

The Economic Contributions of Recreational Visitation at Deer Flat National Wildlife Refuge

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This paper establishes the economic contribution baseline for recreational visitation at Deer Flat 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, Deer Flat 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 Refuge was established by Theodore Roosevelt in 1909 to provide a refuge and breeding ground for migratory birds and other wildlife. The Refuge encompasses two units totaling approximately 11,617 acres. The Lake Lowell Unit is approximately 10,582 acres; it is an overlay refuge on the Bureau of Reclamation’s Lake Lowell Reservoir irrigation facility, and includes adjacent uplands.

The Snake River Islands Unit encompasses approximately 1,035 acres on 104 islands in the Snake River. The Refuge provides opportunities for a variety of activities, and is a popular recreation destination.

The Refuge’s staff manages habitat for more than 215 bird species including waterfowl, waterbirds, shorebirds, raptors, and passerines. The Refuge is also an important resting and wintering area for birds migrating along the Pacific Flyway, and more than 25 species of mammals and invertebrates have been documented on the Refuge. Lake Lowell is the largest physical feature on the Refuge, providing open water, emergent vegetation, and mudflats. Other habitat types found on the Refuge include sagebrush-steppe uplands and riparian habitats.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 173,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 126,000 visits with residents comprising 99 percent of Refuge visitation. Other recreation includes swimming, picnicking, and water sports (tubing, jet skis, wake boarding, waterskiing).

Table 1. Deer Flat NWR: 2017 Recreation Visits

| Activity | Residents | Non-Residents | Total |
|-------------------------|----------------|---------------|----------------|
| Non-Consumptive: | | | |
| Pedestrian | 18,409 | 376 | 18,785 |
| Auto Tour | - | - | - |
| Boat Trail/Launch | - | - | - |
| Bicycle | 872 | 18 | 890 |
| Photography | 933 | 19 | 952 |
| Interpretation | 3,645 | 74 | 3,719 |
| Other Recreation | 91,793 | 927 | 92,720 |
| Visitor Center | 8,702 | 178 | 8,880 |
| Hunting: | | | |
| Big Game | 60 | - | 60 |
| Small Game | 2,126 | 21 | 2,147 |
| Migratory Birds | 3,317 | 34 | 3,350 |
| Fishing: | 41,141 | 416 | 41,557 |
| Total Visitation | 170,998 | 2,062 | 173,060 |

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the six-county area of Ada, Canyon, Owyhee, Payette, and Washington Counties in Idaho and Malheur County, Oregon. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$3.9 million with non-residents accounting for \$167,000 or 4 percent of total expenditures. Expenditures on fishing activities accounted for 52 percent of all expenditures.

Spending in the local area generates and supports economic activity within the six county area (Table 3). The contribution of recreational spending in local communities was associated with about 61 jobs, \$2.3 million in employment income, \$394,000 in total tax revenue, and \$7.0 million in economic output.

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

| Activity | Residents | Non-Residents | Total |
|---------------------------|------------------|----------------------|------------------|
| Non-Consumptive | \$1,592.1 | \$115.3 | \$1,707.4 |
| Hunting | \$162.4 | \$4.5 | \$166.8 |
| Fishing | \$1,963.6 | \$47.2 | \$2,010.7 |
| Total Expenditures | \$3,718.0 | \$167.0 | \$3,885.0 |

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

| | Residents | Non-Residents | Total |
|-----------------------------|------------------|----------------------|--------------|
| Economic Output | \$6,684.9 | \$298.1 | \$6,983.0 |
| Jobs | 58 | 2 | 61 |
| Job Income | \$2,251.1 | \$92.0 | \$2,343.1 |
| State and Local Tax Revenue | \$377.7 | \$16.7 | \$394.4 |

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 8 activity visits to the refuge; yet, they are only four visitors.

References

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