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Sustainable Tourism: International Cooperation for Development

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Sustainable Tourism: International Cooperation for Development

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TOURISM AND CONSERVATION
SUSTAINABLE MODELS AND STRATEGIES

Sustainable Tourism: International Cooperation for Development
ONLINE TOOL KIT AND RESOURCE SERIES

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PREFACE

This course is directed at resident or expatriate professionals, as individuals or in teams, who plan or implement sustainable tourism projects in developing countries. These projects are sponsored by donors, government agencies, NGOs, consulting firms, universities, businesses, and others. Some audiences that would benefit include:

- Local authorities such as destination management organizations, tourism offices, promotion agencies, and organizations that manage tourism
- Protected area managers and staff involved in visitor management and outreach to the tourism industry
- Public, semi-public, and civil society administrators and professionals responsible for the development, promotion, and organization of tourism
- Local, public, and private tourism operators offering transportation, lodging, food, space, attractions, events, and others that enhance long-term sustainability and competitiveness of tourism destinations
- Consultants who work in tourism planning and development or protected area management
- University professors who teach tourism, planning, and resource management courses

This course includes two publications developed with support of USAID:

- USAID's Program for Management of Aquatic Resources and Economic Alternatives (MAREA) developed the "Sea Turtles Tourism Conservation Models" which describes six conservation models that link sustainable tourism, biodiversity conservation, and community development. This publication is a component of a toolkit developed for MAREA by Matt Humke and Hamilton McNutt of Solimar International. Although these models describe marine resources, they also apply to the management of terrestrial tourism and conservation.

- With support from the Global Sustainable Tourism Alliance, US Department of Agriculture Forest Service, Office of International Programs, and the Alex C. Walker Educational and Charitable Foundation, The Nature Conservancy developed "The Threshold of Sustainability for Tourism within Protected Areas: A Quick Guide for Protected Area Practitioners," written by Andy Drumm, Steve McCool, and Jim Rieger. This publication benefited from thoughtful reviews by Roberta Hilbruner, David Mehlman, Loring Schwarz, and Eddy Silva. Jamie Ervin provided extensive editorial services throughout development.

The Global Sustainable Tourism Alliance Management Partners —FHI360, The George Washington University, Solimar International, and the Nature Conservancy — provided helpful feedback to USAID on this publication.

We would like to express our deep appreciation and gratitude to individuals who shared their knowledge and experience in the development of this course, particularly to our editor, Jon Kohl, and to Annessa Kaufman and Kristin Lamoureux of The George Washington University.

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DELIVERABLE NO. 4(C): SEA TURTLE TOURISM CONSERVATION MODELS

1 Jun 2011

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DELIVERABLE NO. 4(C): SEA TURTLE TOURISM CONSERVATION MODELS

Contract No. EPP-I-00-04-00020-00-SOL

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INTRODUCTION

Marine ecosystems worldwide are experiencing unrelenting pressure from coastal development, urban expansion, pollution, and unsustainable fishing practices…not to mention the increasingly negative effects of climate change. The degradation of these ecosystems has caused the decline of numerous marine species, including the six species of sea turtles found in Central American waters now classified as endangered. The decline of sea turtle populations is emblematic of the damage that humans have inflicted on sensitive marine ecosystems, as sea turtles have existed for over 100 million years but only now face the real possibility of extinction due primarily to anthropogenic causes.

Figure 1: Sea turtle populations in decline

USAID's "Management of Aquatic Resources and Economic Alternatives" (MAREA) program is designed to address human-based threats to coastal and marine ecosystems throughout Central America. The USAID-MAREA project holds two primary objectives. First, to promote effective monitoring and enforcement of coastal and marine resource policies and legislation with an emphasis on compliance. Second, to foster rights–based and market-based mechanisms and management incentives for the conservation and sustainable use of coastal and marine resources and ecosystems, with an emphasis on ecosystem-based approaches to management.

The MAREA project is targeting both economically important fisheries such as lobster, queen conch, mangrove cockles and grouper and endangered marine species such as turtles and shark, which represent viable opportunities for piloting the use of rights-based mechanisms and best management practices.

Sustainable Tourism as a Tool for Conservation

Sustainable tourism has the potential to not only mitigate the potentially harmful impacts of visitation to a natural area, but it can also act as a powerful tool to support conservation of the ecosystems upon which it depends. To achieve such results, MAREA program partner **Solimar International** employs a market-based approach that links the jobs and revenue generated by sustainable tourism to direct support of conservation activities that mitigate threats to sea turtles and their habitats.

At its best, sustainable tourism presents an opportunity to better align the economic activities and needs of rural populations, particularly those living in or around protected areas, with biodiversity conservation objectives. Throughout developing countries, the relationship between communities and protected areas is one characterized by conflict and diverging interests. To put it in broad strokes…communities often view protected areas and their managers as those who create and enforce rules that inhibit their ability to provide for their families. And protected areas often view communities as an extractive and destructive force that requires constant monitoring and policing.

The reality is that communities, and their history of dependence upon the extraction of natural resources to make a living, are often at the center of direct and indirect conservation threats. As Brett Jenks, President and CEO of Rare Conservation, a global leader in conservation awareness building puts it "conservation is not an ecological challenge. It is an economic, social, and political challenge". But it is for this very reason that Rare, Solimar, and

other conservation and development organizations around the world focus on solutions that engage and address the needs of local communities, rather than ignore them.

Figure 2: Sustainable tourism vs. resource extraction

Specifically, sustainable tourism presents an opportunity to develop economic alternatives dependent upon the *preservation* of natural resources…rather than their *extraction.* Further more, sustainable tourism creates an opportunity for communities and protected areas to align their interests, begin a collaborative and productive dialogue, and bridge the disconnect that has traditionally existed between them.

It is extremely important to note that **sustainable tourism is not an economic panacea**. Strong economies are diversified economies, and sustainable tourism development is simply an opportunity to *lessen* the pressure on resource extractive activities rather than *replace* them entirely. Sustainable tourism, particularly with rural communities, often begins small with a limited number of new jobs. Tourism employment also tends to be part-time and seasonal at first (although most jobs in rural regions of developing countries are both part time and seasonal). But over time, and through the expansion of tourism products and services (such as tours, lodging, dining, and transportation) tourism can become a viable and sustainable economic option for a growing number of local community members, and can also directly contribute to conservation activities.

Linking Sustainable Tourism, Communities and Conservation

Many community-based businesses, cooperatives, or associations that are established as a part of international development projects often take on the structure and mission of a "social enterprise". A social enterprise is a venture that advances its social mission through entrepreneurial, earned income strategies. For a social enterprise, profit is not the *point* of the business but the *means* by which the enterprise supports a social need. To further explore the concept of social enterprise, let's break down its widely accepted definition:

A social enterprise is a business or organization whose purpose is to change the world for a common good.[1]

When we apply this definition of social enterprise to *sustainable tourism*, we begin to see some of the unique opportunities that this model presents as a development tool:

Figure 3: The social enterprise model applied to sustainable tourism

[1] Lynch, Kevin & Walls, Jr., Julius (2009). Mission, Inc.: The Practitioner's Guide to Social Enterprise. Berrett-Koehler Publishers, Inc.

A social enterprise is, first and foremost, a business. The social mission can only be achieved through financial viability and growth of the enterprise itself. Therefore, the social enterprise must achieve the same success required of any small business, including:

- Healthy revenues & profit margins
- Sufficient working capital
- Effective marketing
- Product innovation
- Superior customer service
- Streamlined operations
- Strong leadership
- Comprehensive business skills

Social enterprise is not an uncommon or radical concept - if you Google the term "social enterprise" you will find nearly 50 million direct references. Harvard Business School has its own Social Enterprise Program. And USAID currently supports social enterprise development programs in Bulgaria, Moldova, Lebanon, Egypt, and Morocco, and Ukraine, to name a few.

The "Triple Bottom Line" Approach

Many social enterprises measure their success not only by their financial "bottom line" or profitability, but also by their ecological and social returns. This approach, called the "triple bottom line", assesses an enterprise's degree of sustainability.

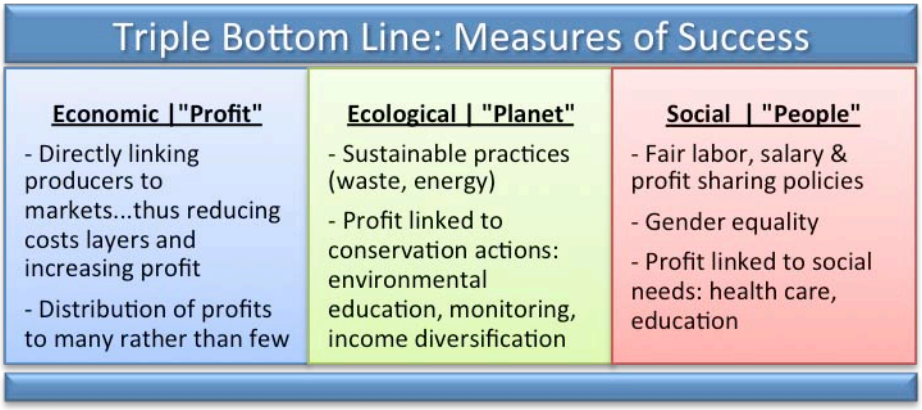


Figure 4: The "triple bottom line" approach

Within many development projects the opportunity often exists for the social enterprise and triple bottom line approach to support the economic, ecological, and social objectives of the project. For example, many of USAID's projects include some of the following objectives as a part of "Performance Monitoring Plan" (PMP)", just to name a few:

Common USAID PMP Objectives
• Number of jobs created in target areas
• Increased investment in target areas
• Number of small & medium enterprises supported in target areas
• Number of persons trained in target areas
• Number of environmentally sustainable practices & processes adopted by the tourism sector in target areas
• Number of alliances, cooperative agreements, concessions, and co-management agreements in target areas

Figure 5: USAID project performance indicators

In order to achieve these direct linkages between community-based tourism and conservation, Solimar introduces direct financial incentives as a way to encourage local community to adopt sustainable tourism principles and practices.

Two examples of this approach include:

- Profit Sharing Mechanisms: Within this approach, community members may earn a higher percentage of year-end tourism profits in exchange for time and labor contributed to support conservation activities throughout the year.
- Memorandums of Understanding (MoUs): During the project development stage, specific agreements are outlined within MoUs that clarify stakeholder commitments. For example, the project partner may commit to a certain level of financial or technical assistance to support the establishment of a community tourism enterprise. In exchange, the community partner agrees to contribute a certain amount of time or percentage of money to support project conservation objectives.

Solimar International's approach begins by empowering local entrepreneurs to develop or improve sustainable tourism enterprises through technical support and highly customized tools, such as the "tourism toolkit" described later in this chapter. Once successful, these local enterprises generate two primary resources, *time* and *money*, that can be harnessed to support local biodiversity conservation activities.

The following graph highlights how tourism's ability to produce these two key resources of time and money can be generated not only from *local beneficiaries,* but also by the *visitors* that are patronizing sustainable tourism businesses and destinations. Many of these specific examples will be further explored within later chapters.

Figure 6: Channels through which tourism-generated time and money can directly support conservation strategies

The Economic Potential of Sustainable Tourism

Solimar International's focus on sustainable tourism as an engine to drive conservation stems from the industry's size and dynamic growth, as well as its potential in developing countries. Tourism is one of the world's largest industries accounting for approximately 11% of global GDP. As a sub-sector, sustainable tourism has experienced an astounding 20% annual growth rate since the 1990's, three times that of the tourism industry overall.

These global trends are even more pronounced in developing countries where tourism growth is double that of the worldwide average. Developing countries represent 40% of all international tourism arrivals and 30% of global tourism receipts.[2] Tourism employs natural and cultural resources as working capital in areas where few other non-extractive economic options exist. Tourism represents a labor-intensive activity that allows youth and gender participation and equity. And finally tourism, particularly in rural areas, is an excellent strategy to economically "link" locally produced ancillary products and services such as food production, arts and crafts production, and transportation services.

[2] UN Report (2010). *The Contribution of Tourism to Trade and Development*. United Nations Conference on Trade and Development. Second session. Geneva May 3-7 2010.

TOURISM CONSERVATION MODELS

Over the past few years, Solimar International has analyzed its sustainable tourism projects, as well as partner projects, to begin identifying direct linkages between sustainable tourism, biodiversity conservation, and community development. The result has been the development of six **Tourism Conservation Models** that represent overall tourism conservation trends. These six tourism conservation models include:

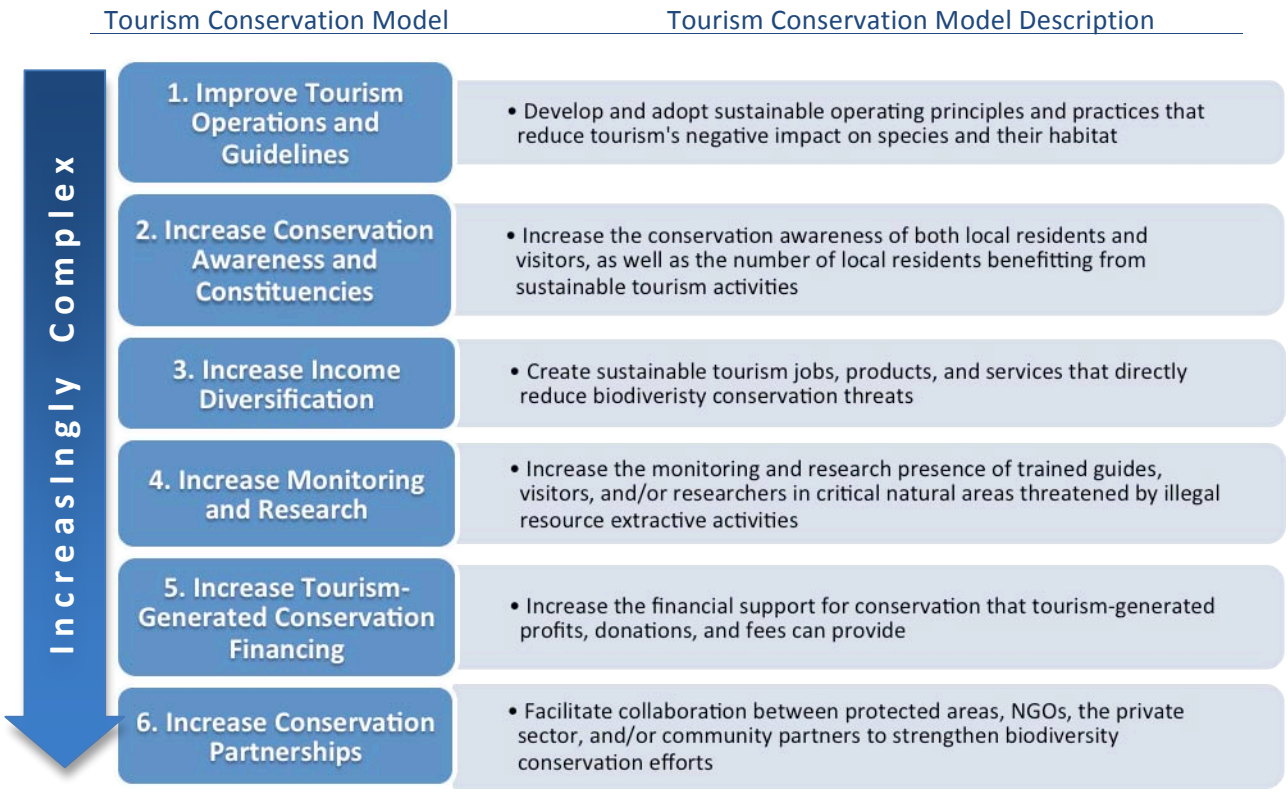


Figure 7: Tourism Conservation Models

The six tourism conservation models are presented here in order of increasing complexity in terms of commitment of resources (money, time, infrastructure), required collaboration amongst stakeholders, and overall coordination and implementation.

Tourism Conservation Strategies

Within each of the six overarching tourism conservation models, individual **Tourism Conservation Strategies** exist. The tourism conservation strategies represent different conservation activities that utilize unique approaches to implementing the overarching tourism conservation model. These strategies include:

Tourism Conservation Model	Tourism Conservation Strategy
1. Improve Tourism Operations and Guidelines	• 1.1 - Promote sustainable tourism guidelines with visitors • 1.2 - Promote sustainable tourism guidelines with the travel industry • 1.3 - Promote sustainable tourism guidelines within protected areas
2. Increase Conservation Awareness and Constituencies	• 2.1 - Increase awareness and conservation support of visitors • 2.2 - Increase awareness and conservation support of local residents • 2.3 - Link benefits of sustainable tourism to the community as a whole
3. Increase Income Diversification	• 3.1 - Target resource extractors with sustainable tourism employment • 3.2 - Develop sustainable tourism products that directly mitigate conservation threats
4. Increase Monitoring and Research	• 4.1 - Increase the role of local residents in monitoring & research • 4.2 - Increase the role of visitors in monitoring & research
5. Increase Tourism-Generated Conservation Financing	• 5.1 - Utilize sustainable tourism profits to support conservation activities • 5.2 - Develop travel philanthropy programs • 5.3 - Develop conservation-themed brands and merchandise • 5.4 - Promote mandatory or voluntary protected area entrance/user fees
6. Increase Conservation Partnerships	• 6.1 - Develop partnerships between protected areas, NGOs, and universities • 6.2 - Develop partnerships between protected areas and communities

Figure 8: Tourism Conservation Strategies

Sea Turtle Tourism Conservation Models Case Studies

In order to best support MAREA's conservation objectives, Solimar International partnered with international and local sea turtle conservation organizations to identify existing or potential *sea turtle* tourism conservation activities that fall within the umbrella structure of the tourism conservation strategies outlined above.

Figure 9: Sea turtle monitoring activities in Mexico

This document, the "Sea Turtle Tourism Conservation Models," is the result of this collaboration. With a focus on practical application, each of the six overarching models are introduced with a short narrative and followed by descriptions of the individual tourism conservation strategies that fall within each of the six models. In the annex of this document, a series of case studies are presented that highlight the organizations and individuals who have implemented these strategies, outlines the process they went through, and also shares some of the practical lessons learned in the process.

MAREA's goal is to share these tourism conservation best practices and case studies with regional NGOs, CBOs, protected areas, and private sector partners to encourage better conservation support through tourism.

CONSERVATION THREAT ASSESSMENT

Any good conservation strategy is built upon the strong foundation of a comprehensive conservation threat assessment. Throughout the process of developing the tourism conservation models described within this document, Solimar and partner organizations often used a conservation threat assessment approach that is similar to that used by international conservation organizations such as The Nature Conservancy (TNC) and their Conservation Action Planning (CAP).

Within this approach, a target condition is defined (species or habitat) and causal chain concept models are developed that identify direct and indirect threats to that target condition. This conservation threat data is collected and prioritized through workshops and in-depth interviews with a variety of local stakeholders including scientists, NGOs, protected area managers, community leaders, and private sector representatives.

Threat Assessment Model

The threat assessment model is built around the cause and effect relationships between indirect threats to biodiversity (such as lack of economic alternatives or lack of conservation awareness), direct threats to biodiversity (such as illegal logging or wildlife harassment), and a site-specific target species or habitat.

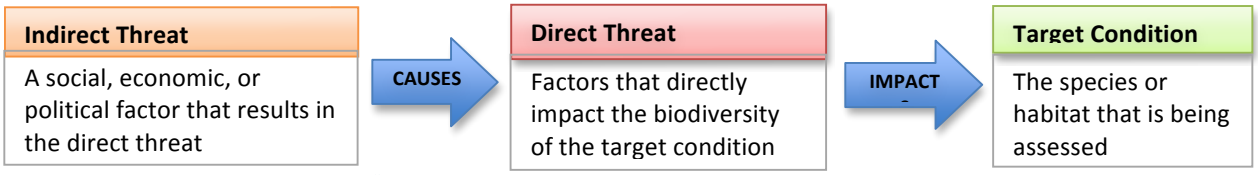


Figure 10: Sample threat assessment "causal" chain

For example, the demand of sea turtle eggs for human consumption is a ubiquitous conservation threat that occurs throughout Central America. The threat assessment model for sea turtle egg consumption might look something like this:

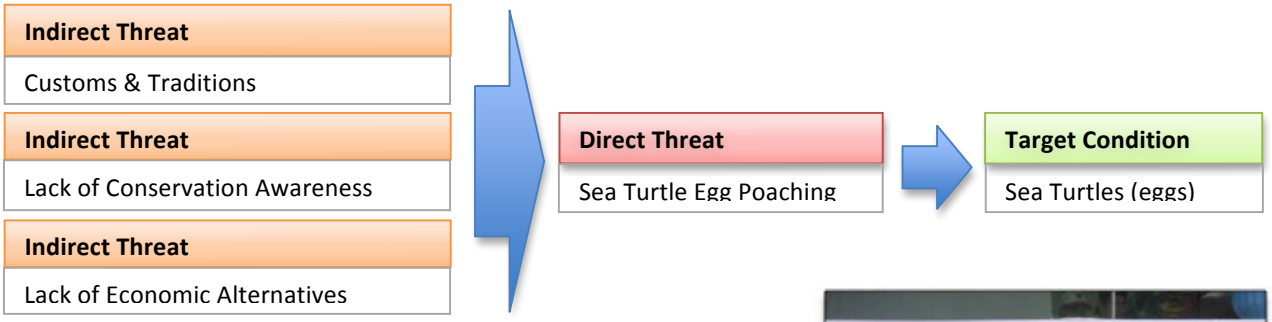


Figure 11: Sample threat assessment causal chain for turtle egg poaching

In this example there are two indirect threats, customs & traditions and lack of conservation awareness, which result in the direct threat of sea turtle egg poaching. This direct threat obviously impacts the site-specific target of sea turtle eggs.

Figure 12: Sea turtle eggs for sale

TOURISM CONSERVATION CONCEPT MODEL

Based on its analysis of sustainable tourism conservation projects over the last few years, Solimar International has developed a "Tourism Conservation" concept model that attempts to link its **project activities** (such as business planning, training, and product development) to **project results** that support many of **the tourism conservation strategies** and address many of the **biodiversity conservation threats** described in this document. That concept model is included on the following page and can be used as a planning tool by organizations and projects attempting to establish linkages between tourism, communities, and conservation.

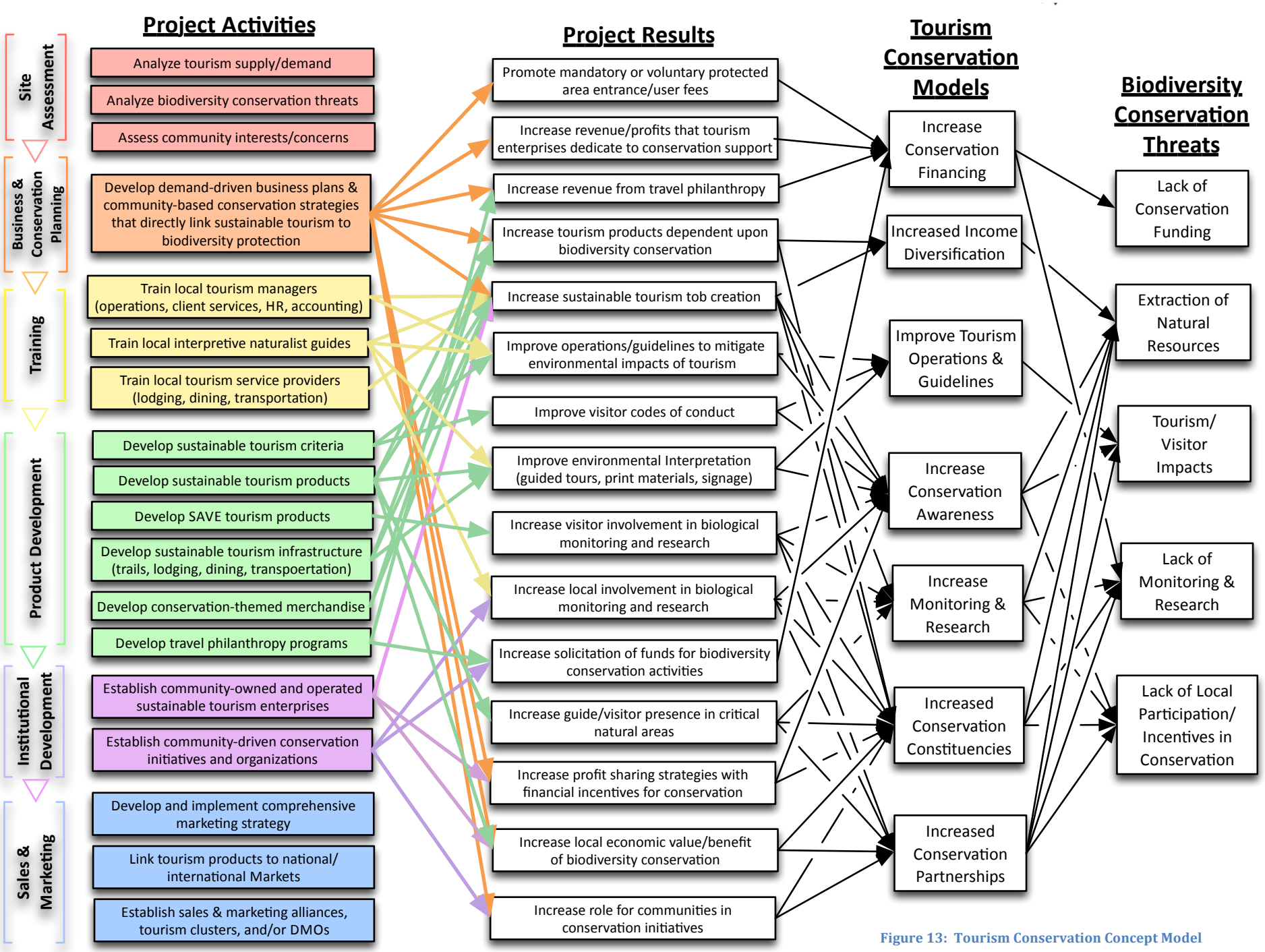


Figure 13: Tourism Conservation Concept Model

SUSTAINABLE TOURISM TOOLKIT

As stated earlier, the tourism conservation models are designed to harness two powerful resources that result from successful sustainable tourism projects: *time* and *money* from both local beneficiaries visitors alike. But developing successful tourism products and community enterprises that produce these resources is a critical first step before any additional conservation or social benefits can be realized.

Figure 14: Tourism Toolkit Contents

In an effort to fill this paramount need, Solimar International has also developed a "Sustainable Tourism Toolkit" to be distributed alongside the Sea Turtle Tourism Conservation Models to provide local organizations practical guides and tools to develop successful community tourism products and enterprises.

TOURISM CONSERVATION MODEL

1. IMPROVE TOURISM OPERATIONS & GUIDELINES

Develop and adopt sustainable operating principles and practices that reduce tourism's negative impact on species and their habitat

Conservation Threats Addressed

Indirect Threats

- Lack of conservation awareness
- Lack of sustainable criteria and guidelines

Direct Threats

- Visitor/tourism impacts: wildlife harassment, habitat destruction, solid waste

Model Summary

The **Improve Tourism Operations & Guidelines** model focuses on reducing the negative impacts of tourism on species and habitat.

Figure 15: Tourism requires sustainability guidelines to minimize impacts to fragile marine ecosystems

The relevance of mitigating the impact of nature-based tourism is justified in part by the sheer volume of visitation that occurs in natural areas, particularly in developing countries. Consider the following:

The phenomenon of "loving nature to death" is a reality nearly every tourism destination in the world faces in one form or another. The threat of tourism to habitat and species are perhaps nowhere more apparent that with sea turtle tourism. Coastal resorts with non-compliant lighting, harassment of nesting sea turtles, the effects of solid waste, and the illegal trade of products made from sea turtle such as jewelry are just a few examples of how tourism and sea turtle conservation can conflict.

Yet for a variety of reasons, including the improved integration and communication of "Global Sustainable Tourism Criteria", tourists and tourism service providers alike are becoming increasingly aware of the importance of mitigating their impact. Within the **Improve Tourism Operations & Guidelines** model, we will explore some of the tools and methods used to engage and educate the tourism industry and visitors in sustainable tourism principles.

Market Forces at Work:
Sustainable Whale Watching in Laguna San Ignacio, MEXICO

Every winter, California gray whales migrate 5000 miles from Alaska to the warm waters of Laguna San Ignacio on the Pacific coast of Baja California Sur, Mexico. Twenty years ago, local Mexican fisherman began offering whale-watching tours to visitors who came to see the "friendly" gray whales of Laguna San Ignacio. Unlike other whale watching lagoons along the coast, the boat guides of Laguna San Ignacio actually *asked* the Mexican government to come in and establish strict regulation to manage whale-watching tourism in San Ignacio in a sustainable way.

Over the years "friendly" gray whales and their calves began to approach the boats seeking out human contact because the local boat guides didn't harass the whales. Today, the Laguna San Ignacio boat guides charge $85 per person for their tour, while in nearby Magdalena Bay where no regulations exists and 20 boats are known to crowd a single whale, they are only able to charge $30 for the same tour.

Figure 16: Sustainable Whale Watching in Laguna San Ignacio, MEXCIO

Tourism Conservation Strategies

Strategy 1.1 – Promote Sustainable Tourism Guidelines With Visitors

Promoting sustainable tourism guidelines with visitors, such as "codes of conduct", empowers those individuals with the information they need to make sustainable choices while visiting natural areas. Visitor codes of conduct are built on a strong understanding of tourism-based conservation threats and scientific input on the parameters and regulations that must be established to mitigate those threats. Codes of conduct should also include or consider any rules or regulations already established by a protected area or authority.

Effectively communicating these regulations is just as important as developing good regulations in the first place. Even incomplete codes of conduct will be more effective if they are socialized well with the target audience. Part of this communication should ensure that tour operators, hotels, and other service providers that move tourism to sea turtle nesting beaches are included to ensure that the messages reach all of the intended audience sufficiently. Materials and signage should be produced in multiple languages, for Central America it will be essential to produce signage in at least English and Spanish.

Visitor codes of conduct for nesting sea turtle tours typically address some or all of the following factors:

- The importance of a local guide's presence
- Group size
- Appropriate clothing
- Use of flash photography
- Visitor behavior (talking, position on the beach, proximity to turtles)
- Beach degradation due to vehicles, horses, and fires
- Waste management

Figure 17: MAREA sea turtle nesting beach signage

Delivery of this strategy is achieved through a variety of mediums, including:

- Guided Interpretation: **Local guides** are the most effective strategy to help communicate and monitor visitor codes of conduct. Guides are able to help develop an appreciation of visitors in natural areas through environmental interpretation, monitor behavior and impacts, and enforce rules and regulations when necessary.
- Interpretive Signage: Realizing that many beaches are isolated and unmanned the majority of the time, **beach signage** can be an effective way to communicate visitor codes of conducts to unaccompanied tourists. Signage should be in all of the languages of visitors to the region. Making the signage visually appealing and including interesting interpretive facts helps to ensure that visitors read and understand the rules that apply to them.
- Signed Statements of Understanding: With guided tours, one strategy is to present visitors with a **document that clearly states the code of conduct**, and then have visitor review and sign the statement acknowledging their understanding of the code.

- Promotional Materials: Incorporating visitor codes of conduct into a sea turtle tourism enterprises **promotional materials** (such as websites and brochures) helps to not only prepare visitors for a sustainable experience, but also conveys to eco-savvy clients the added value of an enterprise's sustainable practices (which is often a motivating factor for their eventual tour purchase).

Strategy 1.2 - Promote Sustainable Tourism Guidelines with the Travel Industry

Promoting sustainable tourism guidelines with the travel industry empowers service providers (such as tour operators and hotels) to make sustainable decisions in how they operate their businesses. At the global level, an initiative is well underway to combine and integrate the best of the world's many sustainable tourism criteria programs into a single program called the "Global Sustainable Tourism Criteria" (www.sustainabletourismcriteria.org). The criteria are part of the response of the tourism community to the global challenges of the United Nations' Millennium Development Goals. Poverty alleviation and environmental sustainability – including climate change – are the main crosscutting issues that are addressed through the criteria.

Figure 18: Local dive shop supporting marine park protection in Roatan, HONDURAS

In coastal regions, a number of conservation organizations, such as the Coral Reef Alliance (CORAL), are working with the travel industry to improve marine and coastal tourism operations. CORAL's "Environmental Performance Checklist" assesses marine recreation providers on a myriad of sustainability standards, and then provides training and support to help those marine recreation providers improve their operations. CORAL's sustainability standards include:

1. Adherence to existing laws and regulations: With respect to laws regarding protected species and fishing.
2. Staff training: Best practices in snorkeling, diving, kayaking, and boat tours.
3. Boating practices: Mitigating motorized vessel impacts to reefs, including the use of mooring buoys.
4. Wildlife viewing: Communicating best practices to visitors to not harass wildlife.
5. Waste management: Boat engine motor oil, untreated sewage, solid waste, and toxic boat paints.
6. Improved equipment & technology: Use of four-stroke engines, biodiesel fuel.
7. Responsible seafood: Not serving rare, threatened, or endangered species, and respecting seasonal bans.
8. Responsible souvenirs: Not harvesting marine species such as shells, coral, exotic fish, and urchins.

More information on CORAL and their "Environmental Performance Checklist" can be found at www.coral.org.

Challenges

Although certification processes are potentially important parts of these guidelines, as a way to ensure compliance, it is important to note the limitations of these programs as well. Certification programs can be costly and time-consuming for businesses, reducing participation rates. Specifically auditing and verification processes often charge significant fees and

WIDECAST
Wider Caribbean Sea Turtle Conservation Network

WIDECAST Publications
Guidelines for Nesting Beach Hotels

WIDECAST is a network comprised of biologists, managers, community leaders and educators in more than 40 nations and territories. For more than 25 years, the organization has worked to support the recovery and sustainable management of depleted sea turtle populations.

WIDECAST is also a leader in the production of sea turtle tourism publications and manuals, including guidelines for nesting beach hotels that deal with issues such as beach lighting, staff training, and overall property management to mitigate the threat of tourism to nesting sea turtles.

More information can be found at:
www.widecast.org/Resources/Pubs.html

Figure 19: WIDECAST construction guidelines

expenses, and even those programs that do not charge fees still imply a time commitment from businesses that many are not able to invest in. The challenge is that certifications without teeth or without verification run the risk of being co-opted as a kind of "green-washing" marketing strategy than for real sustainability guidelines thus reducing the effectiveness of the brand.

The other challenge presented by these certification processes is that one-size-fits-all approaches do not work. The tourism industry as a whole should be targeted, including tour operators, hotels, restaurants, and other service providers. Restaurants will have to be judged on different criteria as hotels or water taxi services. The creation, dissemination, and verification of these different classes of operations also drives up costs. Certification initiatives should take into account the time and cost requirements to lighten the load on small businesses, and create a program that takes into account different contexts of different kinds of businesses without sacrificing effectiveness. One possible solution is to create user-driven feedback that provides a kind of verification at a wider scale and low cost. These systems are already being employed by websites such as tripadvisor.com or yelp.com to rate customer service; these same ideas can be applied to provide feedback on sustainability within a certain framework and given some level of editing.

Finally, it is important to establish regulations and codes of conduct before a destination becomes too popular. Establishing a certain mode of operations is more realistic with a smaller number of stakeholders and fewer big interests. As destinations become more popular and bad habits become accepted as normal behaviors the task converts from an establishment of a best practice regime to the fomentation of a cultural change. The latter of those is very difficult to achieve except through dedicated long-term interventions by a consortium of motivated individuals and organizations.

In the end, sustainable tourism criteria, standards, and guidelines that are **relevant, achievable, and marketable** for private sector partners are the ones that are most likely to be embraced by the travel industry.

Strategy 1.3 - Promote Sustainable Tourism Guidelines within Protected Areas

Though awareness campaigns and the process of informing visitors and tourism operators have an important role, the unfortunate reality is that there are some who simply won't act sustainably without actual regulations in place.

The development public use or management plans for marine protected areas helps in establishing the guidelines and regulations for tourism taking place in these critical natural areas. The complex process of developing such management plans is well beyond the scope of this document. With that said, an overview and importance aspects of developing a management plan include:

- The process should be participatory and inclusive, taking into account the varying points of view of different groups that will be affected by the resulting rules. These stakeholders include protected area managers, conservation NGOs, local businesses, and local communities.
- The regulations and guidelines should address the following issues related to marine protected area management:
    - Descriptions of the area: This should include both the social and the natural history of the protected area
    - Background and history of conservation
    - Roles and responsibilities of active partners
    - Legal framework and applicable laws
    - Vision, mission, and objectives
    - Zoning: Including maps of different zones and descriptions of activities permitted in each zone
    - Management issues: Research, tourism, fishing, etc.
    - Implementation strategy

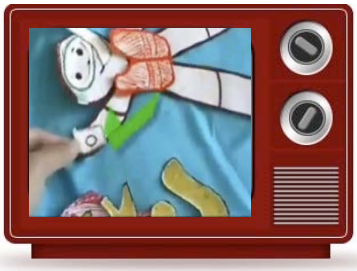
- Monitoring and evaluation plan
- Budget

Promoting Protected Areas and their Guidelines

With protected area sustainable tourism guidelines or regulations in place…the next step is to share those guidelines with the widest audience possible. It is important to present protected area tourism guidelines in ways that are both easily understood and easily accessible.

Some protected areas make orientation sessions mandatory, particularly if visitors are going to be participating in activities that can cause damage to vital and fragile natural resources such as coral reefs. This can assure park management that those using the site for recreational purposes are having as little an impact as possible on the environment thus making their use more sustainable and possibly even allowing for a higher carrying capacity.

Protected area informational scripts and videos can be developed and distributed to hotels, tour and dive operators and naturalist guides. Making these both informative and entertaining will help convey information and keep people interested and attentive. Any time you have a captive audience, such as in a hotel lobby, water taxi or dive boat…there is a prime opportunity to share this important information. Integrating historical and ecological information to frame the rules of the protected area may help to capture the viewer's attention as well.



Cancun Marine Park Orientation Video, 2009
www.youtube.com/watch?v=e7dikieSqOU

Buddy Dive Bonaire, Orientation Video, 2009
www.youtube.com/watch?v=BfUbVtsKNuI

Figure 20: Sample protected area orientation videos

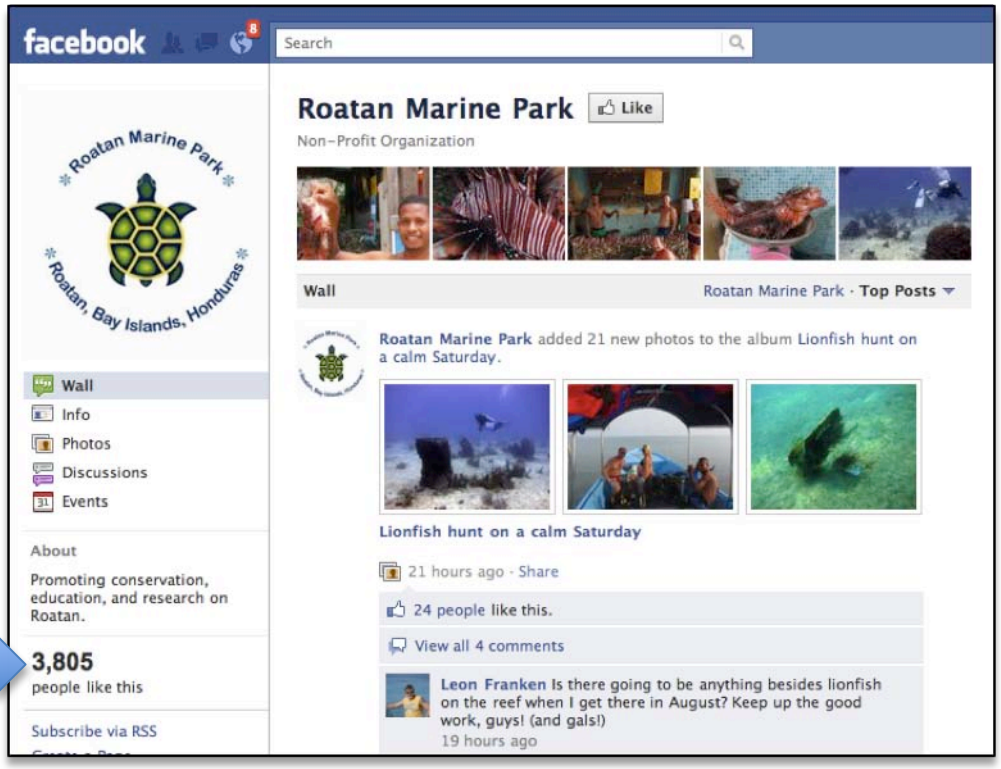
Multi-media and social networking can also help to promote sustainable tourism guidelines within protected areas. Such mediums help to not only showcase the rules, but also create a forum to capture visitor feedback and further promote the area as well as conservation activities that the park is undertaking. Many visitors approach their travels with a great deal of anticipation and will explore social media outlets looking for information on what to expect when they finally arrive at their destination. This is a fantastic opportunity to brief visitors on local codes of conduct and regulations in the protected areas they'll be visiting.

Media outlets such as Facebook, Twitter and YouTube are amongst the most popular forums for sharing ideas and creating social networks. These sites are user friendly and items can be cross-posted through links to an organization's main website. Common use of these sites include:

- **Facebook**: Create a fan page, post videos and park signage, share conservation initiatives and recruit volunteer support, gather feedback and experiences from visitors.
- **Twitter**: Post updates with links to videos and other media, communicate conservation events and activities, and recruit volunteer support.
- **YouTube**: Create videos on park rules and their importance. Imbed links to park websites and other social media outlets.

Some examples of these social networking sites at work:

Roatan Marine Park has a great Facebook page which links up to their own website. This would be a great place to post an orientation video: https://www.facebook.com/pages/Roatan-Marine-Park/100064028855



Bonaire Tourism has a very active twitter feed. This type of outlet would be a great place to tweet about park rules and their meanings and impacts as well as linking up to other media and websites.

Video on MPA rules in Cancun and codes of conduct while snorkeling and diving: http://www.youtube.com/watch?v=e7dikieSqOU

Figure 21: Examples of marine parks and protected areas' use of online media and social networking sites

Annex Case Study: *Cayos Cochinos Management Plan, Honduras Coral Reef Fund*

Tourism Conservation Model SWOT Analysis:
Improve Tourism Operations & Guidelines

Strengths	Weaknesses
• Strategies are relatively easy to implement • Sea turtle watching guidelines are well-documented • Signage is always present, while guides and guards sometimes are not • Visitors are usually willing to adopt sustainable behavior if provided direction on how to do so • Signage can be designed in a way the engages, educates, and even entertains visitors…not just outlines the rules	• Tourism is often a less critical threat to species and habitat in relation to other threats such as poaching or development • Educating tourists and tourism service providers may not be enough, monitoring & enforcement may be necessary as well
Opportunities	**Threats**
• If communities act proactively and early to establish visitation/tourism guidelines, they are more likely to receive the support of government agencies in their tourism activities over the long term • Better to approach hotels/private business in a *productive* manner (helping them to develop sea turtle products they benefit from, rather than telling them to not do certain things) • The strategy can impact a large number of tourists and service providers with little cost/effort • Engaging tourism service providers is an opportunity to "scale up" the conservation strategy and reach a higher volume of visitors	• The demands of tourists on tourism service providers to deliver an "up close" sea turtle experience can potentially overshadow sustainable operating principles • Signage is easily vandalized or stolen

TOURISM CONSERVATION MODEL

2. INCREASE CONSERVATION AWARENESS AND CONSTITUENCIES

Increase the conservation awareness of both local residents and visitors, as well the number of local residents benefitting from sustainable tourism activities

Conservation Threats Addressed

Indirect Threats	Direct Threats
• Lack of conservation awareness • Lack of local participation in conservation • Customs and traditions	• Visitor/tourism impacts • Resource extraction

Summary

The **Increase Environmental Awareness and Conservation Constituencies** model attempts to go beyond simply educating visitors and tourism service providers about their impacts. This model attempts to increase the awareness of both visitors and local residents about the role they can play as active supporters of conservation efforts.

Figure 22: Community tourism group in the coastal Rio Plátano Biosphere Reserve, La Moskitia, HONDURAS

With this model the focus begins to shift towards the role that *local residents* can play in conservation in addition to visitors…why?

Primarily, it is because local residents are often the source of a conservation threat, and therefore are also the key to mitigating that threat. This is true for both visitors and local residents alike…but conservation threats exerted by local residents tend to be more severe (e.g. sea turtle poaching has a deeper impact than wildlife harassment) and more widespread (e.g. solid waste produced by many coastal communities may exceed that produced by a few tourism businesses or destinations). This is not always the case of course…but tends to hold true.

With local residents, the indirect causes for those conservation threats are often rooted in one of three factors: **lack of awareness, lack of economic alternatives, and long-standing cultural traditions and customs.** This model primarily attempts to address the first two factors, recognizing that altering customs and cultural traditions is a highly sensitive, complex, and deep-rooted issue.

Tourism Conservation Strategies

Strategy 2.1 - Increase Awareness and Conservation Support of Visitors

Local naturalist guides can incorporate key messages and content into their tours that can achieve a number of awareness building and conservation support objectives with visitors. First, guides must **increase visitor appreciation** about the biological value of a protected area's habitat and species by sharing natural history information with those visitors. Second, guides should increase visitor awareness

Role of local guides in increasing visitor conservation awareness and support

Figure 23: Role of local guides

about the **threats to conservation** in that protected area. Third, guides should inform visitors about **local conservation efforts** to mitigate those conservation threats. Finally, guides have the best opportunity to encourage visitors to **contribute to those conservation efforts** through a financial donation or some other contribution.

"Friend-a-Species" and "Adoption" Programs as a Tool to Increase Visitor Awareness and Conservation Support

Conservation strategies that help visitors develop a personal and/or emotional connection to a certain species or place can increase continued involvement with conservation and research as well as traveler philanthropy. Websites can be used to list information on "adopted" animals, update sponsors on continued research and provide opportunities for continued support through donation portals. Getting visitors involved personally and emotionally can lead to increased financial support for conservation efforts, and even encourage return visits to the area.

Sea Turtle Conservation Bonaire is an NGO that conducts conservation monitoring, surveys, protection and rehabilitation programs, as well as conservation education and advocacy[3]. As part of their line of merchandise, Sea Turtle Conservation Bonaire sells "Sea Turtle Research Hats", a branded baseball caps with the NGO's name and logo that each have a unique metal tag sewn on with an alpha-numerical code that corresponds to a turtle that has been tagged by their researchers.

The NGO's website (www.bonaireturtles.org) has a page where people can look up their code and learn more about their specific turtle such as date of initial tagging, species, weight, length, photo and whether the turtle has been recaptured since its initial tagging. While on the website you can look up other conservation information and donate to support the NGO's conservation initiatives.

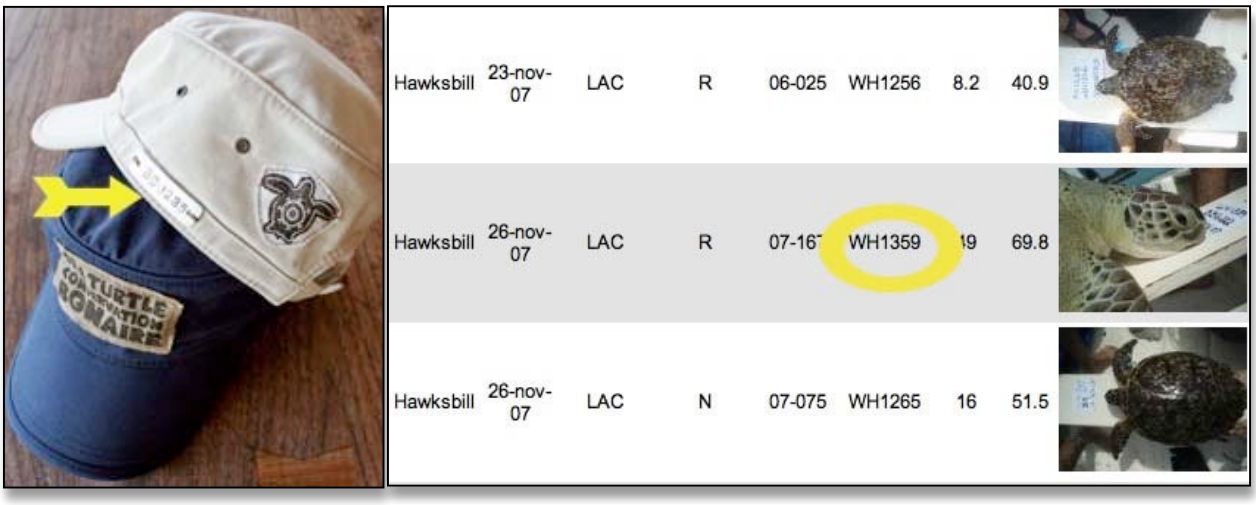


Figure 24: Sea Turtle Conservation Bonaire's "Sea Turtle Research Hats"

[3] Sea Turtle Conservation Bonaire, About Us, 2011 <<http://www.bonaireturtles.org/about-us/strategy/>>

Although a terrestrial example, the Uganda Wildlife Authority has a "Friend-a-Gorilla" campaign that has acquired much acclaim[4] and serves as a replicable model for both land and marine-based species and conservation programs.

Through the website and supported through other social media outlets, people are invited to "friend" a gorilla and get to know them better. Users can choose individuals to friend, and decide their support levels, starting as low as $1 USD. This allows "friends" to receive updates, photos and videos on that individual gorilla, encouraging a personal kinship and continued support. People are even encouraged to go visit their gorilla. Celebrities were invited to participate in a tour of the conservation area and learn about the gorillas, from which a promotional film was made to market the sponsorship program.

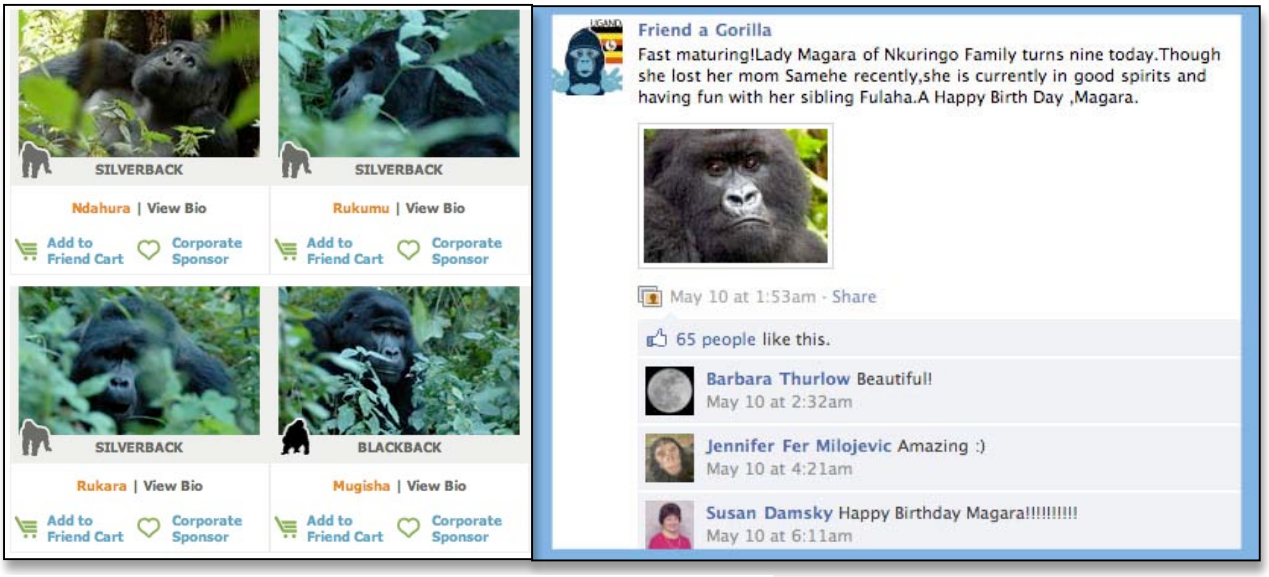


Figure 25: Uganda Wildlife Authority's "Friend a Gorilla" campaign

Both of these strategies/products seeks to establish a personal connection between the visitor and aspects of the local environment. In doing so these products help develop a lasting bond which can further encourage traveler philanthropy, volunteering and other types of support for local conservation efforts. Products that encourage nurturing relationships with the environment not only provide revenue when purchased, but also present the opportunity to establish a lasting relationship.

Strategy 2.2 - Increase Awareness and Conservation Support of Local Residents

Increasing the environmental awareness of visitors is an important step to mitigating tourism impacts and encouraging travel philanthropy, but increasing the environmental awareness of *local residents* and encouraging them to become active conservation supports is critical to the sustainability of most protected areas.

One way to achieve this is to encourage the same local naturalist guides that work with visitors **to teach environmental education classes** with local school groups to begin developing an appreciation of conservation within youth groups. Many organizations that specialize in conservation awareness building focus on youth populations because of their belief that youth are more receptive to conservation messaging and educational programs.

[4] Friend-A-Gorilla, 2011 << http://www.friendagorilla.org/>>
[5] Friend-A-Gorilla, 2011 << http://www.friendagorilla.org/GorillaIndividual.aspx>>
[6] Facebook, Friend-A-Gorilla, 2011 <<https://www.facebook.com/friendagorilla>>

Sea Turtle visitor centers or displays/panels that feature interpretive information in English as well as local languages are another commonly employed strategy to increase local resident's conservation awareness and support.

Sea turtle festivals are a good way to bring together visitors and local residents alike to celebrate the protection of the species. Activities can include environmental theater and awareness building presentations, face-painting, sand sculpture competitions, hatching releases, amusement rides, music, and dancing…and much more! Messages, games, and competitions are often designed specifically for targeted groups that include children and fisherman.

Sea turtles are a highly charismatic species that can act as a "hook" to get not only visitors interested in their protection, but local residents as well. It may take a generation to *create true stewardship* – for it to become a value that an entire community embraces - but few species can capture the interest and of local residents, young and old, as well as the sea turtle.

***Annex Case Study**: Grupo Ecotortugueros, RED Sustainable Tourism Project - Magdalena Bay, Baja California Sur, Mexico*

Figure 26: Images from sea turtle festivals in Latin America

Strategy 2.3 – Link Benefits of Sustainable Tourism to the Community as a Whole

One of the most effective ways to use tourism as a tool to build conservation "constituencies" (or groups of people who actively support conservation) is to financially link as many local residents to the economic benefits of sustainable tourism. *Direct* beneficiaries of sustainable tourism might include the staff of community tourism enterprises (such as guides, managers, cooks, housekeepers, etc.). *Indirect* beneficiaries of sustainable tourism might include the family members of those direct beneficiaries, as well as local residents who provide ancillary products that a tourism enterprise purchases (such as food, gas, construction, etc.).

But as stated in the introduction to this document, community-based sustainable tourism enterprises often start out small and may offer a limited number of jobs that tend to be part-time and seasonal, particularly in the initial stages of the business. As a community tourism enterprise increases the products and services it provides (such as tours, dining, lodging, and transportation) and its volume of sales increases…the opportunity to benefit more direct and indirect beneficiaries grows as well.

Realizing that sustainable tourism job creation can be limited…the **Link Benefits of Sustainable Tourism to the Community as a Whole** strategy focuses additional ways in which sustainable tourism can impact multiple beneficiaries in ways *other* than employment.

For example, a community tourism enterprise might elect to dedicate a percentage of its year-end profits to buy or build something that everyone in the community can appreciate and enjoy. A new soccer field, improved water or sanitation systems, supporting a school scholarship program, or a new health clinic are just a few examples.

All of these construction projects also benefit from the dedication of time and labor from *visitors* interested in a "Voluntourism" experience, as well as the time and labor of *enterprise staff members* who might be rewarded with a higher percentage of year-end profits based on the amount of time they dedicate to a community project like the ones described above.

It is important to note that simply using community tourism revenues to pay for these items does not necessarily mean that communities as a whole will recognize the value of sustainable tourism (or its dependence on the community's support of conservation efforts to ensure that natural and cultural resources are protected and maintained). Rather, it is up to projects and the enterprises themselves to "connect the dots"…ensuring that communities understand the interdependency between resource preservation, successful sustainable tourism, and the importance of local "conservation constituency" support.

***Annex Case Study**: Vizcaíno Biosphere Reserve, Mexico*

Tourism Conservation Model SWOT Analysis
Increase Conservation Awareness and Constituencies

Strengths	Weaknesses
• A few strong local conservation leaders can have a significant impact • This strategy primarily targets youth, which may be the most effective place to begin awareness building and behavior change • This strategy, if done effectively, can result in immediate impacts • Well-designed visitor centers and interpretive plans/materials can be used to educate both visitors and locals alike	• Requires significant human and financial resources to implement (EE materials, people to conduct school visits, etc.)
Opportunities	**Threats**
• Both local and visitors can play active roles as sea turtle conservation "ambassadors" • Presents opportunity for a cross-section (men, women, youth) of enterprise & community members to become directly involved in conservation activities • Opportunity to reward enterprise/community member "in kind" support of conservation activities with year-end profit sharing strategies	• The effects of awareness building campaigns fade over time, and must be reinforced over the long term

TOURISM CONSERVATION MODEL:
3. INCREASE INCOME DIVERSIFICATION

Create sustainable tourism jobs, products, and services that directly reduce biodiversity conservation threats

Conservation Threats Addressed

Indirect Threats	Direct Threats
• Lack of economic alternatives	• Extraction of Natural Resources (poaching)

Summary

As stated earlier, lack of economic alternatives is one the most important contributing factors to local involvement in conservation threats, particularly resource extraction. Within sea turtle conservation, resource extraction in the form of poaching of eggs and the slaughter of adults for their meat and shells is ubiquitous threat wherever sea turtles are found. There are also long-standing cultural traditions involving the consumptive use of sea turtles, though historically this was largely done in small communities for subsistence.

Figure 27: Local fisherman and former poachers possess unique skills that make them excellent naturalist guides

Sea turtle poaching is often a livelihood of necessity rather than malice. However, as populations grow and poaching is done not merely for subsistence but for commerce, turtle populations are being decimated worldwide. In certain cases biological or emotional arguments are not enough to dissuade poachers from poaching. In within these cases that *economic arguments* can be most effective.

Many sea turtle tourism projects have shown that poachers are willing and eager to shift to non-extractive jobs such as guides and researchers. Tourism is often better paying, less labor and equipment intensive, and simply more enjoyable.

Local Naturalist Guides: Ambassadors of Conservation

The overlap between tourism and increased conservation awareness and support of both local residents and visitors usually begins with the training of a corps of **local naturalist guides.** Local rural residents typically possess a deep understanding of the natural world because they have often grown up within that world working as fisherman, farmers, or maybe even hunters. Tapping into that knowledge and rechanneling it to be used to interpret the natural world for visitors as naturalist guides is a great strategy to increase visitor conservation awareness and encourage travel philanthropy. Furthermore, expanding the role of those naturalist guides to be local environmental educators is a great strategy to increase local resident conservation awareness and encourage local stewardship.

Figure 28: Local naturalist guides as ambassadors of conservation

Tourism Conservation Strategies

Strategy 3.1 - Target Resource Extractors with Sustainable Tourism Employment

Ironically, the same local residents who exert pressure on sea turtle populations as poachers possess unique skill sets that make them ideal candidates to work in sea turtle tourism and conservation. Poachers tend to understand sea turtle behavior and know when and where find them. Poachers have personal stories to share of their experiences with the natural world. All of this combined knowledge and experience positions poachers to be excellent candidates to work as naturalist guides and even research assistants. And there is no better human-interest story to an ecotourist than a poacher who has "converted" from killing turtles to make a living to protecting them to make a living.

In order for poachers to adopt new sustainable economic alternatives, it helps tremendously if the salary they can earn form tourism exceeds the amount of money they can earn from poaching ("tipping" the scale from resource extraction to preservation). But it is also worth noting that many resource extractors that make the same (or even less) from tourism still tend to make the shift because the physical demands of working in tourism tend to be less than that of fishing, farming, or other labor intensive activities. This propensity towards a shifting economic activity to tourism can be further leveraged by making the case that the long-term benefits of non-extractive uses such as tourism are much greater than the short-term benefits of poaching.

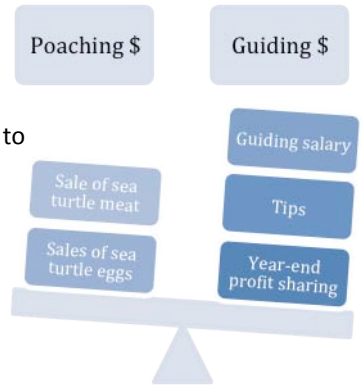


Figure 29: Sustainable attempts to tip the scales of local economic activities from poaching to guiding

Assuming traditional profiles of sea turtle extractors, targeting local residents poaching eggs for subsistence or to augment other sources of household income will resonate powerfully and produce the desired double impact of replacing a conservation threat with an advocate for sea turtle protection, however, this strategy does not work as well with sea turtle poachers that are involved with illicit substances. Conservation NGOs have identified a small demographic of sea turtle poachers that consume drugs and are more likely to be confrontational and even violent. This demographic is thankfully small and seem, from anecdotal evidence, to respect national park boundaries, however it is important to note that this strategy is likely to have little impact on this subsector. These poachers are often patrolling the beach in search of the occasional drug package that wash up along the Central American Caribbean shore, or sometimes specifically hunt for turtles to sell the meat and eggs for enough money to buy more illicit substances. Sea turtle conservation NGOs have reported that they generally find it ill-advised to attempt engaging these kinds of poachers as they are not receptive to conservation messaging and are driven by incentives beyond income to support their families.

In other projects, conservationists depend on "buying" the sea turtle eggs from poachers in order to save them from sale for eventual consumption. This strategy has its complications because it is inherently dependent on outside financial support, mostly from donors, to function. This provides virtually no long-term sustainability for such actions. Tourism income could work to supplement or replace these sources of funding to ensure more long-term viability of such programs.

Annex Case Study: *Sea Turtle Research Project, WIDECAST – Gandoca, Costa Rica*

Strategy 3.2 - Developing Tourism Products that Directly Mitigate a Conservation Threat

In addition to targeting resource extractors (e.g. poachers) as a tourism conservation model, there is also an opportunity to target certain products as a tourism conservation model. The **Developing Tourism Products that Directly Mitigate a Conservation Threat** strategy not only supports biodiversity conservation, but also creates tourism products, jobs, and revenue. It's truly a "win-win" situation!

Specific examples of this strategy include:

"Plastic Bag" Arts & Crafts

In Costa Rica, WIDECAST is supporting a project that takes plastic bags (which are often consumed by sea turtles who mistake them for jellyfish) and turns them into a raw material to create colorful arts & crafts, including handbags (see figure). The production of such arts and crafts removes the conservation threat of solid waste to sea turtles by providing a financial incentive to community artisans who collect plastic bags and then use them to produce an attractive and unique tourism product that generates employment.

Figure 30: WIDECAST's "Weaving for Nature" project encourages local residents to collect plastic bags so they can be turned into crafts for sale

Artificial Reefs

Throughout tropical regions coral reefs are constantly under threat from varying sources, both natural and anthropogenic. Natural causes of reef damage can be drastic and far reaching and come from sources such as hurricanes and tsunamis which can result is huge die-off events, particularly to more fragile corals such as Staghorn varieties. Global warming and its resultant change in seawater temperature can cause coral bleaching, damaging reefs sometime to the point that they cannot recover. Man made threats include damage from sedimentation, eutrophication from agricultural runoff, introduction of invasive species, as well as over use for leisure pursuits such as SCUBA diving where the carrying capacity of the reef environment has been exceeded.

In areas where there has been a loss of coral habitat and subsequent loss of biodiversity, artificial reefs can serve to mitigate the environmental impact and encourage new coral growth. Areas containing fragile reef systems that are taxed by tourist use can benefit from this type of investment. Novice divers and underwater photographers have been shown to be two segments of recreational divers that can cause the most damage to reef ecosystems. Difficulty maintaining neutral buoyancy can result in damaging contact with corals, whereas underwater photographers wishing to "steady" their cameras directly contact the reef with hands, and often get too close, inadvertently causing damage with fins.

Marketing artificial reefs to these two segments can divert those divers from ecologically sensitive areas, thereby relieving the environmental pressure and mitigating further damage, allowing for reefs that are experiencing trouble to bounce back before the damage becomes irreversible.

Examples of such installments include Jason De Caires Taylor's underwater sculpture installments in Grenada and Cancun[7] that were constructed specifically to act as rehabilitative substrate for areas wiped out by hurricanes and to mitigate pressure on natural reefs from the tourism industry. Not only is this tactic effective in mitigating these types of stressors, but they also serve as cultural landmarks that can act

Figure 31: Examples of artificial reefs from Grenada, the U.S. and Mexico

[7] Jason De Caires Taylor, 2011<<http://www.underwatersculpture.com/>>

to convey the message of environmental awareness, such as in the case of the Coral Goddess in Bali[8].

Although there is debate over what materials are best for use in substrate construction, the added value of these structures to the tourism industry and local economies is overwhelmingly positive[9]. Within this strategy lies the potential for many forms of corporate and private sponsorships such as those exemplified by the Jose Cuervo Reef in Miami[10] and BioRock Bali's "Sponsor a Baby Coral" campaign[11] in which the donor's name can be incorporated into the artificial reef. There is also the opportunity for model diversification and expansion of tourism partnerships (such as those with glass bottom boat excursions, snorkel tours and dive shops).

***Annex Case Study**: Weaving for Nature, AAMVECONA/WIDECAST*

SWOT Analysis of the Model
Increase Income Diversification

Strengths	Weaknesses
• Linking livelihoods to natural resources strengthens the desire of local communities to support conservation • If tourism can generate more income than resource extraction, a shift in economic behavior is likely. • Tourism is usually easier/more enjoyable that resource extraction • Many of the same skills and knowledge used for poaching helps with guiding and research • Sea turtle tourism income generation is not limited to tours, but also includes lodging, dining, transportation, arts & crafts, volunteer and home stay programs, and merchandise • Developing tour products that not only create jobs/revenue, but also reduce a direct threat to sea turtles (e.g. plastics bags turned into handbags instead of turtles thinking they are a jellyfish treat) • Social pressure from everyone benefitting from these jobs is a very powerful force in the small community	• This strategy is limited to as many jobs tourism can create. If there are more extractors than tourism jobs this strategy won't work as effectively
Opportunities	**Threats**
• Targeting resource extractors with tourism jobs helps to enhance the effectiveness of this strategy • "Poacher to nature guide" is a very compelling story for visitors	• Sea turtle guides can still be sea turtle poachers in their spare time. The income generated from alternatives has to be sufficient to cause a complete economic shift away from poaching, or the activity has to be lot easier/more enjoyable than poaching to make up any difference

[8] BioRock Bali, 2011 <<http://biorockbali.webs.com/coralgoddess.htm>>
[9] University of Florida, Taylor County Reef Research, 2011 <<http://taylor.ifas.ufl.edu/marine_artreef_economicimpact.shtml>>
[10] Miami Dade Government, 2011 <<http://www.miamidade.gov/derm/buoy_jose.asp>>
[11] BioRock Bali, 2011 <<http://biorockbali.webs.com/apps/webstore/products/show/819942>>

TOURISM CONSERVATION MODEL:
4. INCREASE MONITORING AND RESEARCH

Increasing the monitoring and research presence of trained guides, visitors, and/or researchers in critical natural areas threatened by illegal resource extractive activities

Conservation Threats Addressed

Indirect Threats	Direct Threats
• Lack of monitoring and research • Lack of local participation in conservation	• Extraction of natural resources (poaching)

Summary

Certain conservation threats, like deforestation, tend to be spread out over large geographic area, and present a challenge for protected area management due the broad scope of the impacted area. Sea turtle conservation on the other hand, at least the protection of hatchlings and nesting beaches, tends to rely on protecting smaller critical natural areas at certain times of the year. This focused need presents an opportunity for tourism to support sea turtle conservation through the **Increase Monitoring and Research** model that encourages the presence of guides, visitors, and researchers in those critical areas at those critical times.

Figure 32: Sea turtle night tour lead by a local naturalist guide

As stated earlier, sea turtle poachers tend to be motivated by necessity rather than by malice. They are not violent criminals. Poachers often come from the very same communities as the local residents that support researchers and guide tourists, though each uses the same beach for opposing benefits.

The relatively non-confrontational nature of turtle poachers creates the opportunity to eradicate their behavior through expanded monitoring and research activities. Because poachers largely avoid confrontations when possible, increasing the mere presence of community members and/or visitors through tours, monitoring, and research activities tends to cause poachers to abandon their illegal activities in the moment.

It should be noted that this strategy becomes exponentially less effective if simply monitoring illegal activity (i.e. poaching) on nesting beaches is not enough. When the actual *enforcement* of laws and regulations is required, park or police officials and not visitors or community members should handle the situation in the interest of safety, liability, and maintaining the community fabric.

Locally Driven Monitoring & Research: Grupo Tortuguero, MEXICO

Grupo Tortuguero was initiated in 1998 and is a growing grassroots network of fishermen and conservationists working to restore sea turtles in the eastern Pacific. The project began with sea turtle scientists and conservationists enlisting the help of local community members and fisherman to help collect sea turtle biomonitoring data. Over time, the fisherman began to take on more responsibility…coordinating and presenting the sea turtle data to the sea turtle conservation community. Today, the Grupo Tortuguero has expanded its monitoring activities to also include training and education programs, communications and community outreach, policy and government relations. **www.grupotortuguero.org**

Figure 33: Grupo Tortuguero, MEXICO

Tourism Conservation Strategies

Strategy 4.1 - Increase the Role of Local Residents in Monitoring and Research

From community beach patrols to naturalist guides to research assistants, many opportunities exist for the involvement of local community members in sea turtle monitoring and research. A number of local and regional NGOs actively train and employ local community members as guides and researchers, and have also helped entire communities establish their own community beach patrol programs.

Tourism profits can be utilized by local sea turtle tourism enterprises to help fund the operational costs of running community beach patrols which might include patroller salaries, equipment for monitoring and collecting data, and training costs.

***Annex Case Study**: Playa Chiriquí Sea Turtle Research Project, Sea Turtle Conservancy*

Strategy 4.2 - Increase the Role of Visitors in Monitoring and Research

An exciting trend in sustainable tourism shows that that savvy ecotourists are increasingly seeking out travel experiences that are not only entertaining but also educational and experiential. This phenomenon is perhaps no better illustrated then through the phenomenon of sea turtle "voluntourism".

Part of the "SAVE" travel segment (Scientific, Academic, Volunteer, and Educational travel), sea turtle voluntourism projects gives everyday visitors the opportunity to become involved in monitoring and researching sea turtles. Sea turtle voluntourism is another example of the growing trend in the nature-based tourism that blurs the line between conservation and tourism.

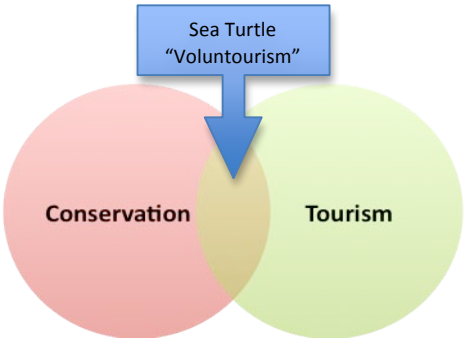


Figure 34: Products like sea turtle "voluntourism" help to blur the line between conservation and tourism

The success of voluntourism projects is dependent on the experience that visitors have during their trip. As with travel philanthropy, the long-term viability of this strategy depends on high-quality experiences between visitors and wildlife. Volunteers want to feel like they have been properly trained and provided the opportunity to directly contribute to the protection sea turtles.

***Annex Case Study:** San San Pond Sak Sea Turtle Monitoring Project, AAMVECONA*

SWOT Analysis of the Model
Increase Monitoring & Research

Strengths	Weaknesses
• Physical presence is an effective deterrent against illegal poaching activity • Presents additional employment opportunity for extractors and/or enterprise/community members • May support work of local/regional NGOs • These activities may help attract grant funding	• May require significant training and technical support to implement
Opportunities	**Threats**
• Much of the training for local naturalist guides would prepare them for this role • Opens up mutually beneficial relationship between protected areas, NGOs, and communities	• Potential violence between extractors and enterprise/community members or visitors

TOURISM CONSERVATION MODEL:
5. INCREASE TOURISM-GENERATED CONSERVATION FINANCING

Increase the financial support for conservation that tourism-generated profits, donations, and fees can provide

Conservation Threats Addressed

Indirect Threats	Direct Threats
• Lack of conservation financing • Lack of monitoring and research • Lack of conservation awareness	• Extraction of natural resources (poaching) • Tourism/visitor impacts

Summary

If there is one thing that nearly all protected areas, non-governmental organizations (NGOs), and community-based organizations share…it is the need for funding. Big or small, these local partners require a dependable stream of financial support to conduct their activities and realize their missions and objectives.

The **Increase Tourism-Generated Conservation Financing** model attempts to diversify the funding that protected areas, conservation NGOs, or community-based organizations receive to conduct their sea turtle conservation activities…and reduce their dependency on national or international funding agencies.

Figure 35: Gandoca research station, Costa Rica

Tourism Conservation Strategies

Strategy 5.1 - Utilize Sustainable Tourism Profits to Support Conservation Activities

The needs for funding within community-based sea turtle conservation projects are numerous, and may include:

- Monitoring & Research: researcher/patroller salaries, equipment, training
- Infrastructure: interpretive centers, beach signage, egg nurseries, volunteer lodging/dining facilities
- Voluntourism Programs: promotion, training, transportation

A community-based or private tourism enterprise might elect to dedicate a percentage of its year-end profits to support the costs of conservation, particularly if its business depends upon the protection of that place and no other (or very little) public sector funds or non-profit funds exist.

Some might argue that allocating year-end profits (particularly from a community-based tourism enterprise) for conservation is not a feasible strategy if it requires taking money away community member salaries or profit sharing. On the contrary, the strategy being proposed here is focused on simply moving those profits into a fund that can then be utilized to pay additional salaries to community or staff members that are actively supporting conservation in activities such as beach patrols or environmental education programs.

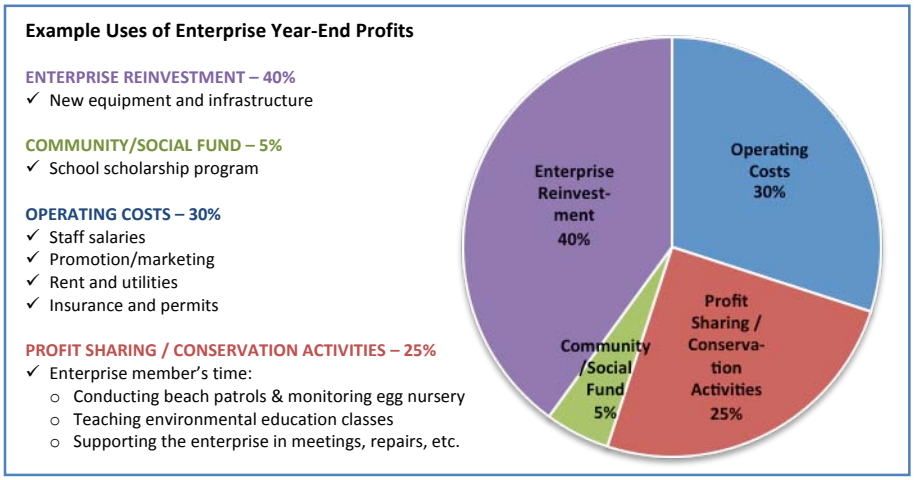


Figure 36: Example uses of tourism enterprise year-end profits

By reallocating a percentage of enterprise profits in this manner, the following is achieved:

1. Tourism profits still go into the pockets of community members, but in an equitable way that encourages and rewards their contributions to conservation
2. The tourism-financed conservation activities help to protect the natural resources and in turn improve the nature-based tourism product

Annex Case Study: *"Discover Grenada Turtle Tours", Ocean Spirits/Rare - Grenada W.I.*

Strategy 5.2 - Develop Travel Philanthropy Programs

Sustainable tourism is characterized by places and people that attempt to conserve the identity, authenticity, and resources of the destinations. The effective communication and interpretation of these conservation efforts as part of the travel experience can help to foster a desire in visitors to contribute to the efforts to protect that place.

The **Develop Travel Philanthropy Programs** strategy attempts to inspire visitors to financially support social or conservation activities in the places they visit and value, and to also provide those visitors a safe and reliable mechanism to do so.

The strategy works best in destinations where visitors have direct experiences with local communities and ecosystems because of the personal connection that can develop. Conservation threats, as well as efforts to mitigate those threats, should be described as specifically as possible. There should also be a clear custodian of the donations provided which is preferably a trusted community organization or NGO. Donations can be solicited as part of guides' interpretation, or through the sale of brochures, stickers, bracelets, or other merchandise.

Annex Case Study: *The Turtle Spotters Program, Sea Turtle Conservancy*

Figure 37: Travel philanthropy process

Strategy 5.3 – Develop Conservation-Themed Brands and Merchandise

Branding and merchandising can go a long way towards developing a recognizable symbol to represent the conservation philosophy of protected areas, NGOs, or private businesses. Local, regional and global brands, such as the WWF with its highly recognizable panda logo, distinguishes an organization from competing brands, coveys conservation ideals and can help to increase partnerships that can be vital for increasing conservation funding.

Figure 38: WWF logo

Creating a brand that can easily be recognized and distinguished from competing brands increases trust and brand loyalty. A well-designed logo should be relatively simple and appeal to the full spectrum of customer demographics. Text should be large enough to read at a distance and fine detail should be omitted as it may cause problems when it comes to imprinting. There are many options when it comes to merchandising; t-shits, caps, water bottles, canvas bags, coffee mugs and more. The addition of a web address keeps the lines of communication open and can encourage further conservation support.

Logos should be used on not only hangtags and merchandise, but should also be on websites, correspondences and publications. Each exposure is a chance to further disseminate your conservation goals and ideas, and to have potential supporters emotionally engage in what distinguishes your organization among others.

Branding should be an important part of any marketing strategy, particularly when it comes to merchandising. Creating a logo and name that is recognizable can encourage support and brand loyalty and well as act to further represent and circulate the message behind the brand, spreading those ideas to a wider audience. As such it is essential to create a logo that will at once convey a message and be simple enough to be recognized at a glance.

Figure 39: Examples of conservation-themed merchandise

These types of branding opportunities can be extended to include many different types of products and services; from crafts to tours to real estate. An example of the extent to which branding merchandise can go is the clever branding of the Sea Shepherd's logo on higher end items like surfboards, the sale of which brings in more revenue per purchase and is highly visible. Developing a brand and managing it to its full potential can provide new streams of conservation financing as well as the chance to proliferate the ideology behind the brand to further increase support for conservation efforts.
[12] [13]

Recently the Sea Turtle Conservancy partnered up with Little Tikes toymaker to celebrate the 33rd anniversary of their Turtle Sandbox[14]. A percentage of the proceeds from the sale of co-branded merchandise will be donated to support conservation efforts. In this example the recognizable branding of one product is aiding in the visibility and range of the conservation brand. Social networking sites can be used in conjunction with these campaigns in order to share information about conservation, raise funds through donations and develop brand esteem.

[12] Sea Shepherd, 2011 << http://shop.seashepherd.org/store/p/291-7S-Sea-Shepherd-Super-Fish-Surfboard.aspx>>
[13] Little Tikes Company, 2011 <<http://www.youtube.com/watch?v=rQ53Zx8uBqM&feature=player_embedded#at=1>>
[14] Sea Turtle Conservancy, Press Release, 2011 <<http://www.conserveturtles.org/pressreleases.php?page=n_stc_littletikes>>

Local initiatives can involve craft co-ops that produce locally made goods, such as the Weaving for Nature project by WIDECAST[15]. In the Weaving for Nature project, bags woven from recycled plastic bags are marked with project specific hangtags that elaborate on project details and website or contact information. These items can be considered to have added value because the branding is not only selling the item, but the community conservation project and its ideology. Social networking sites can be used in conjunction with these campaigns in order to share information about conservation, raise funds through donations and develop brand esteem. Hangtags can do double duty as stickers to further promote the brand and conservation support.

Figure 40: Examples of WIDECAST's conservation-themed brands and "hang tags" for merchandise

[15] Weaving for Nature, 2011 <<http://www.greencoast.com/index.php?mact=News,cntnt01,print,0&cntnt01articleid=15&cntnt01showtemplate=false&cntnt01returnid=62>>

Examples of Sea Turtle and Conservation-Themed Merchandise

Strategy 5.4 – Promote Mandatory or Voluntary Protected Area Entrance/User Fees

Protected areas are vital in conserving regions rich in natural capital so that they may exist for generations to come. But without the budget to manage these areas properly, they are rarely more than paper parks, conserving in name only but not in practice. In order to fund the management of protected areas, park fees are routinely used to generate income to finance the venture. These fees can be mandatory or voluntary and administered in a multitude of ways. Fees can be per use or per year, or can be based on the activities partaken in the park. Several marine parks institute reef restoration fees to finance coral reef conservation efforts. These fees could just as easily be structured as sea turtle conservation fees.

Fee structures have been used to great success at several Caribbean Marine Parks, the best documented of which is the Bonaire Marine Park. As proof of payment users are given a fee tag or bracelet that is to be displayed while in the park. For divers the tag is most often attached to the buoyancy control device. These tags are often viewed as souvenirs and collected by visitors. This model has been so successful it has been replicated as far as the Bunaken National Marine Park in Indonesia, and subsequently at Raja Ampat, West Papua. In order for this type of fee structure to be successfully administered stakeholders and associated businesses such as dive shops and tour operators, must be involved in the planning and implementation of the fee structure.

Few marine parks and protected areas administer park user fees even though the monetary contribution from these fees have been shown to generate enough income to support much of the budget requirements of park management and conservation programs. Although it might be feared that visitors would not want to pay for use, giving them something tangible in return for their fees, whether mandatory or voluntary, would encourage participation and increase satisfaction.

User fee tags and bracelets not only serve to provide proof of payment, which can be displayed while in the park to make payment verification easier, but can also serve as souvenir tokens. This is a tactic used by the Bonaire Marine Park that charges an admission fee of $25 USD for divers and $10 USD for non-divers[16]. Return visitors proudly display previous year's fee tags as trophies on their SCUBA equipment. Bracelets can continue to be worn by visitors after their return home, providing free extended PR to the park.[17][18][19] [20]

Giving users something in return for their fees can increase users willingness to pay, as they feel they are receiving something of value in return for their contribution. Packaging tags, flyers, maps and other materials in economical and ecologically sound reusable cloth bags, such as

Figure 41: Examples of marine protected area user fee systems

[16] STINAPA – Bonaire National Parks Foundation, Admission, 2011 <<http://www.bmp.org/admission.html>>
[17] Scuba Diving, Scenes From the 8th Annual Bonaire Dive Festival <<http://www.scubadiving.com/travel/caribbean-atlantic/scenes-8th-annual-bonaire-dive-festival>>
[18] Tourism Bonaire, Nature Tag <<http://old.tourismbonaire.com/nl/duiken/marine_park/nature_tag_richtlijnen/>>
[19] Food Gypsy, Roatan <<http://www.foodgypsy.ca/wp-content/uploads/2010/10/Roatan-Island-Cruise-Wreck-124a.jpg>>
[20] Roatan Marine Park, Merchandise << http://www.foodgypsy.ca/wp-content/uploads/2010/10/Roatan-Island-Cruise-Wreck-124a.jpg>>

those distributed by the Roatan Marine Park under their "Bags for Life" campaign[21] can propagate conservation goals by discouraging the use of plastic bags. Park rules and regulations can be readily available by providing them in booklets along with bird watching lists, activity booklets and souvenir dive log booklets. When individuals are using the protected area, vital conservation information is close at hand.

SWOT Analysis of the Model

Increase Tourism-Generated Conservation Financing

Strengths	Weaknesses
• Tourism-generated revenue can be used for anything • Financial support often needed by local NGOs • When business starts to support conservation and community development, the community as a whole gets behind it (not just the direct beneficiaries) • Enables high-impact engagement of visitors through low-commitment actions • Uncommitted financing is flexible and more easily adapted to changing conditions than donor project funding • Comparatively consistent flow of income can help to pay for reoccurring costs • Donations are not subject to fiscal year cycles of donor agencies and untied to sometimes overly specific activities	• Tourism businesses may have limited profit, esp. early on • Tourism revenue will need to be combined with other conservation financing (e.g. grants) • "Social" funds usually aren't in place year 1…potential need for seed money to set up a revolving social fund • Could come to replace genuine interaction and engagement for some visitors • Generally smaller quantities of donations makes financing larger scale projects difficult • Reliant on making a pitch to visitors, and high turnover rate of guides and employees can make travel philanthropy programs subject to occasional disruptions
Opportunities	**Threats**
• $ used to pay conservation labor can increase local employment and target stakeholders who may not be working in tourism • $ used to pay for awareness building campaigns can target youth (while the tourism biz targets adults) • Lack of financing is a commonly cited issue facing communities and conservation NGOs	• Tourism is seasonal, and may not provide consistent funding for conservation • If these funds go directly to the community/enterprise (rather than to an NGO) then they need to be trained in how to use them • Perceived trustworthiness of receiving organization is a factor

21 Roatan Marine Park, Bags for Life, 2011 <<http://www.roatanmarinepark.com/education/bags-for-life/>>

TOURISM CONSERVATION MODEL:
6. INCREASE CONSERVATION PARTNERSHIPS

Facilitating collaboration between protected areas, NGOs, the private sector, and/or community partners to strengthen biodiversity conservation efforts

Conservation Threats Addressed

Indirect Threats

- Lack of local participation in conservation
- Lack of monitoring and research
- Lack of conservation awareness
- Lack of conservation financing

Direct Threats

- Extraction of natural resources (poaching)
- Tourism/visitor impacts

Summary

As stated in the beginning of this document, In developing countries around the world, the history between protected areas and the communities that live near or within them has traditionally been one of conflict.

- **Managers of protected areas** often view communities as a nuisance. Communities cut down forests, hunt illegally, fish and farm unsustainably, and are generally seen as a group that needs policing.
- **Communities living in protected areas** often view its managers as those who make and enforce rules that impede the ability of families to survive. This is particularly troublesome with indigenous communities whose ancestral homelands have been converted into government-controlled lands.

Figure 42: Community and protected area partners at a tourism-planning workshop in the Rio Plátano Biosphere Reserve, La Moskitia, HONDURAS

These conflicts arise when communities rely too heavily on their lands for resource extractive economic activities like the ones listed above. However, when a community adopts sustainable tourism as a part of a diversified economy, some of these conflicts can be transformed into aligned interests.

Tourism Conservation Strategies

Strategy 6.1 - Developing Partnerships Between Protected Areas, NGOs, and Universities

"Scientific" tourism (a part of the "SAVE" tourism market), or the segment of tourism in which university students or other groups actively engage in research activities while visiting a site, is an example how sustainable tourism can result in multiple benefits for protected areas and their conservation efforts.

First, such groups pay for related lodging, food, transportation, and tour services (often directly to protected areas themselves) that generates direct revenue to support the costs of operating that protected area.

Second, the research that scientific tourism groups produce enables protected area managers to better understand their sites that leads to more effective management plans and conservation strategies.

This strategy is best implemented by larger, well-established NGOs with strong research and advocacy arms. The strategy may require structuring academic credit for research, obtaining research permits, providing adequate research laboratory facilities, and the time embodied in structured agreements and alliances. These issues may require the coordinating NGO in site to be relatively well-funded and established in order to avoid risking the loss of control of the project to better-connected academics or overly complicated permitting processes.

The following figure outlines the traditional roles and responsibilities of each stakeholder involved in this kind of collaboration:

Scientific NGOs	Protected Areas	Communities	International Volunteers
• Coordinate science & research programs • Proposal development & writing • Legal agreements with governments for research permits • Scientific reputation & credibility • Marketing, sales and tourism technical assistance (when other help doesn't exist) • Scientific reputation & credibility	• Development of a management plan • Enforcement • Link between NGO & communities	• Providers of tourism products & services: food, guides, lodging, transportation • Research roles: biometric measuring, nesting data/ marking, fence construction, nest checks, night patrols, nursery monitoring	• Financial support as paying customers, donations, donated equipment, etc. • Monitoring and research assistance • Word of mouth promotion

Figure 43: Stakeholder roles and responsibilities when managing "SAVE" tourism

***Annex Case Study**: Scientific Tourism Program, Honduras Coral Reef Fund – Cayos Cochinos, Honduras*

Strategy 6.2 - Developing Partnerships Between Protected Areas and Communities

Successful sustainable tourism requires commitments and contributions from both communities as well as protected area managers to succeed. The upshot is that these commitments are often mutually beneficial.

Protected Area Involvement:

At the very least, protected areas seek support from communities in their reduction or elimination of destructive economic activities such as illegal logging or overfishing. By introducing sustainable tourism, a financial incentive is created that encourages communities to go beyond just mitigating their impacts to becoming active supporters of protected area conservation.

Protected areas can in turn provide exclusive opportunities (for example, through concession agreements) that provide communities competitive advantages to operate and benefit from tourism. Protected areas can also help train local naturalist guides to help supporting park-monitoring efforts, and can help protect ancestral land rights through enforcement and political support.

Community Involvement:

For communities to benefit from sustainable tourism, they seek support from protected areas in the form of policies or management plans that encourage and foster community tourism enterprise development. For example, a park rule that requires visitors to be accompanied by a certified local guide. Communities may also benefit from protected areas that support the training of those guides, by their promotion of community enterprises in visitor's centers and on park websites, or through some other type of financial or technical assistance.

In exchange, community tourism enterprises (and their clients) should directly support protected area management plans and conservation strategies through one of the many community-based conservation activities presented in this document.

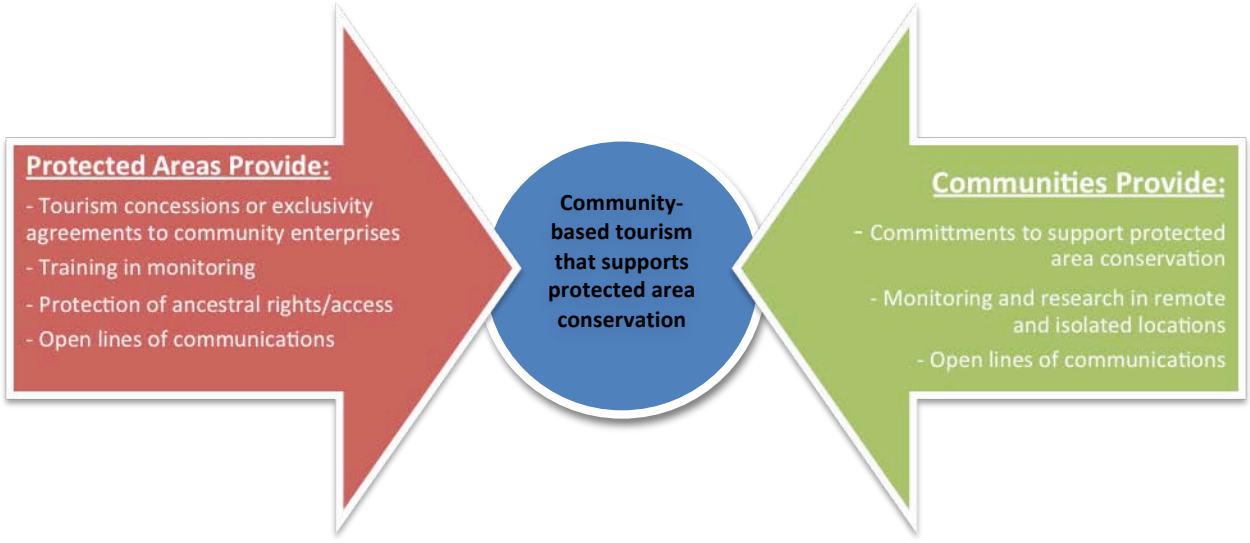


Figure 44: The synergy and collaboration that sustainable tourism can produce between protected areas and communities

Annex Case Study: *Verde Camacho Protected Area, RED Sustainable Tourism Project*

SWOT Analysis of the Model

Increase Conservation Partnerships

Strengths	Weaknesses
• Concession and co-management agreements have strong potential to create "win-win" partnerships. Communities receive rights to conduct tourism activities, NGOs and protected areas create tangible benefits for locals, and both agree to work towards shared conservation objectives	• Concessions and co-management agreements are politically and legally complex, time-consuming, and require forward thinking partners, particularly government representatives • Inexperienced communities lack the ability to manage complex conservation activities and PA management plans • Government support is almost always needed to manage the resource effectively
Opportunities	**Threats**
• Exclusive rights to conduct tourism activities in areas of high biodiversity provide communities a highly competitive business advantage • Communities may be the only viable managers of isolated and under-funded protected areas • Successful community-based tourism and conservation can provide economic and political justification for increased levels of protection to natural areas	• Years of political wrangling that goes nowhere

Case Study

Strategy 1.1 – Promote Sustainable Tourism "Codes of Conduct" with Visitors

Conservation Awareness Signage, MAREA Program, Bocas del Toro, PANAMA

Summary

Bocas del Toro is an archipelago on the Caribbean Coast of Panama close to its border with Costa Rica. The area's economy is highly dependent on tourism and the principal tourist attractions in the area are its natural setting and healthy ecosystems. Tourism especially sustainable tourism is a non-extractive industry that generally generates revenue through the enjoyment of the existence of biodiversity rather than through the extraction of natural resources, however, it does pose certain threats to ecosystems. Contaminants enter the waterways, forests may be cleared for development, and sensitive coral ecosystems are sometimes compromised by the very visitors that go to enjoy seeing them.

To mitigate some of these visitor impacts the MAREA Program has developed a series of awareness campaigns aimed at informing visitors on how to minimize their impact on sensitive ecosystems and wildlife during their visit. Their purpose is to reach as many of the approximately 100,000 annual visitors to the region as possible and enlist more local residents to actively participate in supporting conservation. Materials have been designed and will be placed in strategic points for maximum visibility, also, enlisting the support of local businesses, government agencies, and local NGOs has been instrumental in ensuring the success of the campaigns.

Figure 45: MAREA marine protected area visitor awareness signage

Stakeholders: Roles & Responsibilities

MAREA Program: Design, production, and placement of campaign materials. Forming relationships and alliances with other organizations and governmental institutions.

Bocas Sustainable Tourism Alliance: Support in development of designs, and guidance on types of campaigns. The BSTA also support the creation of linkages with other organizations and enlisting their support.

Autoridad de Turismo de Panama: The ATP has supported the campaigns by endorsing materials and the local ATP office has been an essential partner in enlisting the support of water taxi associations.

Autoridad Nacional de Ambiente: ANAM has supported the campaigns by endorsing materials and providing necessary permissions to place signage within protected areas.

Municipio de Bocas del Toro: The local municipal government has been very supportive of the campaigns in the endorsement of materials and in providing permission to place signage at municipal reserves.

Water taxi associations: These 'botero' unions have been very supportive of the campaigns, understanding the need for conservation of the natural settings from which they draw their livelihoods. They have agreed to place signage in their boats and to orient tourists/passengers to view best practices materials.

Process

1. Research campaigns and best practices
2. Develop regulation or codes of conduct where necessary
3. Design materials
4. Enlist local support for initiatives
5. Obtain needed permissions and endorsements from government agencies
6. Place signage at strategic locations
7. Resupply materials as needed

Lessons Learned

- It's good to have friends: None of these accomplishments would be possible without strategic partners among government agencies, scientific organizations, and community groups.
- Laws are good, but don't forget the science: It is good to support and promote existing legal frameworks when possible, but if there are other elements that should be added, rely on good science and ensure that campaign materials are really promoting best practices.

Case Study

Strategy 1.3 – Promote Sustainable Tourism Guidelines within Protected Areas

Cayos Cochinos Management Plan, Honduras Coral Reef Fund – Cayos Cochinos, HONDURAS

Summary

Cayos Cochinos is an archipelago situated about 40 km northeast of La Ceiba in Honduras. The archipelago consists of two larger rocky islands and 13 coral cays in addition to numerous submarine habitats. Created in 1993 with support from the Smithsonian Tropical Research Institute, the Natural Marine Monument Cayos Cochinos (MNMCC by its Spanish acronym) covers about 485 km^2 and includes all of the islands and a buffer zone of 5 nautical miles around the islands. It is administered by the Honduras Coral Reef Fund, a group formed through a partnership between Operation Wallacea and the NGO AVINA to lobby for the creation of the park. The MNMCC is home to an incredible biodiversity that includes coral, sea grass beds, and mangrove ecosystems and falls inside the Mesoamerican Reef. Living in the MNMCC are 226 reported species of reef fish, 85 reported species of bivalves, 106 species of gastropods, 45 species of decapods, bottlenose dolphins, and green and hawksbill sea turtles. Only hawksbills are known to nest within the archipelago at 19 reported nesting beaches fairly evenly distributed among the islands and cays. This archipelago represents an incredible natural richness for Honduras and as more activities are developed it has become increasingly necessary to have regulations and plans in place to address different eventualities.

There are no exact figures but tourism has existed in one form or another in Cayos Cochinos for somewhere between 8-30 years. In its present form, tourism in Cayos Cochinos runs the gamut from backpackers who arrive in local boats with fishermen, long-term volunteers and students doing research and supporting conservation, to luxury clients seeking sun and sand vacations. The one common thread tying these diverse market segments together is that tourism to the Cayos is very focused on experiential travelers seeking interactions with nature first and secondarily with local communities. In order to strengthen this propensity among visitors and to prevent visitation from negatively impacting the incredible natural richness of the MNMCC, Honduras Coral Reef Fund (HCRF) with support from the Nature Conservancy developed an updated management plan including specific zoning and a subprogram to control and monitor the impacts of tourism on the archipelago. This management plan also includes regulation of reality show tapings that not only present a serious risk for natural ecosystems but also an opportunity for increased exposure to overseas markets and a source of financing for conservation and ecosystem protection. As seen in Bocas del Toro, Panama, the taping of reality shows can be very harmful to sensitive ecosystem, but with the proper partnerships and regulations the HCRF has managed to control the tapings in a way that minimizes impact to local ecosystems while providing around 50% - 70% of their operating budget and a source of free publicity attracting tourists to the area.

Stakeholders: Roles & Responsibilities

Honduras Coral Reef Fund (HCRF): The HCRF is primarily responsible for liaising and coordinating between involved parties and the co-management of the MNMCC and publication of the management plan. The HCRF also controls tapings of reality shows on the islands to minimize environmental impacts, and maintains the research station where visiting scientists and students come each year to study the ecology of Cayos Cochinos.

International Conservation NGOs: NGOs such as WWF and The Nature Conservancy provide technical support to supply needed scientific background to the HCRF, and they also support the creation of the management plan. Organizations such as Fundación AVINA, WCS, MARVIVA and the World Bank have also supported the HCRF and the conservation of the MNMCC

National Government: The MNMCC was created through a presidential decree in 1993. National administrative bodies are actively involved in the enforcement of regulations and in creation of the management plan. These

agencies include the tourism institute, IHT; the environmental ministry, SERNA; a forestry agency, AFE-COHDEFOR; and the fisheries department, DIGEPESCA.

The Honduran Navy: The Honduran Navy was tasked as part of the original presidential decree to patrol the archipelago and enforce regulations. This important collaboration is critical as the naval forces not only ensure a well funded and capable patrolling presence it also essentially eliminates the presence of drug trafficking boats that are ubiquitous in other sparsely inhabited spaces along the Caribbean coast of Central America including the Moskitia Region of Honduras and Nicaragua.

Community Organizations: The community groups in the area of influence are involved in giving feedback for the management plan and in helping to protect the MNMCC by following established regulations. One example of this type of collaboration is the relationship that exists between HCRF and the Organización Fraternal Negra Hondureña Pueblo Garifuna (OFRANEH).

Process

8. Identify important natural spaces in need of protection
9. Form a coalition of civil society groups
10. Lobby the government for protected status
11. Declaration of protected status
12. Research and learn about local ecology
13. Develop a management plan based on solid scientific research
14. Enlist government authorities to enforce regulations laid out in the management plan
15. Update and renew the management plan as activities and scientific understanding evolves

Lessons Learned

- It's good to have friends: None of these accomplishments would be possible without strategic partners among government agencies, scientific organizations, and community groups.
- Embrace science: The management plan and its regulations are only as good as the science that informs their creation. It is important to partner with researchers, the better the understanding of the area's ecosystems, the better its protection can be.
- Too many hands can be bad: One organization, the HCRF is primarily responsible for administering the protected area, including scientific tourism products. This makes it much easier to ensure that rules and regulations are being adhered to. In the case of more developed destinations this luxury may not exist and you will have to cobble together an alliance of different interest groups to have a council or group that can take the role that HCRF plays in MNMCC.

Case Study

Strategy 2.2 – Increase Awareness and Conservation Support of Local Residents

Grupo Ecotortugueros, RED Sustainable Tourism Project - Magdalena Bay, Baja California Sur, Mexico

Summary

Grupo Ecotortugueros de Puerto San Carlos (GET) is a startup ecotourism cooperative operating in Magdalena Bay, on the Pacific Coast of Baja California Sur, Mexico. The coop was launched as part of the RED Sustainable Tourism Project in an effort to create alternative incomes linked directly to conservation - specifically sea turtle research and conservation. The launch of the cooperative is a collaboration between RED (RED), Vigilantes de Bahía Magdalena(VBM), the Grupo Tortuguero de las Californias (GTC), and members of the local fisher community.

Magdalena Bay represents one of the most important wetland ecosystems on the west coast of North America. Its waters provide protection to calving gray whales, migratory and marine birds, numerous species of marine mammals, and important feeding grounds to endangered black sea turtles. Additionally, Magdalena Bay is one of the most productive fisheries in Mexico.

Unfortunately all of these resources are threatened by overfishing, poaching, by catch, and poorly regulated coastal development. Lax fisheries regulation and enforcement, together with rapid demographic growth resulting from migration from states throughout Mexico, have fomented a tragedy of the commons, with little regard for the natural resources that sustain the communities of the Bay. Sea turtles, principally endangered black turtles, suffer both from by catch in nets and long lines, as well as from active poaching for consumption and sale on the black market. While sea turtle research and conservation projects have taken hold in the zone, and education efforts have been effective reaching youth, the majority of the adult population have remained a challenging target. It is this group's daily decisions which may include participation in poaching, or including sea turtle in the family diet, that have the greatest impact on sea turtle populations.

In late 2009, the RED project, together with GT and VBM, worked with local community members to launch GET, in an effort to generate sustainable employment opportunities, as a complement to fishing, and an alternative to illegal poaching. Using the Grupo Tortuguero turtle monitoring as the core product offering, the project has generated part time employment to 13 individuals in various facets as part of the ecotourism cooperative.

Members of the coop all participate in the monitoring activity, whether as captains or deckhands, or collecting data when turtles are brought ashore. This hands-on interaction with the turtles as a species to be protected rather than harvested, combined with the positive feedback provided by the travelers on the trips as well as researchers, fosters pride and has helped to open the eyes and change attitudes of individuals involved in the program.

Members of the cooperative who were previously involved in sea turtle poaching, or even as cooks who prepared sea turtle dishes, are now among the most staunch advocates for the species' preservation, and have become stewards in their community for natural resource conservation. Attitudes of coop members towards conservation have expanded and evolved from sea turtle conservation to include support for mangrove and dune preservation, active participation in meetings to declare the Bay as a Natural Protected Area, and even signing on to legal demands for public hearings regarding proposed developments.

Members of GET also seek to have a broader impact in their own community. Coop members are taking what they've learned about cooperative management to the notoriously dysfunctional *fishing* cooperatives in Magdalena Bay, focusing on aspects of transparency, equality and sustainability as core tenets of cooperative philosophy. Better cooperative management holds the promise of reducing pressures on fisheries resources through increased awareness and incentives to view fisheries as a *shared* resource. In order to reach the youth

population, the GET cooperative will also use funds raised this season through trips sales to finance the participation of local youth in an academic field program focused on mangroves, sea turtles and sustainable fisheries.

Stakeholders: Roles & Responsibilities

RED Sustainable Tourism: RED leads training, business and strategy planning, as well as sales and marketing for the project in Magdalena Bay.
Grupo Ecotortuguero (GET): GET participates in all project meetings and design of strategy towards the successful launch of the conservation-focused tourism cooperative.
Vigilantes de Bahía Magdalena: As the local conservation organization in Magdalena Bay, VBM acts as the community liaison and provides logistical support to the operation of trips. As the local representative of GT, VBM performs the turtle monitoring activity which serves as the basis of the tourism products offered by GET.
Grupo Tortuguero de las Californias: GT assists with the permitting process for data collection and economic use of a protected species. GT also provides logistical and technical support to the project.

Process

1. Product, Market, and Community Assessment: Assess potential for demand-driven products that take advantage of local abilities, resources, and knowledge in national and international markets. Assess community willingness to implement project.
2. Business and Conservation Planning: Co-write business plan with community. Co-develop conservation strategies (5% for conservation and community fund, trip revenue finances sea turtle monitoring).
3. Self-analysis and ongoing discussion of community members' economic realities
4. Design of internal rules (GET) to support and strengthen sustainability criteria (participation in local conservation efforts including beach cleanups and festivals) and sanctions against prohibited activities (sea turtle consumption or poaching).
5. Training: Business operations, Guiding, and Tourism Services
6. Soft launch of product to test products in market, and reinforce community buy-in
7. Ongoing training
8. Implement sales and marketing strategies
9. Operate tours
10. Implement Conservation and Community Development strategies

Lessons Learned

- Participatory research: Incorporating participatory research in the tours, where local citizens are trained to perform field research and data collection has been an effective method of 'opening eyes' of local coop participants. Coupled with the positive feedback of travelers it serves to generate pride and foster a sense of stewardship of natural resources.
- Involving youth: The above lesson is compounded when cooperative members' children are invited to interact with traveler's children. The same is achieved by operating trips at cost for schools and educational institutions.
- Experiential exchange: Promoting exchanges with other community businesses and cooperatives through meetings, trainings, or on trips, produces a positive exchange of knowledge and experiences, as well as genuine camaraderie. It also serves to set the bar in terms of standards of operation and ecological responsibility, and generates healthy competition and a sense of regional perspective.
- Client orientation: Making travelers aware that they are part of the project promotes communication between travelers and coop members, and reinforces the sense of pride of stewardship of natural resources discussed above.

Case Study
Strategy 2.3 – Link Benefits of Sustainable Tourism to the Community as a Whole
Vizcaíno Biosphere Reserve, Mexico

Summary
The community of Punta Abreojos resides within the Vizcaíno Biosphere Reserve, a CONANP (Natural Protected Areas Commission) administered protected area in the state of Baja California Sur, Mexico. Located near the center of the Baja California peninsula, Abreojos is relatively isolated, which has helped preserve the natural surroundings, and provide a buffer from the intense development pressures felt throughout the rest of the state. Since it's founding in 1938, the town has sustained itself from the abundant fisheries resources of the zone, boasting a successful oyster cultivation program and an MSC certified lobster fishery. The local fishing cooperative, recognized internationally as a model for sustainability, has grown to be more than the chief economic driver in the town, but also a provider of infrastructure and social services in this remote outpost.

Yet even the town's isolation cannot protect Punta Abreojos from the internal and external pressures of growth and development. Forced to balance the need to provide economic opportunities to younger generations with maintaining sustainable limits on fisheries resources, the cooperative has struggled to create jobs and preserve its natural resources. In recent years the coop has fought outside efforts to build a cruise terminal and a salt production facility. More recently, rights to use of the *Estero Coyote* – the pristine estuarine habitat just outside of town, have been placed on the open market, with a number of outside buyers expressing interest in developing the area. The community of Abreojos has responded by proactively purchasing the usage rights of the estuary, in a move to 1) guarantee the survival of this unspoiled habitat for future generations; 2) protect an important nursery area for commercially fished species; and 3) invest in sustainable tourism as an economic alternative.

The cooperative joined with the Center for Marine Biodiversity Conservation – Gulf of California (CMBC-GC) to research the economic value of the *Estero Coyote's* natural resources, and with RED Sustainable Tourism to develop a business plan for sustainable tourism development of the zone that would provide long-term benefits to the entire community of Punta Abreojos. A plan for investment in the area was accepted by the community based on the tenets of 1) sustainable job development through tourism; 2) use of the area for educational programs for local youth; and 3) protection of habitat and species within the estuary including mangroves, sea turtles, fish and other marine life, and migratory and marine birds.

Stakeholders: Roles & Responsibilities
Cooperativa de Punta Abreojos: The Cooperative has been the driver of the process, providing the long-term vision and funding for the sustainable use of the *Estero Coyote*, and seeking out the technical resources necessary.

CMBC-GC: This group of researchers has linked science with economic valuation to present a compelling model for linking species and habitat preservation with economic well-being.

RED Sustainable Tourism: RED is working with the community and with CMBC-GC, providing market analysis, business planning, and tourism operations training.

Process
11. Community outreach: constant process of keeping the larger community informed of the issues and process, making them stakeholders in any decisions made.
12. Scientific Assessment: performing specific analysis to quantify economic and conservation value of commercially fished species, as well as conservation value of mangroves and surrounding habitat.
13. Product and Market Assessment: design demand-driven products that take advantage of local abilities, resources, and knowledge.

14. Identification of Conservation and Community Development strategies: support of sea turtle monitoring program; development of environmental education program for local youth; economic opportunities for youth and women.
15. Begin training in: Business operations, Guiding, and Tourism Services
16. Implement sales and marketing strategies
17. Operate tours
18. Implement Conservation and Community Development strategies

Lessons Learned

- Community buy-in: The effort from the start of the cooperative and CMBC-GC to maintain the community informed, paved the way for a constructive process with investment of stakeholders.
- Linking science and economic development: The value of the estuary as protected habitat for commercial fisheries played a crucial component towards constructing the case for obtaining the usage rights of the estuary. Sustainable tourism development provided the added 'plus' for youth, women, and elements of the community not directly involved in fisheries.

Case Study

Strategy 3.1 - Target Resource Extractors with Sustainable Tourism Employment

Sea Turtle Research Project, WIDECAST – Gandoca, Costa Rica

Summary

Gandoca Beach in Costa Rica is the site of a sea turtle conservation program that began in 1984 under the guidance of ANAI and is now administered by WIDECAST and a community organization in partnership with the Costa Rican Ministry of the Environment, Energy, and Telecommunications (MINAET). Before work began to conserve sea turtles and their nests it was estimated that close to 100% of nests were poached and adult females were killed to be sold on the black market. With the dedicated work of turtle biologists and local community members the Gandoca-Manzanillo Wildlife Refuge was established in 1985 to protect the endangered animals. In just 5 years it was estimated that up to 90% of nests were protected and this was due in large part to the strategy of enlisting not only local community members, but also specifically former poachers. This practice is exemplified in the case of Eric Alguera who was a former poacher making a living by digging up sea turtle nests to harvest the eggs. He also consumed turtle eggs and meat, but for the past 10 years he has been dedicated to conserving the same animals he once exploited. Not only does Eric Alguera help to manage groups of volunteers and guide visitors, but he also helps to train others, he has traveled to Pacuare, Ostional, Parismina and Moin in Costa Rica, and even to Mexico to train other local residents. This strategy does not stop at reaching one person but has the potential to have a multiplying effect, as conservation becomes a family value with other relatives and even multiple generations of the Alguera family helping to protect and conserve turtles.

Stakeholders: Roles & Responsibilities

WIDECAST: Providing the opportunity for former egg-poachers to become involved in conservation.

Poachers willing to change: All of this is also predicated on finding local allies and poachers who are willing to change and embrace conservation. The process can be aided by not just enlisting the support of poachers but in providing them with alternative livelihoods

Process

1. Establish a conservation project with credibility among local communities
2. Identify opportunities for participation of local residents
3. Identify resource extractors
4. Enlist the support of extractors with specific tasks
5. Empower them with increasing responsibility

Lessons Learned

- Poachers and resource extractors should not be excluded from conservation. In fact, including poachers strengthens conservation by removing a conservation threat and adding in their place an ally for conservation.
- Empower poachers: By giving poachers increasing responsibilities such as trainings, and an opportunity to tell their story, the lessons learned by the poachers can be shared and spread to a wider audience.
- Provide alternative livelihoods: Poachers are often illegally extracting resources not out of malice but out of necessity. It will be essential to provide alternative livelihoods to these resource extractors to facilitate their shift away from poaching. For example, the same skills and knowledge that help poachers succeed can also be helpful in tracking and finding turtles while guiding or supporting researchers.

Case Study

Strategy 3.2 – Develop Sustainable Tourism Products that Directly Mitigate Conservation Threats

Weaving for Nature, WIDECAST/AAMVECONA – Costa Rica/Panama

Summary

"Weaving for Nature" is a program started by WIDECAST, a regional conservation NGO specializing in sea turtle conservation and economic alternatives, and its regional partner AAMVECONA in several communities in Costa Rica as well as the San San Puente community in Changuinola, Panama. AAMVECONA is a local NGO currently working to conserve and protect biodiversity in the UN RAMSAR listed wetland, San San Pond Sak. AAMVECONA specializes in working with the sea turtles and manatees found in their site. The particular geography of the beach at San San Pond Sak makes it highly susceptible to solid waste contamination. Located at the mouth of the Sixaola River each sea turtle nesting season begins with a highly labor-intensive process of cleaning up the fallen trees and trash that wash up on its shores after being flushed into the sea by the river. Among the many kinds of plastic and trash are thousands of plastic bags. These bags not only contaminate the area, but they also present a very direct threat to sea turtles, specifically leatherback sea turtles, as the leatherbacks mistake the bags floating in the water washing up on shore for their favorite meal, jellyfish. In order to combat this direct conservation threat, in 2006, WIDECAST and AAMVECONA sent women from the communities where they work to receive training in Colombia financed by Disney on how to weave the plastic shopping bags into purses and shoulder bags to sell to visitors. The average purse takes about 70 plastic bags to create and it has been estimated that the project has resulted in the removal of around 12,000 plastic bags from critical nesting habitats for sea turtles.

Figure 46: Beach bag woven from plastic bags
Photo: AAMVECONA

Figure 37: Women weaving bags
Photo: AAMVECONA

The project has been a success and with each bag retailing for $15-$30 sales provide monthly incomes of $180 or more to dozens of women in Costa Rica and Panama, 25 women in San San Puente alone, as well financing for conservation activities. In fact, the project has so surpassed the Colombian project that initially trained them, offering three times as many products and higher sales as well as increased quality, that Disney has requested that the Weaving for Nature project send women to evaluate their project and support quality improvements. The theory behind the program was also so sound that WIDECAST has begun a sister project to use glass bottles – a ubiquitous sight

Figure 48: Glass beads made from beverage bottles

at many beaches in the region – to make glass beads for jewelry. This product is yet another example of how you can transform a direct conservation threat into a source of income for local communities and financing for sea turtle conservation. The primary weakness is that incomes produced are directly linked to the price of products sold, and this occurs in a market where consumer power outweighs producer power. Under these conditions it is challenging for producers to receive fair wages for their work, though not impossible. The key factor in producing triple bottom line benefits of profits, community development, and conservation will be to identify products with high sales value and relatively low labor requirements.

Stakeholders: Roles & Responsibilities

WIDECAST: WIDECAST arranged the initial trainings and supports sales of the bags to volunteers and visitors.

AAMVECONA: AAMVECONA sent local women to participate in the initial trainings and provides a point of sale to visitors and volunteers.

Disney: Provided initial trainings in Colombia to teach the women how to transform the plastic shopping bags into purses, beach bags, and other forms for sale.

Process

1. Identify direct conservation threats (solid waste) and indirect threats (low incomes of community members) for sea turtle conservation that can be addressed by this strategy.
2. Identify and engage local group that will produce the products or provide the services to be undertaken by the project.
3. Identify potential products that could be produced by local communities to reduce the threat to provide an alternative livelihood. The ideal product would use local knowledge and culture to avoid the costs associated with trainings and to make a more interesting product steeped in local traditions.
4. Develop the product
    a. Create a business plan that describes products and services, marketing strategies, operations plans, staff requirements, and financial projections.
    b. If no products or services can be produced/provided with local knowledge then it will be necessary to organize training
5. Implement sales and marketing strategies
6. Divide revenue to reinvest in training and product expansion, providing local livelihoods, and supporting conservation activities.

Lessons Learned

- Address multiple threats: The strength of this strategy is that it addresses conservation needs on many levels. It addresses direct threats (solid waste) as well as indirect threats (poverty alleviation, apathy among local communities) and is able to magnify its impact.
- Careful selection of product: Because this strategy works particularly well with artisan products it is important to take into consideration the relatively low price-setting power of producers vis-à-vis consumers and select products that represent high sale values and low labor requirements in order to maximize benefits to local livelihoods.

Figure 49: Glass bead art
Photo: WIDECAST

Case Study

Strategy 4.1 - Increase the Role of Local Residents in Monitoring and Research

Playa Chiriquí Sea Turtle Research Project, Sea Turtle Conservancy – Ngöbe-Buglé Comarca, PANAMA

Summary

Beginning in 1998, a group of residents of Río Caña, a community in the Ngöbe-Buglé Comarca, formed the Asociación de Protección de Recursos Naturales Ngöbe-Buglé (APRORENANB) to attempt to protect the diminishing population of Hawksbill sea turtles nesting on Playa Chiriquí. This group planned on enforcing a ban on sea turtle harvesting every other year along the 20 or more kilometers of the beach. Though the methodology of a once every two year ban would have proved to be ineffective, their initiative and motivation prompted the Instituto Tropical de Ecologia y Conservación (ITEC) to support their efforts beginning in 1999. In the beginning the project worked with extremely lean budgets and all monitors worked as volunteers. ITEC liaised with community leaders and APRORENANB to secure the trust and relationships necessary to work together to protect the turtles. In the following 4-5 years they were able to train turtle patrols and to conduct research, collecting data on turtle biometrics and nesting habits.

Figure 50: Community of Río Caña

In 2003 the Sea Turtle Conservancy (STC), then the Caribbean Conservation Corporation (CCC), entered and held a series of meetings with APRORENANB, the Comarca's governing council, the Panamanian Environmental Authority (ANAM) and leaders from surrounding communities to enter into a formal agreement of cooperative work resulting in 5-year commitments for cooperation. They organized patrol groups and began to pay the patrols for their time, improving the research station, and expanding work to include nearly all of Chiriquí Beach, as well as Escudo de Veraguas, and Playa Roja. CCC also began an environmental education campaign in local schools with their local resident partners leading the talks.

Figure 51: Chiriquí Beach

Though the beach is one of the most important nesting beaches for leatherbacks the focus of the project is protecting the hawksbill turtles, and the community members are involved in all aspects of the turtle project from data collection, marking nests, tagging turtles, nighttime patrols, installation of protective cages to defend nests against dogs, and giving environmental talks at local schools. This focus on hawksbills comes from the fact that local populations never developed a custom for eating eggs and left the leatherbacks alone, but the hunted the hawksbills for their shells and decimated this population. Currently, the project provides jobs for about 25 people each earning at least $100 a month and social security, as well as an additional 30 people indirectly or temporarily employed in odd jobs and ancillary occupations. The project also tries to bring Rio Caña residents who work with the project each year to the Sea Turtle Symposium to share their

experiences and learn more about sea turtles. The community, now in its 11th year of sea turtle conservation, is looking to expand to tourism activities as well in order to generate more income for local families and to support sea turtle conservation work.

Stakeholders: Roles & Responsibilities

Sea Turtle Conservancy: STC organizes all work, secures financing sources, oversees patrol groups, provides logistical support, and gives trainings to local community members within the conservation project. STC also gives support to educational programs and the annual ecological fair.

APRORENANB: APRORENANB provides manpower and organizational support to the project. The association liaises with the Comarca's governing council and national government institutions. The group also sponsors and organizes an annual ecological fair to raise awareness and build constituencies for conservation.

ANAM: ANAM is responsible for establishing and enforcing regulations for the protected area.

Process

1. Identify local groups and leaders willing to work in conservation, or ideally, currently doing conservation work
2. Present project ideas and plans to local groups and leaders, including government agencies when appropriate
3. Formalize agreements with clear roles and responsibilities
4. Select personnel
5. Build infrastructure
6. Train community members in necessary skills
7. Implement community-driven sea turtle research project

Lessons Learned

- Not just workers, but allies: Local residents involved in monitoring and research are not just a source of labor; they are also important allies and community ambassadors for conservation messaging. This is even more important when working in indigenous areas where community members working with the project will be able to give educational workshops in indigenous languages. Empowering local communities can result in stronger, wider, and more lasting changes.
- Trust is essential: Working with local communities can be difficult work, but everything is made easier with the support and trust of local leaders. Many communities have spent years feeling neglected by national government institutions, or worse, in opposition to them. This is especially true in indigenous regions. As such, gaining the trust of local leaders is essential to be able to achieve desired results. In this case, a long process of meetings and talks leading to a cooperative agreement laid the groundwork for the project.
- Provide alternatives: In this case there existed a community organization seeking out ways to conserve natural resource, but in most cases this will not be your fortune. As a result of this fortuitous condition there were 4-5 years of cooperative conservation work with local community members volunteering long hours to support the project, however in many cases it might be necessary to provide economic alternatives to help facilitate transitions away from resource extraction towards conservation.

Case Study

Strategy 4.2 - Increase the Role of Visitors in Monitoring and Research

San San Pond Sak Turtle Monitoring Project, AAMVECONA – Sand San Pond Sak, PANAMA

Summary

The Asociación de Amigos y Vecinos del la Costa y la Naturaleza (AAMVECONA) works with the Wider Caribbean Sea Turtle Network (WIDECAST) to implement research and conservation efforts aimed at protecting the nesting sea turtles visiting their shores. This is important work, as recent as the late 90's turtles were still be killed in large numbers on the beaches of San San Pond Sak with 80 leatherbacks killed in just one year on one occasion, but thanks to the hard work of WIDECAST and AAMVECONA in 2009 only 2 were killed and in 2010 none were killed at this site.

Figure 52: San San Pond Sak protected area, PANAMA

In 1999, AAMVECONA was founded as part of the PROARCA project in order to co-manage the RAMSAR-listed wetlands. During the following PROARCA II project, AAMVECONA entered into a partnership with WIDECAST in 2004 to begin receiving volunteers to support sea turtle conservation work. AAMVECONA cleans up the beach that is often full of obstacles like fallen trees and solid waste swept out to sea by the Sixaola River and washed back on shore by the tides. They also monitor over 4 kilometers of beach and engage in sea turtle research (tagging, measuring, and reporting). The project uses nurseries to protect sea turtle nests, which need to be constructed at the beginning of each season. This work would be impossible without the help of volunteers who come from all over the world to support this work.

Figure 53: International volunteers helping with research and monitoring

Volunteers' stays differ depending on the site but AAMVECONA houses volunteers in rustic dorms on the beach, while in Gandoca volunteers stay in family hotels or in home stays with local families, and in Cahuita volunteers stay in the guardhouse of the environmental ministry. Volunteers in San San Pond Sak are organized into 4 shifts of 4 hours patrolling the 4.5 km of beach from 8:00 p.m. until 4:00 a.m. The greatest benefit for AAMVECONA from the volunteers is the work that they help to accomplish. Without this source of labor their work would not be able to reach the scope it has. This is especially true of nighttime patrols. It has been shown that just the presence of volunteers and researchers on the beach serves as a potent deterrent to sea turtle poaching. This is even more important as local and national authorities often lack the resources to adequately patrol and monitor sea turtle beaches.

AAMVECONA markets and sells their voluntourism products in partnership with WIDECAST in a bi-national project and receive about 200 volunteers each year in the San San Pond Sak site from April until July with groups of up to 35 at a time. These volunteers pay between $17-$20 per day and in 2010, these volunteers represented a revenue of $50,000 to the project. This revenue was further augmented by travel philanthropy programs, such as the $3000 sent from volunteers that arrived with an international tour operator ISV who collected donations from friends and family after returning home. Another travel philanthropy program with EcoTeach donated funds for boat repairs. Further, the presence of volunteers creates jobs for local communities. In San San Pond Sak there are about 6 jobs directly linked to the

volunteers and another 10 jobs indirectly tied to their presence. These workers will earn between $10-$15 per day for the 3.5 months that the volunteers are active at the site.

Stakeholders: Roles & Responsibilities

AAMVECONA: AAMVECONA organized volunteer work groups, patrols the beaches, and conducts research. They also provide services for volunteers (food, lodging, logistical support, etc.). AAMVECONA also publishes findings and shares data with regional partners WIDECAST and Sea Turtle Conservancy. These regional partnerships help to strengthen scientific understanding of turtle populations who migrate outside of national boundaries.

WIDECAST: WIDECAST provide technical trainings for AAMVECONA staff and they are responsible for marketing and sales to tour operators who bring in volunteer groups.

Figure 54: Sea turtle egg nursery at San San Pond Sak

Autoridad Nacional de Ambiente (ANAM): ANAM is the government body in charge of protected area management. They administer management plans and enforce regulations.

Tour Operators: WIDECAST and AAMVECONA work with numerous tour operators to bring in volunteer groups. These include ISV, I2I, and EcoTeach among others. These groups are responsible for international marketing and they organize travel logistics as well as any necessary insurance and logistics associated with international travel.

Process

1. Outline conservation needs and existing capabilities.
2. Analyze market potential and assess community interest for a volunteer program.
3. Develop business plan and budgets
4. Organize a strong research project and solidify links with local communities. Without a strong research program there can be no volunteer program. While there may be work for volunteers to do, the competitiveness of volunteer sea turtle programs in Mexico and Central America mean that a voluntourism project would not survive without this component.
5. Secure necessary permissions and agreements with public and NGO sector partners. Often working within protected area, sea turtle projects wishing to have volunteers will need protected area managers to approve any project before it begins. Also, linking with existing NGOs can strengthen your technical and commercial capabilities.
6. Train staff in their various roles as cooks, guides, researchers, patrolmen, etc.
7. Develop infrastructure needed to house and feed volunteers. These might home stays in the beginning but expansions will require more developed infrastructure.
8. Develop and implement marketing plans through direct linkages to international volunteer placement tour operators or through networking with existing local volunteer programs.
9. Operate volunteer program
10. Set aside end-of-year profits to re-invest in the business for maintenance, improvements and expansions
11. Contribute remaining profits to conservation fund.

Lessons Learned

- Form alliances: Alliances not only strengthen marketing resources but they can also help to provide a source of technical assistance. Also, since sea turtles migrate outside of national borders alliances help to construct a more complete understanding of the dynamics of their movements and behaviors.
- Be careful to maintain "the balance": Bringing relatively large numbers of volunteers to help in your project represents costs and benefits. Though they can be a source of revenue and labor, increasing the number of people present also results in an increased impact on ecosystems. Further, it is necessary to ensure that

volunteers serve to strengthen research and conservation and does not become strictly a business. Losing sight of this balance may not only harm ecosystems but will undermine long-term client satisfaction and may lead to a decline in the business-side as well.

- Be careful to respect local customs: Volunteers are often foreigners with different attitudes and customs, some sharing and cultural exchange is positive and even desirable, however some of these customs may create tension with local communities, this is especially true of casual attitudes towards drinking and sexuality. Make sure volunteers respect local customs while at the site and behave accordingly.
- Language barriers: It will be essential to have some staff that can communicate effectively with volunteers. Many opportunities can be lost to use volunteers more effectively if they cannot communicate special knowledge and skills. Also, in case of emergencies effective communication is essential.

Case Study

Strategy 5.1 – Utilize Sustainable Tourism Profits to Support Conservation Activities

Discover Grenada Turtle Tours, Ocean Spirits Inc./Rare - Grenada, W.I.

Summary

"Discover Grenada Turtle Tours" is a community tourism product designed to support sea turtle conservation efforts on the Caribbean island of Grenada. The project is a collaboration between Rare, an international NGO specialized in community-based tourism development, and Ocean Spirits Inc. Grenadian environmental organization that had worked with sea turtle conservation efforts in Grenada for more than a decade.

(OSI), a

At the heart of the project lies Levera Beach, a mile-long stretch of glistening white sand on the northern tip of the island. Levera is one of the top five Leatherback turtle (*Dermochelys coriacea*) nesting sites in the Caribbean, with upwards of 900 turtles nesting on the beach between April and August. Unfortunately, as recently as eight years ago, the number of sea turtle nests whose eggs were poached by local residents was as high as 90%. Sea turtle eggs are highly sought after as an aphrodisiac throughout the region, and are illegally sold for about US $.25 each in Grenada.

Figure 55: Project location, GRENADA

Figure 56: OSI's monitoring program

In addition to community outreach and environmental education, Ocean Spirits' sea turtle conservation efforts focus primarily on monitoring and research. At Levera Beach, OSI's successful monitoring program had all but eliminated poaching. OSI wanted to expand its monitoring program to nearby Bathway Beach, the country's second most critical Leatherback nesting beach, which was losing nearly 100% of its nests to poaching. The Bathway monitoring program would cost approximately USD $7,500 to establish. Funding is always a challenge for any NGO, big or small, and donor money for Bathway Beach wasn't available.

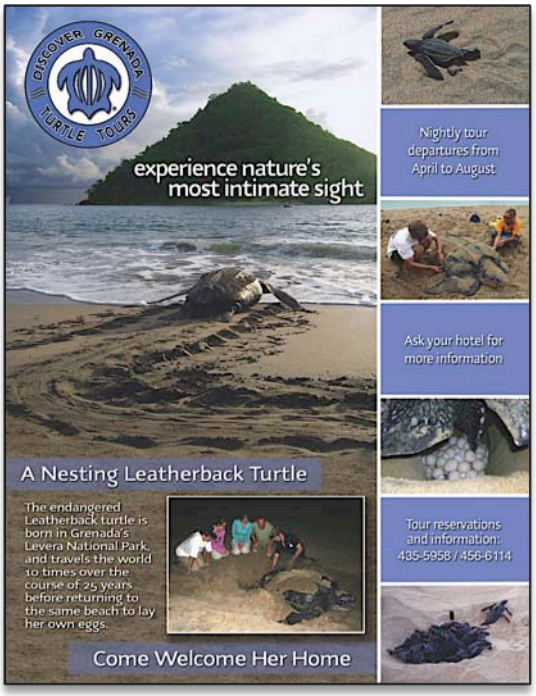


Figure 57: "Discover Grenada Turtle Tours" poster

Discover Grenada Turtle Tours

Rare, an international NGO specializing in community tourism development, established a partnership with OSI in which the two organizations worked together to develop a new turtle-watching tour to create jobs for local residents as well as generate funding for OSI's conservation activities. A Memorandum of Understanding (MoU) was developed that defined the role of each organization as well as committed $7,500 in turtle tour profits to fund OSI's Bathway Beach program (after business costs had been paid).

Figure 58: "Discover Grenada Turtle Tours" t-shirts proved to be a good source of revenue for the project

Staff training began in January 2008, along with the development of promotional materials targeting international visitors in local hotels. The most effective promotion was weekly sea turtle PowerPoint presentations given by the turtle tour staff to hotel guests, who could then sign up for a tour or simply buy T-shirts, hats, and other merchandise. During the first four-month nesting season, Discover Grenada Turtle Tours had 233 clients and generated $15,577 in gross sales. After operational costs were paid, the remaining $6,987 in profit was contributed to OSI's conservation activities. Although not the total $7,500 amount, the profits contributed significantly to OSI's conservation work.

Stakeholders: Roles & Responsibilities

Ocean Spirits Inc.: OSI assisted in training local naturalist guides basic sea turtle biology. OSI also acted as a liaison to nearby communities as well as to government agencies in charge of permitting. Finally, OSI provide their library of sea turtle photos for promotion, as well as the use of OSI name and logo to help promote the tours and their conservation impacts.

Rare: Rare provided much of the small business technical assistance including business planning, staff training (managers, cooks, drivers), sales and marketing strategy and design. Rare also helped with the development of tourism operations and systems (accounting, reservations, payments).

Figure 59: Roles of project partners in formation of the tourism enterprise

Process

1. Identify direct **conservation threats** (poaching) and indirect threats (lack of monitoring) to be addressed.
2. Analyze tourism **market potential** (supply and demand) and assess **community interest** in sustainable tourism
3. Finalize sea turtle **conservation strategies and costs**
4. **Develop MoU** between conservation NGO, business development NGO, and community representatives which includes:
5. Each stakeholder's roles and responsibilities, particularly time and financial commitments
6. Develop **tour products and services:**
7. Create a **business plan** that summarizes products, marketing strategy, operations plan, staff and training needed, and financial projections
8. **Train staff** in their various roles as managers, guides, cooks, drivers, etc.
9. Implement **marketing & promotional strategies** (website, brochures, etc.) as well as **tourism operations plans and procedures**.
10. **Operate tours** and use profits to first ensure operational costs are covered (office, phone, electricity, etc.)
11. **Set aside end-of-year profits** to re-invest in the business for improvements & expansion
12. **Contribute remaining profits to conservation activities**

Lessons Learned

- Private Sector Partnerships: Early on the turtle tour staff reached out to hotels and tour operators to help promote the tour. Most committed immediately upon hearing of the community and conservation benefits of the project.
- Hotel Presentations: The presentations at the hotel were an effective promotional tool because it allowed the turtle tour staff to really tell the story behind project and explain the linkages between tourism and conservation. They were also a great time to sell merchandise.

Case Study
Strategy 5.2 – Develop Travel Philanthropy Programs
Turtle Spotters Program, Sea Turtle Conservancy – Tortuguero, COSTA RICA

Summary
The Sea Turtle Conservancy (STC) has worked closely with the Costa Rican government and local communities at the Tortuguero site in northern Costa Rica for over 40 years. In 1975, the project helped to establish a national park that protects 65,711 acres of land and 113,014 acres of water at the Western Hemisphere's most important nesting site for green sea turtles. The nesting beach stretches about 22 miles and in recent years around 600 leatherback turtle nests and over 100,000 green sea turtle nests have been reported each season.[22] Their work focuses on the conservation of the site's green and leatherback sea turtles through monitoring, research, legislation, capacity building and public outreach. Part of this conservation work is to minimize the potentially negative impacts posed by the visitors that number over 100,000 a year in Tortuguero National Park.

This work has helped to significantly reduce the poaching at Tortuguero though visitation impacts still needed to be further minimized. To address this issue STC implemented the "Turtle Spotters Program" in 2004 which held visitors in cabañas on the beach until a turtle was sited at which point visitors would walk to the site indicated to a guide by a turtle spotter along a path behind the nesting beach. This reduced visitor impacts and employed local community members as turtle spotters. However, the costs of implementing this project needed to come from a more reliant source than the voluntary donations from hotels and tour operators who often decided not to participate. In 2006, STC, together with partners in the Ministry of the Environment and Energy and the local community and with support from ProParques created brochures and stickers that would be sold to visitors to support the initiative. Visitors were encouraged to wear their stickers proudly to show their support for conservation while on their tour. The donations were small - $4 for international visitors and $2 for locals – however its impact was significant. In its first year the Turtle Spotters stickers and brochures raised over $80,000 from nearly 80% of tourists on turtle tours within its first two months. Over the season the program collected over $100,000 and managed to pay for the Turtle Spotters Program's operational costs and expand and improve infrastructure. Visitors felt a sense of pride in being able to show

Nature tourists are often inclined to donate small sums to help protect the natural resources and support local communities they interact with on their excursions. They feel pride in being able to help preserve these natural places and contribute to local development. With a very simple, but innovative approach aimed at financing a specific initiative, STC was able to not only pay for operational costs to add another layer of protection for the nesting turtles at Tortuguero, they were also able to surpass operational costs and support the expansion of the program. These donations need not be large but they can add up over time.

Stakeholders: Roles & Responsibilities
Sea Turtle Conservancy: STC trained tour guides and designed a flow of visitation that would reduce negative impacts on nesting sea turtles. The organization then helped to produce brochures and stickers that would be sold to visitors.

Ministry of Environment, Energy, and Telecommunications: MINAET administers the protected area, sets regulations and is responsible for enforcement of regulations.

The Local Community: The local community was employed as Turtle Spotters and to do night patrols. The local community also participates as guides and support the research of STC.

[22] Sea Turtle Conservancy, "Sea Turtle Research Season Reports from Tortuguero," (accessed: March 20, 2011), http://seaturtletracking.com/costarica.php?page=season-reports

Tour Guides: Tour guides are one of the sales channels for the stickers and brochures. They also are the primary source of information about turtle ecology for most visitors making them an important part of turtle conservation. They can be a force driving visitors to become more engaged and excited about turtle conservation. In practice it was more difficult to sell stickers and brochures through the guides and there were high rates of non-participation.

Hotels: Hotels and sustainable tour operators became the primary sales channels for the stickers and brochures.

Process

1. Identify direct threats (visitor impacts) and indirect threats (lack of financing) to sea turtle conservation.
2. Define the project to be financed and budget required for implementation.
3. Coordinate with implementing partners to define roles and responsibilities, especially financial management issues.
4. Design and produce materials to be sold in order to leverage donations from visitors
5. Establish prices based on expected needs and predicted willingness/ability to pay
6. Promotion and sale of brochures and stickers using revenues to finance and expand operations.

Lessons Learned

- Specific projects to be financed: Visitors should fully understand what they are contributing to and will feel more engaged and more willing to contribute to specific conservation projects, especially when they are directly linked to the specific ecosystems and communities they interact with on their trip.
- Small can be large: Small donations can add up over time. Not all sites will have over 100,000 visitors per year, but even smaller crowds giving smaller sums can add up over time. The important thing is to define projects that can be easily financed with the predicted income from donations.
- Give so you can receive: The Turtle Spotters Program *sold* stickers and brochures. Visitors are more likely to donate when they receive some small keepsake or memento. Giving is often associated with good feelings that are strengthened when the donors can be recognized for their contributions. The stickers worn by visitors enabled them to proudly display their support for conservation. Similar projects by other groups have *sold* awareness bracelets, postcards, or other trinkets. The important thing is for visitors to have something to take home that is also relatively low-cost as to maximize the portion of donations that finances conservation.
- Guide training is important: The experience of STC in Tortuguero illustrates the importance of training guides. This is highlighted when visitors are no longer walking along the beach but waiting in designated sites that could imply long periods of inactivity. While waiting visitors should still feel engaged and guides should take advantage of the time to convey important conservation messages and teach visitors about sea turtle ecology. This results in tourists that feel they have experienced a satisfying tour from start to finish rather than a lot of waiting with a few moments of interactions.

Case Study

Strategy 6.1 - Develop Partnerships Between Communities, NGOs, and Universities

Scientific Tourism Program, Honduras Coral Reef Fund – Cayos Cochinos, HONDURAS

Summary

Honduras Coral Reef Fund (HCRF) is the organization responsible for co-management of the Cayos Cochinos protected area (MNMCC) and they also support research within the park. In 1995, the Smithsonian Tropical Research Institute (STRI) installed a scientific research station on Cayo Menor, and this station has been used by university groups and research organizations to study the area's ecology ever since. These research trips include three major expeditions: STRI in 1995, ProAmbiente in 1997, and a national and international team formed by WWF in 2002. The station is also used regularly by numerous organizations and student groups such as: Caribbean Coastal Marine Productivity (CARICOMP), Atlantic Gulf Rapid Reef Assessment (AGRRA), Caribbean Marine Protected Area Managers (CAMPAM), the United States Geology Service (USGS), Operation Wallacea, and by independent researchers. The initial intervention by STRI was facilitated through contacts of one of the founding board members of the HCRF in order to provide the needed technical expertise to guide the development of an adequate management plan.

Currently this research station receives regular groups of researchers organized by Operation Wallacea and Biosphere Expeditions. These groups bring in annual revenues of around US$100,000 - US$150,000, which more than covers expenses and contribute approximately 50% of the HCRF's annual operating budget. These scientific tourism groups also spend time within local communities during their trip, which provides alternative livelihoods through tourism for the Garifuna communities in the area of influence. The arrival of these groups is also a form of promotion for the destination, as these students and professors return and promote the destination to colleagues and friends. These groups arrive every year and the Foundation has agreements with Operation Wallacea and Biosphere Expeditions. In their early years there was an active search for partners and sales channels, but as the reputation of the Foundation's programs grew it these partnerships formed and solidified.

Beside the financial benefits of these programs for the Foundation and the conservation of the MNMCC, there are also technical advantages. The research conducted by the research groups is of extremely high quality and feeds directly back into the formation of a more complete understanding of the area's ecology. This understanding then informs the management plan, making the management plan not just a random collection of regulations, but a nuanced strategy based on rigorous scientific studies.

Like any project, however, these partnerships are not without challenges and risks. The increased presence of researchers represents an increased impact from visitation, and the mitigation and minimization of these impacts are extremely important. The success of this project also means that more researchers and students want to come and experience the area and study its ecology. This increased demand means that infrastructure needs to be developed to be able to handle increased visitation without harming the surrounding ecosystems.

Stakeholders: Roles & Responsibilities

Honduras Coral Reef Fund: The Fund is in charge of organizing activities, providing equipment and laboratories, maintaining infrastructure, and organizing logistics for groups once they arrive at the station.

Operation Wallacea & Biosphere Expeditions: These SAVE tour operators are responsible for selling tours at universities in the USA, Canada, and Europe.

Local Communities: Local Garifuna communities enliven the expeditions by organizing home stays and traditional folk dancing exhibitions. These community members also often are employed in tourism services.

Sociedad de Inversiones Ecologicas (SIEC): SIEC supports the foundation with grants and donates equipment.

NGOs and Universities: These groups of partners bring in students and scientists to study the local ecology. They benefit from having a protected site where they can study ecology, write papers, and publish articles. The protected area and its managers benefit from having high-level technical expertise supporting a more complete understanding of that ecology which feeds into conservation plans.

Process

1. Secure partnerships with essential government agencies and lobby for protected area status.
2. Protected area declaration (in this case through executive decree)
3. Secure partnerships with civil society groups and scientific NGOs/universities
4. Build research station
5. Search for sales partners and enter into agreements to organize research trips
6. Continue to develop and improve facilities and programs
7. Use the scientific knowledge developed through these trips to improve management and conservation plans
8. Dedicate a portion of year-end surpluses to improvements and expansion
9. Dedicate a portion of year-end surpluses to conservation and ecosystem protection

Lessons Learned

- The Importance of Partnerships: None of these programs would have been possible without the support of partners in national government in the protection of the MNMCC, sales channels in Operation Wallacea and Biosphere Expeditions, and scientific organizations supporting research and infrastructure development.
- Watch your impacts: Successful projects bring increased visitation, meaning you will need to be careful to mitigate the impact of visitors to ensure that you are not harming the ecosystems you intend to protect.
- Not just money: The support you can glean from these projects cannot be measured purely in monetary terms. The research performed in the area you are protecting will help to inform management plans ensure that the proper protections are in place and functioning. This of course, is not to downplay the importance of financial support for conservation projects obtainable from these kinds of scientific partnerships.

Case Study

Strategy 6.1 – Develop Partnerships Between Communities and Protected Areas

Verde Camacho Sanctuary, RED Sustainable Tourism Project, Sinaloa, Mexico

Summary

The Verde Camacho Sanctuary is a CONANP (National Natural Protected Areas Commission) administered protected area in the state of Sinaloa, Mexico. Just 20 minutes north of Mazatlan, the Sanctuary boasts a remarkably intact estuarine ecosystem that hosts marine and migratory bird species, crocodiles, and rich mangrove canals. The beaches within the Sanctuary are the most productive olive ridley nesting beaches in all of Mexico, and are home to a sea turtle research and conservation project spanning more than 30 years as part of BITMAR (UNAM's sea turtle research effort).

The local community of El Recreo has always had a direct impact on the conservation of the natural resources, in particular, the nesting sea turtles. Historically, many local residents collected sea turtle eggs for consumption and sale. Throughout the years though, they have become increasingly active in conservation not only of the sea turtles, but more recently in the entire Sanctuary ecosystem. El Recreo is comprised of fisher families that fish shrimp seasonally in one of the few manners considered to be sustainable, applying a technique used throughout centuries that employs the traditional *tapos* and the *atarray* tools. This method results in almost no bycatch, and does not use feed, bait, or other additives to the estuary.

Park staff, once identified as enforcers who spent a great deal of their time and resources pursuing egg poachers have seen their mandate within CONANP evolve to focus more on harmonious community interaction with the park's natural resources. Local residents were hired as park staff, and government resources from PROCODES (Conservation Program for Sustainable Development) and PETS (Temporary Employment Projects). Together with BITMAR, CONANP pursued strategies focused on developing local capacity to offer tourism services.

Figure 60: Sea turtle hatchings in Verde Camacho

They faced two key hurdles to their efforts achieving success. First, a limit to CONANP's resources and technical capacity for tourism development. And second, the risk of cultivating an unsustainable paternalistic relationship with the community.

To achieve long-term stewardship of the Sanctuary's natural resources, stakeholders would have to identify strategies that put conservation in the hands of local residents, independent of government financial support.

BITMAR and CONANP invited RED Sustainable Tourism to work with these institutions and the residents of El Recreo to first develop tourism products and a suitable marketing platform, as well as to devise conservation strategies tied directly to these products.

Working together, these stakeholders have worked together to produce a business plan for the community owned and operated business, begun training modules, and have operated test trips with local schools which have demonstrated the product's market potential, and provided tangible experience to community participants.

Stakeholders: Roles & Responsibilities

CONANP staff in the Verde Camacho Sanctuary: CONANP provides ongoing logistical support to the project, assistance with permitting, and access to project financing. CONANP also contributes to the development of conservation strategies.
Community of El Recreo: The tourism working group from El Recreo participates in all trainings and strategy development, in addition to operating tours.
BITMAR-UNAM: BITMAR serves as the primary community liaison throughout the project and assists with training. BITMAR also provided the science and research based program for the conservation activities within Verde Camacho, and contributes to the development of the project's conservation strategies.
RED Sustainable Tourism: RED leads training, business and strategy planning, as well as sales and marketing for the project in Verde Camacho.

Process

1. Historical assessment: understand the relationship between the community, institutions involved, and natural resources
2. Product and market assessment: design demand-driven products that take advantage of local abilities, resources, and knowledge
3. Identification of conservation and community development strategies: stewardship of sea turtles, beaches, and estuary; watershed campaigns; opportunities for youth and women; replacement/support of PETS and PROCODES with tourism revenue
4. Begin training in: Business operations, guiding, and tourism services
5. Soft launch of product to test products in market, and reinforce community buy-in
6. Continue training
7. Implement sales and marketing strategies
8. Operate tours
9. Implement conservation and community development strategies

Lessons Learned

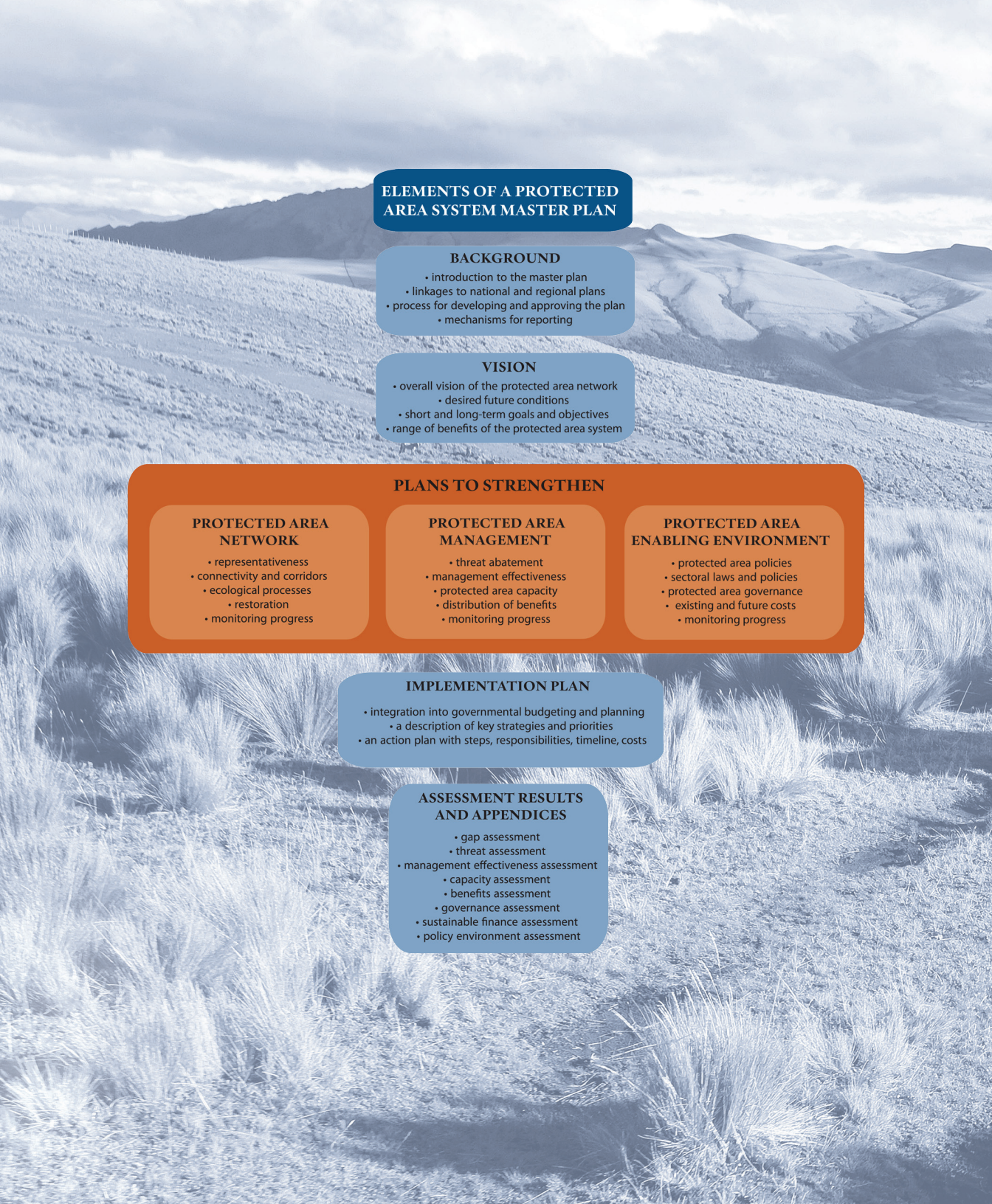
- Partnerships increase project reach: The pursuit of a formal partnership between the CONANP, the community, BITMAR, and RED, have created a synergy of interests which improves the project's chances for success in terms of reaching markets, obtaining funding for training and business startup costs, and achieving tangible conservation and community goals.
- Conservation as a product provides agility in markets: Negative press in Sinaloa has caused a drop off in international travel to the region, and eliminated the potential cruise market. Creating a conservation-focused curriculum has provided a market that is more stable (local schools and other institutions) in spite of retraction of traditional markets for tourism.

The Threshold of Sustainability

for Tourism within Protected Areas:

A Quick Guide

FOR PROTECTED AREA PRACTITIONERS


ELEMENTS OF A PROTECTED AREA SYSTEM MASTER PLAN
BACKGROUND
• introduction to the master plan
• linkages to national and regional plans
• process for developing and approving the plan
• mechanisms for reporting
VISION
• overall vision of the protected area network
• desired future conditions
• short and long-term goals and objectives
• range of benefits of the protected area system
PLANS TO STRENGTHEN
PROTECTED AREA NETWORK
• representativeness
• connectivity and corridors
• ecological processes
• restoration
• monitoring progress
PROTECTED AREA MANAGEMENT
• threat abatement
• management effectiveness
• protected area capacity
• distribution of benefits
• monitoring progress
PROTECTED AREA ENABLING ENVIRONMENT
• protected area policies
• sectoral laws and policies
• protected area governance
• existing and future costs
• monitoring progress
IMPLEMENTATION PLAN
• integration into governmental budgeting and planning
• a description of key strategies and priorities
• an action plan with steps, responsibilities, timeline, costs
ASSESSMENT RESULTS AND APPENDICES
• gap assessment
• threat assessment
• management effectiveness assessment
• capacity assessment
• benefits assessment
• governance assessment
• sustainable finance assessment
• policy environment assessment

Introduction

The demand for nature-based tourism has sharply increased over the past decade, and the UN World Tourism Organization projects that this growth will continue into the next decade and beyond (UNWTO, 2010). Natural ecosystems, from the highest mountain forests to coral reefs, from Antarctica to Siberia and the Amazon to the Serengeti, are attracting more visitors than ever before. This growth can provide a range of potential benefits, including increased revenues for improving natural resource protection, contributions to economic development, the creation of local jobs and opportunities for research and education. By providing these benefits, nature-based tourism can also create a constituency for support among local communities, the tourism industry, and visitors, which can in turn result in greater political and financial support for protected area objectives.

This burgeoning demand presents an enormous, largely unfulfilled opportunity for protected areas to generate funds for conservation. However, nature-based tourism also brings costs and threats to natural capital in protected areas, thereby undermining the long-term benefits of their protection and management. The natural capital of a protected area is the entirety of its natural ecosystems including physical attributes and biodiversity. This natural capital yields a flow of valuable ecosystem goods or services such as water catchment, erosion control and recreational opportunities. Tourism has been identified as a threat in many protected areas across Latin America and the Caribbean (Drumm et al., 2007). For example,

UNESCO cited uncontrolled tourism in the Galapagos Islands National Park as a reason for its addition to the *World Heritage in Danger* list in 2009. Visitor congestion in Ngorongoro and other East African protected areas has led to the disruption of mammal behavior, threatening these areas' long-term integrity and diminishing the overall quality of the visitor experience. In order to fully realize the benefits of tourism, urgent action is required to mitigate and prevent the tourism-related threats that erode natural capital and, thereby, the long-term social and economic benefits it offers.

In many protected areas around the world, the existing approach to tourism management in protected areas is leading to irreparable damage to natural capital. This Quick Guide introduces a tourism management framework called the *"threshold of sustainability."* It is designed to enable managers to take rapid action to mitigate the most critical threats, while beginning to lay a solid financial foundation for tourism within protected areas. By improving tourism management, protected area planners will simultaneously achieve many of the actions included in the Convention on Biological Diversity's Programme of Work on Protected Areas, including preventing and mitigating protected area threats, using protected area benefits to reduce poverty, developing sustainable finance mechanisms, strengthening management capacity, and improving overall management effectiveness.



Contents





nature-based tourism in protected areas: an opportunity and a threat

Tourism is one of the principal objectives of many protected areas, and is one of protected areas' most valuable contributions to human wellbeing. However, tourism is increasingly becoming a threat to biodiversity and the benefits of natural capital. Aquifers become depleted, reefs, lakes and rivers become polluted with untreated sewage, migratory bird habitats are lost to infrastructure, and wildlife is disturbed. Together with increased congestion, these negative impacts may diminish the quality of the visitor experience, and may jeopardize tourism's potential to contribute significantly to the conservation of natural capital within protected areas.

At the same time, tourism is largely failing to achieve its potential for generating financial benefits for protected area systems. Even where protected areas have established mechanisms for generating revenue, and fees are close to fair market value, those revenues are infrequently reinvested in even minimal protected area management. Consequently, the potential of protected area-based tourism to contribute to economic development is undermined.

Protected area systems face a critical situation in which policy makers increasingly promote tourism within protected areas even while managers lack the basic capacity to manage the impacts of current visitor numbers. At the core of this dilemma is the concept of a "*threshold of sustainability.*" This is the point at which the management capacity of a protected area is sufficient to mitigate the most critical tourism-related threats, such that public use is limited to the parameters of sustainability of the natural capital within the site.

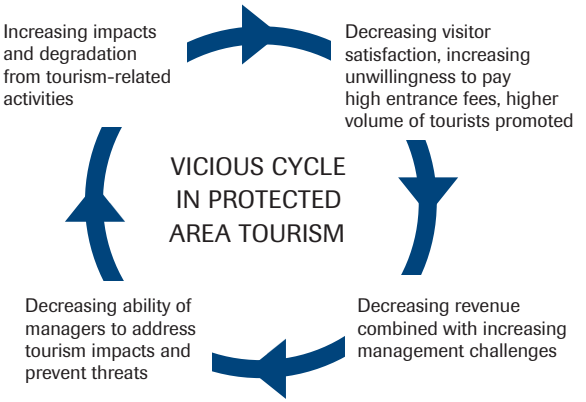
This threshold is reached by ensuring that protected area managers have a minimum annual operating budget to maintain a critical level of specific tourism management activities. A central idea to the concept of the threshold of sustainability is that in order to address the growing

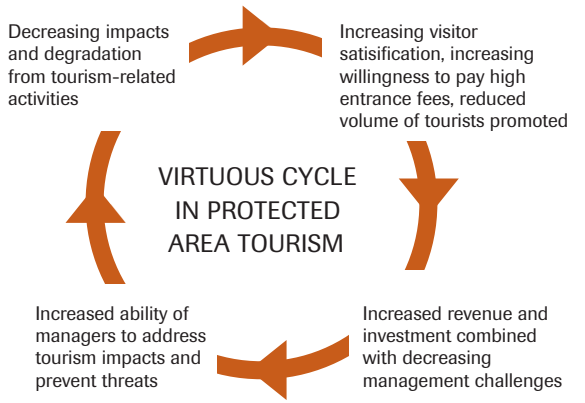
threats from tourism, managers must identify these threats and develop effective ways to address them, while policy makers must create an enabling environment in which tourism generates the necessary level of funding for effective management. Once the threshold of sustainability is reached, tourism can begin to realize its enormous potential benefits to communities, to local economies, and to the protected areas themselves.

This approach can be applied in situations where a long-term tourism management plan does not exist, where a plan exists but fails to address tourism adequately, or where a plan exists, but is not implemented.

The aim of this Quick Guide is to provide protected area managers with a framework for responding rapidly to crises originating from tourism and visitation. They will do this by shifting existing resources to facilitate short-term interventions that establish specific tourism management capacities, and through short- to medium-term actions that optimize the flow of tourism spending in protected areas.

The framework is designed to help managers identify and characterize the threats that place natural capital at risk, develop strategies for investment in tourism management, monitor their effectiveness, and estimate their financial costs and requirements for implementation. This approach is not intended to replace long-term tourism management planning, but rather to help initiate it. It is intended to enable rapid action to address critical existing threats in the short term, while also allowing protected area managers to develop the skills, experience and financial capacity needed to make longer term planning more effective. The Ecotourism Development Manual series (Drumm and Moore, 2005) published in the TNC/USAID Parks in Peril program provides comprehensive guidance on full-scale tourism management planning for protected areas.





The threshold of sustainability is about putting in motion a feedback loop for tourism, visitor satisfaction, investment and management capacity that creates a “virtuous cycle.” An appropriate initial investment in basic tourism management capacity leads to effective management

practices that will sustain the natural capital that visitors come to see, creating a more robust and viable tourism sector, as well as generating revenues that are reinvested into protected area management. Higher levels of visitor satisfaction promote demand and allow park managers to charge adequate park entrance fees, and to continue to investment in management capacity.

When there is inadequate investment in visitor management, a 'vicious cycle' is set into motion. In this scenario, tourism-related activities degrade natural capital, leading to decreased visitor satisfaction. This leads to either lower prices or fewer visitors. As a result, revenues are likely to decrease, as well as investment in management, which in turn will lead to even more degradation and further decline in visitor satisfaction.

The threshold of sustainability approach to addressing tourism-related threats within protected areas is about identifying the minimum level of investment required to achieve the management capacity sufficient to set in motion the "virtuous cycle," and to reverse the "vicious cycle" in protected area-based tourism.

the threshold of sustainability in tourism management

The *threshold of sustainability* framework enables protected area managers to define the minimum amount of investment in tourism management capacity that is needed in order to ensure the health and viability of biodiversity and other natural capital, and to maintain high quality tourism experiences within a protected area. While tourism and public use management are generally included in most PA management plans, less than a third of all protected areas globally even have a management plan (Ervin et al., 2010). Even when there is a tourism or public use component in the management plan, it is frequently underfunded and impractical. Park managers and staff often lack the appropriate skills and experience to implement visitor management plans. Consequently, tourism is increasingly identified as a key threat in a large majority of protected areas worldwide (Leverington and Hockings, 2008; Drumm et al., 2007). The *threshold of sustainability* framework provides a fast and relatively simple approach that enables planners to halt the erosion of natural capital and facilitate the long-term sustainability of nature tourism in protected areas, even in the absence of a full management plan.

The *threshold of sustainability* framework is derived from a set of actions that are widely adopted by NGOs and governments alike, called the "Open Standards for the Practice of Conservation." This cycle includes defining key threats, identifying appropriate strategies, implementing these strategies, using the results to adapt and improve, and learning from the process (CMP, 2007). It is also an approach that integrates a financial rationale at the outset, enabling decision makers to better understand the financial implications of the existing management practices, and to contrast these with the financial potential of establishing a model based on sustainable ecosystem management (Flores, 2010).





The basic components of the *threshold of sustainability* framework include both conservation management and financial analysis. Protected area managers rarely address these two components in an integrated fashion. They often come from a forestry or biology background and do not necessarily have the skills for financial analysis, while financial managers and accountants rarely comprehend the realities of conservation management. The lack of integration of management and finance lies at the heart of the problem of tourism-based degradation within protected areas. Depending on the resources and time available to a protected area manager, the *threshold of sustainability* can be applied in either a streamlined, rapid assessment and response mode, or in a longer two-year time frame that will include a greater level of financial analysis and stakeholder engagement.

The components of the threshold of sustainability concept include:

- **Step 1: Identify threatened natural capital, the most critical tourism-related threats, and key management issues:** Identify threatened, tourism-related conservation objectives, the impact that tourism and other threats are having on them, and identify the extent to which protected area staff are able to prevent and mitigate these threats.
- **Step 2: Identify efficient actions to address critical tourism-related threats:** Identify which strategies will be most effective at addressing tourism-related threats.
- **Step 3: Assess tourism finances in the protected area:** At a minimum in the rapid response mode, identify the financial gap between existing and required funds and identify potential revenue sources and financial mechanisms. If resources and time permit, then begin to build the financial case for increasing funds available for protected area management by also estimating the economic impact of tourism on the destination, and identifying potential complementary opportunities, such as tourism concessions and co-management opportunities.
- **Step 4: Assess the broader enabling environment:** Assess the legal, regulatory, institutional, administrative and policy environment and assess the extent to which this environment enables effective management of tourism within protected areas. This should be done to different extents in both the rapid response and long-term planning situations.
- **Step 5: Develop and implement a communications strategy:** Although communication and participation is important at every point of the *threshold of sustainability* framework, accumulation of the breadth of information in Steps 1-4 requires development of a formal communications strategy to help win the support of key audiences and change policies.
- **Step 6: Implement actions and monitor results:** Establish basic infrastructure and capacities needed to 1) achieve minimum management effectiveness, 2) implement new funding mechanisms, and 3) monitor results, including the impact of threats, the status and trends of biodiversity health, community benefits, and the effectiveness of management interventions.

step 1:

identify threatened natural capital, key threats, and key management issues

Identify conservation objectives and tourism attractions that are threatened

Understanding threats requires an understanding of the key aspects of the natural capital of the protected area that are being affected. These may have socio-cultural importance, such as a view of a natural monument or waterfall, or an archeological site; they may have ecological importance, such as a species, critical habitat for migratory birds, a natural community, ecosystem, or ecological process; or they may have economic importance, such as an ecosystem service including drinking water or fisheries. Key features to consider are those that are important to achieving the overall protected area objectives and to maintaining a high quality visitor experience. Sometimes these may overlap, but often they do not. For example, tourism-related activities could affect the habitat of endangered species that are not well-observed or important to the majority of visitors, but are very important to the protected area objectives. Similarly, tourism-related activities could result in trail-side litter which may have a low ecological impact, but will have a significant impact on visitor experiences. It can be very helpful to consult with an experienced guide or tour operator when evaluating the impacts of threats on visitor experience, as well as to review visitor comments and complaints.

Identify key tourism-related threats

In identifying tourism-related threats, the first step is to understand and describe the activities that are causing the threats and the motivation for the activities. Tourism-related threats include threats that are caused by individual and group tourist behavior (such as riding motorized vehicles in sensitive wetlands or arid lands), by the broader tourism industry (such as buildings and overuse of aquifers), and by tourism policies (such as the number of tourists who are allowed to visit sensitive areas).





After identifying the most critical tourism-related threats to these conservation objectives, the next step is to rank them on a scale of 1 to 5, and then repeat the process for threats to the visitor experience. The latter can be easily identified through informal consultation with tour operators or experienced guides, and through reference registers of visitor comments or complaints. In assessing ranks, it may be useful to consider compatibility of the activity with management objectives, the severity of the threat, and how extensive it is. The highest ranked threats will be the ones you will want to address most urgently.

In order to fully understand tourism-related threats, it is useful to know how many visitors there are, where they come from, when they come, why they come, how much they spend, what they spend it on, and how satisfied they are with their experience. These data can be gathered through visitor surveys. A local university can often be engaged to help with design and implementation of the survey.

Depending on the scope of the assessment, managers may also want to consider external threats to key features that are important for tourism within protected areas. For example, inappropriate forest harvesting within a protected area (e.g., through concessions or by a forestry department) can have significant impacts on tourism. While many such threats may be beyond the scope of protected area managers to address, including them in the analysis will provide a more comprehensive evaluation and facilitate future planning.

Part of identifying and understanding threats is identifying their underlying root causes – the drivers that cause or contribute to the threats. For example, inadequate trash disposal and waste facilities can result in trailside litter, inappropriate concession policies can contribute to illegal use of motorized vehicles, and inappropriate hotel policies can contribute to excessive light, air and water pollution that can disrupt wildlife (such as migratory bird habitat), damage ecological processes, and degrade the tourism experience.

Participation in this process of tour operators who depend on the resource for their business success is useful, for example by creating a small team including a protected area manager and a tourism operator.

The figure (on the next page) shows a simple way to conceptualize the diverse natural capital and tourism-related threats that can occur within a protected area – both to conservation objectives and to tourism attractions themselves — and provides examples of each, including threats that are driven by tourist behavior, and by inappropriate tourism infrastructure and policies.

	TOURISM-RELATED THREATS	
	TOURIST BEHAVIOR	TOURISM INFRASTRUCTURE, POLICIES
ATTRACTIONS IMPORTANT for high quality visitor experience	• Quiet natural experience: Noise pollution (e.g. from motor vehicles) • Wilderness experience: Trailside littering • Plant commnunities/habitat: Soil erosion from trampling • Coral Reefs: Inappropriate diving and snorkeling • Wildlife viewing: Inappropriate wildlife viewing practices (e.g., visitors are too close, too many, too loud)	• Freshwater systems: Excessive waste water and water pollution • Clean beaches: Solid waste disposal and sewage • Coral reefs: Anchoring practices of boats • Viewscapes: Air pollution (e.g., from motorized vehicles) • Wilderness experience. Inappropriately sited buildings, roads and other infrastructure • Star gazing: Inappropriate lighting
CONSERVATION OBJECTIVES	• Bird habitat: Excessive fuel wood consumption • Vegetation: Trampling in sensitive ecosystems • Coral Reefs: Inappropriate diving and snorkeling • Bird nesting: Inappropriate wildlife viewing practices (e.g., visitors are too close, too many, too loud) • Target species: Inappropriate feeding of wildlife, creating problem individuals • Natural systems: Introducing invasive alien species through horses, hiking shoes, boats	• Freshwater biodiversity: Overuse of freshwater resources • Coral reefs: Excessive waste water and water pollution • Migratory birds: Destruction of important habitat (e.g., mangrove) for tourism infrastructure • Sensitive areas: Inappropriately sited buildings, roads and other infrastructure • Sea turtles or migratory birds: Inappropriate lighting • Native fish: Fish stocking practices

Examples of different types of tourism-related threats

Identify key management issues

The next component of this step is to identify management issues that enable or even exacerbate threats and interfere with opportunities for improving management. There are numerous assessment tools to help managers identify management strengths and weaknesses at site and system levels (e.g., Ervin, 2003; Stolton et al., 2007).

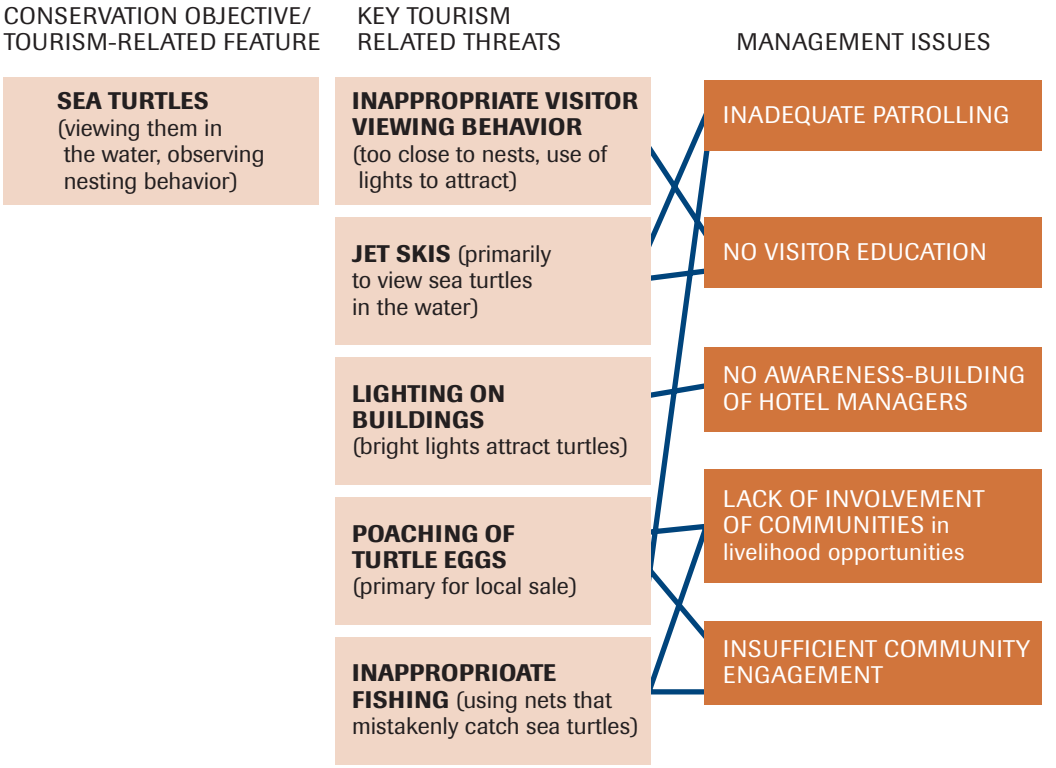
For example, if a key tourism-related feature in a protected area is an extension of woodland that is critical habitat for the cerulean warbler, the manager might identify the critical threats as: 1) inappropriate siting of large hotels, creating noise and excessive light that disturbs roosting; and 2) inappropriate camping and outdoor recreational vehicle practices that disturb feeding. Each of these *threats* would have a suite of potential *management issues* associated with them.





For example, management issues related to inappropriate lighting on buildings may have to do with the lighting practices and policies of tourism infrastructure beyond the protected area boundaries. Management issues related to inappropriate camping and recreational vehicle practices have to do with poorly zoned public use areas, absence of trained tour guides, inadequate control and registration of tour operators, insufficient patrolling by park guards, or inadequate visitor education.

Each of these management issues can be addressed by a range of possible actions. However, to be strategic and efficient, and to focus on the minimum investment required to sustain tourism and biodiversity within protected areas, managers must rank the most important management issues — i.e., those that are causing the most harm.



By identifying the most important tourism-related threats, the range of management issues and weaknesses for each, and the underlying causes for each of these weaknesses, managers can identify a small subset of the most important management weaknesses and underlying causes and actions that can address multiple threats. Typically these include: improving information, education and interpretation; better application of regulations and enforcement; better basic infrastructure; systematic monitoring of indicators; and sufficient staff numbers and capacities.

At the end of these initial three steps, the manager will have identified the important conservation objectives and tourism features that are threatened by tourism. He or she will also have identified the main tourism-related threats to these targets and features, and will have applied a simple ranking of their significance. S/he will also have identified specific tourism management issues that limit managers' actions to reduce threats.

This table shows another presentation of possible results, with rankings applied to the most critical threats and to the most important management weakness. For another example, see the end of the next section.

Conservation objective/ tourism feature	Tourism threats	Management issues
Migratory bird nesting area	• Trampling of vegetation by visitors (5) • Human waste (3)	• No visitor information or interpretation program (5) • Lack of basic infrastructure (3)





step 2:

identify efficient actions to address critical tourism-related threats

As illustrated in the table at the end of this section, there will likely be a variety of actions and strategies for addressing each of the impacts and management issues identified. The key is to focus on the most cost-effective actions that are likely to have the greatest short-term impact in reducing or eliminating a threat. The minimum tourism management capacity to achieve the *threshold of sustainability* will consist of a variety of different types of interventions.

Information, education, and interpretation

Visitor experiences and their behaviors are highly dependent on the type, quality and delivery of appropriate information needed to appreciate and understand the protected area values and opportunities. Providing appropriate materials and delivering effective educational programs can affect how tourists behave and can reduce many tourism-related threats. Tour guides, hotel managers, park staff and community members can also be important audiences for education and outreach efforts. A variety of techniques can be used to modify visitor behavior and improve their experience. Examples include interpretive signs, brochures, visitor learning centers, t-shirts, tour guide trainings, tour operator guidelines, and community meetings.

Regulations and enforcement

Most protected areas have a suite of regulations that limit behaviors and uses. However, in many cases the policies, procedures and regulations are outdated, or do not reflect increases in the volume of tourism. If inappropriate policies are a leading contributor to tourism-related threats, then managers will need to revise and update the regulations. For example, new rules might be needed regarding the size of allowable tour groups based on an assessment of biophysical or social impacts, or the penalties for violations may need to be increased. Similarly, improvements may be needed in enforcement, including increased staff to patrol areas. Financial health can also be improved by controlling access more effectively and ensuring that staff are present and have the administrative tools necessary at access points when visitors arrive in order to collect fees.

Impact Monitoring and Management Action

The regular, systematic gathering of data on tourism impact indicators is essential for effective management. When identifying threats, managers are creating a set of baseline data against which future changes can be systematically monitored and measured; it is particularly important to monitor progress against the most critical threats identified by the *threshold of sustainability* approach, as these threats can rapidly get out of control. By evaluating the information generated by impact monitoring, it is possible to make effective interventions to reduce threats and improve conditions. Although planning processes often emphasize monitoring as the last step of a planning process, we propose that managers circle back to strategy development to be sure to include actions to implement monitoring.

A simple version of the *Limits of Acceptable Change* methodology (*Stankey et al., 1985; see also Ecuador case study*) is recommended for most circumstances. This methodology involves determining desired conditions, establishing a small number of indicators and standards for those indicators, and then monitoring actual conditions regularly over time. If an initial management intervention (e.g., erecting signs to limit approaches to bird nesting areas) fails to bring the impact within the standard, then an additional or alternative intervention will be necessary (e.g., requiring visitors be accompanied by a licensed guide). Monitoring indicators need not be complex; often the simplest indicators are the most effective. Systematic monitoring provides a technical basis for decision making and thereby strengthens a protected area's management authority. This can be very important in the face of often strong resistance from private businesses and individuals, who may see their individual or collective benefits affected by the application and enforcement of tourism management strategies.

Infrastructure

Infrastructure – roads, trails, bridges, visitor learning centers, elevated pathways, drinking water, toilets, waste disposal sites, picnic areas, campgrounds and bird-watching platforms – can be an important tool for both improving visitor experiences and for reducing the impacts of tourism. In identifying strategies for improving infrastructure, managers should focus on the minimum infrastructure required to prevent a threat or minimize impacts. In developing infrastructure, managers will typically need to conduct an environmental impact assessment to ensure that the infrastructure itself does not exacerbate ecological impacts. Where possible, it is best to locate as much infrastructure as possible away from the attraction and outside the protected area.

Capacity building

Adequate numbers of trained, competent and confident personnel are required for a wide range of tourism management activities, including abating key tourism-related threats. Sometimes this means simply hiring more staff, and sometimes it means improving the capacity of existing staff. Specific capacities related to tourism management could include, for example, the enforcement of regulations, patrolling, community outreach and education, visitor-use planning, infrastructure planning, visitor education, and impact monitoring, among many others. There are a variety of strategies that managers can use to improve capacity, including study tours, short courses, independent study, short workshops, online e-learning tutorials, mentorships, and formal academic courses.

Safety, Security and Sanitation

A significant factor in reducing visitation to a site or area is lack of security and potential threats to a visitor's health. Managers need to be prepared for emergencies that may occur when tourists visit a site. In addition, managers may need a disaster plan, particularly for areas prone to flooding, high winds, and other similar natural phenomena. Finally, there is often a need for security to protect visitors from theft and other crimes.

Through this process, managers might develop a ranking of actions (perhaps by cost and effectiveness on threat) similar to that shown in the table. This type of analysis enables planners to quickly identify the actions that will reduce the threat most quickly, and those that are essential to develop over time. Because rapid action is necessary to limit critical threats quickly, it is important not to delay action until a full scale tourism management plan is prepared or revised. Planners





should prioritize those actions that can be taken at local level by reallocating existing resources without the need for lengthy consultation processes with system-level colleagues and stakeholders. More complex actions will need to be programmed in the following year's annual operating plan and budget as part of the annual planning process.

Tourism-related feature/ conservation objective	Key (high-ranked) tourism-related threat	High-ranked management issues	Prioritized actions (ranked 1 [high-cost, inefficient] to 5 [low-cost, efficient])
Sea turtles	Visitors approach nests and/or turtles too closely, disrupting nesting	• Poorly-trained park guards • Insufficient patrols • Inadequate visitor education • No trained local guides • No interpretation program	• Train guards (5) • Increase patrols to beach areas during nesting (3) • Train local guides (4) • Place signs between car park and turtle nesting area (5) • Provide visitors with written guidelines and interpretation (5)
	Inappropriate fixed lighting on nearby hotels outside protected area, disrupting nesting	• Inappropriate local zoning laws • Lack of education in the community • Inadequate dialogue with hotel owners	• Lobby Board of Supervisors to regulate lighting (1) • Ask hotel owners bordering the area to change the location or frequency of lighting (5)
	Inappropriate portable lighting carried by tourists and guides disrupts nesting	• Inadequate distribution of visitor guidelines	• Provide visitors with written guidelines and interpretation (5)
	Jet skis harass turtles	• Lack of zoning of public use • Poor enforcement of regulations • No dialogue with local jet ski rental business	• Install marker buoys to delimit no jet ski area (4) • Provide info at rental office (5) • Withdraw permits from persistent rental business offenders (5)
	Non-tourism threat affecting tourism		
	Communities poach turtle eggs	• Insufficient number of park guards • Inadequate education program for local community • Limited flow of tourist spending to local community	• Hire and train more park guards, especially from local community (3) • Implement monthly presentations in local community (4) • Create tourism business opportunities for local community (4)
	Turtles die in fishing nets	• Inadequate education program for local community	• Initiate community outreach education program to share appropriate technology (3)

At the conclusion of this step, the manager will have developed a series of actions to address the key threats and management issues, and will have prioritized them based on their expected short-term impact and according to availability of resources. Good cost estimation and budgeting is essential in this phase.

step 3:

assess tourism finances in the protected area

There is growing evidence that protected areas are engines of job creation, providing public and private revenue and export income, and helping diversify local economies in often remote and underdeveloped areas (Drumm, 2010; Leon et al., 2009; Rodriguez et al., 2008). Tourism is often the single most important source of self-generated revenues for protected areas, creating employment and opportunities for large numbers of local people. However, policy makers often perceive protected areas as a burden on national economies. This perception has led to a severe governmental under-investment in protected areas. During annual budgeting cycles, it is job creation initiatives, industrial and agricultural development, health and education that receive the majority of limited public financial resources.

Credible financial and economic data that show how much protected area tourism is contributing to the financial sustainability of the park system, to local communities and to the economy as a whole is compelling information when seeking to change policy makers' attitudes toward protected areas. This information is even more powerful when contrasted with the low costs of maintaining protected area tourism.

This section outlines a series of steps involved in assessing the finances of tourism in protected areas. On completing this assessment, protected area managers and other policy makers will have the information needed to make a powerful case for increased investment in protected area tourism management and in protected area conservation generally.

Tourism's economic impacts can be assessed within three spheres: 1) the financial sustainability of the protected area or areas; 2) impacts on local communities and destinations; and 3) impacts on the national economy.



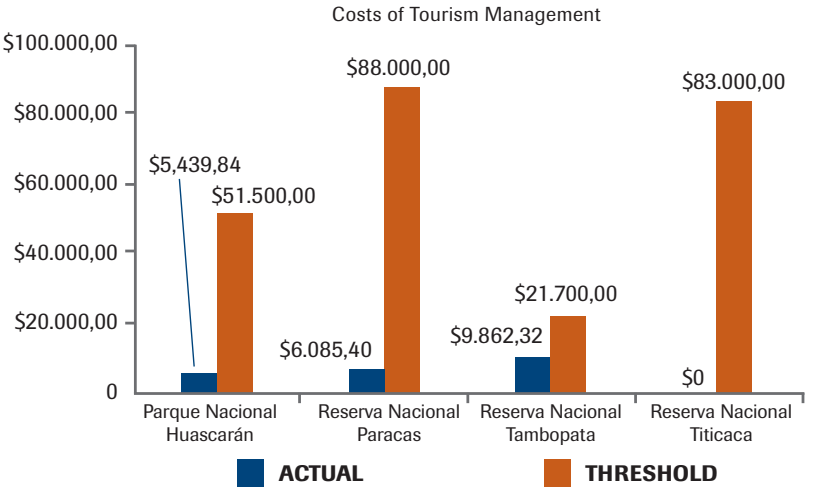


Making the financial case

The first part of making the financial case for increased investment in a protected area is to identify the current costs of tourism management. Although public use is often viewed as a basic protected area function, the range of costs it generates is frequently not understood thoroughly by protected area managers. Even basic tourism management strategies often do not appear as a line item on protected area budgets and are not included in annual operating plans. Often managers neglect to include these costs because they do not have technical expertise in tourism management, or because they believe that an increased investment in tourism management capacity is a lower priority than other basic protection activities.

Quantifying the cost of tourism management to the protected area site or system is often more challenging than might at first be imagined, simply because this information may not exist in one place. For example, there may be no tourism management budget per se, yet there are visitors, and tourism activities are taking place. The protected area is incurring expenses, such as collecting entrance fees, maintaining trails, collecting litter. These activities may often appear under different line items in park accounts, or be split between site budgets and system budgets.

The second part of making the financial case is to identify costs associated with potential actions and strategies, and to assess the financial gap between existing funds and the minimum required to achieve the threshold of sustainability. Once park managers have identified critical threats, management issues and the actions to address them, they will then need to determine the cost of these strategies. A financial specialist can work with park managers and system administrators to determine the costs of staff, equipment transport, food, and materials required to achieve the threshold of sustainability. This analysis will distinguish between operating costs (e.g., those costs that recur every year, such as staff time, fuel, food and materials) and capital costs (e.g., those costs that occur usually only once, such as vehicles, boats, computers and construction as well as restoration to acceptable levels of impact). Capital costs can be considered as an initial investment needed to achieve the threshold of sustainability. This can produce a result similar to this example from Peru:



From León et al., 2009

The two columns for each of four Peruvian protected areas illustrate the difference between current spending on tourism management, and the minimum level of spending required to achieve the *threshold of sustainability* in 2007.

Once a clear picture emerges of the financial gap between current expenditure and the minimum expenditure required to achieve the *threshold of sustainability*, there is a clear financial target to aim for. Funding will likely be required to cover initial capital investment costs, and also to cover the higher operating costs that are likely in the start-up period. Further funding will be required to cover operating costs on an ongoing basis, and newly-optimized tourism revenue generation mechanisms should be expected to at least cover these costs in most scenarios after the initial start-up period. It is quite possible that presenting a proposal for increased funding for tourism management with only the data gathered in the steps described so far will not be sufficient. For that reason, it is highly recommended that protected area managers and administrators go a step further and gather data that will illustrate the very positive economic impacts of protected area tourism.

The third part of making the financial case is to quantify the present benefits of tourism demand. Collecting data on current protected area revenues should not be difficult. This entails simply adding up revenues from all tourism-based revenue generation mechanisms including entrance fees, operator permits, and any concessions, etc.

A comparison of the protected area revenues with protected area costs will often show that there is seemingly a large financial return for very low investment. However, this may be deceiving, since many protected areas grossly underfund tourism management. The apparent low cost of tourism hides a range of basic costs that are typically not covered, and masks the reality of eroding natural capital and declining standards of visitor satisfaction.

Opportunities for generating tourism revenue are often under-exploited, such that both the revenue and cost columns are considerably lower than what they could be if tourism were funded at a sustainable level and tourism were managed properly within the *threshold of sustainability*. But because there is an apparent high return on investment, the 'vicious cycle' situation tends to be perpetuated. By factoring in investments in tourism management that are sufficient to retain high value tourism and maintain a high quality tourism experience, managers and administrators can prepare a realistic analysis of the overall revenue from protected areas within a threshold of sustainability scenario. The manager's job is to create the idealized but practical scenario that makes the financial case for adequate investment that will make tourism an advantage rather than a threat, and that will help to start a 'virtuous cycle'.

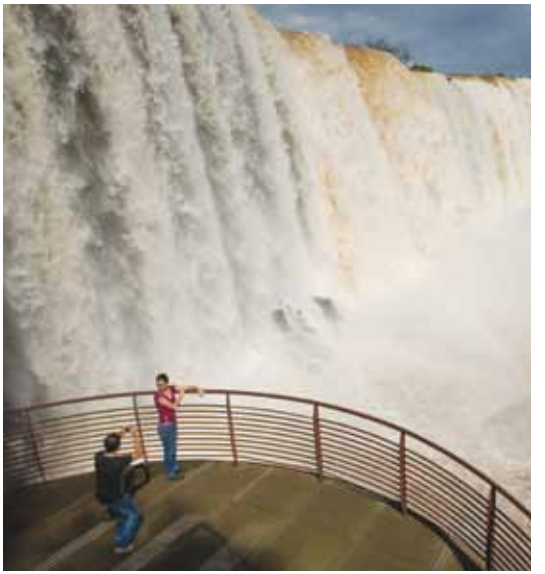
In a rapid-response situation, managers should complete the first and second parts of this step (identify current costs and assess new actions). This will put them in the position to understand the implications of moving existing financial resources for park management *out* of some existing, low priority issues, and into implementation of actions that will resolve a potential emergency. As soon as the opportunity presents itself, managers can proceed to the next components to create a compelling case to decision makers for more financial support.

Assessing the economic impacts of tourism

If resources are available, the next component of assessing the economic value of tourism is to analyze the impacts of tourism on local communities, destinations and national economies. Building this economic information about protected area tourism can give managers the tools they need to improve the financial situation for protected area management in the future.

Tourism is often a rare economic opportunity in remote destinations. It can provide income through employment, and through the provision of services such as transport, guiding, food and accommodation, and handicraft sales. Often there are undeveloped opportunities to increase these benefits and thereby increase local support for conservation objectives.

A careful analysis of the impacts of tourism on local communities will likely require some field research. Some questions to consider include: Which communities in the study areas are impacted by tourism? What are the economic, social and cultural impacts? How many families in each community are affected? How many derive income from protected area tourism? How much income, either directly or indirectly, do they derive? What new employment opportunities exist?



Sometimes tourism can also cause negative impacts in local communities. For example, tourists visit and take pictures of local people but leave no economic benefit. Local prices for food and property may be inflated because of tourism demand, causing local hardship. Both positive and negative impacts should be recorded, including indicators of the limits of acceptable change.

The other aspect that researchers should consider is the impacts on the tourism industry. If resources permit, it can be useful to evaluate protected area tourism impacts on the broader economy and on different sectors, such as the 'multiplier effect' of protected area tourism spending on goods and services like souvenirs, taxi drivers, restaurants, hotels airport fees, and other types of indirect benefits. Government tourism departments usually maintain data on visitor numbers, spending patterns and duration of stay, among other data. In Peru, for example, the tourism department found that 71 percent of foreign tourists visited a protected area during their stay (Leon et al., 2008). Additional information on tourist spending patterns can be obtained from tourism sector associations and through consultation with tour operators.

This data will be important to transmit to key stakeholders through the communications strategy discussed later.

Identifying and securing funding sources

The third component in assessing the financial sustainability and value of tourism in protected areas is to identify funding sources, which should be done by managers in a rapid response mode or in longer-term planning. Funding for capital investments and the projected increased operating costs will often need to be sourced in two ways. The costs of implementing the *threshold of sustainability* cannot typically be covered from the outset by revenues such as tourism fees. Instead, finding a source of investment for the initial start-up costs may be necessary. Sometimes protected area systems can supplement their funds by accessing multilateral loans, grants or donations (e.g., through GEF implementing agencies such as the World Bank or UNDP). In other cases, bilateral sources may be available such as through USAID or GTZ, or even through international NGOs such as TNC or WWF. Where protected area agencies can make the case for increased investments, these funds may also be secured through national loans.

Investors and donors are unlikely to fund a proposal unless the protected area system can demonstrate a commitment and capacity to at least cover its own operating costs. For that reason, a protected area system can increase its chances of successfully fundraising for externally sourced start-up capital by presenting a proposal that includes a carefully developed plan to accrue self-generating income from a variety of tourism-based revenues mechanisms. This is a critical concept for protected area system managers to understand, as the ability to segregate costs in this manner increases chances of successfully fundraising for any externally sourced start-up capital.

There are many finance mechanisms available to protected area managers that are widely used around the world (Drumm et al., 2004). Two of the most useful are entrance fees and tour operator annual operating permits. In addition to generating revenue to cover operating costs, these mechanisms provide an important means of maintaining control of visitor numbers and exercising control over tour operators.

Concession-based revenues from hotels, restaurants and other services can also be significant sources of revenue, but protected area managers and administrators should avoid creating a dependency on revenue from these complementary opportunities by making them part of the core funding of operating cost budgets. As described in the section on concessions below, it is recommended that tourism concessions be treated separately from revenue mechanisms (such as user fees and entrance fees) aimed at covering operating costs.

If entrance fees are an important strategy, the park managers and administrators will need to determine the appropriate level of entrance fees. In many developing countries, internationally significant protected areas with major tourist attractions charge very low entrance fees. This is often the case even when there are comparatively wealthy foreign visitors, the parks are failing to cover basic costs, and the visitors themselves are prepared to pay more. As a consequence, taxpayers from developing countries are inadvertently subsidizing wealthy foreign visitors who visit their parks.

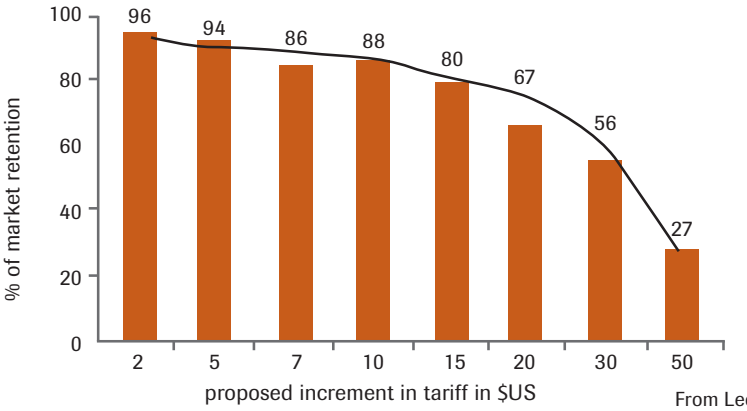
This situation occurs because protected area managers often do not clearly understand the real costs of tourism management, and because tour operators often resist fee increases. Tour operator reticence is often due to skepticism as to whether the increased prices will result in improved conditions for their clients and because they fear higher prices will negatively impact demand. These fears can be addressed by ensuring that there is reinvestment in the protected areas that generate these fees and transparency in the management of these revenues, as well

as by pointing to the growing evidence that increased park fees do not negatively affect demand, but rather increase it (Drumm, 2003; Thome, 2010).

In other cases, park agencies choose to charge the same fees to foreign visitors as national citizens — Peru and Ecuador, for example, lose millions of dollars of potential revenue every year because of this choice. Many developing country parks are more heavily visited by tourists from developed countries than by nationals. Yet nationals contribute through their income and other taxes to maintain the park system, whereas foreigners do not. For reasons of equity it may be more appropriate to charge differential fees, with foreigners paying more than nationals. At the same time foreign visitors are typically willing to pay more than nationals; indeed their motivation for making the expensive international journey to the host country is often to visit a particular protected area.

A good reference point for identifying appropriate entrance fees is to examine what other protected areas are charging in other countries. Another is to learn what visitors are actually prepared to pay. This can be ascertained by including questions in visitor surveys conducted as part of the initial economic evaluation. The same survey can be used to gather data that would predict how visitors would respond to a range of pricing scenarios (see Drumm et al., 2007 for three examples). In this way it is possible to generate information that can provide a strong technical basis for making a management decision to increase fee levels, which can be extremely valuable when confronting the political challenges of increasing park entrance fees.

The figure shows the results of such a survey in a classic curve that shows that the vast majority of visitors are willing to pay small and moderate increases, and that declining numbers are prepared to pay significant increases.



From León et al., 2009

With these data it is possible to project the financial impact of small, moderate and large increases in entrance fees, in order to provide a range of options for decision makers.

Managing tour operators also results in work and costs for protected area managers. A license fee system will enable managers to generate revenue, while also exercising more control over these business users by making their access to the protected area subject to an annual review

and approval process. If demand from tour operators exceeds the park's capacity to manage tourism sustainably, then tour operators may bid or compete for a license.

As part of identifying revenue sources, park managers and administrators may also see complementary opportunities to create new mechanisms for generating funding from tourism. There are two major types of tourism-based complementary opportunity for generating additional revenue for PA management: tourism concessions and visitor donations.

TOURISM CONCESSIONS

In many protected areas around the world, there are opportunities to develop tourism that can benefit protected areas, local communities and businesses that have not been developed, often because of a lack of management capacity. Establishing the threshold of sustainability creates the enabling environment for these opportunities to be properly evaluated and developed. These may be opportunities for activities such as biking, hiking, boating, etc. which can be managed through permits or through concessions.

Tourism facilities such as hotels, restaurants, ski areas, shops and businesses have developed within park boundaries as concessions. In many cases, these facilities have become problems for protected area management by exerting pressure on conservation objectives, by limiting the types of actions protected area managers can take, and by creating a financial dependency on the tourism facilities.

In some cases, short-term interests of tourism businesses are allowed to prevail over the long-term interests of conservation. While tourism concessions within protected areas can be excellent opportunities for visitors, local communities, tourism businesses and protected areas, it is important that they are guided by a long-term vision of conservation management interests, and are subject to planning and administrative procedures that result in concessions complementing protected area budgets rather than replacing them or becoming integral to them. Therefore, while concession opportunities may be identified during the process of developing sustainable finance mechanisms, exploration of their potential and subsequent business planning should take place after the *threshold of sustainability* has been established.

VISITOR DONATIONS

Another complementary opportunity for generating revenues from tourism for protected areas is the creation of mechanisms and funds to capture donations from visitors who wish to contribute more than the entrance fee. In Mexico, for example, tour operators collect donations from their clients for investment in the conservation of the areas they have visited (Drumm, 2003). This money is channeled through a fund managed by a local NGO and a board made up of park managers and tour operators. Similarly, a small number of cruise ship companies in the Galapagos have generated millions of dollars in the space of a few years by actively soliciting donations from their clients for protected area conservation (Honey, 2008).

At the conclusion of this step, protected area managers addressing rapid response situations will understand the financial gap between current spending and the basic level of funding required. In addition, they may have taken steps to understand what users are willing to pay, and the range of potential funding mechanisms available, and be prepared to propose increases in the tourism management budget to decision makers.





step 4:

assessing the broader enabling environment

The broader enabling environment, including legal, regulatory, administrative and institutional frameworks, has a bearing on the effectiveness of tourism management in protected areas. This section explores how protected area managers and administrators can assess the broader enabling environment in order to take advantages of opportunities, minimize threats, and achieve the *threshold of sustainability* within protected areas. Even managers working in the rapid-response mode should be aware of the current enabling environment as context for financing targeted actions. Those implementing a long-term strategy to increase revenues from tourism and funding for protected area management should engage in a more thorough review of the enabling environment.

Legal review

From an early stage it is necessary to work closely with protected area legal advisors and external legal specialists in order to review and amend proposals. It is possible that legal and regulatory changes will be needed when proposing changes in how revenues are raised, managed and reinvested. New laws may be required to allow such arrangements.

Administrative review

A widespread administrative barrier to achieving financial sustainability, and therefore achieving the threshold of sustainability, is a situation where tourism fees flow directly to a centrally managed account that is unrelated to the protected area that generated it, or is even wholly independent of the protected area system. Unless there is a clear relationship between the revenues that are generated by an area and the reinvestment in bolstering management budgets and capacity, the incentive for park staff to generate the revenue is lost.

New administrative mechanisms may be needed in order to have better transparency and accountability in how funds are raised and distributed. Therefore, part of the data-gathering and administrative review process will require mapping the flow of tourism revenue through the financial and administrative system, in order to enable an analysis of how adjustments in that flow can be made — particularly to facilitate reinvestment of adequate funds to reach the *threshold of sustainability* in a particular protected area.

Policy and sectoral review

In many cases, existing policies both within the protected areas and across various sectors may need to be revised in order to achieve the *threshold of sustainability.*

For example, policies related to tourism concessions and tour operators are likely to have direct impacts on the ability of protected area managers to charge fees. Policies related to protected area staffing can affect whether the protected area has the capacity to reduce tourism impacts below the *threshold of sustainability.* Policies related to other sectors, such as forestry practices on adjacent lands, can also have an impact on visitor experiences.

At the end of this step, mangers facing critical tourism related threats will have an idea of how the existing policy environment will support immediate, new actions. In the long-term context, they will have clarified the legal context for action – what policies, laws and regulations support action and which need to be modified or created. They will have a clear understanding of what administrative changes are needed in the collection and management of tourism revenues.





step 5:

develop and implement a communications strategy

Too often, excellent technical proposals fail to be implemented because of inadequate communications and marketing of important strategies to key internal and external audiences. In this case, a communications strategy is an integral component in achieving the *threshold of sustainability.* Ideally, a communications specialist from within the protected area system can be assigned to this task. Alternatively, an outside specialist can provide necessary professional support in this area to advise or oversee this complex and ongoing process with key but diverse audiences.

Note that at the outset of implementing the framework, it is important to gain support for the process from the tourism sector, from protected area staff, and from key decision makers and other stakeholders. This typically requires meeting with or convening groups of these important stakeholders to present the initial research proposal in an interactive environment, discussing it, and soliciting input to test assumptions and improve methods. An additional reason to engage with the tourism sector early on in the process is that their support can often be instrumental in conducting visitor surveys and in providing information about visitor preferences. As implementation of the framework proceeds, it is important to create a specific communications strategy for approaching and recruiting pivotal decision makers and other stakeholders.

Establishing clear lines of communication early in the process helps to create a shared sense of responsibility and accomplishment, and provides a solid basis for continuing collaboration from overstretched administrators. It is also important to maintain communication with representatives of the tourism sector, as they will need to be convinced of the advantages of increasing protected area entrance and permit fees.

Using a communications strategy to gain support from the tourism sector can also produce political dividends. They can use their influence with finance and related ministries to garner more widespread support for achieving the *threshold of sustainability*. Communicating with the Finance Ministry is also an important strategy for fostering their support of policy proposals to strengthen protected areas in order to maintain and boost tourist spending in the country.

Throughout the process, use of high-quality graphics and compelling visuals to display economic data, photos to illustrate visitor impacts and infrastructure, and maps to help audiences understand the geographical context of issues and proposals are all very important elements in preparing a successful proposal. It is remarkable how often tourism planning in protected areas takes place without good maps showing public use zones, visitor sites, trails, infrastructure, attractions and local communities. The investment made in producing these will be doubly beneficial as they will also be important tools in the tourism management planning process that will follow.

At each stage of the process, the protected area manager will have identified one or more critical audiences, and will have developed a communications plan – formally or informally – to reach those audiences with a specific message. The communications plan will have been tested with important audiences, and will enjoy a level of support necessary for success in lobbying key audiences for change. By the time Step 5 is completed, a formal, written communications plan identifying and addressing key audiences should have been developed.





step 6:

implement actions and monitor results

Ideally, the threshold of sustainability framework would inform tourism management planning processes *before* tourism threats become critical. However, it has been designed as a response to a crisis of tourism impact, as revealed by monitoring or casual observation. It may be that anecdotally, the protected area manager finds the number of complaints from visitors or tour operators has reached disturbingly high levels, or that revenues from tourism have begun to show a marked decline. It may be when sightings of charismatic wildlife species have notably declined, or when fish die off in a lake because of high levels of untreated sewage. Or it could be when a park ranger is injured from fighting fires caused by careless tourists. All of these circumstances would indicate that the situation has already deteriorated significantly and an intervention is merited.

Another opportunity to implement the threshold of sustainability is when a new tourism threat is anticipated, as when a new hotel is proposed near the park boundary, or an access road is being paved for the first time, or when the exchange rate of the local currency has declined significantly against that of neighboring countries or countries that are major sources of tourists. By anticipating an increased tourism demand, and applying the *threshold of sustainability*, it may be possible to act *before* threats become critical.

Whether implementing the *threshold of sustainability* approach as a rapid response or as part of a longer-term strategy for financing tourism management, once the decision is made to achieve the *threshold of sustainability*, the next step is deciding when and how to allocate initial funds. Having identified critical threats and key management weaknesses, and having evaluated a range of strategies to address them, a protected area manager has the opportunity to reallocate resources from within existing budgets, to the extent possible, to reach the *threshold of sustainability*. However, it is quite possible, and even likely, that reallocation within existing budgets

will be insufficient. In this case, it will be necessary to seek increased funding from across the entire protected area system. If more than one area is experiencing a similar situation, it may be worth preparing a multi-area proposal. In that scenario, the *threshold of sustainability* can be achieved with several or all of the protected areas working together collaboratively in a shared process. There will likely be economies of scale from taking a system-level or multi-area approach to implementation.

The budgets for protected area systems are typically underfunded because of the general under-estimation of the cost of protected area management and the under-valuation of the contribution of protected areas to the economy. This is where the economic valuation component plays such an important role. Credible financial data on current and projected costs and revenues can be tremendously persuasive to donors and decision makers. Early funding for this component and other start-up costs is critical.

Funding will be needed for those start-up costs that target the installation of urgent infrastructure, additional protected area staff, training programs and equipment to implement the selected strategies. There may be an additional need for an economics and finance specialist, a communications specialist, and a legal specialist to prepare the broader proposal for achieving the *threshold of sustainability*.

Sometimes funding may come sooner for the economic valuation than for urgent actions to address critical threats. It may be that funding for the protected area investments will not be forthcoming until after decision makers have been convinced by the financial proposal. However, this may be an opportunity to engage local and international NGOs and bilateral and multilateral institutions such as USAID, UNDP and others for assistance for early funding.





Establishing the capacity to monitor the impacts of tourism will be crucial to measuring and sustaining success. The monitoring program will begin by establishing a clear baseline against which progress can be measured. Indicators should be directly related to the elements of the threshold of sustainability. For example, if there is a particular threat that has been identified as one of the leading causes for decreased visitor satisfaction, it would make sense to include indicators that target the status of that threat.

The overall timeline from start to finish of implementing the *threshold of sustainability* framework will vary from country to country and protected area to protected area. However, the advantage of this approach is that it is not as burdensome as the process of developing a tourism management plan, and therefore should take much less time. The *threshold of sustainability* approach may take as long as two years to complete, depending on the enabling conditions present. As a rapid response, managers can proceed from threats analysis to implementation of first actions in less than 3 months; rapid response steps are indicated with an asterisk, below.

PHASE 1

- Identify threatened natural capital, and evaluate critical threats and key management weaknesses (1-2 weeks)*
- Identify potential strategies, understand the gap between existing and required funds, identify possible funding sources, and developing budgets (2 weeks)*
- In emergency situations, implement strategies and monitor results (variable length depending on threats)*
- Assess the economic value of protected areas (4-6 months)
- Assess the broader enabling environment (3-4 weeks)*
- Hold consultative workshops and preparing communication materials (4-6 weeks)
- Prepare a proposal (3- 4 weeks)

PHASE 2:

- Develop infrastructure, hiring and training of staff, and implementing actions and new strategies (6-9 months)

PHASE 3:

- Introduce new tourism revenue generation mechanisms (for example, user and entrance fees) and administrative structures (1 year from initiating Phase 2)

PHASE 4:

- When Phase 3 is up and running in year 2, turn focus to the development of complementary opportunities (such as concessions) and continue with long-term tourism management planning.

key lessons learned

Applying the *threshold of sustainability* approach to managing tourism is a concerted, focused, short-term approach to addressing tourism-related impacts within protected areas. It is typically much simpler and cheaper than a full tourism management plan to develop and implement. For many protected area managers and administrators who are feeling overwhelmed by the impacts of tourism, this guide may offer one of the easiest and fastest approaches to controlling the situation, and to establishing a platform for tourism to fulfill its economic potential. The following section provides a brief overview of the some of the main lessons learned to date in implementing the *threshold of sustainability* approach.

1. TOURISM IS A GROWING THREAT AND A GROWING ECONOMIC OPPORTUNITY

Tourism is a clear and growing threat to the very biodiversity and other natural attractions that bring people to protected areas in ever larger numbers. In many parts of the world, current tourism management approaches are failing to protect natural capital and deliver a consistent, durable experience to tourists. Protected areas and local people are losing economic opportunities from tourism spending. The more we fail to address this situation proactively and creatively, the more limited the potential becomes for a county's natural capital to contribute to economic development. In study after study, the economic value of protected area tourism is overwhelmingly clear – it can be a significant source of income for businesses, local communities and governments, as well as for protected areas. Conducting accurate financial and economic analyses will help convince decision makers that the initial investments required to secure the threshold of sustainability are well worth the investment.

2. CAREFULLY AND CLEARLY IDENTIFY CRITICAL THREATS AND MANAGEMENT ISSUES AND ROOT CAUSES WHEN POSSIBLE

Managers are often confronted with symptoms of more fundamental ailments, just as humans often experience a headache that is caused by something more systemic. We can choose to simply respond to the symptom, or we can address the cause of the symptom. In some situations, dealing with the symptom may be an acceptable short term solution. Eventually, however, the fundamental cause will need to be addressed. This Quick Guide is focused primarily on the minimal necessary actions to deal with threats and risks. In most cases, the processes detailed here focus on symptoms. Long-term planning helps deal with root causes.

3. CHOOSE THE MOST EFFICIENT AND EFFECTIVE STRATEGIES FOR CHANGE

Any number of actions or strategies can be developed for a particular threat or management weakness – choosing the most effective and efficient strategy, however, can be challenging. Planners should focus on those few strategies that will have the greatest influence in converting a vicious cycle into a virtuous cycle.





4. ACKNOWLEDGE THAT THERE WILL ALWAYS BE UNANTICIPATED CONSEQUENCES

We never know for sure what will happen when a new management action is implemented. A new parking lot may shift use patterns in unexpected ways. A new pedestrian bridge may increase use levels. Restrictions on tourism activities may lead to increasing use elsewhere. Consider that some interventions may not actually be successful or may shift the burden and costs to others. Managers should be prepared for these unexpected consequences, and monitor for them as much as possible. Also be aware that *incremental* decisions can result in gradual loss of natural capital and opportunities for quality visitor experiences. Weigh the consequences of incremental decisions prior to their implementation. Monitoring will help identify them; an adaptive management strategy will help respond to them.

5. INITIAL START-UP INVESTMENTS ARE ALMOST ALWAYS REQUIRED

Because the grip of a vicious cycle can be so strong, initial start-up investments are almost always required in order to change the course of tourism management, and to ensure a solid basis for the *threshold of sustainability.* Planners should treat start-up investments and ongoing operational costs as different elements of management.

6. COMMUNICATE CLEARLY AND EFFECTIVELY WITH KEY STAKEHOLDERS EARLY IN THE PROCESS

Engaging protected area managers and administrative staff, as well as the tourism sector and key decision makers early and effectively throughout the process can help in ensuring the strong support that will be required if financial, legal and policy changes are to be made.

7. KEEP ASSESSMENTS SIMPLE AND CONCISE

Economic studies do not need to be overly complex to be effective. Visitor surveys should be short and focused. Protected area managers should seek professional assistance in the design and analysis of data, and engage a local university to assist with the application of surveys in the field.

8. BUILD FROM EXISTING WORK

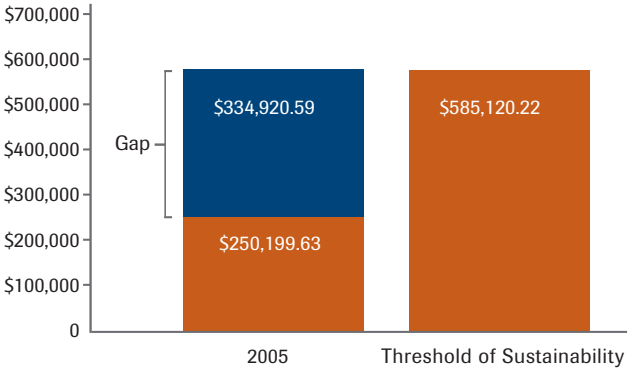
In many cases, there is already existing work that has been done on assessing threats and management effectiveness, developing potential strategies, conducting “willingness to pay” surveys, and surveying visitor experiences. This work may have been through NGOs, citizen groups, universities, tourism operators, or the protected areas themselves.

case study: ecuador

This study was led in 2007 by The Nature Conservancy, working with Conservation International, other local NGOs, the Ministry of Environment, and with financial support from the USAID/TNC Parks in Peril program and the Alex C. Walker Foundation. Impetus for the study came from a desire among local actors to increase revenues from tourism for the management of a group of protected areas constituting the Condor Bio-Reserve. An initial rapid threats analysis showed that conservation objectives were already under pressure from current levels of tourism due to insufficient capacity and funding for tourism management. They agreed to identify actions to achieve the *threshold of sustainability* prior to investing in tourism promotion. In order to create a persuasive argument to decision makers for making adjustments in the revenue management system, they conducted a study to demonstrate the economic value of protected area tourism's current and potential contribution to the economy.

To better understand the source of the threat and the potential economic opportunity, a demand analysis was carried out at the seven protected areas that received 80% of the total visitors to mainland parks. The current level of investment in tourism management was also quantified. A demand analysis was also carried out at Galapagos National Park, which attracts most foreign visitors, to identify the potential market for mainland parks.

The study identified several recurring management weaknesses and key management strategies across all seven protected areas: impact monitoring and management; interpretation and information; security and basic infrastructure. They calculated the cost of implementing these minimum, basic strategies to enable a comparison between current costs and the costs of attaining the Threshold of Sustainability, suggesting that the annual budget increase from $250k to $585k – a daunting prospect for any protected area ministry.



Total current expenses (2005) and proposed expenditures (to meet the threshold of sustainability) per year for all of the protected area sites in the study.

The initial analyses also indicated that there was considerable opportunity to increase entry fees and also to develop complementary opportunities to increase protected area financing.

The economic valuation study showed that 95% of the protected area system's self-generated income came from tourism. However, revenue generation mechanisms were not priced in relation to the actual costs of managing tourism, which were poorly understood. Re-investment of this revenue in protected area management bore no relation to revenue generated, nor to the actual funding required to cover tourism management costs. As a result, protected area managers were unable to manage tourism's increasingly negative impacts adequately, and problems were increasing to such an extent that important habitat was being lost, and some protected area staff devoted most of their time to cleaning up after tourists rather than to more important conservation management priorities.

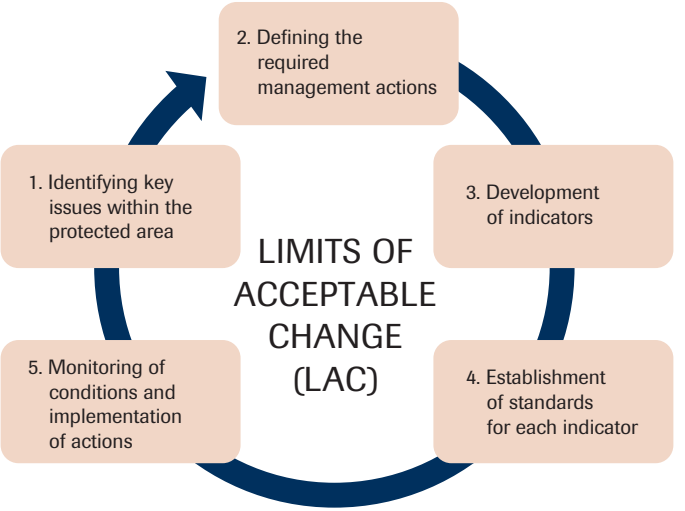
A contingent valuation (willingness to pay) study that was conducted as part of the demand analysis (visitor survey) showed that visitors were generally prepared to pay higher entrance fees, but that they also had expectations of resultant improvements in services and facilities. The proposed interventions to address threats and management weaknesses would have the result of improving the quality of the visitor experience as well as creating conditions where higher fees could be charged.

Subsequent to the determination of core financial needs to achieve the threshold of sustainability, an evaluation of complementary opportunities showed that conservatively an additional $1.8million in tourism spending could be generated in five years by facilitating the development of one basic tourism service

Seven protected areas within the study site.

per protected area, e.g., food provision or accommodation. These would create new revenues for local communities and tourism businesses as well as for the protected area.

The value of the initial capital investment required for the seven areas was $510,000. Funding was mobilized through the Global Sustainable Tourism Alliance (GSTA) and TNC to make the required investments in improving basic infrastructure — such as a ranger station in Chimborazo and a dock at Manglares Churute — and in training staff. With support from the USFS Migratory Bird Program, 36 managers of areas with important habitat for migratory birds were trained and guided in the implementation of the Limits of Acceptable Change methodology (Stankey et al., 1985). The training focused on implementation while learning, generating considerable enthusiasm among staff, and resulting in a rapid increase in confidence and reduced impacts.



Simplified Limits of Acceptable Change Methodology

The process provided 15 recommendations to the Ministry of Environment, including for adjustment of specific regulations in order to facilitate the changes required. As noted above, much of the initial startup costs were covered and minimum investments in infrastructure, training, monitoring and interpretation were made, allowing the seven areas to mitigate existing tourism impacts. Unfortunately, at the time of writing, the recommended changes to the revenue generation mechanisms have not yet been made, suggesting a role for a stronger communication strategy. However, there is much greater understanding of the value of the contribution of protected areas to economic development. The investments made to improve tourism management capacity and reduce threats have been a notable contribution by the Ecuadorian protected area system toward their CBD PoWPA objectives.



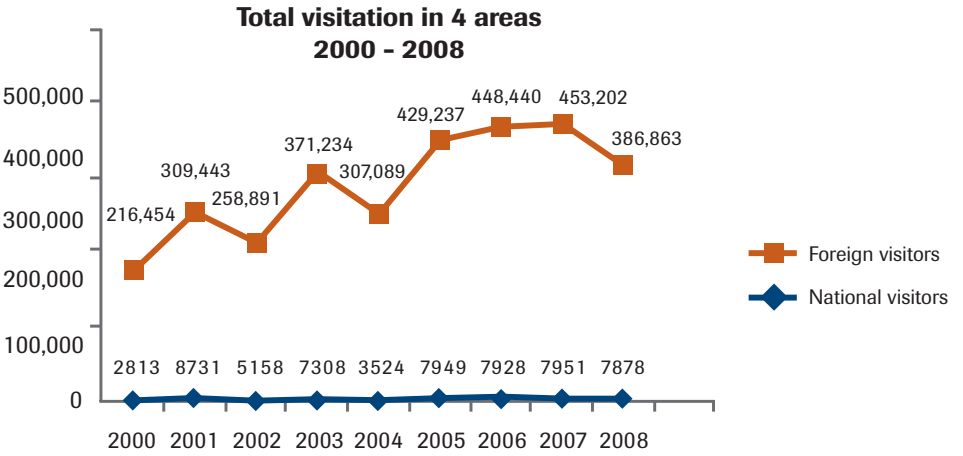


case study:

dominican republic

This study was led by TNC working closely with the Ministry of Environment and Natural Resources, with financial support from GSTA/USAID. Its objectives were to understand the revenue potential of the protected area system (which the Ministry planned to expand) in order to improve community benefits and to better understand tourism management needs in support the Dominican Government's commitment to implement the CBD's PoWPA. The initial report to identify the *threshold of sustainability* and the other pre-implementation phases took 6 months to research and prepare and cost approximately US$50,000.

Each year, approximately 10% of Dominican Republic's 4 million international tourists visit a protected area. Demand from Dominican tourists is very low in comparison. A large percentage of international tourists visit the protected areas as part of a program purchased through tour operators. For example, day trips from resort areas to Del Este NP account for the biggest visitor numbers to a protected area by far.



Tourism Revenues

Virtually all self-generated revenue for the protected area system comes from tourism, principally park entrance fees. However, once collected, these revenues are transferred to a central government account. The current level of investment in the protected areas is insufficient to maintain effective management. Consequently, the capacity of the protected areas to continue generating the current level of revenues is compromised.

In 2007, the SINAP Budget was US$9.3 million. Of this, about 90% was assigned to cover staff salaries, whereas the amounts assigned to cover resource management, tourism management, monitoring and community relations was very low or zero (International Resources Group Ltd, 2006). 80% of tourist demand is focused on just four protected areas: Del Este NP, Los Haitises NP, Valle Nuevo NP, and Estero Hondo Marine Sanctuary.

An economic valuation study (Izurieta et al., 2009) found notable inconsistency in the collection and presentation of information on visitor registration for some areas. This is a management weakness that makes planning difficult. The lack of entrance fee differentiation between foreign and national visitors also made understanding demand more difficult because it was unclear from collected statistics if a visitor was local or foreign. But more importantly, from a financial sustainability perspective, this lack of differentiation in entrance fee prices between nationals and foreigners meant that considerable revenue is lost to the protected area system. A contingent valuation study indicated that foreigners were prepared to pay higher entrance fees than currently charged, which are low by international standards, and showed that revenues would be at least 256% higher if differentiated fees were charged.

Tourism Management Costs

To achieve the *threshold of sustainability*, the economic valuation and threats analysis suggested that the current tourism management budget would need to be doubled to US$420,000 in the four most visited areas. These funds would be invested in strengthening protected area capacity in several areas including staff training, infrastructure and equipment, impact monitoring, and interpretation.

Currently all protected area finance information is centralized in the Department of Special Projects at the Ministry of Environment and Natural Resources. This includes both revenue and management cost information. This centralization severely limits the planning ability of protected area managers and the provincial directors. To facilitate effective planning, financial information needs to be made much more accessible to protected area managers and others.

Towards the Threshold of Sustainability

At the time of writing, the first steps to implement recommendations emerging from the *threshold of sustainability* approach are underway; new and more efficient controls of visitor numbers and fee collection have been implemented at the most heavily visited PA - Del Este. This has led to a 25% increase in revenues in the first year. This will also be introduced at Los Haitises in 2011. However there has been no change in the centralized financial administrative structure as yet to facilitate the reinvestment in the protected areas of a percentage of revenues sufficient to cover basic tourism management costs. A current GEF-financed reengineering project at the Ministry of Environment is expected to produce a financial sustainability plan which adopts this and other *threshold of sustainability* strategies, such as interpretation, staff hiring and training, and infrastructure.

Also, investments have been made with the financial support of USAID and the technical assistance of TNC in establishing management capacities – particularly in training protected area managers in the monitoring and managing visitor impacts, developing visitor impact management plans, as well as infrastructure and signage planning.





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