

# **The Economic Contributions of Recreational Visitation at Turnbull National Wildlife Refuge**

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

Turnbull National Wildlife Refuge is located in an area of northeastern Washington on the eastern edge of the Columbia River Basin known as the Channeled Scablands and encompasses more than 18,000 acres. The ecosystem that predominates the Refuge is unique within the National Wildlife Refuge System and has characteristics that distinguish it from natural reserves worldwide.

The powerful forces of volcanism, glaciation and the largest floods in geological history have combined to forge a distinct environment. The combination of basalt outcrops, flood-eroded channels, and ponderosa pine forests infused in a diverse landscape of over 130 marshes, wetlands and lakes, create an environment of aesthetic beauty as well as high quality wildlife habitat. Refuge ecosystems represent an ecological transition between the dry, sagebrush dotted grasslands of the Columbia Basin and the timbered Selkirk and Bitterroot Mountain Ranges that rise up to the east. The more than 3,000 acres of wetlands on Turnbull NWR represent some of the last quality breeding habitat available in eastern Washington for waterfowl, which have experienced tremendous population declines across North America due to loss and degradation of breeding, migration, and wintering habitat.

More than 200 different kinds of birds and 45 mammal species occur in this area. Mammals include moose, elk, mule and white-tailed deer, coyote, badger, porcupine, Columbian ground squirrels, beaver, muskrat, river otter and 11 species of bats. The Refuge provides habitat for two federally listed plants, water howellia and Spalding’s catchfly.

## Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 82,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for nearly all visits with residents comprising 82 percent of Refuge visitation.

**Table 1. Turnbull NWR: 2017 Recreation Visits**

Activity	Residents	Non-Residents	Total
<b>Non-Consumptive:</b>			
Pedestrian	11,156	1,240	12,395
Auto Tour	43,726	11,623	55,349
Boat Trail/Launch	-	-	-
Bicycle	1,893	100	1,993
Photography	5,976	1,055	7,031
Interpretation	1,053	117	1,170
Other Recreation	618	155	773
Visitor Center	2,361	627	2,988
<b>Hunting:</b>			
Big Game	275	161	436
Small Game	-	-	-
Migratory Birds	6	-	6
<b>Fishing:</b>	-	-	-
<b>Total Visitation</b>	<b>67,064</b>	<b>15,077</b>	<b>82,141</b>

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

## Regional Economic Analysis

The economic area for the Refuge is Spokane County, Washington. It is assumed that visitor expenditures occur primarily within this county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$1.3 million with non-residents accounting for \$756,000 or 56 percent of total expenditures. Expenditures on non-consumptive activities accounted for 96 percent of all expenditures.

Spending in the local area generates and supports economic activity within Spokane County (Table 3). The contribution of recreational spending in local communities was associated with about 16 jobs, \$597,000 in employment income, \$197,000 in total tax revenue, and \$2.1 million in economic output.

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

<b>Activity</b>	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Non-Consumptive	\$574.1	\$720.2	\$1,294.3
Hunting	\$12.5	\$36.2	\$48.7
Fishing	-	-	-
<b>Total Expenditures</b>	<b>\$586.6</b>	<b>\$756.4</b>	<b>\$1,343.0</b>

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

	<b>Residents</b>	<b>Non-Residents</b>	<b>Total</b>
Economic Output	\$939.5	\$1,200.3	\$2,139.8
Jobs	7	9	16
Job Income	\$266.4	\$330.9	\$597.3
State and Local Tax Revenue	\$85.7	\$111.2	\$196.9

## 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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