

The Economic Contributions of Recreational Visitation at San Joaquin National Wildlife Refuge

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This paper establishes the economic contribution baseline for recreational visitation at San Joaquin 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, San Joaquin 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 San Joaquin River National Wildlife Refuge located in Stanislaus County encompasses more than 7,500 acres of riparian woodlands, wetlands, and grasslands that host a diversity of wildlife native to California’s Central Valley. The Refuge is situated where three major Valley rivers – the San Joaquin, Tuolumne, and Stanislaus – join providing a key travel corridor for wildlife. The Refuge was established in 1987 under the Endangered Species Act and the Migratory Bird Conservation Act.

The Refuge has played a major role in the recovery of Aleutian cackling geese by serving as an important wintering area and continues to be of major importance to this species. By the mid-1970s, the total population of Aleutian cackling geese was fewer than 1,000. Removing nest predators from the breeding grounds in Alaska’s Aleutian Islands and improving wintering habitat in the Central Valley resulted in the goose being delisted as an endangered species and a population well over 200,000 and growing. Restoring wetlands and providing grasslands and croplands at this refuge has provided ideal wintering habitat for the geese.

It is estimated that 95 percent of the San Joaquin Valley’s riparian woodlands were lost during the last century due to changing land uses. This critical habitat is being restored at the Refuge. Within the borders of the San Joaquin NWR is one of California’s largest riparian forest restoration projects: over ½ million native trees and shrubs such as willows, cottonwoods, oaks, blackberry, and rose have been planted across 2,200 acres of river floodplain creating the largest block of contiguous riparian woodland in the San Joaquin Valley. This important riparian woodland habitat is host to many rare animals.

Swainson’s hawks nest in the canopy of tall cottonwood trees. Herons and cormorants form communal nesting colonies within the tops of the large valley oaks. Endangered riparian brush rabbits have been re-introduced to this restored habitat from captive-reared populations. These woodlands also support a diversity of breeding songbirds including grosbeaks, orioles, flycatchers, and warblers, as well as the least Bell’s vireo – an endangered species which had last nested in the San Joaquin Valley more than five decades ago.

The Refuge features the 4-mile Pelican Nature Trail that meanders through seasonal wetlands, restored riparian woodlands, and stands of old-growth valley oak trees. A wildlife viewing platform along Beckwith Road is a favorite location for viewing the Aleutian cackling geese along with other waterbirds from October through March.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 16,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for all visits with residents comprising 72 percent of Refuge visitation.

Table 1. San Joaquin NWR: 2017 Recreation Visits

| Activity | Residents | Non-Residents | Total |
|-------------------------|---------------|---------------|---------------|
| Non-Consumptive: | | | |
| Pedestrian | 10,150 | 4,350 | 14,500 |
| Auto Tour | - | - | - |
| Boat Trail/Launch | 900 | - | 900 |
| Bicycle | - | - | - |
| Photography | 126 | 54 | 180 |
| Interpretation | 90 | 60 | 150 |
| Other Recreation | - | - | - |
| Visitor Center | - | - | - |
| Hunting: | | | |
| Big Game | - | - | - |
| Small Game | - | - | - |
| Migratory Birds | - | - | - |
| Fishing: | - | - | - |
| Total Visitation | 11,266 | 4,464 | 15,730 |

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is Stanislaus County, California. It is assumed that visitor expenditures occur primarily within this county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$670,000 with non-residents accounting for \$325,000 or 52 percent of total expenditures.

Spending in the local area generates and supports economic activity within Stanislaus County (Table 3). The contribution of recreational spending in local communities was associated with about 8 jobs, \$262,000 employment income, \$72,000 in total tax revenue, and \$909,000 in economic output.

Table 2. San Joaquin NWR: Visitor Recreation Expenditures (2017 \$,000)

| Activity | Residents | Non-Residents | Total |
|---------------------------|------------------|----------------------|----------------|
| Non-Consumptive | \$344.9 | \$324.6 | \$669.5 |
| Hunting | \$0.0 | \$0.0 | \$0.0 |
| Fishing | \$0.0 | \$0.0 | \$0.0 |
| Total Expenditures | \$344.9 | \$324.6 | \$669.5 |

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

| | Residents | Non-Residents | Total |
|-----------------------------|------------------|----------------------|----------------|
| Economic Output | \$462.7 | \$445.8 | \$908.5 |
| Jobs | 4 | 4 | 8 |
| Job Income | \$137.1 | \$124.3 | \$261.5 |
| State and Local Tax Revenue | \$36.4 | \$36.0 | \$72.4 |

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

References

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