
Chapter 4

Ecotourism

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Brief Description of the Sector

Since these guidelines first appeared in 1996, ecotourism has become a significant component of the tourist industry. Tourists increasingly seek out relatively undisturbed natural areas to study and admire. They are drawn by the prospect of seeing unusual or spectacular scenery and unique plants and animals in their native habitats, as well as any cultural and historical features found in these areas.

Ecotourism can contribute to economic development and the conservation of protected areas by generating revenues that can be used to sustainably manage protected areas, and by providing local employment and a sense of community ownership. However, without careful planning and management that balances ecological, social, and economic objectives ecotourism can easily cause environmental damage.

Ideally, ecotourism should be used as a way to promote community-based natural resources management (discussed elsewhere in these *Guidelines*). If local communities directly benefit from the use of their land, water, forests and other natural resources, they can be expected to support and participate in efforts to conserve and sustain them. Thus ecotourism projects should aim to:

- increase socio-economic benefits to communities and landowners;
- sustainably managing the environment;
- raise awareness and support for conservation, and
- increase a community's capacity to conserve and manage natural resources outside protected areas.

Ecotourism can contribute to economic development and the conservation of protected areas by generating revenues that can be used to sustainably manage protected areas, and by providing local employment and a sense of community ownership.

Ecotourism...

...projects should:

- provide socio-economic benefits to local communities
- sustainably manage the environment
- raise awareness and support for conservation
- increase community capacity to manage its natural resources

Potential Environmental Impacts of Development Programs in the Sector and Their Causes

Ecotourism impacts are similar to those for small-scale construction, water and sanitation, road, etc., but with added concern for sensitive environments.

Potential adverse impacts include:

Potential Environmental Impacts of Ecotourism Projects

- Soil erosion, from poorly designed or managed roads and trails
 - Water quality deterioration
 - Deforestation
 - Loss of unique flora
 - Changes in animal behavior
 - Air and water pollution
 - Undermining the cultural and economic integrity of the local community
 - Uncontrolled population growth and in-migration
- soil erosion and/or soil compaction from (a) poorly designed roads and trails that do not follow natural contours; (b) people walking, riding or driving off-road or off-trail to avoid wet, rutted or gullied areas; (c) visitors walking, riding or driving off-road or off-trail, to view unique wildlife or resource features; (d) poorly planned or overused infrastructure (e.g., camping areas, tour routes);
 - deterioration of water resources and water quality due to inappropriate design and siting of latrines, septic tanks and solid waste pits;
 - deforestation from firewood harvesting, camping and construction;
 - destruction of unique flora;
 - changes in animal behavior due to human interference; and
 - pollution (e.g., litter, vehicle and boat exhaust, oil residues).

In addition to physical impacts, ecotourism can harm the users of local resources living near protected areas. Tourists can undermine a community's cultural and economic integrity. For example, tourism's peak-season demands can conflict with a community's need for labor during planting or harvesting of crops. Enhanced protection of an already safeguarded area can also conflict with a community's traditional use of the area for non-timber products (e.g., fuelwood, medicinal plants or game meat).

Even the potential local benefits of ecotourism can lead to environmental damage to a protected area. For example, an increase in employment opportunities, road improvement, technical assistance, or health care can stimulate migration of people into the vicinity of the protected area. Improved economic conditions may also result in increased production of solid waste.

Sector Program Design – Some Specific Guidance

Adverse environmental impacts often result from poor planning and coordination. Conversely, establishing a national tourism plan can lead to environmentally sound design of ecotourism programs. NGOs can play an important role in the plan's development, if one does not already exist. The plan can be used to establish policies, regulations and responsibilities for tour operators and other resource users. In addition, management plans should be developed for specific protected areas before beginning tourism activities. Standards for the environmentally sound design and operation of camps and lodges also need to be written, and their adoption must be made a legal requirement for all potential tourism developers and operators.

Protected-area staff need training in the management of resources, materials, equipment, personnel and budgets. In addition to enhancing the enjoyment and educational experience of the visitors, properly trained staff can ensure that tourists stay within designated areas and use facilities and resources (e.g., water resources, fuelwood, and camping sites) in a sustainable manner.

Management Plans

Develop Protected Area Management Plans. Plans should be based on appropriate ecological and social field assessments and the incorporation of “Limits of Acceptable Use” (LAUs) for specific protected zones. LAUs define the maximum level of use an area can sustain without sacrificing visitor experiences or ecological, aesthetic or natural resource values.

LAUs can be based on the number of visitors per day, number of beds allowed in the zone, number of vehicles per kilometer, or other measurements. Whatever measures are selected, they must be easy for protected area staff to track and to act upon if LAUs are exceeded.

Protected area management plans should also establish criteria governing access to sensitive ecological, scenic or cultural sites, including minimum distances that roads must be kept from specific sites and the degree of access allowed to foot traffic. They should designate the areas to be specifically reserved for research, wilderness, non-foot access only, social preservation zones, visitor facilities, overnight posts, roads and trails. The ecological assessment should identify both sites to be avoided and those to be developed, as well as the type and amount of potential infrastructure considered permissible, e.g., lodges, camps, visitor centers, administrative offices, housing for staff, roads, etc.

The heaviest environmental damage may be associated with roads that provide visitor access. Existing plans should be revisited to determine whether roads can be relocated or replaced by trails. Managers and developers increasingly recognize that experiencing natural environments on foot, rather than from vehicles, enhances a visitor’s experience.

Plans should also draw on social assessments that provide information on local communities’ use of protected areas. Many communities in Africa receive substantial income and materials from protected area resources in the form of fuelwood, construction materials, game meat, fish, birds and insects, fruits and berries, ornamental plants and medicine. Social assessments identify the people who use the protected area and how their activities affect ecosystems and visitors’ experience, both present and future. Social surveys can be used to determine the potential for establishing sustainable partnerships between tourism managers and local communities.

Once the ecological and social assessments are completed, a tourism plan can be developed which sets parameters for infrastructure development (e.g., roads, trails, and camp sites); the number, location, and intensity of tourist visits; and responsibilities for implementing and monitoring the plan. Consider the following when establishing management plans and guidelines:

Management Plans

Management plans based on “Limits of Acceptable Use” for the region must be developed to ensure the sustainable use and conservation of local natural resources. Elements of a management plan must include:

- Focus on the primary users
- Development of a key theme—environmental or cultural awareness for example—for the project
- Establishing rules for visitor behavior and protected area use
- Consult local guides and drivers
- Use technical assistance from scientists and scholars
- Organize meetings with stakeholders to collect their input into the plan
- Form an oversight committee from residents, resource managers, guides, commercial operators, lodge owners and service personnel
- Use lessons learned from other countries and regions
- Establish objectives and goals to evaluate the project
- Allow plan to be reviewed by experts, and arrange for its distribution to all interested parties
- Use the plan to establish official guidelines for the use of the protected area or resource

- Decide on the primary audience for the guidelines (e.g., general visitors, tour operators or user groups).
- Clearly identify the theme or key thrust of the guidelines (e.g., environmental protection or increased cultural awareness).
- Include guidance on visitor behavior and protected area use (e.g., campgrounds, hiking and boating).



Ecotourism can help a local community preserve resources, as well as provide socio-economic benefits to the inhabitants. It is important to develop a proper management plan to determine the “limits of acceptable use” for the area.

- Consult with guides and drivers who lead tourists into target areas.
- Get technical assistance from scientists and other experts who have studied tourism impacts.
- Organize meetings or workshops with the stakeholders concerned with tourism development. Form an oversight committee of residents, resource managers, guides, commercial operators, lodge owners, service personnel, tour drivers and local vendors.
- Use applicable guidelines from other countries as a model.
- Set objectives and formulate a way to evaluate whether the objectives have been met or not (e.g., decreased levels of soil erosion from trails and roads, improved scenic vistas).
- Develop a draft document to be reviewed by technical specialists.
- Create a distribution plan for the guidelines.
- Establish official regulations based on the guidelines. (This requires sufficient numbers of motivated enforcement and research personnel, supported by data regarding visitor impacts on soils, water, and endangered species and habitat).

Develop Tourism Concession Plans. Plans for tourism concessions can be prepared to regulate development on protected area lands. If a protected area has a concession system, the requirements can be mandated under contract before a tourism business is allowed to operate in the area. Without a concession system, damage from operating tours, lodges and all other private enterprises surrounding the area may be difficult to prevent.



To ensure the protection of sensitive areas or resources, tourist, concessionaires and private developers must be aware of the rules for sustainably using an ecosystem and preventing changes in animal behavior or damage to local flora.

Tourism concession plans can require that concession proposals and agreements incorporate and follow specific guidelines for environmentally sound design and management. Working within established LAUs, management plans determine the nature of visitor activities and the type and amount of camping and lodging facilities allowed. They may also lay out the terms and conditions of commercial leases. A well-structured tourism concession plan offers:

- a fair and stable administrative environment for concessionaires, of sufficient duration to make private sector investment worthwhile,
- reimbursement for all costs necessary to provide an attractive ecotourism environment and sustainable protected area management services, and
- quality visitor facilities and services for the public.

Concession agreement leases are normally for a limited number of years and monitored through periodic inspections. The information obtained from monitoring is used by protected area managers to determine whether to continue or terminate a concession. The information can also be used to determine whether a concessionaire should be allowed to build or operate additional facilities within established LAUs.

A concession application should include specific provisions regarding the implementation and monitoring of the concession activity. The government, private sector, tour guides/interpretive workers, NGOs, donors, and local

Tourist Concession Plan

If an area is operating under a concession, then a concession plan to regulate tours, lodges and other private development is necessary. It should include:

- Assurances of fair and stable administration for concessionaires, to encourage long term investment
- Reimbursement for costs necessary to maintain and conserve the ecosystem
- Quality visitor facilities and services
- Provide information to tourists on sustainable use of a protected area
- Collect information on the concessionaires performance and monitor their compliance with regulations

communities should agree on the information and restrictions to be included in a concession contract.

In addition to guidelines for private-sector concessions, guidelines should be developed for *tourists*, who need, and usually appreciate, information on how to use and conserve protected area resources. Much of the environmental and cultural damage that tourists cause results from lack of information and understanding.

Partnerships and shared commitments should be forged among communities, government and the private sector to:

- strengthen ecotourism ventures;
- plan the sustainable management and use of resources;
- strengthen business and community marketing, and
- build financial management and organizational skills.

These partnerships must provide equitable tourism benefits to both communities and the private sector to ensure their sense of responsibility for sustainable management of protected areas. Establishing these relationships can be a long-term process, but the potential rewards make it a worthwhile effort.

Environmental Mitigation and Monitoring Issues

Issue or aspect of activity	Impact <i>The activity may . . .</i>	Mitigation Note: Mitigations apply to specified project phase: <i>Planning and Design (P&D), Construction (C), or Operation and Maintenance (O&M)</i>
<i>Planning and Design in General</i>		
Define use limits	Exceed Limits of Acceptable Use (LAUs) for the protected area	<ul style="list-style-type: none"> Develop management zone plans to set LAUs and the processes that will be employed to ensure they are not exceeded. Use the technology with the least impact on the environment , for example, use motorcycles or bicycles to deliver supplies to sensitive locations needed to provide emergency access to sensitive or wilderness areas. (P&D) (C) (O&M)
Select site for infrastructure Identify nature and location of proposed infrastructure	Cause loss of tropical forest Result in loss of habitat necessary for maintenance of biodiversity Adversely affect threatened or endangered species Result in poor siting of infrastructure, roads, etc. Damage viewsheds and general visual appeal	<ul style="list-style-type: none"> Carry out environmental assessments (EAs) or detailed mitigation strategies to avoid or mitigate adverse impacts on tropical forest, biodiversity and/or threatened and endangered species Use a multidisciplinary team—e.g., hydrologist, geotechnical engineer, soil scientist, ecologist, tourism specialist—to determine the nature of proposed infrastructure and potential site locations (e.g., buildings roads, camp sites, observation points, etc.) (See the “Small Scale Construction” section of the <i>Guidelines</i>) (P&D) (C) (O&M)
Develop road and trail networks to provide access to protected area	Result in unnecessary alteration of natural setting and viewsheds ; damage aesthetics Site roads and trails too close to wetlands, rivers and other water bodies, tropical forests, or sensitive areas	<ul style="list-style-type: none"> Develop integrated road and trail network plans. Emphasize the use of trails instead of roads near sensitive or exceptional resources (e.g., habitat for rare, threatened or endangered species; tropical forest; cultural, archeological, scenic, historical or paleontological sites). Place lodges and camps out of view of protected area visitors Conduct careful analysis of soils and subsurface geology. Incorporate correct siting and design within design specifications (See “Rural Roads” section of the <i>Guidelines</i>) (P&D)

Issue or aspect of activity	Impact <i>The activity may. . .</i>	Mitigation Note: Mitigations apply to specified project phase: <i>Planning and Design (P&D), Construction (C), or Operation and Maintenance (O&M)</i>
Quarry materials for road surface maintenance and construction	Damage viewsheds and general visual appeal	<ul style="list-style-type: none"> Develop a quarry and borrow pit management plan for extraction of materials for road and building construction. Plans should include assessments of quantity and quality of material available from potential sites, in sufficient detail to choose a site that is ecologically sound, yet practical, and should include a plan for restoration. <p>See the “Small-Scale Construction” and “Rural Roads” sections of the <i>Guidelines</i> (P&D) (C) (O&M)</p>
Select construction materials	Cause ndence on imported construction materials	<ul style="list-style-type: none"> Design to use local materials as much as possible, without depleting available resources or harming the environment. To avoid negative impacts from using local materials, may plan to replant trees, carefully restore local quarries or borrow pits, etc. <p>(See the “Small-Scale Construction” section of the <i>Guidelines</i>) (P&D) (C) (O&M)</p>
Supplying long-term water requirements	Cause excessive water consumption, competing with needs of fauna and flora in protected areas, especially in semi-arid and arid climates	<ul style="list-style-type: none"> Estimate water demands for all future uses in protected areas. Develop surface and groundwater budgets based on historical meteorological and precipitation records and assessments of groundwater flows. Select water-conserving and water-purifying technologies. <p>(See the “Water Supply and Sanitation” section of the <i>Guidelines</i>) (P&D) (O&M)</p>
Determine site locations for human waste disposal and select human waste disposal system	<p>Cause placement of latrines and septic systems too close to wells and water supplies</p> <p>Create human waste disposal problems (causing spread of disease, odor, loss of potential soil nutrients, etc.)</p>	<ul style="list-style-type: none"> Conduct careful analysis of soils and subsurface geology. Incorporate correct placement and leachfield design into planning and construction specifications. Establish a comprehensive plan for disposal and reuse of accumulated human waste. For latrines, require Ventilated Improved Pit (VIP) latrine designs; for campers, provide instruction in soil mining (digging a pit for human waste and covering immediately after use) where pit latrines are not feasible. Establish a long-term plan for the removal and reuse of sludge. <p>(See the “Water Supply and Sanitation” section of the <i>Guidelines</i>) (P&D) (O&M)</p>

Issue or aspect of activity	Impact <i>The activity may. . .</i>	Mitigation Note: Mitigations apply to specified project phase: <i>Planning and Design (P&D), Construction (C), or Operation and Maintenance (O&M)</i>
Select energy sources	Increase dependence on non-renewable energy resources	<ul style="list-style-type: none"> • Employ solar water heating in regions with low cloud cover; employ photovoltaics for lighting, radio, and cold chain storage in areas without access to the electric grid. Incorporate passive solar cooling and heating into building designs. Investigate wind energy and microhydro power and employ where cost-effective. Develop and implement energy conservation plans. (See the “Biomass and Renewable Energy” section of the <i>Guidelines</i>) (P&D) (O&M)
Choose solid waste disposal alternatives	Cause solid waste accumulation at disposal sites	<ul style="list-style-type: none"> • Develop management plans for disposal of solid waste and recycling of wet wastes (organics), paper, metal, plastics and waste oil. Require all visitors, concessionaires and tour operators to “bag and remove” all solid waste from the protected area. Where feasible, employ a “check-in, check-out” system for all food consumed by visitors. Minimize incineration, and locate incinerators outside the protected area, where feasible, or at least away from visitors and animal populations • Include design specifications that reduce exposure of solid waste to potential disease vectors, e.g., insects, birds, rodents and other mammals, by requiring screening or regular covering (See the “Management of Solid Waste” section of the <i>Guidelines</i>) (P&D) (O&M)
Operate equipment Fuel and service vehicles and equipment	Create a variety of problems: hearing loss for equipment users; unpleasant sounds, sights and smells for visitors; alteration in animal behavior Contaminate soil and water	<ul style="list-style-type: none"> • Place generators and pumps below ground or in sound-buffered earth mounds or sheds. Require earplugs or other hearing protection for workers. • Design fueling and equipment maintenance areas to minimize fuel spillage and prevent gasoline and waste oil from contaminating soil or water. (See the “Rural Roads” section of the <i>Guidelines</i>) (P&D) (O&M)
Develop financial management plan	Fail to generate enough revenues for sustainable operation	<ul style="list-style-type: none"> • Emphasize high-value, low-impact tourism with fee and lodging cost structures set to provide for sustainable management (P&D) (O&M)
Offer local economic and social gains	Fail to provide enough benefits to local communities	<ul style="list-style-type: none"> • Establish local employment requirements in concession agreements • Place clauses that require sharing revenues and benefits with local communities in concessions or trust agreements (P&D) (O&M)

Construction		
Creation of roads and trails	Lead to excessive road and trail networks Contribute to soil erosion	<ul style="list-style-type: none"> Ensure that protected area management follows the long-term comprehensive plan for the road and trail network (See the “Rural Roads” section of the <i>Guidelines</i>) (P&D) (C) (O&M)
Construction of hotels and lodges	Contribute to unsustainable use of local materials Cause overuse of imported materials Contribute to soil erosion and siltation of riparian systems	(See earlier entry on construction materials under “Planning and Design in General” as well as the “Small-Scale Construction” section of the <i>Guidelines</i>) (C)
Quarrying materials for road surface maintenance and construction	Harm viewsheds and general visual appeal	<ul style="list-style-type: none"> Ensure that extraction follows the long-term quarry and borrow pit management plans for road and building construction. Carry out phased and systematic restoration/reclamation. (See the “Small-Scale Construction” and “Rural Roads” sections of the <i>Guidelines</i>) (P&D) (C) (O&M)
Excavation related to road or building construction	Cause damage to, or removal of, paleontological, archeological or cultural artifacts	<ul style="list-style-type: none"> Periodically inspect site. Enforce severe penalties for damage or theft of artifacts, etc. Provide education and incentives to encourage preservation (C) (O&M)
Construction camps	Spread HIV/AIDS	<ul style="list-style-type: none"> Provide initial instruction and periodic educational follow-up with construction workers, communities and protected area staff (O&M)
Construction and operational safety	Create potential hazards to workers and communities (falls, disease, human/animal encounters) Create potential hazards to visitors	<ul style="list-style-type: none"> Prepare a health and safety plan for the protected area and environs, including appropriate safety measures and equipment for workers (masks for dust, gloves for exposure to waste oil, earplugs for high-decibel equipment use, etc.). Provide health and safety training, as needed (P&D) (C) (O&M) Develop mitigation plan to reduce speeding (See the “Rural Roads” section of the <i>Guidelines</i>) (P&D) (O&M) Mitigate to minimize or prevent human/animal interactions (P&D) (O&M)
Operation		
Tourists visiting protected areas	Exceed visitor LAUs	<ul style="list-style-type: none"> Enforce LAUs for protected areas. Conduct annual reviews for compliance with LAUs and the need for additional action, if any (P&D) (O&M)

<p>Visitors walking or driving within protected area</p>	<p>Result in visitors walking or driving off-road or off-trail, which may:</p> <ul style="list-style-type: none"> • Result in creation of multiple tracks • Change animal behavior • Interfere with reproductive patterns of threatened or endangered species • Damage aesthetics • Introduce exotic species 	<ul style="list-style-type: none"> • Schedule regular field inspections by designated road inspectors • Keep water off existing roads and trails (P&D) (O&M) • Impose and enforce substantial penalties for moving off roads or trails • Determine acceptable visitor movement levels that do not alter animal behavior (P&D) (O&M) • Use park staff or volunteers to remove non-indigenous species before extensive ecological impacts occur (See the “Rural Roads” section of the <i>Guidelines</i>)
<p>Visitor use</p>	<p>Cause loss of tropical forest Cause loss of habitat necessary for maintenance of biodiversity Adversely affect threatened or endangered species</p>	<ul style="list-style-type: none"> • Schedule regular field inspection by designated ecologist/inspector • Revise workplans, management plans and strategies annually (O&M)
<p>Visitor and community natural resource extraction</p>	<p>Result in illegal removal/extraction of fauna and flora beyond established limits for sustainable use or quotas Damage archeological, paleontological, historical or cultural sites Contribute to removal of artifacts, fossils, etc.</p>	<ul style="list-style-type: none"> • Provide budget and training for local community residents and/or local staff as protected area resource monitors for fauna and flora to ensure observance of extraction/quota limits • Provide budget and training for local community residents and/or local staff as protected area resource monitors for archeological, paleontological, historical or cultural sites • Provide awards/incentives for exemplary performance of resource monitors and concessionaires. Use major disincentives (loss of concessions or employment, visitor or tour operator fines) for illegal extraction of or damage to resources of special significance, sensitive areas, flora or fauna • Schedule regular field inspection by designated inspectors/resource monitors (P&D) (O&M)
<p>Provision of potable water for ecotourism activities</p>	<p>Result in excessive water consumption that competes with needs of fauna and flora in protected areas, especially in semi-arid and arid climates.</p>	<ul style="list-style-type: none"> • Schedule site inspections to ensure that water supply and water use rates are as predicted and that water supply technologies are being used effectively. Monitor water supply to ensure that proper health practices are observed. (See the “Water Supply and Sanitation” section of the <i>Guidelines</i>) (O&M)

Visitor and staff human waste disposal	Contaminate water and soil with human waste	<ul style="list-style-type: none"> • Maintain latrines and septic tanks; recycle or dispose of sludge. • Test water and soil periodically. Schedule regular field observations. (See the “Water Supply and Sanitation” section of the <i>Guidelines</i>) (P&D) (O&M)
Visitor and staff solid waste disposal	Contaminate water and soil with solid waste	<ul style="list-style-type: none"> • Dispose of solid waste and recycle wet wastes (organics), paper, metal, plastics and waste oil. Require all visitors, concessionaires and tour operators to “bag and remove” all solid waste from the protected area. Where feasible, employ a “check-in, check-out” system for all food consumed by visitors. Minimize incineration, and locate incinerators outside the protected area, where feasible, or at least away from visitors and animal populations • Schedule regular field observations (See the “Management of Solid Waste” section of the <i>Guidelines</i>) (P&D) (O&M)
Visitor interactions with local communities	Alter local cultural values	<ul style="list-style-type: none"> • Provide initial instruction and follow-up educational sessions and materials for tour concessionaires, tour operators and visitors (P&D) (O&M)
Sex worker and local community interactions with laborers, truck drivers, tourists, etc.	Spread HIV/AIDS	<ul style="list-style-type: none"> • Provide initial instruction and periodic educational follow-up with laborers, hotel staff, communities and protected area staff (P&D) (O&M)
Operation of equipment	<p>Create excessive noise affecting equipment operators, other staff, visitors, wildlife and local communities</p> <p>Harm staff and the environment, and damage equipment (see “Staff training: maintenance and operation staff” below)</p>	<ul style="list-style-type: none"> • Schedule field observations
Staff training: maintenance and operations staff	<p>Inadequate training of staff in equipment operation and maintenance may:</p> <ul style="list-style-type: none"> • Lead to accidents and injuries from unsafe operations • Increase equipment breakdown and shortened equipment life • Increase pollution from used oil and other fluids from poor maintenance 	<ul style="list-style-type: none"> • Carry out health and safety plan described under “Construction and operational safety” above • Budget for and conduct periodic retraining of staff in maintenance and operation of equipment. Also, emphasize the importance of keeping accurate operation and maintenance logs on equipment (P&D) (O&M)

<p>Administrative and financial management</p>	<p>Inadequate training of staff in administrative and financial management leading to</p> <ul style="list-style-type: none"> • Inaccurate books and unclear cost picture that make budgeting and economizing difficult • Difficulties or lateness paying bills or wages or collecting money owed due to unexpected cash shortfalls • Opportunities for embezzlement 	<ul style="list-style-type: none"> • Hire qualified staff (P&D) • Train staff before they begin working (P&D) • Budget for and conduct periodic retraining (O&M) • Have books audited annually (O&M)
<p>Successful ecotourism program</p>	<p>Infringe on traditional land use by local communities</p> <p>Create in-migration to ecotourism sites or protected areas</p> <p>Contribute to natural population increase in the area over time</p>	<ul style="list-style-type: none"> • Design and implement a community support service program employing protected area staff. Work with district governments, villages and NGOs to develop regional assessments of land use outside the protected areas and develop both regional environmental assessments and regional plans for reducing population pressures. Carefully assess cumulative impacts (P&D) (O&M) • Develop and help institute companion health and family planning services and off-farm employment initiatives (P&D) (O&M) • Ensure establishment of a licensing, permit or quota system for residence in or near the area (P&D) (O&M)
<p>Decommissioning</p> <p>Closing infrastructure or facilities in protected area</p>	<p>Cause erosion of abandoned roads and trails</p> <p>Allow abandoned infrastructure to become unsightly</p> <p>Create hazards from abandoned infrastructure</p> <p>Create hazards from abandoned quarries and borrow pits</p>	<ul style="list-style-type: none"> • Include plans and budget for decommissioning in original planning and design and incorporate in design and construction specifications (P&D) (O&M) • Carry out site inspections at time of decommissioning to ensure abandoned infrastructure does not harm aesthetics or pose safety or health hazards (P&D) (O&M) • See the “Small Scale Construction” and “Rural Roads” sections of the <i>Guidelines</i>

Resources and References

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- The International Society for Eco-Tourism (TIES)*. (Offers a number of valuable resources for ecotourism professionals including links to the staff's selection of the best recent research articles.)
<http://www.ecotourism.org/>
- Tanzania National Parks (July 1995). *Development/Action/Lease Procedures (DALP)*. An excellent set of required procedures and checklists to be used by prospective lodge, camp and infrastructure developers submitting development proposals to Tanzania National Parks. Applicable to protected area management worldwide. (55 pages)

World Commission on Protected Areas Publications

(All publications produced by the World Commission on Protected Areas (WCPA) of the World Conservation Union (IUNC) are available for download via <http://wcpa.iucn.org/pubs/publications.html>. PARKS Magazine is a publication of the IUNC-WCPA.)

IUCN-WCPA (2000). *Protected Areas: Benefits beyond Boundaries—WCPA in Action*. English, French and Spanish.

Kelleher, Graeme (1998). *Guidelines for Marine Protected Areas. PARKS Magazine* 8 (2). (Guidelines for creating and managing MPAs as a component of integrated coastal management and sustainable development.)

Financing Protected Areas Task Force of WCPA, Economics Service Unit of IUCN (ed. Adrian Phillips) (2000). *Financing Protected Areas—Guidelines for Protected Area Managers*. IUCN-WCPA Best Practice Protected Areas Guidelines Series No. 5.

This guideline is aimed at providing protected areas managers with information about financing their protected areas and where to look for finance beyond existing sources.

Beltrán, Javier and Phillips, A. (ed.) (2000). *Indigenous and Traditional Peoples and Protected Areas: Principles, Guidelines and Case Studies*. IUCN-WCPA. Best Practice Protected Areas Guidelines Series No. 4.

It is sometimes assumed that protected areas must be in conflict with the rights and traditions of indigenous and other traditional peoples. This document suggests processes to avoid conflicts between those peoples' rights and protected area objectives.

Hockings, Marc, Stolton, S., Dudley, N., and Phillips, A. (ed.) (2000). *Evaluating Effectiveness—A Framework for Assessing the Management of Protected Areas*. IUCN-WCPA Best Practice Protected Areas Guidelines Series No. 6.

This report proposes a framework for assessing management effectiveness. The framework also includes suggested tools which can be used as the basis for developing an assessment methodology.

Phillips, Adrian (ed.) (1998). *Economic Values of Protected Areas: Guidelines for Protected Areas Managers*. Task Force on Economic Benefits of Protected Areas of the WCPA, with the Economics Service Unit of IUCN. IUCN-WCPA Best Practice Protected Areas Guidelines Series No. 2.

Part I provides an overview of how the economic values of protected areas can be assessed, providing new insights and informing the debate. The case studies in Part II identify those sites where protecting the environment made significant economic contributions.

Davey, Adrian G. and Phillips, A. (eds.) (1998). *National System Planning for Protected Areas*. IUCN-WCPA. Best Practice Protected Areas Guidelines Series No. 1.

(A system plan is the design of a total protected area system covering the full range of ecosystems and communities found in a particular country. These guidelines identify links between system planning, in situ conservation, protected area management categories and the importance of carrying out activities within a broad national framework. This publication provides good guidance to national governments in implementing Article 8 of the CBD.)

IUCN-WCPA and World Conservation Monitoring Centre (1994). *Guidelines for Protected Areas Management Categories*.

The guidelines attempt to establish greater understanding among all concerned about the different categories of protected areas. A central principle upon which the guidelines are based is that categories should be defined by the objectives of management, rather than the title of the area, or the effectiveness of management in meeting those objectives. English and French versions.

IUCN (1998). *Population and Parks*. *PARKS Magazine* 8 (1).

A selection of case studies acknowledging the need to establish partnerships and encourage cooperation with neighbors and other stakeholders, promote stewardship, and other instruments which support protected areas objectives.

IUCN (1998). *Marine Protected Areas*. *PARKS Magazine* 8 (2).

A volume of lessons learned case studies from MPAs around the world. The case studies focus on: the application in practice of IUCN-WCPA protected area categories to MPAs and an evaluation of the contributions which MPAs can make to sustainable fishing and biological diversity.

IUCN (1998). *Grassland Protected Areas*. *PARKS Magazine* 8 (3).

A volume of case studies advancing the discussion on the lack of protected temperate grassland biomes—and the vital need for them. Case studies represent each realm on the planet in which temperate grasslands are found.

IUCN (1999). *Reserve Design and Selection*. *PARKS Magazine* 9 (1).

Special issue with articles illustrating the real-world applicability of recent approaches to systematic conservation planning.

The International Society for Eco-Tourism (TIES). Offers a number of valuable resources for ecotourism professionals including links to the staff's selection of the best recent research articles.
<http://www.ecotourism.org/>

The World Commission on Protected Areas (WPCA). WCPA promotes the establishment and effective management of a worldwide representative network of terrestrial and marine protected areas. As is evident from the preceding long list of publications, they provide a wealth of resources.
<http://wcpa.iucn.org/>