

The Economic Contributions of Recreational Visitation at Crab Orchard National Wildlife Refuge

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This paper establishes the economic contribution baseline for recreational visitation at Crab Orchard 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, Crab Orchard 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 west of Marion, Illinois, on the northern edge of the Ozark foothills, Crab Orchard National Wildlife Refuge is one of the largest refuges in the Great Lakes/Big Rivers Region. Established in 1947, the 43,890-acre Refuge includes three man-made lakes totaling 8,700 surface acres. The Refuge landscape also includes hardwood and pine forests, croplands, grasslands, wetlands, rolling hills, and rugged terrain with slopes of 24 percent. The 4,050-acre Crab Orchard Wilderness, the first wilderness area designated in the State of Illinois, is within the Refuge.

The Refuge is unique in the National Wildlife Refuge System in having an industrial program that generates \$40 million annually to the local economy. The Refuge is also the only national wildlife refuge to have resident youth camps, such as those operated by Scouts and churches.

A wide spectrum of recreational activities occur on and around the Refuge’s three lakes (Crab Orchard, Devils Kitchen and Little Grassy). The activities include boating, water-skiing, swimming, camping, picnicking, hunting, fishing, wildlife observation, environmental education, interpretation, horseback riding, and photography. Public use facilities include campgrounds, group camps, marinas, boat ramps, fishing piers, beaches, picnic areas, hiking trails, wildlife drive, visitor center, environmental education complex, observation decks, hunting blinds and photo blinds.

Crab Orchard National Wildlife Refuge has four primary purposes:

- **Wildlife Conservation:** The Refuge exists to protect, enhance, and manage natural resources and the Refuge landscape through an ecosystem approach that sustains optimum populations of migratory waterfowl, native fish and wildlife species, and threatened and endangered wildlife.
- **Agriculture:** The Refuge seeks to provide opportunities for and encourage agricultural uses that help attain wildlife conservation goals, benefit the local economy, and are compatible with other Refuge purposes.
- **Industry:** The Refuge provides an industrial complex and attendant utility and transportation infrastructure, which conform to prescribed safety, health, environmental and maintenance standards.
- **Recreation:** The Refuge provides safe and equitable public use programs and facilities so that visitors have a wholesome, enjoyable recreational experience and gain an appreciation for fish and wildlife resources, natural and cultural history, outdoor ethics, and environmental awareness.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 889,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 674,000 visits with residents comprising 75 percent of Refuge visitation.

Table 1. Crab Orchard NWR: 2017 Recreation Visits

| Activity | Residents | Non-Residents | Total |
|-------------------------|----------------|----------------|----------------|
| Non-Consumptive: | | | |
| Pedestrian | 26,777 | 6,694 | 33,471 |
| Auto Tour | 239,791 | 59,948 | 299,739 |
| Boat Trail/Launch | 12,113 | 1,346 | 13,459 |
| Bicycle | 5,895 | 310 | 6,205 |
| Photography | 7,143 | 1,786 | 8,929 |
| Interpretation | 9,246 | 1,027 | 10,273 |
| Other Recreation | 176,862 | 75,798 | 252,660 |
| Visitor Center | 39,423 | 9,856 | 49,279 |
| Hunting: | | | |
| Big Game | 1,268 | 5,073 | 6,341 |
| Small Game | 2,454 | 614 | 3,068 |
| Migratory Birds | 8,536 | 3,527 | 12,063 |
| Fishing: | 135,278 | 57,976 | 193,254 |
| Total Visitation | 664,786 | 223,955 | 888,741 |

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the three-county area of Jackson, Union, and Williamson Counties in Illinois. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$20.8 million with non-residents

accounting for \$10.3 million or 49 percent of total expenditures. Expenditures on non-consumptive activities accounted for 69 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 315 jobs, \$8.4 million in employment income, \$2.3 million in total tax revenue, and \$29.2 million in economic output.

Table 2. Crab Orchard NWR: Visitor Recreation Expenditures (2017 \$,000)

| Activity | Residents | Non-Residents | Total |
|---------------------------|-------------------|-------------------|-------------------|
| Non-Consumptive | \$7,549.5 | \$6,854.6 | \$14,404.1 |
| Hunting | \$214.7 | \$469.6 | \$684.3 |
| Fishing | \$2,767.1 | \$2,975.4 | \$5,742.5 |
| Total Expenditures | \$10,531.3 | \$10,299.6 | \$20,830.9 |

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

| | Residents | Non-Residents | Total |
|-----------------------------|------------|---------------|------------|
| Economic Output | \$14,845.1 | \$14,323.4 | \$29,168.4 |
| Jobs | 169 | 146 | 315 |
| Job Income | \$4,303.7 | \$4,066.5 | \$8,370.2 |
| State and Local Tax Revenue | \$1,123.7 | \$1,173.4 | \$2,297.1 |

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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