

The Economic Contributions of Recreational Visitation at Balcones Canyonlands National Wildlife Refuge

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Division of Economics
U.S. Fish & Wildlife Service

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

Balcones Canyonlands National Wildlife Refuge is the only refuge in the Texas Hill Country. It was established in 1992 to protect nesting habitat for two endangered neotropical migrant bird species, the golden-cheeked warbler, and the now delisted black-capped vireo. The Refuge is located 20 miles from Austin, one of the fastest growing metro areas in the country.

The Refuge has four public use areas with eight miles of trails. Visitors enjoy sweeping vistas after hiking through the oak-juniper forests. Below the hills are karst ecosystems where water is recharged and cave species thrive. School children visit the Refuge for hands-on learning experiences that bring them closer to the wildlife in their backyard. Balcones Canyonlands National Wildlife Refuge attracts visitors every year who enjoy recreating on this jewel of central Texas.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 80,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 79,000 visits with residents comprising 63 percent of Refuge visitation.

Table 1. Balcones Canyonlands NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	47,313	27,787	75,100
Auto Tour	-	-	-
Boat Trail/Launch	-	-	-
Bicycle	-	-	-
Photography	48	28	76
Interpretation	230	-	230
Other Recreation	-	-	-
Visitor Center	2,246	1,319	3,565
Hunting:			
Big Game	549	11	560
Small Game	-	-	-
Migratory Birds	158	3	161
Fishing:	-	-	-
Total Visitation	50,543	29,149	79,692

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the three-county area of Travis, Williamson, and Burnet Counties in Texas. 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 \$1.4 million with non-residents accounting for \$851,000 or 62 percent of total expenditures. Expenditures on non-consumptive activities accounted for 98 percent of all expenditures.

Spending in the local area generates and supports economic activity within the three county area (Table 3). The contribution of recreational spending in local communities was associated with about 17 jobs, \$786,000 in employment income, \$161,000 in total tax revenue, and \$2.4 million in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$498.6	\$848.5	\$1,347.1
Hunting	\$24.3	\$2.0	\$26.4
Fishing	-	-	-
Total Expenditures	\$522.9	\$850.5	\$1,373.4

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

	Residents	Non-Residents	Total
Economic Output	\$898.9	\$1,448.2	\$2,347.1
Jobs	7	10	17
Job Income	\$316.7	\$468.9	\$785.6
State and Local Tax Revenue	\$62.5	\$98.7	\$161.2

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

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.