8. The economics of tourism in protected areas

8.1 The economic value of tourism

Tourism based on protected areas is a large and growing part of the economy of many countries. For example, protected area tourism in the USA and Canada in 1996 had an economic impact of between US$236 billion and US$370 billion (Eagles et al., 2000). But in general, economic evaluation data of this kind are scarce, and often unreliable when available. As a result, societies and governments tend to undervalue the benefits derived, and therefore do not provide the funds needed to maximise the flow of benefits.

The absence of systematic large-scale gathering of economic data from parks means that key parts of the economy are overlooked. The absence of adequate statistics causes an information blind spot; these natural places are valued, on a financial basis, at a zero price. This leads to excessive destruction of natural areas, implying that present economic performance in many countries will be reduced, and future economic performance will be severely curtailed (IUCN 1998).

At the same time, there is near-universal under-investment in nature protection (Wells, 1997). Most protected area systems in the world are under-funded; many are starved of funds, even when they are the central focus of a major tourism industry. Therefore, a major purpose behind this section of the Guidelines is to encourage the widespread application of economic valuation in relation to protected area tourism in order to help demonstrate the true economic value of such places.

The total economic value of a protected area is the sum of the use values and the non-use values. Use value may be direct or indirect. Direct values are considered to be market values. Indirect values are non-market values. Non-use value may also be broken into different categories: option, existence or bequest value (Figure 8.1). There is some debate about whether option value is a use or non-use value, because it is a non-use value in the present, and a use value in the future. All non-use values are also non-market values.

Park tourism is most often considered a direct use value of a protected area, and will be treated as such in these Guidelines. However, park visitation influences the other values. After people visit a park, they are more aware of its existence and therefore may be more willing to donate money, to argue for its existence, and to request that it be protected for future generations. In effect, they are expressing their recognition of both use and non-use values.
8.2 Measuring the economic impacts of tourism

Many approaches can be used to measure the economic impact of park tourism. It is beyond the scope of these Guidelines to describe the details and advantages of each method: only a brief introduction is given.

_Economic impact assessment_ measures the value of all financial transactions made by groups (e.g. tourists or governments) related to the protected area, and their impacts on a local, regional or national economy. Impacts can be measured in such terms as Gross Domestic Product (GDP), labour income or the number of jobs created by the park.

An _economic impact_ occurs with any financial transaction in an economy, for example a protected area agency buys supplies or a tourist purchases services. This impact exists, regardless of the origin of the funds or the home location of the tourist injecting the funds. All economic impacts are measurable in the marketplace.

_Economic benefits_ are the gains that a protected area brings to the local, regional or national economy. An economic benefit occurs when there is an increase in wealth to the area under study. The increase will be affected by the region defined in the analysis: one area’s cost can be another area’s benefit. Benefits are more than financial: they also consist of the non-market values, but they are generally reported in unit figures of the currency. During the creation of protected areas, economic benefits should be weighed against the opportunity costs of other land use options, and this information should be used in any benefit-cost analysis to determine land allocation decisions.

When a central government protected area agency spends government money in a park, there is an economic benefit to the local community: the funds come from outside the region, and thus represent an increase in its wealth. However, from a national perspective, no increase in wealth has occurred, just a redistribution of resources within the country. So there is economic benefit at the local level, but no economic benefit at the national level. This also applies in cases where protected area agencies are partly or wholly funded by local taxes, since those monies are raised and spent in the region. However, where funds come from international sources, such as via development assistance programmes or from the Global Environment Facility, they do represent a real benefit to the local economy.
Similarly, a foreign visitor represents a potential outside source of injected capital and increased wealth, to both the country and the local area: so a foreigner’s expenditure represents both a benefit and an impact. However, any expenditure by a local resident in the community represents a redistribution of capital – an impact, but not a benefit.

Non-market benefits are measured in protected areas by two techniques – the Travel Cost Method (TCM), and the Contingent Valuation Method (CVM).

TCM is based on the value of a protected area to the society as measured by the amount of money that people pay to travel to it. The method assumes that users will react to hypothetical increases in entry fees in the same manner that they would to increased travel costs. TCM recognises that the total cost each individual pays for his or her trip depends on the cost of travel to the site; this in turn affects an individual’s frequency of visitation. These two factors make it possible to draw a demand curve at the site. TCM is only used for the measurement of consumer surplus – a direct use value, and cannot be used for measuring option, existence or bequest values.

CVM is based on the assumption that consumers can accurately assign a value to recreation experiences and that these values can accurately be captured in a survey. Many versions of the technique exist. The main steps in CVM are to: create a hypothetical market for a “good”; communicate the market to the respondent so that he or she can establish a theoretical price in the form of “willingness to pay”; and use the responses to estimate the value of the goods. It is used to estimate consumer surplus, and also option, existence and bequest values.

The USNPS uses the Money Generation Model (MGM) to estimate park economic benefits. This calculates the market benefits that protected areas bring to their surrounding local communities. It is designed for park managers who do not have a substantial background in economics, and is relatively easy to use. A recently developed second generation MGM is more accurate and user-friendly.

Parks Canada developed an economic benefits model in order to show the true value of protected areas. It provides a comprehensive look at all potential economic benefits, including market and non-market. These are separated into three distinct categories: personal benefits (those that accrue to stakeholders, both users and non-users); business benefits (those that bring about a redistribution of commerce from one area to another); and societal benefits. These benefits are additive and not duplicative. The framework can be applied to other resource uses beyond protected areas, allowing for impact comparisons. The approach can be used to establish the total economic value of a protected area. Using the model reveals information gaps and helps establish priorities for economic valuation research.

The IUCN Task Force on Economic Benefits of Protected Areas recommends that a framework for valuing protected areas should have these three steps:
1. Define the audience (for local, regional, national or global use);
2. Determine the scope of the study (time, data, resources and institutional structure); and,
3. Choose the appropriate analytical techniques (contingent valuation, hedonic pricing, travel cost method, change in productivity methods, change in earnings methods, opportunity cost approach or replacement cost approach) (IUCN, 1998).
Economic impact and economic benefit studies are best done by a specialist with training in business, finance and economics. Some large agencies, such as the USNPS, the New South Wales National Parks and Wildlife Service, and Parks Canada, employ such specialist personnel. Where skills of this kind exist in-house, it may be possible to prepare special economic valuation packages that can be used by field personnel who lack formal training in economics. Less well endowed managing bodies may find it helpful to collaborate with local university departments of economics to secure such expert help. In developing countries, it may also be possible to get some international donor assistance in undertaking such analyses, especially where donors are also involved in supporting the protected areas’ work.

The IUCN Task Force provides 16 case studies of economic evaluation in protected areas (IUCN, 1998). One recently completed case study from Australia can serve to illustrate the type of information derived from economic impact studies (Box 8.1).

### Box 8.1 Montague Island Nature Reserve, Australia: An example of types of information derived from economic impact studies

Montague Island Nature Reserve is 9km offshore from the south coast of New South Wales. It is ecologically important for marine mammals, and as breeding habitat for Little Penguins, Crested Terns, Silver Gulls, Sooty Oystercatchers, Wedge-tailed, and Short-tailed and Sooty Shearwaters. It also has important historical, archaeological and marine features. The New South Wales National Park and Wildlife Service (NPWS) manages the island for conservation and for local economic development.

The NPWS did an economic impact assessment of the contribution of the nature reserve to the regional economy, using NPWS expenditures on island management, and expenditures of the park visitors. An input-output analysis was conducted.

In total, the NPWS management expenditure resulted in AUS$233,000 in gross regional output. This represented a multiplier of 1.92, indicating that for every dollar spent by the NPWS on park management, another AUS$0.92 in gross regional output was generated elsewhere in the local economy.

Guided tours cater to 4,300 visitors each year, with an average expenditure of AUS$206.05/person/trip. Annual visitors’ expenditures contributed an estimated AUS$1,400,000 in gross regional output per year to the regional economy. This included AUS$468,000 in household income paid to 19 people in the local economy.

The aggregated NPWS and visitor expenditure impacts were estimated to be AUS$1.65 million in gross regional output, and AUS$857,000 in gross regional product, including AUS$588,000 in household incomes, which equates to 26 local jobs. This is an impressive study of the economic impact of ecotourism on one national park. This relatively large impact occurred with quite modest numbers of park visitors suggesting that even small numbers of visitors can have important local economic impacts.


Economic impact and economic benefit studies are best done by a specialist with training in business, finance and economics. Some large agencies, such as the USNPS, the New South Wales National Parks and Wildlife Service, and Parks Canada, employ such specialist personnel. Where skills of this kind exist in-house, it may be possible to prepare special economic valuation packages that can be used by field personnel who lack formal training in economics. Less well endowed managing bodies may find it helpful to collaborate with local university departments of economics to secure such expert help. In developing countries, it may also be possible to get some international donor assistance in undertaking such analyses, especially where donors are also involved in supporting the protected areas’ work.

The IUCN Task Force provides 16 case studies of economic evaluation in protected areas (IUCN, 1998). One recently completed case study from Australia can serve to illustrate the type of information derived from economic impact studies (Box 8.1).

### 8.3 Communicating economic impacts

It is important that the findings of economic impact studies should be communicated to interested stakeholders in appropriate levels of detail:
Full economic impact studies are valuable for the managing agency itself, and for officials in government, aid agencies and business, since they need to know the range of economic benefits that protected areas bring to society.

Summary figures are useful for local governments, local tourism interests, local politicians and the local media. Some protected area agencies inform their local officials annually about the economic impact of the park, which gives the protected area an important profile in the decisions of local communities.

Brief summaries of economic impacts may interest park visitors and local citizens.

The understanding of flow and distribution of the economic benefits from tourism is one of the most critical elements of park economics. Policy makers, planners and managers can influence this flow and its distribution, and need to consider their options carefully. International bodies (such as the World Bank), all levels of government, corporations/businesses of all kinds but especially those involved in tourism, and local citizens and visitors to protected areas – all of these make decisions on future investments of money and time which affect protected areas. Economic benefit valuations can inform many of these decisions. Protected area managers, and their supporters, should therefore do all they can to provide such valuations and communicate the results widely.

Note: For a fuller introduction to this topic, the reader is referred to a recent IUCN publication in this series: Economic Values of Protected Areas: Guidelines for Protected Area Managers (IUCN, 1998).