



## The Big Picture



1. Why Estimate Ecosystem Values?
2. Why are estimates of ecosystem benefits needed?
3. Finding Appropriate and Practical Answers
4. Overview of Ecosystem Valuation
5. What are the Benefits of Ecosystem Conservation, Preservation, or Restoration?
6. Dollar Measures of Ecosystem Values
7. Non-Dollar Measures of Ecosystem Values
8. Practical Importance of Ecosystem Valuation

Purposes &  
Uses of this  
Website

The Big  
Picture

Essentials  
of  
Ecosystem  
Valuation

Dollar-based  
Ecosystem  
Valuation  
Methods

Ecosystem  
Benefit  
Indicators

### Why Estimate Ecosystem Values?

Faced with tightening budgets and growing needs for environmental actions, government agencies must make difficult decisions about how to allocate public investments to protect and restore the natural environment. In making such decisions, environmental program managers may consider many objectives, including environmental quality, threats to ecosystem integrity, and effects on people's quality of life. This website will help those who need to make practical use of economics for these types of decisions.

Agencies must justify their decisions, not only in terms of benefits to the natural environment, but also in terms of fiscal accountability and public support. Thus, they

[Feedback](#)[Links](#)[Glossary](#)

are being asked to demonstrate the economic benefits of their investments, preferably in dollar terms. However, even if it is impossible or impractical to measure benefits in dollars, agency staff can often provide evidence that their environmental investments are being managed to maximize environmental benefits per dollar spent. This site deals with both types of benefit estimation.

For some decisions, such as those involving endangered species or serious public health or safety concerns, economic considerations will be secondary. However, even in these situations, environmental managers will need to make decisions that involve tradeoffs or allocations of natural resources—decisions that call for economic analysis.

#### **Why are estimates of ecosystem benefits needed?:**

- To justify and decide how to allocate public spending on conservation, preservation, or restoration initiatives.
- To consider the public's values, and encourage public participation and support for environmental initiatives.
- To compare the benefits of different projects or programs.
- To prioritize conservation or restoration projects.
- To maximize the environmental benefits per dollar spent.

#### **Finding Appropriate and Practical Answers**

The economic benefits of government spending raise legitimate and important public policy questions, but the answers are often ambiguous and difficult to justify. Agency staff may not always be able to provide acceptable answers - no matter how much money they spend on analysis. However, in the absence of objectively determined estimates of the benefits of environmental programs, spending decisions will be based on other factors.

**This site addresses some of the important questions that agency staff must answer:**

- When and how should agency staff attempt to answer ecosystem benefit questions?
- What criteria and methods are being used to make spending decisions, and what is the justification for these criteria and methods?
- Are the benefits of a project or program greater than the cost to taxpayers?
- Is agency spending being managed to maximize environmental benefits?
- How do different projects compare to each other in terms of ecosystem benefits?
- When should agency staff provide dollar-based estimates of ecosystem benefits?
- When should they answer questions about benefits only by demonstrating that they are using reasonable benefit-based project ranking criteria?

## **Overview of Ecosystem Valuation**

### **What are the Benefits of Ecosystem Conservation, Preservation, or Restoration?**

Environmental initiatives can result in improvements that provide a wide range of economic and environmental benefits. Enumerating and measuring these benefits can be very difficult. This website provides guidance for estimating the dollar value of ecosystem benefits where this is possible, and guidance for developing non-monetary indicators of economic value where dollar measures are impossible or impractical.

### **Dollar Measures of Ecosystem Values:**

In conventional economics it is generally accepted that measures of economic value should be based on what people want; and that individuals, not the government, should be the judges of what they want. Using this notion of value, the maximum amount of one thing a person is willing to give up to get more of something else is considered a fair measure of the relative "value" of the two things to that person. Dollars are a universally accepted measure of economic value because the amount

that people are "willing to pay" for something reflects how much of all other for-sale goods and services they are willing to give up to get it.

For purposes of assessing the economic value of ecosystem services it is important to note that measuring the value of something using dollars does not require that it be bought and sold in markets. It only requires estimating how much purchasing power (dollars) people would be willing to give up to get it (or would need to be paid to give it up), if they were forced to make a choice.

### **Non-Dollar Measures of Ecosystem Values:**

Dollars are not the only useful measure of economic value. Sometimes it is more useful or practical to make decisions based on ranking or prioritizing the expected benefits of environmental investments. This website will offer guidance for developing and using indicators of expected ecosystem benefits. These can be used to set priorities by determining the greatest benefits per dollar spent, without resorting to dollar-based valuation.

Indicator-based valuation tools may be less expensive and require less time to apply. Thus, they may be more broadly applicable. While dollar-based measures of ecosystem benefits may be necessary to justify spending on conservation programs, non-dollar indicators of expected benefits are more useful for managing spending to achieve the greatest environmental and economic payoff.

### **Practical Importance of Ecosystem Valuation**

Two things have been learned from recent experience with ecosystem valuation. First, it is easy to spend large amounts of money on economic studies that attempt, against all odds, to assign dollar values to environmental improvements. Second, it is easy for environmental program managers to misuse the results of these studies in ways that can undermine support for their programs.

On the other hand, two things have also been learned from recent experience with shrinking federal budgets. First, it is risky for environmental program managers to

ignore demands for more fiscal accountability and more justification for specific spending decisions. Second, "best professional judgement" and "objective scientific" project ranking criteria that ignore beneficial outcomes to people are extremely unpopular methods of justifying public investments.

The goal of this website is to help agency staff find the proper balance – providing answers about program benefits that are practical, useful, and as precise as possible, using methods that are properly selected, applied, and interpreted.



[Back to top](#)

## Ecosystem Valuation



[Purposes & Uses of this Website](#)