

The Economic Contributions of Recreational Visitation at Upper Souris 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 Upper Souris 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, Upper Souris 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

Upper Souris National Wildlife Refuge is one of over 540 refuges in the National Wildlife Refuge System - a network of lands set aside and managed by the US Fish and Wildlife Service specifically for wildlife. The Refuge System is a living heritage, conserving wildlife and habitat for people today and generations to come. Upper Souris NWR lies in the beautiful Souris River Valley of northwestern North Dakota and extends for nearly 35 miles along the Souris River corridor. This 32,092-acre Refuge, managed by the U.S. Fish and Wildlife Service, is an important unit in a series of national wildlife refuges in the great waterfowl migration corridor known as the Central Flyway.

The purpose for establishing the Refuge in 1935 was "...as a refuge and breeding ground for migratory birds and other wildlife..." The Refuge habitat is managed for diversity to provide the life requirements of all wildlife. Grasslands are periodically grazed, hayed, burned and rested to provide good nesting and escape cover for wildlife and to rejuvenate the vegetation.

Lake Darling, a 9,600-acre lake named in honor of Ding Darling, is the largest of several water impoundments on the Refuge. Its primary purpose is to furnish a regulated supply of water to smaller marshes downstream and especially to the larger marshes on the J. Clark Salyer Refuge, 110 miles downstream. The lake is designed to hold a two-year supply of water to safeguard marshes downstream against the threat of drought. The dam also makes it possible to reduce the flooding and to regulate releases during periods of low flow. Both operations benefit people in the valley below the dam.

The proper management of water permits an active fisheries program on the Refuge. This is a cooperative effort between the Refuge and the Missouri River Fish and Wildlife Management Assistance

Office. Northern pike, walleye, yellow perch and smallmouth bass may be caught in the lake and Souris River.

One successful Refuge management program has been the reestablishment of a resident Canada goose flock. These magnificent birds were once common, but they gradually disappeared with loss of habitat due to change in land use. The first "honkers" were reintroduced in 1940 and the flock has grown to about 250 birds.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 116,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Fishing accounted for about 100,000 visits with residents comprising 79 percent of Refuge visitation.

Table 1. Upper Souris NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	448	112	560
Auto Tour	4,340	1,860	6,200
Boat Trail/Launch	160	40	200
Bicycle	40	10	50
Photography	2,800	1,200	4,000
Interpretation	240	60	300
Other Recreation	120	30	150
Visitor Center	1,050	450	1,500
Hunting:			
Big Game	2,000	500	2,500
Small Game	80	20	100
Migratory Birds	-	-	-
Fishing:	80,000	20,000	100,000
Total Visitation	91,278	24,282	115,560

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the two-county area of Renville and Ward Counties in North Dakota. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$3.1 million with non-residents accounting for \$1.5 million or 48 percent of total expenditures. Expenditures on fishing activities accounted for 86 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 35 jobs, \$1.4 million in employment income, \$8,600 in total tax revenue, and \$4.3 million in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$124.4	\$219.0	\$343.5
Hunting	\$43.1	\$58.6	\$101.7
Fishing	\$1,435.2	\$1,210.9	\$2,646.2
Total Expenditures	\$1,602.7	\$1,488.6	\$3,091.3

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

	Residents	Non-Residents	Total
Economic Output	\$2,277.0	\$2,007.5	\$4,284.4
Jobs	20	15	35
Job Income	\$752.9	\$617.4	\$1,370.3
State and Local Tax Revenue	-\$31.7	\$40.3	\$8.6

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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