

# **The Economic Contributions of Recreational Visitation at Agassiz 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 Agassiz 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, Agassiz 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**

Agassiz National Wildlife Refuge, established in 1937 as Mud Lake Refuge, was renamed in 1961 for this vast, ancient body of water – Glacial Lake Agassiz – that produced the exceedingly flat terrain characterizing the area today. Located in northwestern Minnesota, the Refuge lies in the aspen parkland transitional zone between the coniferous or boreal forest to the north and east and the tallgrass prairie and prairie pothole provinces to the west and south. This diversity of habitats in turn supports a wide array of resident and migratory wildlife, including 300 species of birds, 49 species of mammals, 12 species of amphibians, and nine species of reptiles.

The Refuge includes 26 impoundments (known variously as lakes, ponds, pools, or moist soil units) and three natural lakes. Whiskey Lake and Kuriko Lake are located within the Refuge’s designated Wilderness Area and Webster Lake is located in the northeast area of the Refuge. The artificial impoundments vary widely in size, ranging from 30 acres to the approximately 9,000 acres that comprise the Agassiz Pool. Water is contained within the impoundments by an extensive network of dikes. Water levels can be raised or lowered in any given impoundment by adjusting water control structures at pool outlets. The Refuge’s dominant geographic features are its impoundments with their marshes, mudflats, and open water. They are also the focus of the Refuge’s aquatic habitat management efforts on behalf of migratory birds.

Agassiz NWR is a key breeding ground for 17 species of ducks and it is an important migration rest stop for waterfowl. In addition to the bird-life, Agassiz is also noted for two resident packs of gray wolves,

moose, nesting Bald Eagles, and in past years has hosted one of the largest Franklin’s Gull colony in the United States.

### Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 10,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 9,000 visits with residents comprising 53 percent of Refuge visitation.

**Table 1. Agassiz NWR: 2017 Recreation Visits**

Activity	Residents	Non-Residents	Total
<b>Non-Consumptive:</b>			
Pedestrian	350	350	700
Auto Tour	3,150	3,150	6,300
Boat Trail/Launch	-	-	-
Bicycle	8	8	15
Photography	8	32	40
Interpretation	363	363	725
Other Recreation	150	150	300
Visitor Center	400	400	800
<b>Hunting:</b>			
Big Game	720	80	800
Small Game	18	2	20
Migratory Birds	8	2	10
<b>Fishing:</b>	-	-	-
<b>Total Visitation</b>	<b>5,174</b>	<b>4,536</b>	<b>9,710</b>

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

### Regional Economic Analysis

The economic area for the Refuge includes Marshall and Pennington Counties in Minnesota. 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 \$167,000 with non-residents accounting for \$107,000 or 64 percent of total expenditures. Expenditures on non-consumptive activities accounted for 85 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 2 jobs, \$45,000 in employment income, \$16,000 in total tax revenue, and \$167,000 in economic output.

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

<b>Activity</b>	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Non-Consumptive	\$40.3	\$101.8	\$142.1
Hunting	\$19.8	\$5.2	\$25.0
Fishing	-	-	-
<b>Total Expenditures</b>	<b>\$60.1</b>	<b>\$107.0</b>	<b>\$167.1</b>

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

	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Economic Output	\$60.1	\$107.0	\$167.1
Jobs	1	1	2
Job Income	\$16.9	\$27.8	\$44.7
State and Local Tax Revenue	\$5.8	\$10.5	\$16.3

## 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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