

The Economic Contributions of Recreational Visitation at Parker River National Wildlife Refuge

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

Located along the northeast coast of Massachusetts, Parker River National Wildlife Refuge was established in 1941 to provide feeding, resting, and nesting habitat for migratory birds. Most commonly associated with Plum Island – a barrier beach island – the Refuge is comprised of more than 4700 acres of diverse habitats including sandy beach and dune, cranberry bog, maritime forest and shrub land, and freshwater marsh. The most abundant habitat on the refuge is its 3,000+ acres of salt marsh, one of the most productive ecosystems in nature. Parker River provides pristine coastal habitat for over 300 species of resident and migratory birds, as well as a large variety of mammals, insects, fish, reptiles and amphibians. The Refuge also provides critical habitat for the federally threatened piping plover.

In addition to its mission of wildlife conservation, the Refuge provides a variety of excellent wildlife-dependent recreational activities, including surf fishing, wildlife observation and photography, a variety of interpretive programs, and seasonal waterfowl and deer hunting opportunities. A large visitor center – complete with a classroom and auditorium – supports many of these public uses.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 687,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 647,000 visits with residents comprising 83 percent of Refuge visitation.

Table 1. Parker River NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	122,120	25,013	147,133
Auto Tour	86,503	17,717	104,220
Boat Trail/Launch	22,898	4,690	27,588
Bicycle	68,693	14,070	82,763
Photography	114,489	23,449	137,938
Interpretation	27,986	5,732	33,718
Other Recreation	78,870	16,154	95,024
Visitor Center	15,361	3,146	18,507
Hunting:			
Big Game	29	6	35
Small Game	-	-	-
Migratory Birds	2,544	521	3,065
Fishing:	30,530	6,253	36,783
Total Visitation	570,022	116,752	686,774

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is Essex County, Massachusetts. It is assumed that visitor expenditures occur primarily within this county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$11.6 million with non-residents accounting for \$6.2 million or 54 percent of total expenditures. Expenditures on non-consumptive activities accounted for 95 percent of all expenditures.

Spending in the local area generates and supports economic activity within Parker County (Table 3). The contribution of recreational spending in local communities was associated with about 166 jobs, \$5.9 million in employment income, \$1.3 million in total tax revenue, and \$17.2 million in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$5,043.3	\$6,055.7	\$11,099.1
Hunting	\$42.7	\$13.5	\$56.2
Fishing	\$322.5	\$155.3	\$477.7
Total Expenditures	\$5,408.4	\$6,224.5	\$11,632.9

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

	Residents	Non-Residents	Total
Economic Output	\$8,080.9	\$9,155.4	\$17,236.2
Jobs	83	83	166
Job Income	\$2,810.2	\$3,091.7	\$5,901.9
State and Local Tax Revenue	\$514.6	\$745.1	\$1,259.6

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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