

The Economic Contributions of Recreational Visitation at Red River National Wildlife Refuge

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

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

Red River National Wildlife Refuge consists of four different units that comprise a total of just over 15,000 acres along the Red River Valley between Shreveport/Bossier City and Chopin, Louisiana. Historically, the Red River Valley was forested with bottomland hardwoods, cypress sloughs, and shrub swamps. Today, most of the valley has been cleared for agriculture. One of the goals of the Refuge is to restore this once-dominant habitat type. Currently the Refuge consists of reforested and mature bottomland hardwood forests, batture, swamps, moist soils and agricultural fields.

The Refuge provides habitat for migratory birds and other wildlife while also providing wildlife-dependent recreational opportunities to the public, including hunting and fishing. The refuge visitor center in Bossier City provides visitors a place to learn about and explore nature and wildlife in their natural habitat in Northwest Louisiana. The Refuge offers a wide variety of environmental education and interpretation opportunities for the public along with nearly six miles of walking trails.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 89,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 83,000 visits with residents comprising 70 percent of refuge visitation. The Refuge offers fishing and hunting opportunities that include waterfowl, small game, and deer archery seasons. Non-consumptive users to the Headquarters Unit enjoy a visitor center and nearly 6 miles of refuge walking trails with opportunities for wildlife viewing and photography.

Table 1. Red River NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	24,378	13,127	37,505
Auto Tour	-	-	-
Boat Trail/Launch	711	37	748
Bicycle	3,276	364	3,640
Photography	400	100	500
Interpretation	5,180	576	5,756
Other Recreation	-	-	-
Visitor Center	22,750	12,250	35,000
Hunting:			
Big Game	990	110	1,100
Small Game	138	7	145
Migratory Birds	822	43	865
Fishing:	3,325	175	3,500
Total Visitation	61,970	26,789	88,759

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the five-county area of Caddo, Bossier, DeSoto, Red River, and Natchitoches Counties in Louisiana. 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 \$791,000 or 70 percent of total expenditures. Expenditures on non-consumptive activities accounted for 92 percent of all expenditures.

Spending in the local area generates and supports economic activity within the five county area (Table 3). The contribution of recreational spending in local communities was associated with about 14 jobs, \$513,000 in employment income, \$134,000 in total tax revenue, and \$1.8 million in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$251.3	\$777.3	\$1,028.6
Hunting	\$44.0	\$10.8	\$54.8
Fishing	\$37.9	\$2.6	\$40.5
Total Expenditures	\$333.2	\$790.7	\$1,123.9

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

	Residents	Non-Residents	Total
Economic Output	\$533.4	\$1,244.5	\$1,778.0
Jobs	4	10	14
Job Income	\$157.4	\$355.7	\$513.2
State and Local Tax Revenue	\$38.7	\$95.2	\$133.9

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.