

# **The Economic Contributions of Recreational Visitation at Little Pend Oreille National Wildlife Refuge**

May 2019  
Division of Economics  
U.S. Fish & Wildlife Service

This paper establishes the economic contribution baseline for recreational visitation at Little Pend Oreille 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, Little Pend Oreille 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**

Named for the river flowing through its northern expanse, Little Pend Oreille National Wildlife Refuge includes over 40,000 acres on the west slope of the Selkirk Range in northeastern Washington. It is the only mountainous, mixed-conifer forest refuge in the National Wildlife Refuge System, outside of Alaska. Elevations range from 1,800 feet to 5,610 feet, and encompass six forest zones. In addition to diverse rolling pine and fir forests, refuge habitats include scattered lakes, shallow marshes, ponds and springs, plus more than 80 miles of streams. It was established in 1939 by Executive Order of Franklin D. Roosevelt as a breeding ground for migratory birds and other wildlife.

## Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 54,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 38,000 visits with residents comprising 58 percent of Refuge visitation. Other recreation activities include camping, horseback riding, firewood cutting, mushrooming, berry picking, shed antler collecting, cross-country skiing, snowshoeing, snowmobiling, canoeing, and dog sledding.

**Table 1. Little Pend Oreille NWR: 2017 Recreation Visits**

Activity	Residents	Non-Residents	Total
<b>Non-Consumptive:</b>			
Pedestrian	675	225	900
Auto Tour	16,900	9,100	26,000
Boat Trail/Launch	-	-	-
Bicycle	275	275	550
Photography	88	38	125
Interpretation	26	26	52
Other Recreation	8,550	950	9,500
Visitor Center	107	322	429
<b>Hunting:</b>			
Big Game	1,500	8,500	10,000
Small Game	1,760	440	2,200
Migratory Birds	10	-	10
<b>Fishing:</b>	1,575	2,925	4,500
<b>Total Visitation</b>	<b>31,466</b>	<b>22,800</b>	<b>54,266</b>

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

## Regional Economic Analysis

The economic area for the Refuge is the three-county area of Okanogan, Pend Oreille, and Stevens Counties in Washington. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$2.8 million with non-residents accounting for \$2.5 million or 88 percent of total expenditures. Expenditures on hunting activities accounted for 73 percent of all expenditures.

Spending in the local area generates and supports economic activity within the three county area (Table 3). The contribution of recreational spending in local communities was associated with about 28 jobs, \$845,000 in employment income, \$364,000 in total tax revenue, and \$3.4 million in economic output.

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

<b>Activity</b>	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Non-Consumptive	\$196.6	\$327.9	\$524.4
Hunting	\$88.1	\$1,936.2	\$2,024.3
Fishing	\$43.0	\$189.8	\$232.8
<b>Total Expenditures</b>	<b>\$327.6</b>	<b>\$2,453.9</b>	<b>\$2,781.5</b>

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

	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Economic Output	\$413.5	\$3,053.1	\$3,466.6
Jobs	4	24	28
Job Income	\$105.8	\$739.1	\$844.8
State and Local Tax Revenue	\$41.3	\$322.3	\$363.5

## 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

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*. 8<sup>th</sup> ed. New York: W.W. Norton & Company.