

The Economic Contributions of Recreational Visitation at Missisquoi National Wildlife Refuge

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

The Missisquoi National Wildlife Refuge was established in 1943 to provide habitat for migratory birds. It consists of 6,729 acres, mostly wetland habitats, which support a variety of migratory birds and other wildlife. The Refuge includes most of the Missisquoi River Delta, the largest wetland complex in the Lake Champlain Basin. As it flows through the refuge, the Missisquoi River passes through the largest and perhaps highest quality silver maple floodplain forest in the State. The 900-acre Maquam bog, the largest in Vermont, is designated a Research Natural Area. The Refuge holds other designations as an Important Bird Area in partnership with the Audubon Society and a Wetland of International Importance under the Ramsar Convention. A mosaic of wetland habitats offers opportunities to see and manage more than 200 species of birds. Fall migration features from 20,000 to 25,000 migrating ducks. Nesting bald eagles, osprey, and a great blue heron rookery are present on the Refuge.

Five refuge trails encompassing 7.5 miles provide excellent opportunities for wildlife observation in many different upland and wetland habitats. Numerous boardwalks on these trails allow quiet, elevated access through wildlife habitats to see migratory and resident species. Big game, upland small game, and water/other migratory bird hunting are allowed on portions of the Refuge. The warm shallow water of the Missisquoi Delta provides excellent fishing opportunities on and around the Refuge. Refuge boat launch facilities at Louie’s Landing and seasonally at Macs Bend allow boaters quick access to the river and Lake Champlain.

The Refuge Headquarters offers a large classroom for schools, summer camps, and other groups complete with audio/visual projection. Displays and exhibits are available in the headquarters building as well.

The Refuge hosts annual events such International Migratory Bird Day and a Kids Fishing Clinic. For over 42 years, the Refuge has provided a Junior Waterfowl Hunter Training linked to special youth hunting opportunities. The Friends of Missisquoi NWR, the Refuge’s volunteer partner, puts on a variety of wildlife walks and presentations throughout the year.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 130,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 89,000 visits with residents comprising 67 percent of Refuge visitation.

Table 1. Missisquoi NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	22,400	5,600	28,000
Auto Tour	-	-	-
Boat Trail/Launch	18,970	8,130	27,100
Bicycle	180	120	300
Photography	113	38	150
Interpretation	630	70	700
Other Recreation	3,840	960	4,800
Visitor Center	16,800	11,200	28,000
Hunting:			
Big Game	90	10	100
Small Game	16	4	20
Migratory Birds	366	154	520
Fishing:	24,000	16,000	40,000
Total Visitation	87,405	42,286	129,690

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is Franklin County, Vermont. It is assumed that visitor expenditures occur primarily within the county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$2.0 million with non-residents accounting for \$1.3 million or 63 percent of total expenditures. Expenditures on fishing activities accounted for 65 percent of all expenditures.

Spending in the local area generates and supports economic activity within Franklin County (Table 3). The contribution of recreational spending in local communities was associated with about 20 jobs, \$726,000 in employment income, \$204,000 in total tax revenue, and \$2.0 million in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$216.0	\$461.8	\$677.8
Hunting	\$6.1	\$3.5	\$9.6
Fishing	\$507.0	\$794.6	\$1,301.6
Total Expenditures	\$729.1	\$1,259.9	\$1,989.0

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

	Residents	Non-Residents	Total
Economic Output	\$729.1	\$1,314.0	\$2,043.1
Jobs	8	12	20
Job Income	\$273.8	\$452.0	\$725.8
State and Local Tax Revenue	\$64.9	\$139.5	\$204.4

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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