

The Economic Contributions of Recreational Visitation at Bear River Migratory Bird Refuge National Wildlife Refuge

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This paper establishes the economic contribution baseline for recreational visitation at Bear River Migratory Bird 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, Bear River Migratory Bird 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 Bear River which feeds the Bear River Migratory Bird Refuge is the largest stream in the western hemisphere that does not empty into the ocean. The Refuge is distinguished for its diverse species of water birds and, most notably, shorebirds. This nearly 80,000 acre marsh, open water, uplands, and alkali mudflats bring diverse species to the Refuge. As part of the Great Salt Lake ecosystem, the Refuge is designated as a Western Hemisphere Shorebird Reserve Network site, a globally important shorebird area. Over 250 species move through the Refuge annually by the millions for rest and food. Currently, the Refuge hosts the largest colony of white-faced ibis in North America.

Throughout the year, visitors can hike, bike or drive the 12 mile auto tour loop. Fishermen can take advantage of the various opportunities along the road out to the Refuge. Wildlife and landscape photographers assemble for the chance to capture stunning photos of the wetlands with the magnificent Wasatch Mountains as a backdrop. In the spring and summer, visitors view thousands of birds in colorful breeding plumage engaged in courtship rituals. Late summer brings delightful viewing opportunities of baby shorebirds, ducks and geese. Fall means hunting season on the Refuge. Up to 500,000 migrating ducks and geese flock to the Refuge. Hunters and birders alike have the opportunity to view magnificent flocks of waterfowl fly overhead. As winter sets in, large birds of prey gather on the ice. From majestic bald eagles and rough-legged hawks, to loggerhead shrikes and American kestrels, every time of season at the Refuge can be captivating.

Visitors have the opportunity to experience the Wildlife Education Center before they head out to the Refuge. This center offers a variety of educational opportunities. Test yourself on the bird identification

wall, measure your wingspan in the exhibit hall, or learn about different bird adaptations. Kids can check out Junior Ranger backpacks, explore the trails identifying wildlife with their field guides and become a certified Junior Ranger. Staff has created a curriculum which provides multiple learning opportunities for students and visitors. Watershed, wildlife, plant identification and macro-invertebrates are a few subjects touched on at the Refuge. Various event days throughout the year also provide visitors and the general public opportunities to learn more about bird life and experience park naturalist guided tours.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 158,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 113,000 visits with residents comprising 77 percent of Refuge visitation.

Table 1. Bear River MBR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	6,600	4,400	11,000
Auto Tour	25,200	16,800	42,000
Boat Trail/Launch	9,000	1,000	10,000
Bicycle	2,700	0	2,700
Photography	18,450	2,050	20,500
Interpretation	4,800	-	4,800
Other Recreation	-	-	-
Visitor Center	13,200	8,800	22,000
Hunting:			
Big Game	-	-	-
Small Game	790	-	790
Migratory Birds	35,550	3,950	39,500
Fishing:	4,500	-	4,500
Total Visitation	120,790	37,000	157,790

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is Box Elder County, Utah. It is assumed that visitor expenditures occur primarily within this county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$3.7 million with non-residents accounting for \$1.9 million or 52 percent of total expenditures. Expenditures on non-consumptive activities accounted for 73 percent of all expenditures.

Spending in the local area generates and supports economic activity within Box Elder County (Table 3). The contribution of recreational spending in local communities was associated with about 46 jobs, \$1.5 million in employment income, \$354,000 in total tax revenue, and \$4.1 million in economic output.

Table 2. Bear River MBR: Visitor Recreation Expenditures (2017 \$,000)

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$1,040.5	\$1,600.5	\$2,640.9
Hunting	\$596.2	\$298.5	\$894.7
Fishing	\$121.1	\$0.0	\$121.1
Total Expenditures	\$1,757.7	\$1,899.0	\$3,656.7

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

	Residents	Non-Residents	Total
Economic Output	\$2,116.8	\$1,985.7	\$4,102.6
Jobs	24	22	46
Job Income	\$783.3	\$689.3	\$1,472.6
State and Local Tax Revenue	\$181.9	\$171.8	\$353.7

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

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.