

The Economic Contributions of Recreational Visitation at Rocky Mountain Arsenal National Wildlife Refuge

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This paper establishes the economic contribution baseline for recreational visitation at Rocky Mountain Arsenal 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, Rocky Mountain Arsenal 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

Prior to becoming a Refuge, Plains Indians followed large herds of bison and lived off the land. Later, as settlers moved west to start a new life, they began growing crops and grazing cattle. Following the attack on Pearl Harbor, the U.S. Army transformed the area into a chemical weapons manufacturing facility called the Rocky Mountain Arsenal to support World War II. As production declined at war’s end, a portion of the idle facilities were leased to Shell Chemical Co. for the production of agricultural chemicals. The Arsenal was later used for Cold-War weapons production and demilitarization.

In the early 1980s, the Army and Shell began an extensive environmental cleanup under the oversight of federal, state, and local regulatory agencies. Soon after, a roost of bald eagles was discovered prompting the U.S. Fish and Wildlife Service to become involved in managing wildlife at the site. The discovery also led Congress to designate the site as a national wildlife refuge in 1992. In the mid-1990s, a unique public-private partnership formed among the U.S. Army, Shell Oil Co., and the U.S. Fish and Wildlife Service. As cleanup progressed and projects met federal and state regulatory requirements, the Army transferred land to the U.S. Fish and Wildlife Service to establish and expand the Refuge. The Arsenal’s cleanup program was completed in 2010, and the Refuge has reached its final size of 15,000 acres making it one of the largest urban refuges in the country.

The Refuge provides environmental education and interpretive programs, catch-and-release recreational fee fishing, 10 miles of hiking trails, wildlife viewing opportunities, site tours for the public, a self-guided Wildlife Drive auto tour, and is a sanctuary for more than 330 species of animals, including bison, black-footed ferrets, deer, coyotes, bald eagles and burrowing owls.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 869,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 862,000 visits with residents comprising 61 percent of Refuge visitation.

Table 1. Rocky Mountain Arsenal NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	120,000	80,000	200,000
Auto Tour	186,000	124,000	310,000
Boat Trail/Launch	-	-	-
Bicycle	90	10	100
Photography	144,000	96,000	240,000
Interpretation	45,600	11,400	57,000
Other Recreation	-	-	-
Visitor Center	33,000	22,000	55,000
Hunting:			
Big Game	-	-	-
Small Game	-	-	-
Migratory Birds	-	-	-
Fishing:	4,760	2,040	6,800
Total Visitation	533,450	335,450	868,900

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is Adams County, Colorado. It is assumed that visitor expenditures occur primarily within this county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$19.5 million with non-residents accounting for \$14.2 million or 73 percent of total expenditures. Expenditures on non-consumptive activities accounted for 99 percent of all expenditures.

Spending in the local area generates and supports economic activity within Adams County (Table 3). The contribution of recreational spending in local communities was associated with about 201 jobs, \$6.7 million in employment income, \$1.8 million in total tax revenue, and \$24.2 million in economic output.

Table 2. Rocky Mountain Arsenal NWR: Visitor Recreation Expenditures (2017 \$,000)

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$5,217.6	\$14,082.8	\$19,300.4
Hunting	\$0.0	\$0.0	\$0.0
Fishing	\$64.0	\$92.6	\$156.7
Total Expenditures	\$5,281.6	\$14,175.5	\$19,457.1

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

	Residents	Non-Residents	Total
Economic Output	\$6,648.0	\$17,599.5	\$24,247.4
Jobs	59	142	201
Job Income	\$1,968.6	\$4,712.3	\$6,681.0
State and Local Tax Revenue	\$461.2	\$1,373.3	\$1,834.5

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 eight activity visits to the refuge; yet, they are only four visitors.

References

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