strong hunting and fishing base that allows hunters opportunity to harvest big and small game.

Table 1. Tallahatchie NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	216	24	240
Auto Tour	-	-	-
Boat Trail/Launch	225	25	250
Bicycle	-	-	-
Photography	27	108	135
Interpretation	7	60	67
Other Recreation	-	-	-
Visitor Center	390	1,560	1,950
Hunting:			
Big Game	399	326	725
Small Game	62	114	176
Migratory Birds	130	242	372
Fishing:	221	25	245
Total Visitation	1,676	2,484	4,160

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the two-county area of Grenada and Tallahatchie Counties in Mississippi. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$103,000 with non-residents accounting for \$81,000 or 78 percent of total expenditures. Expenditures on hunting activities accounted 51 91 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 1 job, \$46,000 in employment income, \$11,000 in total tax revenue, and \$128,000 in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$4.8	\$39.5	\$44.4
Hunting	\$12.3	\$40.4	\$52.7
Fishing	\$5.0	\$0.7	\$5.8
Total Expenditures	\$22.2	\$80.6	\$102.8

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

	Residents	Non-Residents	Total
Economic Output	\$27.8	\$99.7	\$127.5
Jobs	0	1	1
Job Income	\$10.5	\$35.1	\$45.5
State and Local Tax Revenue	\$2.6	\$8.8	\$11.4

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

Minnesota IMPLAN Group, Inc. *IMPLAN System (2015 data and software)*.

U. S. Department of the Interior, U.S. Fish and Wildlife Service, Division of Federal Aid. 2013. *2011 National Survey of Fishing, Hunting, and Wildlife Associated Recreation*. Washington, D.C.

U.S. Department of the Interior, U.S. Fish and Wildlife Service, National Wildlife Refuge System. *Refuge Annual Performance Plan 2017*. Washington, D.C. Unpublished.

Varian, Hal R. 2010. *Intermediate Microeconomics: A Modern Approach*. 8th ed. New York: W.W. Norton & Company.