



Building and operating biodiversity-friendly hotels in the Caribbean



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Contents

 Biodiversity and hotels in the Caribbean	4-7
 Biodiversity Principles for siting and design of hotels and resorts	8-11
 Integrating biodiversity into hotel and resort operations	12-15
 Conclusions: Creating opportunities for increased synergies between biodiversity conservation and tourism development	16-19
 Acknowledgments	20

■ Biodiversity and hotels in the Caribbean

The Caribbean's unique biodiversity

On the relatively small islands of the Caribbean, mountains and steep hillsides quickly transition to low-lying drylands and coastal wetlands. This range of ecosystems packed into very limited spaces provides a remarkable variety of habitats, resulting in unique and rich biological diversity (biodiversity) that is also highly fragile and vulnerable.

The Caribbean islands have been identified as one of the world's 34 Biodiversity Hotspots, because of their exceptionally diverse ecosystems and the level of threat they are facing. Over the region's evolutionary history, Caribbean island species and their assemblages have become highly specialised, due to the small size of the islands' landmass and their geographic isolation. As a result, the region is home to a high number of native endemic species, i.e. species that are found nowhere else on Earth. For example, 95 percent of all reptiles and 72 percent of all terrestrial plant species in the Caribbean are endemic to the region.

In 2007, IUCN carried out and published a situation analysis of the wider Caribbean, to inform the development of its Caribbean Initiative. This study identified watersheds, forests, mangroves and coral reefs as the ecosystems in the Caribbean that are the most critical to biodiversity and to the provision of "services" and natural resources to society. There are 290 Key Biodiversity Areas (KBAs), areas recognized by scientists as having global biodiversity value, 70 percent of which contain coastal and marine ecosystems that provide habitat and nurseries for fisheries, support nutrient cycling between marine ecosystems and stabilize coastlines, especially during extreme weather events.

The importance of Caribbean biodiversity to tourism

Tourism plays a proportionately stronger role in the Caribbean region's Gross Domestic Product (GDP) and employment than in any other region of the world. For some of the smaller Caribbean economies, the proportion of

GDP and employment derived from tourism can be as high as 70 percent. According to a World Resources Institute study (2008) of the economic value of tourism, tourist spending on reef recreation and other related expenditures is estimated at US\$43.5 million for Tobago and US\$91.6 million for Saint Lucia annually.

The quality and viability of this tourism industry are based very significantly on the region's biodiversity, in particular its species and landscapes. Without a doubt, the appeal of Caribbean tourism lies in the region's natural features – beaches, clear turquoise seas, coral reefs, lush landscapes, luxuriant rainforests and unique wildlife. The culture of Caribbean countries, another key aspect of the visitor experience, is also closely intertwined with the natural environment.

How the Caribbean tourism industry relies on the region's biodiversity

- ***Corals make beaches:*** White sand beaches are not only a result of the limestone geology of many Caribbean islands. They are also replenished by the breakdown of offshore coral reefs and calcareous algae that reside in seagrass meadows.
- ***Trees on land means clear water:*** Clear and calm sea water is the result of low levels of silt and sediment in the water, which is retained by vegetation cover on land and filtered by fringing mangrove ecosystems.
- ***Coastal ecosystems protect hotel investments:*** Coral reefs and mangroves are the first and most effective barrier from the impacts of waves and wind that can damage hotel developments and increase maintenance costs. They are critical for the absorption of wave energy during storms and hurricanes.
- ***Healthy coastal ecosystems safeguard hotels from the effects of climate change:*** Intact, thriving natural coastal vegetation and ecosystems provide a critical buffer from sea level rise and increased storm surges. Fragmentation of dry forests, mangroves and damage to beach vegetation and dunes reduces the resilience of coastal ecosystems to withstand the effects of climate change, which in turn threatens hotel buildings and infrastructure.
- ***Wildlife and landscapes make each island unique:*** Flora and fauna unique to each island are the result of their geological isolation.

Building and operating biodiversity-friendly hotels in the Caribbean: Taking action

'Seascape' views are highly valued within the hotel industry, and the vast majority of Caribbean hotels are located within the critically biodiverse and fragile coastal zone. Nevertheless, despite evidence of the region's biodiversity value to the tourism industry, there are many instances where the planning, siting and design, and operations of hotels and resorts have led to the degradation and loss of that biodiversity.

The main types of impacts from inappropriate siting and design of hotels and resorts are:

- the destruction and fragmentation of coastal habitats (mangroves, sand dunes and dry forests are particularly at risk) as a result of removal and clearing prior to construction;
- the degradation of sandy beaches and marine habitats (especially seagrass beds and coral reefs), due to deforestation, dredging and excavation as well as siltation and sedimentation;
- the introduction or spread of invasive species that aggressively displace native species, especially for landscaping; and
- the pollution into the marine environment from inadequate wastewater treatment.

At the operational stage, a hotel's impact comes mainly from the energy, water, food and other resources that are consumed in running the hotel; by the solid and liquid wastes it produces; by the way its grounds are managed; and by the direct impacts of its guests. In addition, regular renovation and replacement of furniture, appliances and facilities can cause impacts through 'environmentally-unfriendly' purchasing choices and increased waste generation. Using energy and water more efficiently; using organic and sustainably produced food; reducing, treating and disposing of waste appropriately; making sustainable purchasing decisions and managing gardens with natural-style plantings can all help a hotel to reduce its adverse impacts on biodiversity. Similarly, a hotel's relationship with local communities not only affects the sustainable operations of the hotel but also the use of environmental resources by communities themselves.

However, these impacts can be avoided and minimised with good practices and procedures. IUCN, with many partners, has developed guidance on how

Integrating Biodiversity into the Caribbean Hotel Sector

About this project

As noted in IUCN's *A Situation Analysis for the Wider Caribbean* (IUCN, 2007), among the main drivers for environmental change, and specifically biodiversity loss, 'tourism's impacts continue to increase, driven by trends towards bigger, more all-inclusive resorts and mega-cruise ships'. To respond to this specific challenge, IUCN, with the generous support of the French Ministry for Sustainable Development and the French Overseas Territories Ministry, has developed a number of tools that aim at supporting tourism decision makers in the private and public sectors to more effectively integrate biodiversity priorities into the planning, development and operation of hotels and resorts. This work has three objectives:

1. Assessment of the current situation with regard to biodiversity impacts of hotels in the region.
2. Development of tools for the Caribbean hospitality industry for integrating biodiversity conservation considerations into the construction and operational phases.
3. Creation of greater awareness among all stakeholders of the risks and opportunities linked to the construction and operation of hotels.

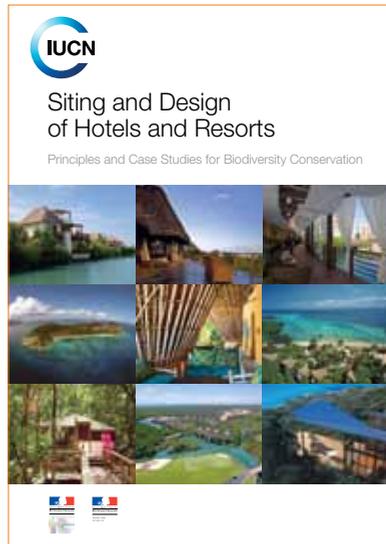
This brochure provides an overview of the tools generated through this project:

- Biodiversity Principles for siting and design of hotels and resorts
- Case studies on the implementation of the Biodiversity Principles for siting and design of hotels and resorts
- Biodiversity: My Hotel in Action – a guide to sustainable use of biological resources in the Caribbean

biodiversity considerations should be integrated into hotel and resort siting and design decisions (*See section on Biodiversity Principles for siting and design of hotels and resorts*) as well as into management activities during the lifetime of the property (*See section on Integrating biodiversity into hotel and resort operations*). These tools are targeted at all relevant stakeholders, including planning authorities, tourism development agencies, developers, investors, hotel managers and management companies, project managers and consultants, architects and construction firms.

■ Biodiversity Principles for siting and design of hotels and resorts

IUCN has developed a set of five Biodiversity Principles to promote the integration of biodiversity considerations (for respecting biological diversity) into decision making on the planning, siting and design of hotels and resorts. These Principles have been developed based on the outcomes of an analysis conducted by IUCN of the current threats to biodiversity in the Caribbean linked to the siting and design of hotels and other vacation accommodation. The study generated evidence of biodiversity impacts resulting from the siting and design of hotels and at the same time identified examples of positive relationships (*Impacts of hotel siting and design on biodiversity in the insular Caribbean: A situation analysis*, IUCN, 2011, not in print).



The Biodiversity Principles for siting and design of hotels and resorts focus on how biodiversity and associated social impacts can be better addressed in hotel and resort development. The Principles seek to provide guidance in the planning and construction stages of the hotel life cycle. They are targeted at all relevant stakeholders, including planning authorities, tourism development agencies, developers, investors, hotel managers and management companies, project managers and consultants, architects and construction firms. It is also expected that these Principles will be integrated into relevant policy and planning processes, including Environmental Impact Assessment (EIA) procedures, National Biodiversity Strategies and Action Plans (NBSAP), national and local management plans, tourism development plans, and the environmental management strategies of hotel corporations and developers.

The five principles are:

Principle 1: Adopt an ecosystem-based approach in tourism development planning

Hotel and resort planners and governmental agencies consider the dynamics of ecosystems, their services and interconnectivity when developing new hotels and resorts, and take into account the impacts that the development(s) could have on all components of the ecosystems concerned.

Principle 2: Manage impacts on biodiversity from hotel development and attempt to achieve an overall positive contribution

Hotel and resort developers make all efforts to avoid negative impacts on biodiversity and associated livelihoods from siting, design and construction. When impacts are unavoidable, efforts are made to avoid the areas of greatest biodiversity value, minimize the extent of development impacts, restore affected ecosystems and biodiversity to the greatest extent possible, and invest in additional conservation actions within the vicinity of the development. Hotel and resort developers should aim to achieve a demonstrable, overall positive contribution to the conservation of local biodiversity.

Principle 3: Design with nature and adopt nature-based solutions

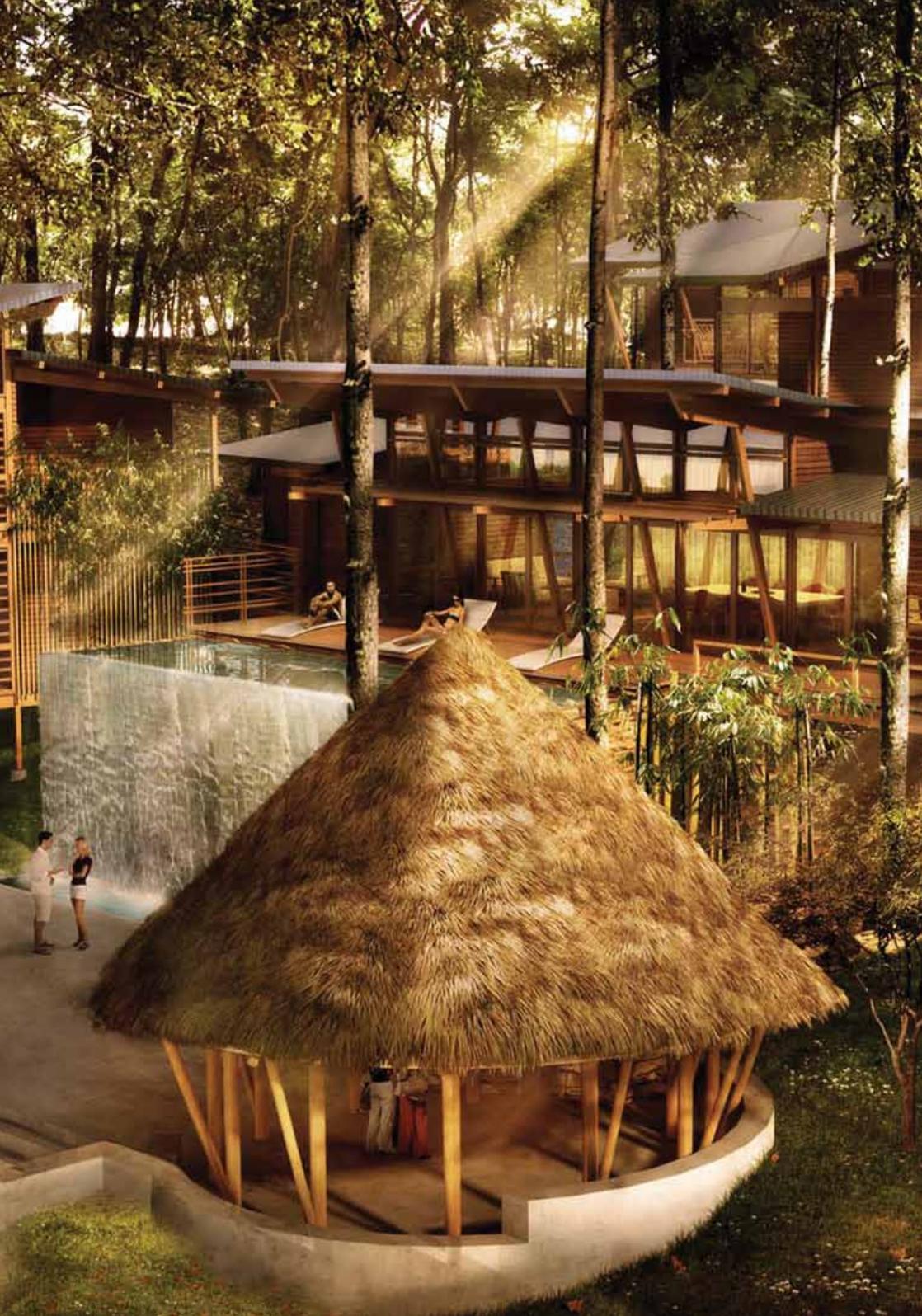
Where possible, hotels and resorts blend into their natural landscape, enhance it, and use nature as a source of inspiration in design and in operations.

Principle 4: Respect, involve and support local communities

Hotel and resort developments contribute positively to local community development, respect land rights and land-use rights of local stakeholders and involve them in decision making.

Principle 5: Build collaboration among stakeholders

Reconciling hotel and resort development and biodiversity conservation can only be achieved with the participation of all parties concerned. Tourism development practitioners and national government authorities develop mechanisms – ad hoc and long-term – to support collaborative efforts that mobilize and foster the knowledge and capacities of all stakeholders.



Siting and Design of Hotels and Resorts: Principles and Case Studies for Biodiversity Conservation, including the full text of the Principles and the Case Studies, is available from www.iucn.org/publications.

Thirteen case studies have been developed to illustrate how these Principles can be implemented.

Principle 1:

- Q-Station, Australia
- Tres Rios, Mexico
- Chumbe Island, Tanzania

Principle 2:

- North Island, Seychelles
- Isla Palenque, Panama
- Fairmont Mayakoba, Mexico

Principle 3:

- Bay of Fires, Australia
- Soneva Fushi, Maldives
- Maho Bay and Concordia, U.S. Virgin Islands

Principle 4:

- Misool Eco Resort, Indonesia
- Campi ya Kanzi, Kenya

Principle 5:

- El Nido and Taytay, Philippines
- Northeast Brazil, Brazil

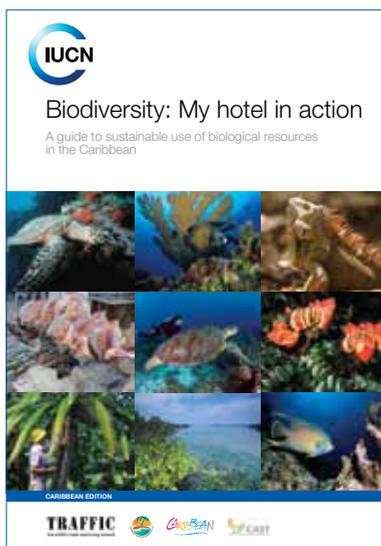


■ Integrating biodiversity into hotel and resort operations

During the operational stage, hotels and resorts can have significant impacts on biodiversity through their levels of energy and water usage, how they dispose of and manage wastewater and solid waste, and the purchasing and landscaping decisions they make.

There are many ways that hotel managers can minimize impacts on biodiversity in the different areas of a hotel:

- In **hotel restaurants**, seek sustainable sources of food supplies, especially of fish and seafood, fruits and vegetables, farmed meats and wild game. Local production is always preferable, with good practices applied in the production process.
- In **guest rooms and public areas**, make responsible choices in terms of wood used for expansion or renovation projects and furniture, medicinal and aromatic plants and amenities for spa products, and ornamental plants and animals for public areas.
- In **hotel souvenir shops**, avoid souvenirs produced from threatened or protected plant and animal species.
- In **hotel grounds and gardens**, use indigenous plants for landscaping, choosing species that can be maintained with low or no use of chemicals, and minimize light and noise.
- In the **destination**, promote responsible recreation activities and excursions and support local biodiversity conservation efforts.





While specific practices will vary depending on the resource concerned or the specific area of the hotel, there are some key approaches that apply to all actions designed to minimize biodiversity impacts:

- Work internally to introduce management practices and procedures that contribute to biodiversity conservation. This includes designating individuals responsible for the effort, setting clear targets and monitoring your progress, providing training and incentives to staff, and offering explanations of actions and the motivations behind them to staff, guests, suppliers and stakeholders.
- Whenever possible, use products that are from sustainably harvested and/or sustainably produced sources, and, if relevant, are certified and labelled under certification schemes that include biodiversity criteria.
- Work closely with other key players, including suppliers, clients, and public authorities and local organisations to ensure that they support and promote the hotel's efforts to conserve biodiversity.



IUCN, with the support of many different partners, including TRAFFIC, the Caribbean Tourism Organization (CTO) and the Caribbean Alliance for Sustainable Tourism (CAST), has developed a guidance document, *Biodiversity: My Hotel in Action - A guide to sustainable use of biological resources in the Caribbean*. Originally developed with a global scope, the Caribbean edition was launched in 2012 addressing the specific needs and issues of the hotel sector in the Caribbean region.

The Guide focuses in particular on the biodiversity implications of specific products (such as spa products, room amenities, food and drinks, souvenirs and furniture) and activities (such as landscaping and ground maintenance, excursions, partnerships and sponsorships with other organizations). The guide suggests actions that a hotel can take to protect biodiversity and be biodiversity-friendly, with sections addressing the different area of hotel operations, including restaurants, guest rooms and public areas, hotel souvenir shops, hotel grounds and gardens, and the wider destination beyond the hotel's gates.

Biodiversity: My Hotel in Action – A guide to sustainable use of biological resources in the Caribbean is available from www.iucn.org/publications.

About TRAFFIC



TRAFFIC was established in 1976, with a mission of working to ensure that trade in wild plants and animals is not a threat to the conservation of nature. TRAFFIC's vision is of a world in which trade in wild plants and animals is managed at sustainable levels without damaging the integrity of ecological systems and in such a manner that it makes a significant contribution to human needs, supports local and national economies and helps to motivate commitments to the conservation of wild species and their habitats. A global, research-driven and action-oriented network, TRAFFIC is governed by a steering committee composed of members of the network's partner organisations, WWF and IUCN, and also works in close cooperation with the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). TRAFFIC (www.traffic.org) has about 100 staff members, based in nearly 30 countries worldwide.

To complement the management advice, 13 Factsheets, developed by TRAFFIC, provide detailed information, with an eye on Caribbean-related issues, about procuring and using a variety of biological resources, from seafood to wood to plants. The Factsheets provide detailed information to support responsible procurement of:

1. Tuna
2. Salmon
3. Molluscs
4. Crustaceans
5. Other fish
6. Caviar
7. Wood for furniture and construction
8. Medicinal and aromatic plants for amenities and spa products
9. Live animals
10. Wildlife-based souvenirs
11. Caribbean marine turtles
12. Horticultural plants
13. Activities and excursions

A Hotel Manager's Checklist, a tool to conduct a self assessment of a hotel's performance in relation to biodiversity and planning future actions and initiatives, is also available.



■ Conclusions:

Creating opportunities for increased synergies between biodiversity conservation and tourism development

Tensions between the development of holiday accommodation and biodiversity conservation are inevitable, and careful and effective management is therefore critical. Coastal and marine habitats, where hotel, resort and other accommodation developments are concentrated, host 70 percent of the Caribbean region's key biodiversity areas.

In the quest for the perfect seascape vista, mega-hotel and real estate projects are occupying hundreds of acres of land and have tended to choose remote areas away from the main tourist strip, such as offshore islands and relatively undeveloped coastal areas, to promote exclusivity to the high-end market. On busy hotel strips, the negative impacts to coastal ecosystems are not generated by one hotel property alone, but by the cumulative effects of a number of hotels along the coast.

The complexity of the hotel development value chain means there is usually no coherent or explicit strategy for all the firms in the development process, and it can be difficult to assign responsibility for habitat destruction when it occurs. Several hotel corporate policies include an intention to minimise habitat loss and destruction, but there is often a gap between policy and practice, or an inability on the part of 'the brand' to control the practices of the developer.

Guidelines and certification schemes show promise to improve practice, but the voluntary nature of these tools is a limiting factor in their effectiveness. Government controls and instruments have a critical role to play, and the national development planning process provides one of the few controls on developers. Environmental Impact Assessments (EIA) are a key tool for anticipating potential effects and for establishing conditions as part of the development approval process that must then be monitored to ensure they are met.

The continued prosperity of the hotel and tourism sector depends on the conservation and health of the Caribbean region's biodiversity and ecosystems. It is thus in the interest of all players to take the necessary actions to ensure that biodiversity is effectively considered at all stages in the life cycle of a hotel or resort, and therefore that nature and biodiversity are recognized as key elements of the tourism attraction and as resources that must be conserved to benefit the tourism and hotel sectors.

Our key recommendations for tourism stakeholders in the Caribbean include:

- Governments should have a clear and explicit vision of sustainable development that informs appropriate tourism and hotel development choices.
- Biodiversity issues should be considered early on in planning, assessment and authorization processes, especially with regards to EIA procedures and controls.
- Greater awareness should be promoted within the hotel sector, architects, designers, and the construction sector in general, about biodiversity impacts from poor siting and design choices and the implications of these choices for the prosperity of the whole sector and the risks to their product.
- Hotel management and development companies should be guided by a long-term vision that incorporates ecosystem and biodiversity impact; this vision should not stop at hotel siting and design but continue into hotel operations and renovations.
- Greater innovation should be employed within the sector to better integrate biodiversity conservation into vacation accommodation developments.
- Information on sensitive and critical biodiversity resources and areas, including threatened or protected species, should be made available to planners and decision-makers, for example through access to web-based resources such as the Integrated Biodiversity Assessment Tool (IBAT - www.ibatforbusiness.org).



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Impacts of hotel siting and design on biodiversity in the insular Caribbean: A situation analysis. Gillian Cooper and Yves Renard, Green Park Consultants GPC Ltd.

The Biodiversity Principles for siting and design of hotels and resorts. Gillian Cooper and Yves Renard, Green Park Consultants GPC Ltd.

Case studies illustrating the Biodiversity Principles. Jackie and Richard Denman, The Tourism Company

Biodiversity: My Hotel in Action – A guide to sustainable use of biological resources in the Caribbean. Richard Tapper, Environment Business & Development Group; Frits Hesselink, HECT Consultancy; Ghislain Dubois and Marie Lootvoet, TEC – Tourisme Transports Territoires Environnement Conseil; Sue Wells, Ed Parnell and Martin Jenkins – TRAFFIC consultants; Paola Mosig, Adrian Reuter and Ulrich Malessa – TRAFFIC North America

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IUCN

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges.

IUCN works on biodiversity, climate change, energy, human livelihoods and greening the world economy by supporting scientific research, managing field projects all over the world, and bringing governments, NGOs, the UN and companies together to develop policy, laws and best practice.

IUCN is the world's oldest and largest global environmental organization, with more than 1,200 government and NGO members and almost 11,000 volunteer experts in some 160 countries. IUCN's work is supported by over 1,000 staff in 45 offices and hundreds of partners in public, NGO and private sectors around the world.

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