

The Economic Contributions of Recreational Visitation at Hagerman National Wildlife Refuge

May 2019
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U.S. Fish & Wildlife Service

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

Hagerman National Wildlife Refuge is one of the best-kept secrets in north Texas. At almost 12,000 acres, the Refuge provides wetland and upland habitat for more than 340 species of birds and a large variety of native wildlife. A Wildlife Drive, five hiking trails, hunting and fishing opportunities, free nature programs, and tram tours make this a nature-lovers paradise.

The Refuge Visitor Center offers exhibits and information on Refuge natural resources as well as maps, hiking trail guides, and bird and wildlife identification leaflets. A ¼ acre Butterfly Garden located near the Visitor Center showcases native plants and pollinators.

During spring and fall bird migration, thousands of American White Pelicans and dozens of different shorebird species stop at the Refuge to refuel along their journeys. Beginning in November, 10,000+ Snow and Ross’ geese browse on winter wheat planted in Refuge fields. Colorful Painted Buntings and Summer Tanagers fill the air with their songs from spring to fall, and over 20 species of sparrows can be seen at various times of the year. Ducks including Mallards, Northern Shovelers, Blue and Green-winged Teal, and Northern Pintails are common in Refuge marshes during fall and winter months.

Refuge lands are open from dawn to dusk 365 days a year and admission is free. The Visitor Center is open Monday through Friday 7:30 a.m.- 4 p.m. On weekends, volunteers staff the Center on Saturday 9-4 and Sunday 1-5.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 256,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 243,000 visits with residents comprising 59 percent of Refuge visitation.

Table 1. Hagerman NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	5,730	3,085	8,815
Auto Tour	59,445	59,445	118,890
Boat Trail/Launch	276	69	345
Bicycle	300	200	500
Photography	41,784	6,521	48,305
Interpretation	24,150	24,150	48,300
Other Recreation	188	63	250
Visitor Center	8,661	8,661	17,322
Hunting:			
Big Game	119	241	360
Small Game	4	0	4
Migratory Birds	29	2	31
Fishing:	11,700	1,300	13,000
Total Visitation	152,386	103,737	256,122

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is Grayson County, Texas. It is assumed that visitor expenditures occur primarily within this county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$3.7 million with non-residents accounting for \$2.2 million or 59 percent of total expenditures. Expenditures on non-consumptive activities accounted for 89 percent of all expenditures.

Spending in the local area generates and supports economic activity within Grayson County (Table 3). The contribution of recreational spending in local communities was associated with about 46 jobs, \$1.4 million in employment income, \$526,000 in total tax revenue, and \$4.9 million in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$1,248.0	\$2,121.9	\$3,370.0
Hunting	\$5.8	\$45.6	\$51.4
Fishing	\$311.8	\$56.1	\$367.9
Total Expenditures	\$1,565.6	\$2,223.6	\$3,789.2

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

	Residents	Non-Residents	Total
Economic Output	\$2,000.8	\$2,875.1	\$4,876.0
Jobs	21	26	46
Job Income	\$629.2	\$804.7	\$1,433.9
State and Local Tax Revenue	\$172.4	\$327.7	\$500.1

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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