

The Economic Contributions of Recreational Visitation at Upper Mississippi River National Wildlife and Fish Refuge: Winona District

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This paper establishes the economic contribution baseline for recreational visitation at Upper Mississippi River National Wildlife and Fish Refuge: Winona District (District). The paper addresses the levels of District recreational activities and the economic effects of District 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 Mississippi River National Wildlife and Fish Refuge: Winona District 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 District 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 District would address all applicable economic effects associated with the use of district-produced goods and services. However, some of the major contributions of the District 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 District’s total social impacts.

District Description

The Upper Mississippi River National Wildlife and Fish Refuge was established by an Act of Congress on June 7, 1924 as a refuge and breeding place for migratory birds, fish, other wildlife, and plants. The Refuge encompasses approximately 240,000 acres of Mississippi River floodplain in a more-or-less continuous stretch of 261 river-miles from near Wabasha, Minnesota to near Rock Island, Illinois.

The Refuge is divided into four districts for management, administrative, and public service effectiveness and efficiency. It is also divided geographically by the navigation pools created by the locks and dams on the Upper Mississippi River. The Winona District office is located in Winona, Minnesota and manages Pools 4, 5, 5A and 6 which equates to 50 river miles and 45,000 acres in the states of Minnesota and Wisconsin.

The Winona District manages and maintains 16 boat landings and public access points, six water trails of which four are designated National Recreation Trails, and over 100 public beaches. The District sustains an active land acquisition program and coordinates with the U.S. Army Corps of Engineers on the most actively dredged section of Mississippi River.

The Refuge as a whole is home to 306 species of birds, 119 species of fish, 57 species of mammals, and 44 species of freshwater mussels. There are over 300 active bald eagle nests and approximately 5,000 heron and egret nests in 15 colonies. During fall migration the District hosts up to 40 percent of the continent’s waterfowl, up to 50 percent of the world’s canvasback ducks, and up to 20 percent of the

world’s tundra swans. It is designated as a Globally Important Bird Area and a Wetland of International Importance by the Ramsar Convention on Wetlands.

Activity Levels

Table 1 shows the recreation visits for the District. The District had about 1.1 million recreation visits in 2017 which contributed to the economic effects of the District. Non-consumptive recreation accounted for about 667,000 visits with residents comprising 76 percent of District visitation. Other recreation includes activities such as camping, pleasure boating, skiing (snow and water), swimming, beach use, picnicking, snowshoeing, and berry picking,

Table 1. Upper Mississippi River NWFR Winona District: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	2,550	450	3,000
Auto Tour	-	-	-
Boat Trail/Launch	2,940	1,260	4,200
Bicycle	100	-	100
Photography	105,000	35,000	140,000
Interpretation	360	540	900
Other Recreation	412,000	103,000	515,000
Visitor Center	2,450	1,050	3,500
Hunting:			
Big Game	3,700	-	3,700
Small Game	2,800	-	2,800
Migratory Birds	22,500	5,000	27,500
Fishing:	245,000	105,000	350,000
Total Visitation	799,400	251,300	1,050,700

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the District is the four-county area of Wabasha and Winona Counties in Minnesota and Buffalo and Trempealeau Counties in Wisconsin. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$32.2 million with non-residents accounting for \$13.9 million or 43 percent of total expenditures. Expenditures on non-consumptive activities accounted for 64 percent of all expenditures.

Spending in the local area generates and supports economic activity within the four county area (Table 3). The contribution of recreational spending in local communities was associated with about 520 jobs, \$10.9 million in employment income, \$3.3 million in total tax revenue, and \$40.7 million in economic output.

Table 2. Upper Mississippi River NWFR Winona District: Visitor Recreation Expenditures (2017 \$,000)

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$12,597.5	\$8,077.0	\$20,674.4
Hunting	\$679.0	\$457.4	\$1,136.3
Fishing	\$5,011.4	\$5,388.7	\$10,400.2
Total Expenditures	\$18,287.9	\$13,923.1	\$32,211.0

Table 3. Upper Mississippi River NWFR Winona District: Local Economic Contributions Associated with Recreation Visits (2017 \$,000)

	Residents	Non-Residents	Total
Economic Output	\$23,043.7	\$17,667.3	\$40,711.0
Jobs	311	209	520
Job Income	\$6,352.6	\$4,587.4	\$10,940.0
State and Local Tax Revenue	\$1,814.7	\$1,495.4	\$3,310.1

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/districts. 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/district visitation. Economic output includes spending by people who earn income from refuge/district visitors' activities as well as spending by refuge/district visitors themselves.

Impact: The new economic activity generated in a region as a refuge/district attracts non-residents to the area. This figure represents economic activity that would be lost if the refuge/district 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 refuge/district 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/district.

Visits (visitation): A visit is not the same as a visitor. One visitor could be responsible for several visits on a refuge/district. 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/district; 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.