

**NCSE WILDLIFE HABITAT POLICY RESEARCH PROGRAM**  
**Project Overview**  
**Research Project 1H**

**Development of an Operational Benefit Estimation Tool for  
Habitat Conservation in the U.S.**

**Principal Investigator**  
Timm Kroeger  
Defenders of Wildlife

Wildlife habitats and other open space in the United States support many economically valuable human uses and ecosystem services, but some of those uses and services have declined in many locales over the past several decades.

**Key Issue**

This decline is expected to continue, driven mainly by population growth and increasing incomes. It also results from our inability to quantify many ecosystem services accurately and to fully understand their value. Overcoming this lack of understanding will facilitate the inclusion of the value of ecosystem services in policy-making and evaluation.

**Project Objective**

The primary objective was to develop a benefit-transfer toolkit for estimating:

- residential property price premiums attributable to wildlife habitat and open space
- economic value generated by wildlife-related recreation and the use and non-use values associated with wildlife habitat
- activity-day models relating wildlife recreation to habitat area and other demographic and geographic variables.

A second objective was to synthesize the literature on the relation between wildlife habitat and open space preservation and local economic competitiveness.

**Approach**

The project team employed meta-analysis, a statistical technique for systematically exploring characteristics of empirical studies that may explain variations in study results. Meta-analysis can identify variables that significantly affect the value of activities such as fishing or natural resources such as wetlands.

The team performed original meta-analyses of existing studies of open-space property-value premiums and of the value of population increases in salmon species; updated existing meta-analyses of threatened, endangered and rare species; and located recent meta-analyses that needed no updating.

## **Key Findings**

The project team's findings confirm that open space increases the value of nearby residential property. These value premiums are higher when open space is scarce but also are present in less-developed areas. The meta-analysis identified size, land cover, protection status and ownership as significant. While all open space generates price premiums, they are highest for forested and natural lands and lowest for agricultural lands.

The team also found that increases in conservation acreage generally lead to increases in wild-life-associated recreation activities, with the size of the impacts depending on key variables such as land cover, ownership, and income.

The team's literature review on impacts of natural amenities on economic performance confirmed that protected lands positively impact output, employment and population growth and aggregate output at local and state levels. The evidence on the impact of protected lands on per-capita income is mixed.

## **Deliverables**

Deliverables include:

- review and synthesis of literature on open-space value premiums for residential properties; review and synthesis of literature on the relation between protected lands and community economic competitiveness; and property premium value estimation model
- synthesis of empirical habitat-conservation studies and production of spreadsheet-based habitat-conservation benefits estimation models
- wildlife activity day values by region and wildlife activity days value estimation models
- an operational toolkit, including a user manual for spreadsheets (CD), application workshop for practitioners, and a final project report that is available on the WHPRP web site at <http://ncseonline.org/WHPRP/>.