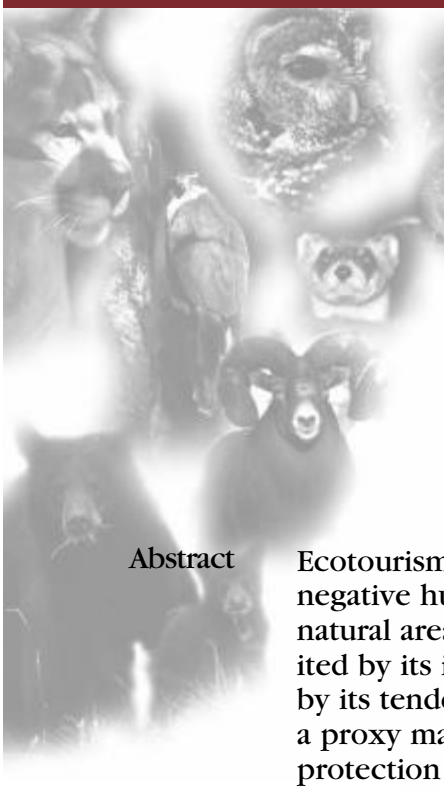


The limited potential of ecotourism to contribute to wildlife conservation

by Jack Coburn Isaacs

Abstract Ecotourism has been proposed as a viable economic activity that can minimize negative human impacts on wildlife habitat and provide an incentive to preserve natural areas. The potential of ecotourism as a wildlife conservation strategy is limited by its inability to insure the long-term protection of environmental assets and by its tendency to contribute directly to environmental degradation. Ecotourism is a proxy market designed to align consumers' preferences for recreation with the protection of environmental assets. Because it does not necessarily address the direct protection of those assets, it is prone to market failure. Pressures on governments and firms involved in providing ecotourism services will impair their ability to minimize detrimental effects of human economic behavior. Ethical appeals to minimize harmful practices face serious obstacles. Promoting ecotourism may actually distract from more appropriate means of environmental protection.

Key Words ecological economics, ecotourism, environmental economics, nature-based tourism, wildlife tourism, wildlife economics

Tourism to natural areas has been touted for its potential to allow sustainable development of ecosystems and to provide incentives to preserve these areas instead of converting them to other uses. A particular variety, ecotourism, stresses minimal human impact on native ecosystems and cultures. Ecotourism is demonstrating some promise as a profitable and relatively non-damaging form of economic enterprise.

An honest accounting of this industry, however, also demands an examination of its negative impacts. While the negative side effects of ecotourism are alleged to be less than those of traditional tourism, wildlife managers may benefit from an awareness thereof. These side effects can be described in terms of damage inflicted, intentionally or unintentionally, upon native flora and fauna, indigenous cultures, and various ecological assets.

On a deeper level, the mechanism by which tourism is developed, operated, and organized can influence the ability to maintain healthy ecosystems, protect environmental assets, and sustain environmental benefits to humans. Government agencies designed to administer tourism areas are vulnerable to bureaucratic developments that may diminish their capacity and willingness to protect ecosystem functions. Private entrepreneurs may not be able to maintain long-term profit by ecotourism as competition for travelers increases. Eventually, economic incentives to protect natural areas based on ecotourism may dissipate, reducing the incentives to protect natural areas from more intrusive forms of human development.

The potential of tourism

As the world's population increases and, in many cases, incomes rise, the demand for travel and tourism is increasing. In 1990, an estimated 425 million international travelers spent $230 billion. It is purported to be

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the fastest-growing industry on earth, experiencing a 9% annual growth rate. International arrivals are projected to increase to 702 million in 2000 and 1.6 billion in 2010. Receipts are forecast to rise to $621 billion in 2000 and $1,550 billion in 2010 (Eadington and Smith 1992). Although these figures may be open to dispute (*The Economist* 1997), tourism is evidently a large international industry with potential for growth.

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Rising income also has increased the demand for environmental amenities (Randall 1987). A seeming combination of the increased demand for travel and the increased demand for environmental quality has been the growth of ecotourism. Touted as a low-impact alternative to traditional tourism (Eadington and Smith 1992, Roxe 1998), ecotourism has been called "responsible travel that conserves natural environments and sustains the well-being of local cultures" (Ecotourism Society *in* Wheat 1998:10). The stated purposes of ecotourism are to raise the public's awareness of the environment, to sensitize travelers to nature and its processes (Whiteman 1996), and to reduce negative impacts of human activities on natural areas (Sirakaya and McLellan 1998). Ecotourism advocates, if not its practitioners, frequently espouse an ethical code that promotes voluntary restraint of human consumption, the development of low-impact activities, and the distribution of economic benefits to local people (Wallace, unpublished data). It is not clear whether all ecotourists subscribe to these ethical principles, or that strict adherence is necessary to enhance the protection of natural areas.

Unfortunately, the term "ecotourism" is somewhat vague. This imprecision may contribute to the vast differences in the estimates of ecotourism expenditures, ranging from $12 billion in 1990 (Quammen 1992) to $388 billion in 1988 and $416 billion in 1994 (Ecotourism Society, unpublished data). It has been the proclaimed purpose of widely disparate enterprises, from low-impact activities like hiking wetland trails (Meric and Hunt 1998) to such energy-intensive activities as tourist submarines and underwater hotels (Newberry 1997).

For the sake of clarity, here ecotourism is defined as "traveling to relatively undisturbed ... areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals [or] existing cultural manifestations found in the areas" (Boo *in* Luzar et al. 1995: 545). This definition includes hiking, canoeing, camping, photography, wildlife observation, and other activities that do not involve the taking of fish and wildlife. Exclusion of hunting and fishing is not a depreciation of their capacity to contribute to habitat conservation, but an acknowledgment of the distinction between hunting and what is generally considered to be the rubric of ecotourism.

In 1991, 3,160,000 people in the United States spent $222 million on observing, photographing, and feeding wildlife (United States Fish and Wildlife Service 1993). Total expenditures by birdwatchers alone, usually greater than those of other ecotourists, totaled $20 million in 1981. Per-capita expenditures by birdwatchers in 1988 were estimated at $1,852/year (Wiedner and Kerlinger 19908, Leones et al. 1998). The average ecotourist is relatively very educated and has a great income (Chi and Luzar 1998). Age varies with the nature of the activity (Wiedner and Kerlinger 1990, Boxall and McFarlane 1993, Wight 1996, Meric and Hunt 1998). Participation in ecotourism is related to such socioeconomic characteristics as income, gender, race, and environmental attitude (Luzar et al. 1995), as well as recreational choice parameters, such as number of previous visits to public land and participation in wildlife photography (Chi and Luzar 1998). Frequency of participation is moderately related to environmental behavior but only weakly to environmental concern (Nord et al. 1998).

The operation of polar bear (*Thalarctos maritimus*)-watching parties in Churchill, Manitoba, Canada (Anonymous 1998) and tourist expeditions to Antarctica (Monteath 1997) and numerous points in between testify that nature-oriented travel literally stretches from one end of the globe to the other. The potential of ecotourism has been recognized by Costa Rica, Belize, and other Latin American countries (Wood, unpublished data), South Africa (Obua 1997), Tunisia (Poirier 1997), the United States (Tennesen 1998), China (Tisdell 1996), and South Korea (Lee et al. 1998), among other nations and agencies.

The benefits of protecting natural areas

Recreation is one of the benefits of protecting natural areas. Others include habitat protection, biodiversity preservation, soil formation, nutrient recycling, and control of water and air pollution (Dixon and Sherman 1991). Protected areas can provide resilience and

stability in ecosystems and maintain numerous natural services (Heywood and Watson 1995, Perrings 1995, Turner et al. 1995). The values of these amenities must be weighed when considering actions that affect the conservation of natural areas (Weisbrod 1964, Krutilla 1967, Dixon and Sherman 1991).

Economists generally prescribe that the market should weigh costs and benefits in pursuit of the goal of efficiency, but this standard is subject to criticism. The conditions of efficiency vary greatly depending on the endowment or distribution of resources. They are very dependent on the preferences of consumers, who are ignorant of the benefits of the natural resources they are depleting (Gowdy and O'Hara 1995). Efficiency can be a myopic metric that may justify hunting whales into extinction or even destroying ecosystems in return for short-term profit (Clark 1973, Randall 1988). Efficiency measures may be inconsistent, incoherent, unobjective (Bromley 1990), and incomplete (Vatn and Bromley 1994, Gowdy 1997). Despite the possible shortcomings, the concept may serve as a useful analytical construct because ecotourism operates within a market system that holds efficiency as its goal.

Only when all the costs and benefits are considered can the efficiency of a market exchange be assessed. Efficiency is achieved when marginal benefit equals marginal cost—that is, when the benefit of consuming the last unit of a good or service equals the cost of providing it. An accurate assessment of marginal benefits, as demonstrated by the economist's demand curve, depends upon the correct identification of the preferences of all consumers for the good, service, or amenity being consumed. Marginal costs should reflect accurately not only the monetary cost of providing a good, service, or amenity but also the opportunity cost or the greatest valued alternative forgone (Bator 1958).

When converting a natural area to agricultural, urban, or other use, part of the opportunity cost includes the loss of a number of the ecological functions. This loss can be termed an externality of land conversion. The term "externality" does not imply triviality. It is a technical term used to describe values that are external to the construction of a market, costs that are imposed on a third party in a transaction. Indeed, the wildlife-related externalities of land-use practices have been considerable, including dwindling habitat, declining wildlife populations, and increasing rates of extinctions. When such costs are excluded or ignored, the production and consumption of market goods and the accompanying environmental deterioration will be excessive (Krutilla 1967, Pearce and Moran 1994).

The structure of property rights and the persistence of externalities

A market will operate efficiently only when the good being traded and all goods affected by the exchange are nonattenuated. Nonattenuated property rights are those that are completely specified, transferable, and enforceable. Markets rely on exclusiveness in ownership and rivalry in consumption. Exclusive property rights are those that by custom or law are assigned to one person who possesses sole ownership and who can determine how and by whom the good may be used. Rivalry in consumption refers to the situation in which the amount consumed by one person reduces the quantity or quality available for others (Randall 1987, Dixon and Sherman 1990).

This ideal situation is not appropriate for many natural amenities because ownership cannot be assigned to one agent. The nonexclusive, nonrival natures of many ecosystem functions mean that markets for their provision will not likely arise. The value of these amenities will be ignored and the quantity supplied will be insufficient (Randall 1987, Dixon and Sherman 1990).

Ecotourism: a proxy market

The development of ecotourism is an effort to develop a market for one of the benefits of natural-area preservation, i.e., recreation. An efficient market for tourist services can be created. Tourist services are exclusive, as they can be purchased and used by a single individual, and rival, as one's enjoyment of tourist facilities does reduce the capacity to accommodate someone else.

By increasing the returns from this service, it is hoped that ecotourism will raise the opportunity cost of land conversion and result in reduced loss of natural areas. Returns to ecotourism have encouraged the preservation of elephant (*Elaphas indicus*) habitat in Thailand (Dixon and Sherman 1991, McNeely and Dobias 1991) and protection of wildlands on Mount Kinju, South Korea (Lee et al. 1997). Ecotourism has been seen as aiding in the conservation of primate habitat in Zaire, harp seal (*Pagophilus groenlandicus*) habitat in Labrador, and Costa Rican rainforest (Farrell 1992). Ideally, providing ecotourism is consistent with providing other, complementary ecosystem functions (Dixon and Sherman 1990). In this way, conservationists hope that ecotourism is a proxy market for those other items of value, including wildlife conservation.

Establishing a market for ecotourism is limited, however, in its ability to guarantee the long-term continuation of other natural-area benefits. These limits are inherent to the operation of ecotourism as a proxy market, instead

of assigning property rights directly to the other functions. The ecotourism market itself may contain negative externalities—costs imposed on others and ignored in the operation of market exchange.

Some of the external costs include damage to the living resources that ecotourism is intended to protect. In Canada, tourists are alleged to harass polar bears by approaching too closely. Whales have been harassed and even killed in Quebec (Anonymous 1998) and the Canary Islands (Padgett and Begley 1996). Wildlife observers drive cheetahs (*Acinonyx jubatus*) off Kenyan preserves, exposing the cats to danger and the risk of inbreeding. Sea turtles are distracted by electric lights at shoreside tourist facilities. Tourists' feeding of wildlife has led to increased dependency on humans by wildlife (Padgett and Begley 1996, Roberts 1998). In a survey of United States National Park superintendents studying the adverse impacts associated with tourists, 84.1% reported negative impacts of visitors on native flora and fauna (Wang and Miko 1997). Outdoor recreation is a major cause of species endangerment in the United States (Czech and Krausman 1997).

Habitat deterioration also is a concern as land is converted to tourist facilities. Deforestation has compromised habitat for butterflies in Mexico and squirrel monkeys (*Saimiri* spp.) in Costa Rica. Sewage, runoff, and other tourist-related pollution also is a problem (Padgett and Begley 1996). Campsite development has resulted in the loss of woody species in Uganda (Obua 1997). Increased tourist traffic can result in conflicts between indigenous cultures and other local social and economic groups (Nevin 1997, Roberts 1998).

The existence of negative externalities does not mean that ecotourism is necessarily detrimental. Indeed, ecotourism is likely to be less damaging to the environment than alternative industries like agriculture, mining, timber, and urban development (Poirier 1997). Nevertheless, negative externalities must be recognized in assessing and designing ecotourism programs.

Although efforts to internalize, or take into account, many of these external costs have been observed (Leones et al. 1998, Luxner 1998), such efforts cannot be expected to be universal. According to economic theory, incentives to ignore negative external costs are very strong. In an environment without legal or moral restraints, it is economically rational for an individual to impose costs on a third party when it is in his or her own self-interest. The potential of externalities associated with ecotourism, then, presents a contradiction. The popularity (and therefore profitability) of ecotourism increases the incentive to preserve wildlife habitat but also leads to an increase in the occurrence of negative impacts.

Ecotourism: an effort to minimize external costs of tourism

To reduce the negative impacts of tourism, ecotourist enthusiasts can try to 1) persuade government to use its regulatory and administrative powers for the public benefit, 2) convince private entrepreneurs that ecotourism is personally profitable, or 3) coerce individual entrepreneurs and tourists to comply with its principles for philanthropical reasons (Wallace, unpublished data). Economic theory casts doubt upon the effectiveness of each of these alternatives in the long run.

Government enforcement and administration

For public goods, or nonrival, nonexclusive goods, government is often viewed as the legitimate provider. So with many natural resources, society turns from the market to government to maintain environmental quality (Samuelson and Nordhaus 1989). Many political theories, such as the public trust doctrine, entrust the insurance of wildlife and natural habitat to government (Wilkins and Wascom 1992). Assigning ownership of wildlife resources to government agencies has been seen as instrumental in successful conservation efforts in the last century (Geist 1994).

Since the establishment of Yellowstone National Park in 1872, national governments have increasingly become involved in providing resources for wildlife (Kline 1997). With the rise of conferences such as the Stockholm Conference of 1972, the United Nations Charter of Nature of 1982 (Miller et al. 1985), and the "Earth Summit" in 1992 (Soroos 1994), the issue of habitat protection has moved from national to international levels (Barbier and Rauscher 1996).

Government agencies charged with administering natural resources are burdened with multiplicity of often conflicting goals and so may not be relied on to focus on the continued adherence to the stated principles of ecotourism. Other groups will use the democratic or political process to draw the agency toward other interests (Batie and Schweikhardt 1995).

Natural resource agencies are as susceptible as others to the temptation of unproductive political behavior. Valuable resources will be expended in pursuing funds in the political arena instead of completing the task assigned to them (Shabman 1995). They also may participate in projects that increase revenues or prestige but do not produce the amenities they are designed to provide (Bhagwati 1982). For instance, a national wildlife refuge may seek funding for a politically attractive visitors' center and pave a new road for recreational vehicular traffic

at the expense of arguably more important (but less noticeable) projects, like acquiring habitat or removing exotic species.

Regulations designed to protect wildlife resources are costly, difficult to enforce, and uncertain in their effectiveness (Baumol and Oates 1977). The controversy and expense associated with the Endangered Species Act illustrate the perplexity of enforcing environmental legal mandates (Anderson and Leal 1991, Snape 1996, Czech and Krausman 1998).

Another difficulty is the vagueness of many of ecotourism's principles. Concepts like minimizing negative impacts may be difficult to apply in a practical policy setting when the damages imposed on habitat and species are hard to assess. Enforcing other principles, like protecting local interests, can conceivably encounter legal difficulties or violate international trade agreements (Barbier and Rauscher 1996). Increasing the public awareness of animal species in certain areas may complicate the ability of wildlife management authorities to cull or control specific animal populations if tourists favor the protection of certain attractive but troublesome species, like white-tailed deer (*Odocoileus virginianus,* Bensen 1977, Morrow 1998).

Regulatory agencies also are subject to regulatory capture—the tendency, over time, for enforcement and standardization bodies to fall under the influence of the very industries they are supposed to monitor. Persons connected with the regulated interests may become the regulators, who have an incentive to create regulations favorable to the industry (Petersen 1989). Thus, government agencies directed to enforce tourist activity in a manner consistent with ecotourism principles may fall under the sway of the tourist industry. Restrictive regulations may become slack or weakly enforced.

Corruption and dereliction of duty have characterized many governments throughout history. It is impossible to depend on such imperfect institutions to administer ecotourism effectively and equitably. The money ecotourism attracts also may attract fraud and abuse.

Finally, efforts to protect natural areas through ecotourism may be ineffective if governments ignore the myriad social and political problems that contribute to environmental degradation. Insecure property rights, maldistribution of resources, and political and economic inequity frequently push people on the edge of society to despoil natural areas (Foy and Daly 1992, Swanson 1995). If governments do not use their powers to address these problems, the power of ecotourism to enhance environmental protection will be curtailed.

Private ecotourism entrepreneurs: monopolistic competition

To reduce costs of regulation and to avoid the perverse incentives of governmental bureaucratic agencies, recent efforts have begun to transfer the provision of environmental assets to the market (Anderson and Leal 1991). Although there are limits to the ability of effective markets to evolve and operate (Randall 1987), recent efforts to construct market-like mechanisms to facilitate the trade of environmental amenities have met with some success. Examples include fishery quotas (Cullen 1996) and air-pollution permits (Burtraw et al. 1996).

Ecotourism may persuade tourist service entrepreneurs to limit negative impacts on wildlife habitat in the name of self-interest. Some tourists will pay more for a clean, undisturbed environment, to the profit of the entrepreneur who preserves a relatively pristine site.

There is uncertainty about the number of consumers who are willing to pay a premium for sites operated in accordance with ecotourism principles (Roberts 1998), but it is conceivable that a self-interested entrepreneur can create a profitable niche in such a market. Economic theory, however, indicates that there are obstacles which impair the sustainability of profits under such circumstances, reducing the economic reward and the incentive to adopt development plans consistent with ecotourism practices.

The ability to maintain profits in any industry depends on demand and the structure of the market. There is no economic profit in a perfectly competitive market with a large number of suppliers providing an identical good. Maximum profit would occur if the market were a monopoly with a single supplier providing a good that is unlike any other and has no close substitutes (Baumol and Blinder 1988, Nicholson 1992).

It is unlikely that either the perfect competition model or the perfect monopoly model is the appropriate analytical tool to examine the performance of the ecotourism market. A more suitable framework is the monopolistic competition model, originally proposed by E. H. Chamberlin in 1930. Under monopolistic competition, slightly differentiated products are sold in an oligopolistic market, one with only a few suppliers and no significant barriers to market entry. The differentiation among products can be physical—i.e., different models of automobiles—or primarily conceptual—i.e., a brand-name aspirin that appeals to consumers based on its label.

Suppliers will use the distinctiveness of their product as a marketing strategy to enable them to attract customers, charge a greater price, and make a larger return. Initially, these suppliers will earn positive economic profit. Eventually, competitors enticed by the incumbent

suppliers' positive returns will enter the market, offering a similar product that will erode the profit position of existing firms. Eventually, the demand for the existing product will be reduced by competition from similar products until economic profit is zero (Chamberlain 1950, Nicholson 1992, Pindyck and Rubinfeld 1992).

In the case of ecotourism, the physical differences among sites may be significant: a site may have a combination of flora, fauna, climate, and topography unlike any other in the world. The conceptual differences among sites, in the view of travelers, arguably may be less significant. In some cases, the uniqueness of selected remarkable natural resources, like the Grand Canyon, United States, or Victoria Falls, Zimbabwe, may act as a kind of barrier to market entry that will insure a degree of monopoly power and long-term profitability. This will probably not be true for all natural areas. Despite the recognition by scientists that each nation's rainforests are unique, to consumers the differences between a Costa Rican rainforest and a Brazilian rainforest may not be significant. The 2 forests, then, will become competitors in a single market.

An ecotourism firm can be seen as a monopolistic competitor offering ecotourism practices as a marketing strategy to set it apart from the competition. Initially, this firm will earn positive economic profits. These large profits will increase the incentive to preserve the resource and to reduce the negative externalities associated with tourism.

Eventually, other sites, viewing the success of the incumbent firm, will enter the market, offering similar tours using similar practices. Some consumers will be drawn to the competing sites. Demand for the first tourism firm's product will drop. So will the incentive to follow ecotourist principles as a marketing strategy. Facing decreasing returns, a rational entrepreneur may try to increase profits by reducing financial costs or increasing demand. Either one of these efforts can compromise the firm's adherence to ecotourist principles.

Reducing costs. The tourism operator may try to cut expenses by reducing efforts to minimize external costs. The entrepreneur may not undertake costly measures to reduce erosion, pollution, wildlife endangerment, and congestion. These costs will still be borne by somebody, a third party. The operator, however, will be quite rational (in economic terms) to ignore them.

Another way to reduce costs may be to integrate with another entity in a higher level of marketing or production process. Vertical integration has been seen by many industries as a means to reduce uncertainty and take advantage of economies of scale that may be enjoyed by larger corporations. A local tour operator in Peru may contract with an international hotelier to insure a flow of customers. A boat captain may sell his vessel and facilities to a resort owned by a foreign company. Although it is debatable whether the growing influence of larger industries in ecotourism is negative or positive (Ayala 1996), this development does compromise the ethical principle of maintaining local control and distribution of economic returns (Wallace unpublished).

Increasing demand. An alternative method of maintaining profit is to increase the demand for the site. This can be achieved by developing yet another, perhaps narrower, marketing distinction or by appealing to a larger market. A tourist entrepreneur may decide to do this by offering additional services to entice travelers. Because it is believed that there is only a limited market for tourists who volunteer to adhere to the principles of ecotourism (Ayala 1996), many of these services may not be the low-impact variety preferred by the ecotourist ethical code. Ironically, the development of ecotourism may provide opportunities for the expansion of more intrusive mainstream tourism in environmentally sensitive areas. Megan Epler Wood (unpublished data), president of the Ecotourism Society, believes this has already occurred in Costa Rica and Belize.

Not all sites are vulnerable to the same competitive pressures that reduce the capacity for prolonged economic profit. Sites with rare beauty, wildlife, and other environmental characteristics may be able to maintain market positions and profit by protecting natural areas. It is unlikely that all sites will be able to enjoy the same position. Eventually, competition among sites for tourists will intensify the extent of negative externalities.

Moral suasion

Recognizing the limitations of government or the market in maintaining restrictive development practices, ecotourism enthusiasts may rely upon ethical appeals to convince individual entrepreneurs or consumers voluntarily to reduce the negative impacts of their activities. Mainstream economists (Smith 1937, Nicholson 1992, Pindyck and Rubinfeld 1992) and their critics (Daly and Cobb 1994, Ehrlich et al. 1997) alike agree that moral suasion has only limited effectiveness in modifying production and consumption.

It is possible that principled entrepreneurs will comply with ecotourism principles voluntarily in pursuit of a personal goal greater than private financial profit. While principled entrepreneurs do exist, there are doubts regarding the ability of such to prevail in a competitive market. Some bold, visionary leaders may establish firms that adhere to normative guidelines in addition to fiscal returns. In the long run, though, after strong leaders

leave positions of influence, the goals of their firms convert to more mundane goals of profit maximization (Heilbroner 1966).

Individual entrepreneurs may maximize profit by engaging in socially inefficient behavior. Firms that use restrictive and costly processes not honored by competitors will be forced out of business. The market provides few incentives for restraint.

Individual consumers may maximize utility by following personally enjoyable activities that may negatively impact the environment. It is unlikely that a large market of Western consumers who are accustomed to a high-impact, very consumptive lifestyle will voluntarily forego such amenities on vacation (Ayala 1996). The low priority of the environment among other issues (Ladd and Bowman 1996) suggests that only a relatively small percentage of the market are so concerned about the environment as to bother with the inconvenience of ecotourism-style tours. Anecdotal evidence from popular magazines supports the claim that the Spartan atmosphere of ecotourism has limited appeal (Quammen 1992, Wheat 1998).

Encouraging tourists to observe restraint in their interaction with the environment may not be fruitful. Tourists will likely violate the rules, stray from the path, or damage sensitive amenities, intentionally or unintentionally, in an effort to maximize utility by adventurism, curiosity, or even vandalism. In the great travel novel, *A Room with a View* (1905), 2 British women cast away their Baedeker in search of the "true Italy" and create conflict and disruption between themselves and the local populace. The tendency to depart from the prescribed path is probably as characteristic today as it was in E. M. Forster's day. The results in delicate settings of ecotourism, however, are potentially more unfavorable and long-lasting.

Moral hazard

Contrary to encouraging a greater ethical environmental standard of behavior, ecotourism may actual provide perverse incentives to increase environmentally harmful activities. If consumers, entrepreneurs, and policymakers believe that setting land aside for ecotourism is a sufficient method of habitat protection, they may be more likely to convert other natural areas to other uses.

In addition to serving as entertainment sites, natural outdoor recreational areas may act as a kind of insurance against the complete loss of wildlife habitat. As long as the Everglades National Park is protected, some may reason, the nation is protected against the risk of the disappearance of the Everglades ecosystem. Insurance, by reducing the potential costs of risky behavior, can actually encourage more risk-taking than is socially desirable, a problem called moral hazard. For example, the owner of an insured necklace, who fails to take steps to prevent burglary, may actually be encouraging burglars who are aware of the carelessness insurance can induce (Baumol and Blinder 1988). Savings-and-loan operators, insured against loss of financial capital by federal deposit insurance, placed funds in high risk investments and contributed to the collapse of scores of savings-and-loan institutions (Daly and Cobb 1994).

Like jewelry and deposit insurance, the dependence on ecotourism as a system of wildlife preservation may produce a false sense of security. The existence of outdoor recreational areas may lead policymakers and private individuals to ignore threats to wildlife that are not addressed by setting aside sites for ecotourism. Such areas may be too small (Newmark 1985) or located outside some of the most important threatened areas (Heywood and Watson 1995). Ecotourism may foster a reliance upon recreational areas as a method of conservation that may be inadequate if not delusive.

Conclusion

While the negative impacts of ecotourism may arguably be less severe than alternative enterprises, they are not totally benign. Ecotourism will be unable to solve many of the environmental problems its proponents believe it can. It also may create problems of its own.

Ecotourism cannot develop a market that will reflect all the values of the environmental resources it may support or supplant. Some entrepreneurs may be able develop a profitable niche by following the low-impact practices of ecotourism. The rigors of a market system that caters to the resource-intensive preferences of modern consumers will make it difficult for such firms to prosper and proliferate.

The protection of wildlife resources requires informed choices regarding the impact and consequences of human activities on the natural world. If society elects to conserve sufficient resources for ecosystem protection, it will need a better conservation mechanism than an imperfect market system organized around ecotourism or any other amenity.

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