IUCN

Tourism and Visitor Management in Protected Areas

Guidelines for sustainability

Yu-Fai Leung, Anna Spenceley, Glen Hvenegaard, and Ralf Buckley, Volume Editors
Craig Groves, Series Editor

Developing capacity for a protected planet

Best Practice Protected Area Guidelines Series No. 27

WCPA WORLD COMMISSION ON PROTECTED AREAS

Convention on Biological Diversity

TAPAS GROUP Tourism and Protected Areas Specialist Group

german cooperation DEUTSCHE ZUSAMMENARBEIT

FRANCE-IUCN PARTNERSHIP NATURE AND DEVELOPMENT

IUCN WCPA's BEST PRACTICE PROTECTED AREA GUIDELINES SERIES

IUCN-WCPA's Best Practice Protected Area Guidelines are the world's authoritative resource for protected area managers. Involving collaboration among specialist practitioners dedicated to supporting better implementation in the field, they distil learning and advice drawn from across IUCN. Applied in the field, they are building institutional and individual capacity to manage protected area systems effectively, equitably and sustainably, and to cope with the myriad of challenges faced in practice. They also assist national governments, protected area agencies, nongovernmental organisations, communities and private sector partners to meet their commitments and goals, and especially the Convention on Biological Diversity's Programme of Work on Protected Areas.

A full set of guidelines is available at: www.iucn.org/pa_guidelines
Complementary resources are available at: www.cbd.int/protected/tools/
Contribute to developing capacity for a Protected Planet at: www.protectedplanet.net/

IUCN PROTECTED AREA DEFINITION, MANAGEMENT CATEGORIES AND GOVERNANCE TYPES

IUCN defines a protected area as:
A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

The definition is expanded by six management categories (one with a sub-division), summarized below.
Ia Strict nature reserve: Strictly protected for biodiversity and also possibly geological/ geomorphological features, where human visitation, use and impacts are controlled and limited to ensure protection of the conservation values
Ib Wilderness area: Usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, protected and managed to preserve their natural condition
II National park: Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems, which also have environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities
III Natural monument or feature: Areas set aside to protect a specific natural monument, which can be a landform, sea mount, marine cavern, geological feature such as a cave, or a living feature such as an ancient grove
IV Habitat/species management area: Areas to protect particular species or habitats, where management reflects this priority. Many will need regular, active interventions to meet the needs of particular species or habitats, but this is not a requirement of the category
V Protected landscape or seascape: Where the interaction of people and nature over time has produced a distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values
VI Protected areas with sustainable use of natural resources: Areas which conserve ecosystems, together with associated cultural values and traditional natural resource management systems. Generally large, mainly in a natural condition, with a proportion under sustainable natural resource management and where low-level non-industrial natural resource use compatible with nature conservation is seen as one of the main aims

The category should be based around the primary management objective(s), which should apply to at least three-quarters of the protected area – the 75 per cent rule.

The management categories are applied with a typology of governance types – a description of who holds authority and responsibility for the protected area. IUCN defines four governance types.
Type A. Governance by government: Federal or national ministry/agency in charge; Sub-national ministry or agency in charge (e.g. at regional, provincial, municipal level); Government-delegated management (e.g. to NGO)
Type B. Shared governance: Transboundary governance (formal and informal arrangements between two or more countries); Collaborative governance (through various ways in which diverse actors and institutions work together); Joint governance (pluralist board or other multi-party governing body)
Type C. Private governance: Conserved areas established and run by individual landowners; non-profit organizations (e.g. NGOs, universities) and for-profit organizations (e.g. corporate landowners)
Type D. Governance by Indigenous Peoples and local communities: Indigenous Peoples' conserved areas and territories – established and run by Indigenous Peoples; Community conserved areas – established and run by local communities.

For more information on the IUCN definition, categories and governance types see
Dudley (2008). *Guidelines for applying protected area management categories* which can be downloaded at: www.iucn.org/pa_categories
For more on governance types see Borrini-Feyerabend et al. (2013). Governance of Protected Areas–from understanding to action, which can be downloaded at https://portals.iucn.org/library/node/29138

Tourism and Visitor Management in Protected Areas

Guidelines for sustainability

Yu-Fai Leung, Anna Spenceley, Glen Hvenegaard, and Ralf Buckley, Volume Editors
Craig Groves, Series Editor

The designation of geographical entities in this book and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN, Convention on Biological Diversity, French Ministry of Foreign Affairs and International Development, The German Federal Ministry for Economic Cooperation and Development (BMZ), IUCN WCPA Tourism and Protected Areas Specialist (TAPAS) Group, or North Carolina State University concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The views expressed in this publication do not necessarily reflect those of IUCN, Convention on Biological Diversity, French Ministry of Foreign Affairs and International Development, The German Federal Ministry for Economic Cooperation and Development (BMZ), IUCN WCPA Tourism and Protected Areas Specialist (TAPAS) Group, or North Carolina State University.

This publication has been made possible in part by funding and/or significant in-kind contributions from the organizations listed above.

Published by: IUCN, Gland, Switzerland

Copyright: © 2018 IUCN, International Union for Conservation of Nature and Natural Resources

Reproduction of this publication for educational or other non-commercial purposes is authorized without prior written permission from the copyright holder provided the source is fully acknowledged. Reproduction of this publication for resale or other commercial purposes is prohibited without prior written permission of the copyright holder.

Citation: Leung, Yu-Fai, Spenceley, Anna, Hvenegaard, Glen, and Buckley, Ralf (eds.) (2018). *Tourism and Visitor Management in Protected Areas: Guidelines for sustainability*. Best Practice Protected Area Guidelines Series No. 27, Gland, Switzerland: IUCN. xii + 128 pp.

ISBN: 978-2-8317-1898-9 (PDF)
978-2-8317-1899-6 (print version)

DOI: https://doi.org/10.2305/IUCN.CH.2018.PAG.27.en

Cover photo: Tourists on a waterfall-viewing walkway at Iguaçu Falls National Park, Brazil. © Yu-Fai Leung

Back cover photo: Visitors at the retreating Sólheimajökull Glacier in Katla UNESCO Global Geopark, Iceland. © Yu-Fai Leung

Designed by: Thad Mermer

Available from: IUCN (International Union for Conservation of Nature)
Global Protected Areas Programme
Rue Mauverney 28
1196 Gland
Switzerland
Tel +41 22 999 0000
Fax +41 22 999 0002
wcpa@iucn.org
www.iucn.org/resources/publications

Translation disclaimer IUCN, Convention on Biological Diversity, French Ministry of Foreign Affairs and International Development, The German Federal Ministry for Economic Cooperation and Development (BMZ), IUCN WCPA Tourism and Protected Areas Specialist (TAPAS) Group, or North Carolina State University claim no responsibility for errors or omissions that may occur in the translation into any other language of this document whose original version is English. In the case of discrepancies, please refer to the original edition. *Tourism and Visitor Management in Protected Areas: Guidelines for sustainability*. Best Practice Protected Area Guidelines Series No. 27, Gland, Switzerland: IUCN.

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges. IUCN's work focuses on valuing and conserving nature, ensuring effective and equitable governance of its use, and deploying nature-based solutions to global challenges in climate, food and development. IUCN supports scientific research, manages field projects all over the world, and brings governments, NGOs, the UN and companies together to develop policy, laws and best practice. Created in 1948, IUCN is now the world's largest and most diverse environmental network, with more than 1,300 government and NGO Members and over 10,000 volunteer experts. IUCN's work is supported by almost 1,000 staff in more than 50 offices and hundreds of partners in public, NGO and private sectors around the world. **www.iucn.org**

IUCN World Commission on Protected Areas (WCPA) The WCPA is the world's premier network of protected area expertise. It is supported by IUCN's Programme on Protected Areas and has over 1,400 members, spanning 140 countries. IUCN WCPA works: by helping governments and others plan protected areas and integrate them into all sectors; by providing strategic advice to policy makers; by strengthening capacity and investment in protected areas; and by convening the diverse constituency of protected area stakeholders to address challenging issues. For more than 50 years, IUCN and WCPA have been at the forefront of global action on protected areas. **www.iucn.org/wcpa**

The **France-IUCN partnership** aims to contribute to the Sustainable Development Goals and to the implementation of the Paris Agreement on Climate Change. It supports projects in countries of particular interest for France, in European overseas territories, and at the global scale. It provides technical expertise, both in mobilizing French organizations and experts, and by seconding senior staff to IUCN. The Partnership includes the ministries of Europe and Foreign Affairs, Ecological and Inclusive Transition, Agriculture and Food, and Overseas territories, as well as the French Development Agency (AFD). Created in 2005, the partnership builds on results achieved over time. From 2017 to 2020, it will reach nearly 9 Million Euros. **www.iucn.org/fr/partenariat-france-uicn**

Germany is engaged in intensive development cooperation with the international community to combat poverty, shape globalisation in an equitable manner, safeguard peace, freedom, democracy and human rights, and protect the environment and natural resources. **The German Federal Ministry for Economic Cooperation and Development (BMZ)** develops the guidelines and concepts of German development policy, determines the long-term strategies for cooperation with the various actors and defines the rules for implementation. The most important pillar of the German government's development cooperation work involves bilateral cooperation with the governments of other countries. BMZ develops joint projects and programmes with partner countries of German development cooperation which dovetail with national development strategies. The implementing organisations are responsible for the actual implementation of development policy concepts and strategies. In addition, BMZ works with actors from civil society, churches, foundations, the private sector and other areas. **www.bmz.de**

Convention on Biological Diversity
The Convention on Biological Diversity (CBD), which entered into force in December 1993, is an international treaty for the conservation of biodiversity, the sustainable use of the components of biodiversity and the equitable sharing of the benefits derived from the use of genetic resources. With 193 Parties, the Convention has near universal participation among countries. The Convention seeks to address all threats to biodiversity and ecosystem services through scientific assessments, the development of tools, incentives and processes, the transfer of technologies and good practices, and the full and active involvement of relevant stakeholders, including indigenous and local communities, youth, NGOs, women and the business community. The tenth meeting of the Conference of the Parties to the CBD, held in 2010, adopted a revised and updated Strategic Plan for Biodiversity for 2011–2020, comprising five strategic goals and 20 Aichi Biodiversity Targets. The Plan is the overarching framework on biodiversity, not only for the biodiversityrelated conventions, but for the entire United Nations system. **www.cbd.int**

The **IUCN WCPA Tourism and Protected Areas Specialist (TAPAS) Group** is a voluntary network of over 500 people. The mission of the TAPAS Group is to provide a platform for protected area practitioners and others, where expertise and knowledge is shared, sustainability awareness is enhanced, collaboration and dialogue is facilitated, leadership is developed, and innovative solutions are fostered, in order to support the oversight of sustainable tourism in protected area systems. **www.iucn.org/theme/protected-areas/wcpa/what-we-do/tourism-tapas**

Department of Parks, Recreation and Tourism Management (PRTM) is one of the three departments within the College of Natural Resources at North Carolina State University. Its mission is to advance scholarship concerning management and use of natural and cultural resources for recreation, tourism, and sport through innovative social science research, teaching, and public engagement. The department aspires to be a community of scholars dedicated to preparing students to be lifelong learners and leaders in a global society committed to developing parks, recreation, tourism, and sport resources that improve the quality of life and are environmentally, socially, and economically sustainable. **cnr.ncsu.edu/prtm**

Contents

BOXES

TABLES

FIGURES

Foreword

Protected area managers need a wide range of skills and expertise to manage the complexities of protected area systems. The IUCN Best Practice Guidelines Series aims to address these needs, including sharing experience drawn from good practice around the world. Many protected areas are managed for tourism and visitation as one component of achieving their purpose, involving a wide range of stakeholders, including the private sector. The rapidly expanding demand for tourism development associated with protected areas emphasizes the need to provide clear guidance that will contribute towards sustainable tourism consistent with the primary conservation objectives of protected areas. The legal, political, economic and social contexts for tourism in and around protected areas vary widely across the globe, yet there are many common elements and a diversity of experiences that can enrich the understanding of those involved.

For many years, IUCN WCPA has had an active group of professionals contributing towards the distillation of best practices through the Tourism and Protected Areas Specialist Group (TAPAS). The IUCN WCPA Best Practice Protected Area Guidelines Series #8 by Paul Eagles, Stephen McCool and Christopher Haynes has provided a source of relevant information since 2002. Much has changed over the past decade and a half, however, hence the need for new and additional guidance. This volume seeks to provide it. Insights and cases from more than 50 contributors worldwide have been melded into the current volume, involving considerable consultation and peer review. The first draft was launched at the IUCN World Parks Congress 2014 in Sydney, has been available online for comments from professional practitioners and has benefited from many rounds of review and comment from IUCN experts.

From a conservation perspective, tourism and visitation present a complex set of challenges. Protected area agencies in countries worldwide are expected to make most of these areas available for visitors as well as for achieving conservation goals. Legal, political and economic contexts, as well as ecological considerations, determine how much flexibility the protected area agencies may have in encouraging, restricting, regulating or charging for entry and activities, and in determining whether infrastructure and services should be provided by the agency itself, or by communities, voluntary providers or commercial enterprises.

All forms of tourism create environmental impacts, but these differ by orders of magnitude. At one end of the scale are minimal-impact wilderness travellers, either on foot or by water. These are permitted in many protected areas worldwide, and there is a well-tested suite of management and monitoring tools, summarised in this volume, to provide benefits to visitors without compromising primary conservation goals.

At the other end of the scale are large-scale infrastructure, accommodation, and catering facilities, some of which can handle over a hundred thousand visitors a day. Heavily-visited protected areas need these facilities, but there are dilemmas as to how best to provide them. Tourism development entrepreneurs, tourism industry associations, and tourism portfolios in governments see large-scale fixed-site developments as providing profitable opportunities. Private tourism developments in public protected areas have not always proved successful, however, and in some cases have created major ecological, social, financial and legal problems for protected area agencies. Managing the expectations, design and operations of infrastructure in and around heavily visited protected areas can present a substantial technical and political challenge for protected area agencies. This volume aims to provide practical advice on how to address these issues.

Visitation and tourism can also create economic benefits for protected areas and surrounding communities and help to create greater support for conservation. In many developed countries, tourism in and around protected areas can encourage political support for protected areas and justify government budget allocations. The economic value of tourism and visitation, including social economic and welfare gains, as well as direct fees and revenues to protected area agencies, thus becomes a lobbying tool for conservation agencies and advocates. Most recently, this has expanded to include the benefits to human mental health and well-being from exposure to nature.

In many developing countries, commercial tourism brings international clients and foreign exchange earnings that can provide direct financial support for public, communal and private protected areas. To be successful, such tourism requires expert management, closely tuned and customised to local cultural contexts and international market conditions. Whenever possible, it should also facilitate the growth of a domestic market that values experiences in nature. Commercial tourism can provide significant and demonstrable net gains for conservation of entire protected areas and individual threatened species, often working in partnership with other stakeholders, including donors, trusts, NGOs, and local communities. Managing these projects and programmes for successful conservation, against a backdrop of fluctuating tourism fashions and foreign exchange rates, requires a remarkable set of skills.

As the world attempts to meet the Aichi Biodiversity Targets for more effective protected area systems, conservation managers will need to work more effectively with other sectors. Tourism and visitation can be key tools in this expansion, but need professional skills and expertise to manage and maintain the ecological and conservation values of the sites being visited. This volume provides an introduction to such skills, relevant for protected area agencies and managers of conservation areas worldwide.

Dr Kathy MacKinnon
Chair, IUCN World Commission on Protected Areas

Trevor Sandwith
Director, IUCN Global Protected Areas Programme

Acknowledgements

The production of these Guidelines was sponsored by the IUCN World Commission on Protected Areas (IUCN WCPA), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) on behalf the Federal German Ministry of Economic Cooperation and Development (BMZ), and the French Ministry of Foreign Affairs and International Development. Their generous contributions supported the development of this document in English, as well as its translation into French, German, and Spanish.

The project was an initiative of the IUCN WCPA Tourism and Protected Areas Specialist (TAPAS) Group. One of several voluntary groups convened under IUCN WCPA, the TAPAS Group is a network of over 500 volunteers who are committed to promoting sustainable tourism in protected areas as a tool in achieving the long-term conservation of nature and associated ecosystem and cultural values. The Tapas Group's work includes disseminating knowledge, case studies and best practices on tourism and protected areas.

This is the third edition on the subject of tourism in IUCN WCPA's Best Practice Guidelines series, following guidelines published in 1992 (McNeely, et al., 1992) and a decade later (Eagles, et al., 2002). The editors thank the authors of these earlier guidelines, Jeffrey McNeely, James Thorsell, Héctor Ceballos-Lascuráin, Paul Eagles, Stephen McCool and Christopher Haynes, who established a solid foundation for the current edition.

We adopted a collaborative approach to developing these Guidelines with an intention to foster a community of practice by engaging a wide range of practitioners and academics in sharing their knowledge and experience. To implement this approach, we sent out calls for participation through the TAPAS Group's social media sites and other professional networks. Workshops were conducted at the 2012 IUCN World Conservation Congress in Jeju, Republic of Korea, and the 2013 George Wright Society Conference in Denver, Colorado, USA, to solicit initial input on the Guidelines' organization, contents, and potential case studies. Over 32 participants from 16 countries participated in these two events. We were able to recruit 58 globally distributed contributors, including TAPAS Group members, technical experts, and protected area and tourism professionals, to serve as chapter coordinators, section authors, and/or case study authors. Their specific contributions are recognised in the list on the following page. A contributing authors table organised alphabetically is also available at the end of the document.

In the summer of 2014, the first review draft of the full manuscript was completed and it underwent an IUCN-mandated peer review process. Another round of input was sought from delegates at the 2014 IUCN World Parks Congress held in Sydney, Australia, where the second review draft was presented. The quality of this document was substantially enhanced as a result of the valuable input from these peer reviewers, which included Rajiv Bhartari, Adonia Bintoora, Paul Eagles, Janet Mackay, Marcello Notarianni, Stephen McCool, Sibylle Riedmiller, Eick von Ruschkowski, Diego Sberna, John Senior, and Alessandra Vanzella. Subsequent rounds of reviews and revisions were guided by the IUCN and IUCN WCPA leadership, including Craig Groves (IUCN Best Practice Guidelines Series Editor), Trevor Sandwith (Director of IUCN Global Protected Area Programme), Kathy MacKinnon (Chair of IUCN WCPA), and two additional WCPA-appointed reviewers, Penelope Figgis and Robyn Bushell. Individually and collectively, they provided valuable feedback on the later drafts of the manuscript and helped the editors improve the focus and messages contained here.

We are extremely grateful to David Harmon, who provided editorial and copy-editing support to craft the manuscript into this final form, including a painstaking job of restructuring the manuscript. His energy and fantastic editing skills provided much-needed momentum to move this project through the later stages of the elaborate review and approval process. We must also thank Thad Mermer for his patient and meticulous efforts in professional design service, as well as his copy-editing work on an early manuscript draft.

The Chief Editor would like to express his special thanks to Drs. Chelsey Walden-Schreiner and Anna Miller, former doctoral students and project assistants at North Carolina State University (NCSU), who provided steadfast support to many aspects of this monumental project. Former NCSU doctoral students Drs. Shuangyu Xu, Wei-Lun Tsai, and Ginger Deason, and other colleagues, including Pei-Ying Lee, Reda Neveu, and Jessica Dittmer, also volunteered their time in translating source documents and organising print and digital references.

A Community of Best Practice

We hope that these Guidelines will provide valuable information, stimulating ideas and sources of inspiration for protected area managers. Through these Guidelines, we envision that a community of practice on protected area tourism be formed in which best practices are shared and communicated globally through various platforms and media. To facilitate knowledge sharing in this community, a supporting Online Resources Directory is available at http://go.ncsu.edu/iucn-sustainabletourism-bpg, which currently points to a temporary prototype server but in the future will link to a permanent location hosted by IUCN. The purposes of this Directory are: (i) to provide additional online readings and detailed information, and (ii) to invite submission and sharing of new resources, such as guidelines, handbooks, manuals, and documentation of innovative practices.

We present these Guidelines and the Online Resources Directory as a dynamic and adaptive resource to support protected area managers with their sustainable tourism efforts.

Yu-Fai Leung, Anna Spenceley, Glen Hvenegaard, Ralf Buckley

Specific contributions by chapter

Chapter 1—Authors: Yu-Fai Leung, Anna Spenceley, Stephen McCool and Paul F. J. Eagles. Case Box Contributor: B1.1 (Anna Spenceley). Chapter Coordinator: Yu-Fai Leung.

Chapter 2—Authors: Glen Hvenegaard, Yu-Fai Leung, Anna Spenceley, Ralf Buckley, Stephen McCool and Paul F. J. Eagles. Case Box Contributors: B2.1 (Lisa King), B2.2 (David Newsome, Young Ng and Jasmine Cardozo Moreira), B2.3 (Kelly Bricker, Chelsey Walden-Schreiner and Anna Spenceley), B2.4 (Chelsey Walden-Schreiner), B2.5 (Mohammad Rafiq, Sibylle Riedmiller and Delphine M. King), B2.6 (Chelsey Walden-Schreiner), B2.7 (Dan Paleczny and Erik Val), B2.8 (Donald Hawkins), B2.9 (Kamal Medhi and Rajiv Bhartari), B2.10 (Ivana Damnjanović). Chapter Coordinator: Glen Hvenegaard.

Chapter 3—Authors: Anna Spenceley, Glen Hvenegaard, Robyn Bushell, Yu-Fai Leung, Stephen McCool and Paul F. J. Eagles. Case Box Contributors: B3.1 (Anna Spenceley), B3.2 (Chih-Liang Chao, Dau-Jye Lu and Mei-Hui Chen), B3.3 (Giulia Carbone and Maria Ana Borges), B3.4 (Robyn Bushell), B3.5 (Lincoln Larson), B3.6 (Ralf Buckley). Chapter Coordinators: Anna Spenceley and Glen Hvenegaard.

Chapter 4—Authors: Elizabeth Halpenny, Theresa Salenieks, Robert Manning, Yu-Fai Leung and Anna Spenceley. Case Box Contributors: B4.1 (Anna Spenceley), B4.2 (Giulia Carbone), B4.3 (Dan Paleczny), B4.4 (Robert Manning and Anna Spenceley), B4.5 (Robert Manning). Chapter Coordinators: Elizabeth Halpenny, Theresa Salenieks and Yu-Fai Leung.

Chapter 5—Authors: Yu-Fai Leung, Elizabeth Halpenny, Theresa Salenieks, Robert Manning, Ian Bride, Chelsey Walden-Schreiner and Ralf Buckley. Case Box Contributors: B5.1 (Theresa Salenieks), B5.2 (Anna Miller), B5.3 (Chelsey Walden-Schreiner), B5.4 (Chelsey Walden-Schreiner, Anna Miller and Yu-Fai Leung), B5.5 (Debbie Mucha), B5.6 (Luis Monteiro), B5.7 (Anna Hüebner and Chelsey Walden-Schreiner), B5.8 (Dilya Woodward and Alexandra Vishnevskaya), B5.9 (Chengzhao Wu, Xiaoping Zhang and Jianghua Ran), B5.10 (Jorge Chávez), B5.11 (Jake Paleczny), B5.12 (Elizabeth Halpenny), B5.13 (Yu-Fai Leung, Anna Spenceley, Glen Hvenegaard and Ralf Buckley). Chapter Coordinators: Yu-Fai Leung, Elizabeth Halpenny and Theresa Salenieks.

Chapter 6—Authors: Anna Spenceley, Susan Snyman, Sandra de Urioste-Stone and Stephen McCool. Case Box Contributors: B6.1 (Megan Epler Wood and Mark Milstein), B6.2 (Susan Snyman and Dani Ndebele), B6.3 (Erin Seekamp and Lee Cerveny). Chapter Coordinator: Anna Spenceley.

Chapter 7—Authors: Andrew Rylance, Anna Spenceley, Marcello Notarianni, Andy Thompson, Midori Paxton, James Barborak, Peter J. Massyn, Paul F. J. Eagles, Ralf Buckley, Susan Snyman and Chelsey Walden-Schreiner. Case Box Contributors: B7.1 (Andrew Rylance), B7.2 (Anna Spenceley), B7.3 (Chelsey Walden-Schreiner and Dashpurev Tserendeleg), B7.4 (Anna Spenceley), B7.5 (Anna Spenceley), B7.6 (Anna Spenceley), B7.7 (Jorge Chávez and Kurt Holle), B7.8 (Susan Snyman and Dani Ndebele), B7.9 (Rajiv Bhartari). Chapter Coordinator: Anna Spenceley.

Chapter 8—Authors: Glen Hvenegaard, Ralf Buckley, Anna Spenceley and Yu-Fai Leung. Case Box Contributors: B8.1 (Chelsey Walden-Schreiner). Chapter Coordinator: Glen Hvenegaard.

A trail through an area of high biodiversity in Hawaii Volcanoes National Park, USA. © Yu-Fai Leung

Tourism viewpoint in the Valley of Geysers in Kronotsky Zapovednik, Russia. © Elena Nikolaeva

Executive Summary

Tourism Supporting Protected Areas

Protected areas are a key component of any global conservation strategy. Tourism provides a crucial and unique way of fostering visitors' connection with protected area values, making it a potentially positive force for conservation. Visitor experiences can be transformative for an individual's personal growth and well-being, while instilling an increased sense of stewardship and support for protected area values.

Protected area tourism's economic benefits—which depend on beautiful natural areas, healthy wildlife and nature, and authentic cultures—can also be a powerful argument for conservation. Tourism in protected areas is a major part of the global tourism industry—an industry whose scale and impacts are enormous. Such a high volume of visitors implies certain needs for fundamental infrastructure and requirements for employment and human services, all of which have ramifications for the economy, society, culture and the environment.

Done sustainably, tourism can contribute directly to the objectives of global agreements such as the Strategic Plan for Biodiversity 2011–2020 of the Convention on Biological Diversity, the United Nations' Sustainable Development Goals, and the Muscat Declaration on Tourism and Culture (UNWTO and UNESCO, 2017). However, inappropriate and poorly managed tourism can cause negative impacts on the biodiversity, landscapes, and resource base of protected areas.

The target audience for these Guidelines is professionals working on tourism in protected areas, including administrators, managers, planners, government agencies, non-governmental organisations, community groups, private landowners and Indigenous groups. Building on two previous editions on the subject of tourism in the IUCN WCPA Best Practice Guidelines series, these Guidelines provide guidance on key issues to help managers achieve sustainable tourism in protected areas: that which is appropriate, well-managed, and contributes to conservation objectives.

These Guidelines introduce essential concepts of tourism and visitor management in protected areas. The following elements of the document are especially important:

1. A discussion of the Ten Principles of Tourism and Visitor Management;
2. The Case Boxes, which provide real-world examples of how sustainable tourism can be achieved under diverse circumstances;
3. The Spotlight Best Practices, which offer specific, transferable knowledge from selected case studies and are called out in the appropriate Case Boxes; and
4. The comprehensive lists of recommended Best Practices, at the end of each chapter (lists which include the Spotlight Best Practices).

Overview and Best Practices

Protected area managers are under growing pressure to provide meaningful and educational visitor experiences and revenue for conservation management, while not allowing tourism to compromise the ecological integrity and associated conservation values of protected areas. Managing protected area tourism is a complex technical task requiring high levels of skill and knowledge. These Guidelines share best-practice examples from around the world and promote their broader application. This document advocates only sustainable tourism that contributes to the conservation of nature over the long term, with the goal of making protected area tourism a strong positive force for conservation at both global and local scales.

After introducing key concepts of sustainable tourism in protected areas in Chapter 1, Chapter 2 explores options for good governance, legislation and policies that are vital for management decisions to be made fairly, transparently and efficiently. A flexible approach is recommended to accommodate different protected area governance types as recognised by IUCN, and to ensure that stakeholders, especially Indigenous Peoples and local communities, have appropriate access to the decision-making processes for protected area tourism. Best practices include:

- Encouraging national tourism policies that fulfill the 'triple bottom line'.
- Ensuring that all site planning for tourism in protected areas follows a basic four-step process.
- Developing tourism management plans in collaboration with all relevant stakeholders.
- Giving tourists a wider context on management issues in the protected area by connecting them to similar issues globally.
- Following internationally adopted guidelines on tourism and biodiversity that provide a framework for policy, planning, management and monitoring of tourism and its impacts.

Tourism in protected areas generates many impacts on the environment, economy, local communities and the visitors themselves. Chapter 3 summarises the positive and negative impacts of tourism, which can be perceived differently by stakeholders with different values. Best practices include:

- Supporting community-based delivery of tourism services that is market related.
- Building training in business development and management skills into community-based delivery of tourism services.
- Re-imagining recreational activities in protected areas as a way to meet community needs and address larger societal goals.

Lessons learnt from research and practical experiences have yielded ten principles of tourism and visitor management that, if applied, improve effectiveness and increase public and community support. Chapter 4 outlines Principles 1 through 6 with an emphasis on aligning protected area management objectives with tourism's positive and negative impacts. This chapter illustrates the benefits of proactive planning and management of tourism infrastructure, commercial tourism and management of visitation and visitor use. Best practices in this area are:

- Choosing materials for site design and construction based on sources that minimise damage and exhibit properties such as durability, recyclability, availability and sustainability.
- Applying standards-based management frameworks driven by protected area values, management objectives, and their associated indicators and standards.
- Employing a combination of visitor use management tools and techniques that reinforce and complement each other.

Chapter 5 explores Principles 7 through 10, which relate to adaptive management for sustainable tourism. They focus on innovative methods for monitoring visitor use, experience and impacts; citizen engagement, partnerships, education and communication; information technologies; and marketing. Best practices in adaptive management are:

- Harnessing the skill and enthusiasm of volunteers through citizen science.
- Coordinating and integrating monitoring of environmental and social impacts, with appropriate technologies and sufficient funding.
- Understanding what values are being protected and the operational context prior to selecting a visitor management tool or practice.
- Being strategic about which protected area values are highlighted in environmental education and interpretation programmes.
- Using environmental education and interpretation programmes to emotionally engage visitors, and connect them with the values the area is protecting.
- Achieving a strong understanding of different constituents through research and analysis prior to engaging in marketing strategies.

Marine iguanas (*Amblyrhynchus cristatus*) and tourists sharing a beachside trail on Galápagos Islands, Ecuador © Yu-Fai Leung

Chapter 6 focuses on the critical issues of developing the capacity of managers, communities and other stakeholders to manage visitors, partnerships and the revenues generated through tourism. Effective capacity development efforts benefit from thorough assessment of skills and knowledge, clear training goals and expectations among all stakeholders, creative partnerships for delivery, and incorporation of appropriate technology. Capacity-building best practices include:

- Assessing the capacity of local communities to deliver tourism services.
- Making sure all partnership-related work is officially accounted for and recognised.

Chapter 7 illustrates examples from around the world of protected areas that are sustainably financed through tourism, and describes the conditions under which this is possible. Common elements include systematic financial assessment; consideration of the full range of fees, concessions and licences; and a transparent, fair and efficient revenue-sharing mechanism. Best practices include:

- Undertaking a systematic financial assessment of the protected area (or broader protected area system) before setting entrance fees.
- Stipulating support for sustainable practices, and for the conservation objectives of the protected area, as part of contracts with tourism operators.
- Forming agreements with concessionaires to employ a certain number of local staff, spend locally where possible, and contract out services to local businesses.

Chapter 8 examines how global changes such as population growth and climate change are shaping tourism demand, activity type and use patterns in protected areas, challenging managers to identify appropriate adaptation, mitigation and communication strategies.

Autumn walk at Parco Nazionale Foreste Casentinesi, Italy © Yu-Fai Leung

Tourism and visitation in protected areas: The sustainability challenge

1

© Chelsey Walden-Schreiner

1.1 Aiming for sustainable tourism in protected areas

Tourism is and should be a major conversation in conservation. As the world population has grown and better transport has allowed rapid movement over vast distances, tourism has thrived and focused more and more on the remaining natural and cultural landscapes and seascapes, often within protected areas. Tourism, unlike many extractive industries, requires beautiful natural areas, healthy wildlife and nature, and authentic cultures. Therefore tourism's capacity to generate national income and generate jobs can act as a major driver to conserve and manage intact natural areas rather than to modify or destroy them to produce other commodities.

These Guidelines are intended to help planners and policy makers as well as park managers and other conservation professionals to ensure that tourism in protected areas is appropriate, well-managed, and supports conservation objectives.

It is important to have good policy in place in the consideration of appropriate types of tourism and what to avoid. Worldwide, many protected area managers are under pressure to achieve multiple, sometimes conflicting, objectives. They're expected to provide meaningful and educational experiences, as well as revenue for conservation management, but also to avoid compromising the environmental integrity of protected areas through the overcrowding, overdevelopment, or pollution that tourism can sometimes bring, while ensuring that communities are involved and benefit. These Guidelines aim to provide a selection of current best practices that will help both planners and protected area managers achieve this difficult balance.

The central problem can be restated as a sustainability challenge for managers. What we are looking to promote in protected areas is not just any kind of tourism, but *sustainable tourism*, which is defined as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" (UNWTO & UNEP, 2005: 11–12). This broad, forward-looking accounting of tourism's potential benefits and negative impacts has to be grounded on a fundamental principle: For tourism in protected areas to be sustainable, it must, first and foremost, contribute to the conservation of nature over the long term, not just briefly or sporadically, and ensure that conservation is not compromised by inappropriate or poorly managed visitor use. This follows directly from the basic definition of *protected area* as put forth by IUCN:

> A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (Dudley, 2008: 7; see Box 1.1 for additional definitions of key terms).

With this fundamental principle in mind, we can specify that *sustainable tourism in protected areas* should, in all its phases from policy to planning to management:

- Safeguard the environmental and/or cultural qualities that attract tourists by maintaining essential ecological processes and aesthetic and spiritual qualities, and by helping to conserve natural heritage and biodiversity;
- Respect the rights of Indigenous Peoples and local communities and their sociocultural authenticity, conserve their

Box 1.1

Definitions of key terms

Here are definitions of some of the most important terms that will be encountered throughout these Guidelines. The definitions have been adapted to the context of protected areas; original definitions are given in the Glossary at the end of this document. The Glossary also contains definitions of many other terms used in the Guidelines.

Local (or host) community: A social group of any size whose members reside in or near a protected area. The group shares a government and may have a common cultural and historic heritage.

Visitor: For protected areas (PAs), a visitor is a person who visits the lands and waters of the PA for purposes mandated for the area. A visitor is not paid to be in the PA and does not live permanently in the PA. The purposes mandated for the area typically are recreational, educational or cultural.

Tourist: Any visitor whose trip to a protected area includes an overnight stay.

Visitor use: Any use made of the protected area by a visitor during his/her stay.

Tourism: The activities of persons travelling to and staying in places outside their usual environment (here, the protected area) for not more than one consecutive year.

Sustainable tourism: Tourism to a protected area that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and local (host) communities.

Sources: Hornback and Eagles, 1999; UNWTO & UNEP, 2005; Spenceley, et al., 2017b; UNWTO, 2017

built and living cultural heritage and traditional values, and contribute to intercultural understanding and tolerance;

- Ensure viable, long-term economic operations, providing fairly distributed socioeconomic benefits to all rights-holders and stakeholders that are affected by tourism, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation;
- Provide appropriate opportunities to facilitate meaningful and high-quality visitor experience that will contribute to an increased sense of stewardship for nature and protected areas (adapted from UNWTO & UNEP, 2005).

All those involved in developing and managing tourism in protected areas should aim for these basic goals. Tourism that does not meet these goals—that is not sustainable—should not be allowed in protected areas.

Deciding what is sustainable and appropriate tourism in protected areas can be challenging because the questions that have to be answered are complicated. For example:

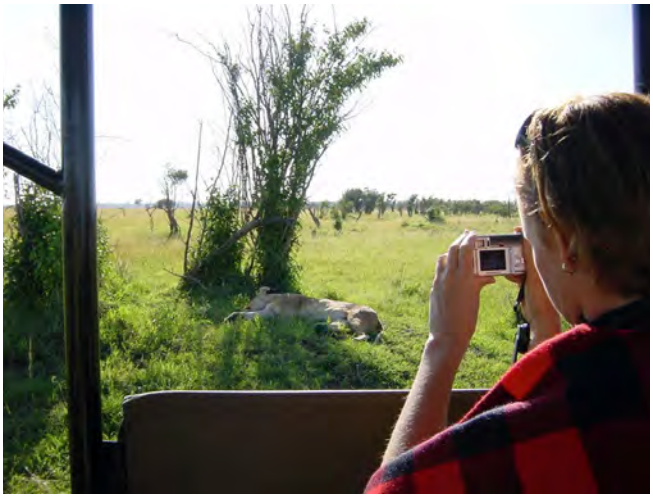
- Does this protected area and its surrounds or region have the planning laws, regulations and infrastructure in place to manage the levels of anticipated visitation sustainably?
- Are all the values of the site well known and documented as the basis for both planning and monitoring of impacts?
- What constraints on tourism development or use flow from the mission and objectives of the protected area?
- What kind and scale of infrastructure is appropriate and where should it be located (e.g. lodging)?
- What level of biophysical impacts, if any, is acceptable given the mission and objectives of the protected area?
- What visitor market segment should be targeted by promotional campaigns?
- What visitor experience opportunities does management seek to facilitate and which are inappropriate for the site?
- Who provides the tourism services? For-profit companies? Non-profit organisations? Protected area staff?
- What level of impacts to biodiversity and the physical environment is acceptable given the mission and objectives of the protected area?
- What kinds of services and engagement should be offered by surrounding local communities?
- How can communities within and adjacent to protected areas actively participate in and benefit from protected area tourism development?
- How will tourism- and visitor-generated funds be secured and distributed for management? … for conservation? … for communities?
- How can policy be influenced within conservation planning and tourism sectors to address these issues?
- How can management determine and plan for an acceptable level of impacts and appropriate experience opportunities?
- How should management actions and their outcomes be monitored?

Many of these questions need to be addressed well before a protected area is made available for tourism use). These guidelines are intended to help planners and managers design and manage tourism that is aligned with the objectives of protected areas.

1.2 The potential of sustainable protected area tourism

Often in the real world managers have to deal with situations that fall short of the ideal. Protected areas operate across a vast range of political, social, and economic conditions. More often than not, managers do not have adequate funding, staff, and other resources and almost never have all the information necessary for optimal decision making. In this real world of compromise, achieving sustainable tourism in protected areas becomes a matter of trying to maximise the benefits from tourism while minimising its negative impacts, and constantly adapting to changing conditions.

Tourism in protected areas has unique characteristics that make it a potentially positive force for conservation. Tourism, recreation and visitor use have been intricately linked to many protected areas since their conception. Visitors connect with, experience, and learn about natural and cultural heritage. Such experiences can be transformative for an individual's personal growth and well-being, while instilling an increased



Tourism activities in protected areas take many forms. Hiking in Chesapeake and Ohio Canal National Historical Park by the Potomac River near Washington, DC, USA (Left). © Yu-Fai Leung. Wildlife viewing in the Maasai Mara National Reserve, Kenya (Right). © Anna Spenceley.

Table 1.1. Opportunities and challenges for tourism management in protected areas

Opportunities	Challenges
Building a constituency of support for the conservation of nature and culture through protected areas by providing outstanding and interpreted experiences that communicate the many values of protected areas.	Protected areas become simply another 'commodity' or resource to be exploited by an industry that is more interested in profits, access and providing new experiences than supporting conservation.
Actively contributing to conservation through involving visitors in management tasks and direct contributions of finance (e.g., visitor fees, concession fees, etc.) or other in-kind support to management.	Tourism interests actively undermine good management by pressing for uses, benefits or access that are detrimental to the conservation or cultural goals of the protected area.
Justifying political support and better funding for management by recognising the importance of protected area-based tourism to local and regional economies.	The importance of protected area-based tourism leads to political support for excessive development in or around the protected area.
Ameliorating tourism impacts through sensitive infrastructure planning, remediation of damage caused, and visitor impact mitigation techniques (e.g. trail hardening).	Negative impacts on the environment occur, such as pollution (e.g. waste disposal, carbon emissions), unsustainable resource use (e.g. water), and damage to sensitive areas (e.g. through poorly developed or located infrastructure).
Enhancing the social and cultural benefits of protected areas by promoting and conserving their cultural attractions, showcasing local culture (e.g. stories, craft, design, music, food), and providing appropriate interpretive services and educational opportunities.	Negative impacts on local people occur (e.g. commodification of culture, disruption of traditional life, crime, overcrowding, displacement of local communities to accommodate tourism development, loss of access to traditional resources, damage or desecration of sacred places, pressures caused by high levels of visitation); high cost of living and inflation results from tourism.
Providing a major incentive, through direct social and financial benefits, for communities in or near protected areas to safeguard wildlife and tolerate some negative wildlife impacts.	Without benefits many poor populations continue to deplete wildlife for protection of themselves or property or for profit.
Stimulating local economic linkages through local ownership of tourism assets, management of tourism businesses, employment, alternative livelihoods, and entrepreneurship in the tourism supply chain (e.g. guiding, craft, food and beverages, transport etc.).	Positive economic linkages fail to materialise due to a lack of information, opportunity, access to finance, adequate policies, or consistency.

sense of stewardship and ownership at the local level (Walker & Chapman, 2003). Tourism requires inputs from many economic sectors to operate effectively, and can also generate revenues that support local and national economies. As such, tourism can influence public policies that impact the future of protected areas. In short, tourism in protected areas presents both opportunities and challenges (Table 1.1).

At a time when population growth and demands for natural resources are putting increasing pressure on protected areas, the economic benefits from nature-based tourism can be a powerful argument for conservation. Tourism in protected areas is a major part of the global tourism industry—an industry whose scale and impact are enormous. The World Tourism Organization of the United Nations (UNWTO) estimated that international tourist arrivals exceeded 1.24 billion in 2016, and generated over US$ 1.22 trillion in international tourism receipts, and so contributed 10% of the world's GDP (UNWTO, 2017). UNWTO (2017) also predicts that international tourism will continue to grow at an annual rate of 3.3% until 2030, and that domestic tourism will far exceed this. Such a high volume of visitors implies certain needs for fundamental infrastructure and requirements for employment and human services, all of which have ramifications for the economy, society, culture and the environment. Protected areas are being affected by all of these trends.

Done sustainably, tourism is well positioned to make a strong argument for increasing the number and effective management of protected areas globally. Tourism can contribute directly to the achievement of the *Strategic Plan for Biodiversity 2011–2020* of the Convention on Biological Diversity (CBD), helping promote conservation, community development and public awareness (McCool & Moisey, 2008; Buckley, 2012a; Hvenegaard, et al., 2012; CBD, 2015; UNEP-WCMC & IUCN, 2016). In 2004 the CBD adopted the

Guidelines on Biodiversity and Tourism Development (CBD, 2004b) and continues to promote their use, for example through publication in 2015 of a manual with examples of best practices on applying them (CBD, 2015). Tourism can also contribute towards the United Nations' Sustainable Development Goals (SDGs)—a set of 17 goals aimed at ending poverty, protecting the planet, and ensuring prosperity for all by 2030. The SDGs are the centrepiece of the UN's sustainable development agenda, and tourism is featured in Goal 8 (sustainable economic growth), Goal 12 (sustainable consumption and production), and Goal 14 (conservation and sustainable use of oceans, seas and marine resources), and implied in Goal 15 (protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss) (http://www.un.org/sustainabledevelopment/sustainable-development-goals/).

Every protected area has unique values that need to be connected with, and appreciated by, visitors, other rights-holders and stakeholders, and the public at large. Those protected areas having international designations, such as United Nations Educational, Scientific and Cultural Organization (UNESCO) Biosphere Reserves, UNESCO World Heritage Sites, UNESCO Global Geoparks, and Ramsar Wetlands, are required to express additional values that represent globally outstanding examples of natural and cultural heritage. Sustainable tourism is one of the most promising ways to accomplish this important work.

1.3 Best practices in protected area tourism: Key characteristics

To help managers and other decision makers achieve sustainable tourism in protected areas, these Guidelines offer a series of *best practices*. They can be thought of as guideposts along the path to the goal of sustainable tourism: the more guideposts one follows, the faster and easier the journey will be.

To understand why something is considered a best practice, it helps to understand some of the key characteristics they all share. A best practice in protected area tourism:

- **Adheres to the 'triple bottom line'**. This is an accounting term, now widely used in other fields, that measures the success of a given effort not just in terms of its economic payoff, but also in terms of the environmental and social value it creates. Here, the triple bottom line means that tourism in protected areas should (i) contribute to the conservation of nature (environmental value); (ii) generate economic benefits to protected area authorities and owners to help support management costs, and also sustainable livelihood opportunities in local communities (economic value); and (iii) contribute towards the enrichment of society and culture (social value).
- **Aligns with the protected area's context**. Tourism best practices are tailored to each protected area's unique situation. A specific action that is considered best practice in one protected area may be merely one of the good options in another. In other words, the best practices offered in these guidelines have a certain amount of flexibility built in; managers need to make critical evaluations and use their discretion in adapting the guidelines to their particular situation.
- **Recognises that high-quality visitor experiences are important**. For tourism to be an effective conservation and community development tool, the quality of the tourism 'product'—the visitor experience—must be maintained (McCool, 2006). Visitor experience is defined as 'a complex interaction between people and their internal states, the activity they are undertaking, and the social and natural environment in which they find themselves' (Borrie & Roggenbuck, 1998: 115). High-quality visitor experiences are produced through the fulfilment of motivation for participating in certain recreation opportunities, which can range from physical challenge to learning to social bonding (McCool, 2006).
- **Aims to build a conservation ethic**. The kinds of experiences managers and tourism operators provide in protected areas need to be qualitatively different from those offered in other destinations. A primary goal of sustainable protected area tourism is not just customer satisfaction, but the encouragement of conservation ethics in visitors. Visitors should be aware of how and why conservation is taking place in the protected area—knowledge that, it is hoped, will lead to lasting support. In some situations tourists can also be encouraged to actively support the conservation of the area they are enjoying through charitable foundations or other means.
- **Accounts for negative impacts as well as benefits**. Every management action in a protected area, even ones stemming from best practices, comes with a cost. Part of best practice is to acknowledge this openly and make the costs and benefits clear. The social as well as the environmental impacts of tourism-related decisions should be stated, analysed, and monitored.
- **Respects the special needs of local communities**. Benefits from protected area tourism should flow to local communities as well as to outside providers. By the same token, negative impacts from tourism should not fall disproportionately on local communities.

1.4 Why the need for new Guidelines?

These Guidelines are anchored on a rich base of knowledge that has been built over many years by practitioners as well as academic researchers and theoreticians, as attested to in the References listed at the end of the book. In particular, it updates two earlier sets of protected area tourism guidelines. The first, *Guidelines: Development of National Parks and Protected Areas for Tourism* (McNeely, et al., 1992), published jointly by UNWTO and the UN Environment Programme, was a pioneering effort in the field. The second, *Sustainable Tourism in Protected Areas: Guidelines for Planning and Management* (Eagles, et al., 2002), was a previous contribution to IUCN's Best Practice Protected Area Guidelines Series. Both are still relevant and rewarding sources of information. But, as in all fields of protected area management, events move fast, and new problems have emerged in the last 15 years—as well as new ideas for solving them. Two particularly important recent publications are the CBD's manual on biodiversity and tourism development (CBD, 2015), mentioned above, and the chapter on tourism in IUCN's global handbook *Protected Area Governance and Management* (Worboys, et al., 2015). These Guidelines draw on them as well as other sources of the most up-to-date thinking on best-practice management of protected areas for sustainable tourism, and presents new perspectives in an accessible and useful way.

1.5 Structure of these Guidelines

The target audiences for these Guidelines are professionals and other stakeholders (including rights-holders) working on tourism in protected areas. They include administrators, managers and planners, drawn from government agencies, non-governmental organisations (NGOs), local community groups, private landowners, or other entities. To simplify terminology, we refer to all these people as 'protected area managers'. We draw on examples from around the world, and aim to make the Guidelines relevant to managers in all kinds of situations, no matter how poorly or well resourced they may be.

The rest of the Guidelines explore the broader context of sustainable protected area tourism as well as specific processes, tools, and techniques, as follows:

- Chapter 2, 'The governance, legislation, and policy context of protected area tourism', explores the larger institutional arena in which protected areas operate. It summarises the main issues and indicates how sustainable tourism can be integrated into the framework of governance, legislation and policy issues set out by IUCN.
- Chapter 3, 'The impacts of protected area tourism', sets out the positive and negative potential effects of tourism in protected areas. The discussion shows how tourism's conservation, economic and social benefits—and drawbacks—are interwoven.
- Chapter 4, 'Aligning management objectives with tourism impacts', introduces ten principles of visitor and tourism management and steps through the first six in a discussion of management and planning tools and techniques to identify protected area objectives and values and then use them to respond to potential negative impacts from tourism.

Marine iguanas (*Amblyrhynchus cristatus*) at a tourist attraction in Galápagos National Park, Ecuador. © Yu-Fai Leung

- Chapter 5, 'Adaptive management for sustainable tourism', continues by going through the final four principles, which cover basic elements of an integrated tourism management programme: resource monitoring, repeated self-evaluation, public engagement, and communications outreach. The chapter concludes with a discussion of certification programmes and of a threefold tourism and visitor management framework that brings together key aspects of this adaptive approach to managing protected area tourism for sustainability.
- Chapter 6, 'Capacity building for sustainable tourism management', explains ways that protected area managers, their organisations, and local communities can acquire the knowledge and abilities they need, as well as the physical and social resources, to accomplish a sustainable tourism management programme.
- Chapter 7, 'Managing tourism revenues and costs to achieve conservation benefits', looks at how fees charged for tourist activities, entrance to the protected area, and concessions can potentially help fund protected areas and their conservation mission. Contracting with concessionaires and the emerging opportunities surrounding tourist philanthropy are also discussed.
- Chapter 8, 'The future of protected area tourism: Can the sustainability challenge be met?' briefly considers sustainable tourism's place in world affairs today, speculates on some critical future trends for which protected area managers should prepare, and offers suggestions as to how managers and can interpret and implement the best-practice recommendations contained in these Guidelines.

In each chapter, text boxes provide short descriptions or case studies of protected areas or protected area agencies where good work is happening. At the end of selected boxes a 'Spotlight Best Practice' is called out. These are summarised at the end of the chapter, and recapitulated all together in Chapter 8. These Spotlight Best Practices are not meant to be exhaustive; rather, they are samples of the range of possible best practice that is going on in protected area tourism management today. They add to a global portfolio of best practices also contributed by other guidance documents (e.g., CBD, 2015).

These Guidelines are accompanied by an Online Resource Directory (http://go.ncsu.edu/iucn-sustainabletourism-bpg), which provides literature resources and a feedback mechanism for readers to report and share good practices. This provides a 'living' element to the Guidelines, creating an opportunity for users to collaborate and generate new, relevant and engaging content. Further examples of successful approaches are being documented through PANORAMA: Solutions for a Healthy Planet, a partnership being coordinated by IUCN and GIZ (Germany's international cooperation agency) to analyse and communicate best practices (www.panorama.solutions).

The discussion throughout the chapters and the selection of case studies emphasise best practices to ensure appropriate tourism that does not compromise the conservation objectives of the protected area. Best practices are manifestations of technical know-how, as well as the attitudes, efforts and commitments of managers, tourism-sector entities, communities—and tourists themselves—that can contribute to using tourism as a means to support protected area conservation goals.

The governance, legislation, and policy context of protected area tourism

2

© Yu-Fai Leung

2.1 Global trends help shape protected area tourism

Protected areas are places where people have committed to conserving a defined set of values related to natural and cultural heritage. These commitments do not materialize out of thin air, nor do they exist in isolation. Because of its specific focus on conservation, tourism in protected areas is fundamentally shaped by these trends, which form the larger context in which protected area managers work. To deal with tourism successfully, managers must understand this larger, international context. One overarching global trend is international cooperation and coordination in protected area conservation. That trend is directly expressed through the variety of international protected area designations and initiatives that have arisen since the 1970s. This chapter provides an overview of these, and their relevance to tourism. Then we discuss how global trends in environmental and society are translated into governance, legislation, and policy, exploring the basic differences among them and explaining how they relate to IUCN conservation guidance. By understanding the broad governance framework, managers will have a solid conceptual foundation to work from when making decisions on what kinds of tourism are acceptable in protected areas.

2.2 International protected area designations and programmes

Protected areas typically are administered at the national level or below, but in recent decades an entirely new class of international conservation initiatives has created the opportunity for protected areas to coordinate at the global level. These initiatives include binding treaties, such as the World Heritage and Ramsar conventions and the Convention on Biological Diversity (CBD), as well as voluntary efforts, such as UNESCO's Man and the Biosphere Programme and its international network of biosphere reserves, and the recently formed Key Biodiversity Areas Partnership (IUCN, 2017c). All of them set conservation standards, along with requirements for monitoring and remediation where required. To attain these international designations, candidate protected areas must meet these standards and also comply with applicable laws at all levels. All of these initiatives are relevant to tourism.

The main entrance of Komodo National Park, Indonesia, both an UNESCO World Heritage Site and a MAB Biosphere Reserve. © Mei Yee Yan

World Heritage Sites

The World Heritage Convention is the world's leading vehicle for the recognition and protection of natural, cultural and mixed heritage sites. This treaty, to which 193 countries are party, is overseen by a secretariat hosted by UNESCO, and governed by the World Heritage Committee. IUCN is one of three mandated Advisory Bodies to the World Heritage Convention, advising on the inscription of natural properties. Inscription on the World Heritage List, the highest honour that can be accorded to a protected area, is reserved for exceptional places that are deemed to be of 'outstanding universal value'. Countries often promote their World Heritage Sites as being among their most significant tourism destinations; this has led, at many of these properties, to concerns about the amount and kind of tourism that is taking place. At the same time, tourism to World Heritage Sites is an opportunity to convey their outstanding values to visitors (Box 2.1). UNESCO has created an online sustainable tourism toolkit aimed specifically at managers of World Heritage Sites, but which can be adapted for other protected areas too. The toolkit takes managers step by step from the basic foundations (e.g. strategy, governance) though core delivery of best practices in communications, infrastructure, and more (http://whc.unesco.org/sustainabletourismtoolkit/how-use-guide).

Biosphere reserves

Biosphere reserves are protected areas that are part of an international network which, like World Heritage, is also overseen by UNESCO. Each reserve promotes solutions reconciling the conservation of biodiversity with its sustainable use, and also emphasises interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity. Sustainable tourism plays an important role in fulfilling the functions of biosphere reserves, and at several of these sites testing improved approaches to tourism development is part of the management focus (http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/).

Global Geoparks

Global Geoparks is yet another system of protected area recognition managed by UNESCO. A Global Geopark is a "single, unified geographical area where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development" (http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/unesco-global-geoparks/). As of 2016, the UNESCO Global Geopark Network comprises 119 Global Geoparks in 33 member states (GGN, 2017). Not surprisingly, Global Geoparks are major hubs for 'geological tourism', which can include such disparate attractions as dramatic landforms, fossils and minerals, to interests such as historic mines and wine-producing terroir (Box 2.2 - p.10).

Ramsar sites

Ramsar sites are globally important wetland sites designated under the Ramsar Convention on Wetlands. Many Ramsar sites are considered 'destination wetlands', and the

Box 2.1

Communicating World Heritage to visitors: Gunung Mulu National Park (Malaysia)

World Heritage emblem on park signage (Left) and outside the park's headquarters (Right). © Lisa M. King

Designated in 2000, Gunung Mulu National Park is a 52,864-ha World Heritage Site located in the remote northern part of Sarawak State in Borneo, Malaysia. Gunung Mulu contains a diversity of karst features including large limestone pinnacles, enormous cave chambers and over 295 km of surveyed cave passages. The National Park's spectacular biodiversity includes seventeen vegetation zones protecting over 3,500 species of vascular plants, along with animals such as sun bears (*Helarctos malayanus*), clouded leopards (*Neofelis diardi*), pangolins (*Manis javanica)*, and hornbills (various species).

World Heritage is a relatively new conservation designation in Malaysia, with the first two sites designated in 2000. Many Malaysians are unaware of World Heritage and what is embodied by the concept. Gunung Mulu's management addresses the issue by subscribing to good branding practices and adopting a comprehensive communication strategy. For example, the World Heritage emblem is placed prominently on entrance signage and interpretive panels throughout the National Park's tourist precinct. The World Heritage brand name is part of the protected area's logo, and is boldly displayed in the visitor reception area. The World Heritage symbol is visible on staff uniforms and is consistently placed on official brochures. Information about World Heritage and the National Park's Outstanding Universal Values is presented on interpretive panels in multiple locations to increase the potential for information to be conveyed to, and remembered by, the visitor.

Gunung Mulu also possesses an array of world-class facilities and installations designed to foster emotional engagement between the visitor and the National Park's Outstanding Universal Values through the provision of on-site experiences. The Mulu Skywalk is one way the National Park offers visitors new personal experiences and perspectives. The successful transmission of visitor awareness and knowledge of the World Heritage brand and positive feelings regarding the concept stimulates appropriate visitor behaviours that contribute to the sustainability of the protected area.

SPOTLIGHT BEST PRACTICE

Give tourists a wider context on management issues in the protected area by connecting them to similar issues globally, and, where appropriate, international conservation initiatives.

Sources: King, et al., 2012; UNESCO, 2017a; UNESCO, 2017b

convention's focus here is keyed to the UNWTO definition of sustainable tourism. Wetlands have many attractions to tourists, particularly to birders and other wildlife enthusiasts. The Convention has produced guidance and adopted policies on tourism in relation to species and habitat conservation (Ramsar Convention and UNWTO, 2012).

Regional protected area networks

Regional protected area networks exist in several places around the world. They link protected areas across neighbouring countries within a specific geographic region. Examples include the Natura 2000 system in the European Union and the network of ASEAN (Association of Southeast Asian Nations) Heritage Parks. At this regional level, guidelines and protocols relevant to sustainable tourism have been developed by groups of countries. Examples include the *European Charter for Sustainable Tourism in Protected Areas* (EUROPARC Federation, 2010) and *Guidelines for Tourism in Parks and Protected Areas of East Asia* (Eagles, et al., 2001). Landscape-scale *areas of connectivity conservation*, such as the Terai Arc Landscape, which encompasses

more than a dozen protected areas in India and Nepal, are a related form of transnational regional network around which increasing amounts of tourism are being organised. Connectivity conservation recognises that habitats and species function best as part of a large, interconnected network of protected areas and surrounding semi-natural and natural landscapes (https://www.protectedplanet.net/c/connectivity-conservation).

Convention on Biological Diversity

The Convention on Biological Diversity, another international treaty, does not designate protected areas directly but is one of the most important influences on global place-based conservation through its Programme of Work on Protected Areas, which "provides a globally-accepted framework for creating comprehensive, effectively managed and sustainably

Box 2.2

Global Geoparks and protected area tourism (Hong Kong SAR, China and Brazil)

Non-basaltic gigantic hexagonal columns in the Hong Kong UNESCO Global Geopark (Left). ©David Newsome. Local handmade geoproducts with the label of Araripe Geopark, Brazil (Right). © Jasmine C. Moreira

The conservation and economic benefits of tourism are recognised in the UNESCO Global Geopark model and have been successfully realised in several regions, although at some of the popular sites visitor management challenges have also emerged. The Hong Kong UNESCO Global Geopark (Hong Kong SAR, China) and Araripe UNESCO Global Geopark (Brazil) illustrate how geoheritage conservation and economic benefits can be achieved through sustainable tourism.

The Hong Kong UNESCO Global Geopark became a national geopark in 2009 and gained Global Geopark status from UNESCO in 2011. The Global Geopark's objectives are to conserve significant geological heritage, promote geological interests through education and interpretation, and foster sustainable tourism development. It contrasts with geoparks in mainland China, which focus more on tourism development and livelihood improvement. The Hong Kong UNESCO Global Geopark is managed and protected by the Country and Marine Parks Authority. Activities causing disturbance and damage to the biological, geological and cultural assets are prohibited. The advent of the UNESCO Global Geopark designation has brought about a 5% annual increase in visitation, which now stands at around one million. Local shops, restaurants and taxi services have directly benefited from the increase in tourism-related business, making local business operators strong supporters of the protection of Hong Kong territory's geological heritage.

Established in 2006, Araripe UNESCO Global Geopark was the first UNESCO-approved geopark in the Southern Hemisphere, and is the only one in Brazil. Basic infrastructure supports over 2.5 million visitors per year who come to the city of Juazeiro do Norte. Common tourist activities in the geopark include hiking, tree climbing, biking, and rappelling.

Araripe Global Geopark contains over 59 geosites known for their scientific, educational and tourism values. The town of Nova Olinda, with some of the most well-known geosite destinations in Brazil, encourages local people to manage tourism. Nova Olinda is home to the Casa Grande Foundation, an NGO devoted to educating local youth for cultural heritage management. In 2006, the NGO headquarters received 28,000 visitors—three times the population of the town.

Araripe Global Geopark is an important instrument for achieving sustainable development in the southern portion of the state of Ceará. In 2007, the Ministry of Culture honoured Araripe with Brazil's most prestigious cultural prize, the Rodrigo Mello Franco de Andrade Prize.

Sources: Araripe Geopark, 2005; Cabral & Mota, 2010; McKeever, 2010; Moreira, 2011; Ng, 2011; Newsome, et al., 2013; AFCD, 2017

Box 2.3

Global Sustainable Tourism Council criteria

The Global Sustainable Tourism Council (GSTC), supported by the UNWTO, the United Nations Environment Programme (UNEP), and the United Nations Foundation, seeks to harmonise more than 130 sustainable tourism standards and guidelines from around the world in a form that recognises their individuality, while ensuring that the minimum requirements for the sustainability of tourism are met in all countries. The GSTC, an international non-governmental organisation, has over 200 members from all continents representing stakeholders from the tourism sector.

The Global Sustainable Tourism Council logo. © GSTC

In collaboration with the tourism industry and sustainability experts, the GSTC reviewed over 60 certification and voluntary criteria, and gathered feedback from over 2,000 people. Through this process, the GSTC has developed two sets of voluntary standards: the *GSTC Criteria for Destinations* and the *GSTC Criteria for Industry* (for hotels and tour operators).

The criteria are an effort to come to a common understanding of what makes for a sustainable tourism destination, and are the minimum undertakings that any tourism management organization that wishes to be sustainable should aspire to reach. They are a useful starting point for any protected area manager charged with overseeing tourism operations. To satisfy the definition of sustainable tourism, destinations take an interdisciplinary, holistic and integrative approach that aims to maximise social, environmental and economic benefits for the destination itself as well as visitors and the host community, while minimising negative impacts. The criteria are designed to be used by all types and scales of destinations.

The criteria and indicators were based on previous schemes and reflect certification standards, indicators and best practices from different cultural and geopolitical contexts around the world. Potential indicators were screened for relevance and practicality, as well as their applicability to a broad range of destination types.

The *GSTC Criteria for Destinations* consists of 41 criteria in four main categories supported by a suite of performance indicators that managers can adapt to their protected area as needed.

SPOTLIGHT BEST PRACTICE

Follow internationally adopted guidelines on tourism and biodiversity that provide a framework for policy, planning, management and monitoring of tourism and its impacts.

Now in its third revision following consultation and review in 2016, the companion *GSTC Criteria for Industry* have separate performance indicators for hotels and tour operators. As of February 2017, there were 28 certification standards for hotels and tour operators, and 5 recognised standards for destinations.

The GSTC Integrity Programme offers recognition, approval and accreditation processes. The attainment of these marks helps standard owners and certifying programmes build consumer and trade confidence, promote efficiency and distinguish their services from less-neutral or less-efficient schemes.

GSTC-recognised standards are increasingly adopted by government agencies and conservation organisations to certify protected areas and wildlife tourism programmes. Protected areas that have applied the GSTC Criteria for Destinations include Sierra Gorda Biosphere Reserve (Mexico), Cusco–Sacred Valley Machu Picchu (Peru), and the Okavango Delta (Botswana). These destinations underwent baseline destination sustainability assessments applying the criteria, and received recommendations to address any gaps. The Great Barrier Reef Marine Park (Australia) has implemented a High Standard Tour Operator program for a number of years, so that now the majority of visitors to the reef are led by certified operators. Furthermore, protected area managers in Australia reward and encourage tour operators to become certified through longer licenses, exclusive access to sensitive sites, and promotional opportunities. Theses no-cost approaches demonstrate to operators that being sustainable, and independently certified as so, makes business sense (R. Hillman, chief executive, Ecotourism Australia, pers. comm., 11 April 2016).

Sources: GSTC, 2017a; GTSC, 2017b; UN Foundation, 2017

http://www.gbrmpa.gov.au/our-partners/tourism-industry/high-standard-tourism; https://www.gstcouncil.org/topics/news/early-adopters/

funded national and regional protected area systems" around the world (https://www.cbd.int/protected/). The CBD's tourism guidelines (CBD, 2004b) were developed through a comprehensive international consultation and drafting process, and remain a central pillar of the CBD contribution to addressing the many impacts of tourism on biodiversity.

Convention on Migratory Species

The Convention on Migratory Species aims to conserve terrestrial, marine and avian migratory species throughout their respective ranges. Recognising that these species are often of high interest to recreationists, the Convention has collaborated with the UN Environment Programme on a major study of the benefits and risks of tourism in relation to them (UNEP and CMS, 2006).

World Tourism Organization

The World Tourism Organization (UNWTO) is the United Nations specialised agency in charge of promoting sustainable and universally accessible tourism. UNWTO promotes tourism as a way to achieve the UN Sustainable Development Goals (SDGs). UNWTO sponsors sustainable tourism initiatives, such as the establishment of the Global Sustainable Tourism Council, which sets standards that national governments as well as protected area agencies can meet to gain market recognition of sustainable tourism operations (Box 2.3 - p.11), and the 10 Year Framework of Programmes (10YFP) on Sustainable Tourism, which contributes to Goal 12 of the SDGs on sustainable consumption and production (http://sdt.unwto.org/about-10yfp-stp).

2.3 Protected area governance orients tourism management

Management of every protected area is tied to the type of governance that applies to it. With respect to protected area tourism, *governance* encompasses principles, laws, policies, rules/regulations, and day-to-day management decision making in support of conservation goals (Borrini-Feyerabend, et al., 2013). Within some forms of protected area governance, *legislation* sets out in formal, binding terms what is and is not permissible. In other protected areas, customary rules or other similarly effective means are the benchmarks of what is allowed. In all forms of protected areas, some kind of *policy*, either formal or informal, is then developed to guide the pursuit of conservation objectives. Governance describes broadly the way in which institutions operate, with legislation and policy being the specific means of implementation.

Sustainable tourism can be built into governance, legislation and policy decisions, drawing on guidance from the CBD (e.g. CBD 2015) and IUCN (e.g. Borrini-Feyerabend, et al., 2013; Worboys, et al., 2015). Before considering whether tourism in a protected area can be sustainable, managers must first decide whether *any* level of tourism is compatible with the overriding conservation mission. The answer could conceivably be no, in which case the only thing managers need to further do is provide the justification for that decision.

In most cases, though, the answer will be yes. If so, then several linked questions about the level and nature of potential tourist activity must be considered: How much? What types? When? Where? The answers likely will be complex; for example, should a particular proposed activity be allowed everywhere in the protected area, or only at certain sites? Should it be allowed all year round, or banned during sensitive periods, such as the breeding season for certain wildlife species? Perhaps most important of all are questions regarding possible impacts of the activity, either beneficial or detrimental. Here, special attention must be given to effects on Indigenous Peoples and local communities, as well as other rights-holders and stakeholders.

2.4 Governance connects to overall management objectives

Answers to these questions must connect the conservation objectives of the protected area with relevant national policies (Box 2.4). It is useful to start by thinking about how the answers might differ depending on which of the IUCN protected area management categories applies to the protected

Visitors can learn about geologic history in Þingvellir National Park, Iceland, where the Eurasian and North American tectonic plates meet. © Yu-Fai Leung

Box 2.4

Supporting sustainable tourism in protected areas with policy: A case study of Botswana

Tourism in Botswana is predominately nature based, with tourists attracted by diverse wildlife and scenic landscapes such as those of the Kgalagadi Desert, grasslands, savannas and the Okavango Delta. Tourism is now the second largest economic sector. Since the 1970s, Botswana's policies have led to large areas of land being given conservation status to safeguard seasonal wildlife migration, protect ecological resilience, promote markets for sustainable community-based tourism, and support benefits for local communities.

African buffalo (*Syncerus caffer*) in a Botswanan protected area. © Ralf Buckley

Botswana's Tourism Policy of 1990 strives to connect local communities with the benefits derived from wildlife-based tourism, including rural employment opportunities and acquisition of tourism concessions. Concerns regarding tourist impact on natural resources, especially wildlife, prompted the passage of the Tourism Act of 1992 and the Tourism Regulations of 1996. Both promote low-volume, high-value tourism enterprises. These policies are particularly influential for photographic tourism, which is associated with larger tourist groups and increased levels of infrastructure. Under the policies, tourism enterprises are categorised, licensed and graded based on quality standards and protocols outlined in the Wildlife Conservation and National Park Act of 1992. While this approach has created concerns regarding the growth of foreign-owned enclave tourism, the policy has encouraged biodiversity conservation.

Concession contracts, awarded for an average duration of 15 years, require addressing environmental (e.g. infrastructure development, waste management) and social (e.g. capacity building, local employment, community revenue sharing) impacts. The bidding process for third-party operation and management of public campgrounds in some national parks and game reserves also requires an environmental impact assessment by the bidder during the development and operational phases, as well as monetary performance guarantees at the signing of the agreement.

Community participation and protection of local communities' interests are further supported through the National Ecotourism Strategy (NES) of 2002 and Community Based Natural Resource Management (CBNRM) Policy of 2005. The NES emphasises ecological and economic sustainability and proposes awards for tourism businesses making substantial contributions to conservation. The CBNRM merges the goals of conservation and rural development, and devolves management authority, resulting in the formation of several community trusts that could lease areas, enter legal contracts with the private sector, and receive grants for local communities. Studies have found CBNRM to contribute income to support community initiatives, enhance social capital, and successfully co-manage protected areas.

Challenges associated with the CBNRM include the ability of grassroots conservation-based organisations to compete with private (often foreign-owned) commercial enterprises, the marginalisation of certain groups, and the amount of revenue generated for the community.

In an effort to protect wildlife populations, the government instituted a ban on commercial hunting in 2014, with designated hunting zones converting to photographic areas. Community concessions within the Okavango Delta have transitioned to photographic tourism and increased lease fees to compensate for the loss of hunting revenue. For communities with lower game numbers where photographic tourism alone may be less economically viable, the government is looking to other strategies to diversify the market (C. Brooks, personal communication), including development of the Botswana Ecotourism Certification System run by the Botswana Tourism Organization.

SPOTLIGHT BEST PRACTICE

Encourage national tourism policies that fulfil the 'triple bottom line' by requiring protected area tourist activities to explicitly contribute to the conservation of nature, generate economic benefits to both protected area authorities and local communities, and account for and minimise negative social impacts.

Sources: IUCN Botswana, 2002; Hachileka, 2003; Mbaiwa, 2005; Thakadu, 2005; Blaikie, 2006; Magole & Magole, 2011; Mbaiwa & Stronza, 2011; Wyman, et al., 2011; TIES, 2013.

Table 2.1. IUCN Protected Area Categories and their management approach to tourism and visitor use

IUCN Protected Area Category*	Primary goal and protected value(s)	Approach to tourism and visitor use	Types of visitor					
			Individual	Researcher	Commercial users	Tourists and recreationists	Spiritual and cultural users	Commemorative users**
Ia) Strict Nature Reserve	Biodiversity or geoheritage protection (ecological and scientific values)	• Public access only possible through organised scientific, citizen science or volunteer service programmes	✓	✓			✓	
Ib) Wilderness Area	Protection of the natural character and condition of unmodified or slightly modified areas (wilderness and ecological values)	• Low-density, self-reliant visitor use is often a management objective • Restricted public access in terms of amount of use, group size, activity, etc. • Tourism activity limited and highly regulated (e.g. through special use permits)	✓	✓				
II) National Park	Protection of an ecosystem and its large-scale ecological processes (ecological, recreation and community values)	• Visitor use and experience is often a management objective • A range of recreation opportunities typically provided through zoning, facility development and visitor services (countries have marked differences in their attitudes to tourism accommodation within protected areas)	✓	✓	✓	✓	✓	✓
III) Natural Monument	Conservation of specific natural features (ecological, recreation and community values)	• Visitor use and experience is often a management objective • Recreation opportunities are typically provided to facilitate feature protection and public understanding	✓	✓	✓	✓	✓	✓
IV) Habitat/ Species Management Area	Conservation through management intervention (ecological, community and recreation values)	• Recreation visitation and commercial tourism are usually management objectives • A range of recreation opportunities is provided with associated facilities and services • Commercial tourism common for wildlife viewing	✓	✓	✓		✓	✓
V) Protected Landscape/ Seascape	Landscape / seascape conservation (community, ecological and recreation values)	• Tourism is usually a management objective • A range of recreation opportunities is provided with associated facilities and services • Commercial tourism common	✓	✓	✓	✓	✓	✓
VI) Managed Resource Protected Area	Sustainable use of natural ecosystems (community, recreation and ecological values)	• Recreation visitation and commercial tourism can be key objectives • A range of recreation opportunities is provided with associated facilities and services • Commercial tourism common	✓	✓	✓	✓	✓	✓

* Adapted from Dudley (2008), Dudley, et al. (2013), and Spenceley, et al. (2015)

** Users who access protected areas for commemorative purposes, such as visitors returning to sites of cultural significance within a protected area (Spenceley, et al., 2015: 720).

area. Table 2.1 presents the six categories, how each one's management orientation relates to tourism, and the types of visitor that can be expected in each.

Again, tourism in protected areas must not compromise the overarching conservation mission. For the sake of simplicity, the six IUCN categories are keyed to the primary objective of management for the protected area as a whole. However, in practice, many protected areas are zoned to allow different uses in different locations, which means several conservation objectives may be pursued simultaneously. Core zones dedicated solely to conservation objectives, and where no tourism is allowed, are often used. So too are buffer zones. These are parts of the protected area that lie between a core zone and prevailing land uses outside the boundaries. In contrast to core zones, certain kinds of tourism may be acceptable in buffer zones. Some Category II national parks provide examples of this kind of core/buffer zoning. In any kind of zoning scheme, management must be adjusted so that activities in each zone fit its allowable potential for tourism.

2.5 IUCN governance principles: fairness and respect of rights

*Governance of Protected Areas: From Understanding to Actio*n, one of IUCN WCPA's Best Practice Protected Area Guidelines series, offers a comprehensive discussion of governance principles. The five pillars of protected area governance are: (i) legitimacy and voice; (ii) direction; (iii) performance; (iv) accountability; and (v) fairness and rights (Borrini-Feyerabend, et al., 2013, 59–60). All of them apply to tourism in protected areas. For managers, the challenge is making sure tourism activities and developments comply with them in practice.

IUCN's governance principles call on managers to provide "clear policy directions," particularly for contentious issues directly affecting conservation in the protected area (Borrini-Feyerabend, 2013: 59). Whether or not it is run by commercial interests, tourism is often the source of such contentious issues. Managers must be particularly sensitive to how fair their decisions are on this front. In seeking public input on proposed actions, some processes may be more inclusive of certain people than others, and the resulting decisions may favour one group financially at the expense of another. Seemingly simple things, such as the location, day of week, or time of day that a meeting is scheduled, can make a big difference to different groups. It is also important to pay attention to the requirement for ensuring that policy directions are consistent with both budgetary allocations and management practice in each protected area. This is essential so that policies do not outstrip the capacity of protected areas to manage effectively.

The protection of human rights is part of the larger social context in which conservation operates, and protected area tourism must account for this. IUCN supports the Universal Declaration of Human Rights, the UN Declaration of the Rights of Indigenous Peoples, and the achievement of the UN Sustainable Development Goals, and therefore best-practice tourism in protected areas takes special care to respect the rights of Indigenous Peoples and local communities. These rights include the use of land and resources on which their livelihoods depend, or which have cultural significance for them. They must not be removed from or kept from using their land and resources, any concerns they have must be properly recorded, and they must be not just enabled to take part in decision making, but actively encouraged to do so. Finally, they must get an equitable share of any benefits that result from tourism (CBD, 2004a; CBD, 2004b).

Box 2.5

Privately protected areas: Partners in tourism and conservation

Privately protected areas have long been a part of the conservation movement. In addition to private landowners, trusts, foundations and many non-governmental organisations, such as Conservation International, The Nature Conservancy and the Leadership for Conservation in Africa Network, have acquired areas for protection and research.

There are now many models for private enterprises, landholders, trusts and foundations, NGOs, and communal organisations to own or manage land, wholly or partly for conservation, either solely or in various partnerships. These models differ greatly across countries due to factors such as land use history, land tenure systems, legislation and culture.

The diversity and connectivity of protected and conserved areas in a landscape, be they public or private (including community conserved areas), lead to more effective conservation. Conservation can benefit from harnessing the entrepreneurial spirit, skills, management effectiveness, efficiency, innovation and risk taking—as well as passion, dedication and commitment—of the private conservation movement, as has been shown in Kenya and the United Republic of Tanzania. Private reserves can also play a complementary role in using tourism-generated funding to protect some threatened species, such as black and white rhinoceros (*Diceros bicornis*; *Ceratotherium simum*), African wild dogs (*Lycaon pictus*), cheetah (*Acinonyx jubatus*) and Seychelles white-eye (*Zosterops modestus*).

In sum, the private sector can be a strong partner in conservation to complement, but not substitute for, public protected areas. Common to these efforts is making the economic benefits of conservation more tangible and explicit, and thus giving protected areas the value they deserve. The recent IUCN WCPA publication The *Futures of Privately Protected Areas* describes a preliminary framework and examples of good practice guidance for privately protected areas.

Sources: Spenceley, 2008; Buckley, 2010a, Buckley, 2010b; Sheail, 2010; Buckley, 2012a; TNC, 2013; Buckley, 2014; Leménager, et al., 2014; Stolton, et al., 2014

Protected area planners should conduct social impact assessments of any proposed tourist developments. Those that would expose people's rights or natural resources to unacceptable levels of harm should not be allowed (UNWTO, 2010; Whakatane Mechanism, 2017). Detailed guidance for assessing developments that may affect Indigenous Peoples and local communities can be found in the CBD's *Akwé: Kon Voluntary Guidelines* (CBD, 2004a).

2.6 IUCN governance types and their relation to tourism

IUCN now cross-references its protected area management categories to various types of governance: (i) Governance by government; (ii) Shared governance; (iii) Private governance; and (iv) Governance by Indigenous Peoples and local communities (Borrini-Feyerabend, et al., 2013; Dudley, 2008: 26–27). The governance principles listed above apply to each type, though responsibility for carrying them out may vary.

Governance by government goes back to the nineteenth century, if not earlier, and is probably the best known of the four governance types—so much so that many people are unaware other kinds of protected areas exist. A more recent innovation is *shared governance*, where governance is split between two or more bodies; some notable examples involve Indigenous Peoples. Like governance by government, *private governance* of protected areas has a long history. Numerous privately protected areas depend on money from tourism to fund their conservation activities (Stolton, et al., 2014). Private entities, including NGOs, can also play a significant role in sustainable tourism development in protected areas no matter what the overall governance type (Box 2.5). Oldest of all is *governance by Indigenous Peoples and local communities*, with a history that goes back hundreds or even thousands of years. These community-conserved territories and areas only recently have been acknowledged as protected areas by the contemporary international conservation movement, though they often still are not recognised as such in law. Community-conserved territories and areas are governed independently but can overlap or be associated with other kinds of protected area designations (Box 2.6).

Box 2.6

The Community Management of Protected Area Conservation Programme (COMPACT)

The Community Management of Protected Area Conservation Programme (COMPACT) has explored a process for engaging local communities in the conservation and co-management of UNESCO World Heritage Sites since 2000. The programme is a collaborative venture between the UNDP/GEF Small Grants Programme and the United Nations Foundation (UNF). COMPACT uses small grants of up to US$ 50,000 to support coordinated clusters of community-based conservation projects.

Through the COMPACT assessment and planning process, tourism is often identified as a core component of the local economy, as well as a potential threat to the protected area if left unregulated. The COMPACT methodology, which is highly participatory in nature, has three components: a baseline assessment, conceptual model and site strategy. The method establishes a foundation for future monitoring and assessment of tourism development and impacts.

The first two phases of COMPACT focused on projects in eight current or proposed World Heritage Sites, spanning nine countries:

- Belize Barrier Reef Reserve System (Belize)
- Morne Trois Pitons National Park (Dominica)
- Mount Kenya National Park (Kenya)
- Sian Ka'an Biosphere Reserve (Mexico)
- Puerto Princesa Subterranean River National Park (Philippines)
- Mount Kilimanjaro National Park (United Republic of Tanzania)
- Djoudj–Djawaling Transboundary Biosphere Reserve and World Heritage Site (Senegal and Mauritania)
- Group of five protected areas in south-west Madagascar

SPOTLIGHT BEST PRACTICE

Ensure that all site planning for tourism in protected areas follows a basic four-step process: (i) a baseline environmental and social evaluation that informs (ii) a conceptual model, which in turn is used to devise both (iii) a site plan and (iv) a system of monitoring and assessment that guides needed adjustments to site management.

For example, in Belize, the COMPACT baseline assessment focused on the Belize Barrier Reef Reserve System and the threat of unsustainable fishing and tourism practices to the World Heritage Site. At the same time, the community assessment identified tourism and fishing as the activities most important to local livelihoods. To help align conservation and economic goals, COMPACT helped facilitate the transition of some fishers to tourism by providing training for tour guides, scuba dive masters and sport fishing guides. That transition has also created stewards for the marine resources that now underpin both conservation efforts and local livelihoods.

Looking ahead, the method developed by COMPACT and lessons learnt are being promoted as a toolkit for new initiatives within the World Heritage Convention.

Source: UNDP/GEF Small Grants Program, 2012; Brown & Hay-Edie, 2013

How governance type affects tourism development

Each protected area governance type has its own set of considerations for tourism planning and management.

In *government-governed* protected areas, the government may operate tourist facilities itself, or devolve those responsibilities to outside specialists (who may be either in the private or public sector), or else combine the two. Each option has its pros and cons. Protected area managers may be able to handle low-level tourism operations with little or

Box 2.7

Cooperative planning and management of Ni'iinlii Njik (Fishing Branch) Protected Area (Yukon, Canada)

Ni'iinlii Njik (Fishing Branch) is a 6,500-km^2 Yukon government-Aboriginal cooperatively managed protected area in northern Yukon, Canada. The area includes a 5,400-km^2 wilderness preserve and a 170-km^2 ecological reserve administered under the Yukon Parks and Land Certainty Act; a 900-km^2 habitat protection area administered under the Yukon Wildlife Act; and 140 km^2 of land owned by the Vuntut Gwitchin First Nation. Initially identified for protection through the 1995 Vuntut Gwitchin Land Claim Agreement, the area protects important cultural and natural values, including a concentration of salmon species and grizzly bears (*Ursus arctos*) that provide a special ecotourism viewing opportunity.

Photographing grizzly bears at Ni'iinlii Njik Protected Area, Canada.
© Frank Mueller Visuals

The agreement and jointly developed management plans provide for governmental, academic and private-sector partnerships. The lead roles and decision-making authorities are clearly defined. Specifically, Yukon government leases the facilities to the joint venture partners, thereby reducing the amount of capital investment required by the partners, while retaining authority over the facilities.

The partners have been engaging in the following key activities:

- **Management planning**: A Committee of Managing Agencies was set up to plan and manage the area cooperatively. The plan set the stage for low-level visitation, supported by trained private-sector guides and minimum facility development, along with research and monitoring.
- **Risk management planning**: The partners developed a bear–human risk management plan to identify how operational requirements and safety procedures would minimise the impact of tourism on bears and salmon, minimise conflict between bears and humans, and define appropriate responses in the event of a conflict. Private-sector specialists in bear behaviour and guiding were involved, and later a private eco-adventure company prepared a viewing plan to address how the bear–human risk plan would be implemented.
- **Research and monitoring**: Simon Fraser University conducted research to document bear and salmon populations and baseline patterns of bear behaviour in the viewing area. They also prepared a monitoring protocol. This work enables the evaluation of management effectiveness.
- **Facility development and operations**: A commercial joint venture was established between the Vuntut Gwitchin Development Corporation and the private eco-adventure company, which was experienced in arranging bear viewing opportunities. Residents of the First Nation community of Old Crow were involved in the construction of the cabin facilities, which were designed and located to fit into the wilderness character of the area. Low-level visitation (i.e. four visitors plus one guide at a time during the fall viewing season) is intended to minimise potential impacts and risks. Recreational hunting is not permitted, and the First Nations who have subsistence rights to harvest wildlife have voluntarily closed the area to harvesting.

SPOTLIGHT BEST PRACTICE

Develop tourism management plans in collaboration with all relevant stakeholders, including affected Indigenous Peoples and local communities and the tourism private sector.

Source: http://www.yukonparks.ca/

no extra training. As demand goes up, more is required. It is possible to do: in South Africa and Kenya, government managers have been quite successful in acquiring tourism proficiency, with the advantage that they are fully in control of both operations and the resulting financial benefits. This is far from always being the case, though, and at some point outside help may need to be brought in. The advantages and disadvantages of contracting out tourism management are discussed in more detail in Chapter 7.

In cases of *protected areas under shared governance or which are co-managed*, the organisation that is partnering with the government may or may not include persons who have tourism-management skills and experience. If the organisation does not, the same considerations that apply to government-governed protected areas also pertain here—although it is possible for the partners to cooperatively develop the needed expertise (Box 2.7).

In general, the private sector is the more experienced in running tourism ventures successfully. This means that many *privately protected areas* will already have people with tourism skills—or ready connections to them—among those involved in their establishment. If outside help is needed, it may be found in large for-profit corporations, small local operators, or, as noted above, even non-profit NGOs (Box 2.8).

The situation with *Indigenous Peoples and community conserved territories and areas* is more complicated. The groups involved probably do not already have the experience required, and are less likely to be able to tap into the larger skills networks that are essential for effective management of tourism. Other structural barriers may also limit the ability of Indigenous Peoples and local communities to participate in and benefit from tourism development, including insufficient assets, lack of secure and legally recognised property rights, and adverse national policies that inadvertently work against them (UNWTO, 2010).

Because of these structural disadvantages, many Indigenous Peoples and local communities will need support, including training and other forms of capacity building (see Chapter 6), to be able to help plan and develop tourism in protected areas. Given such support, these groups will be better prepared to do things such as negotiate concession or lease agreements with private operators that stipulate a flow of benefits to the communities involved (e.g. through concession or lease fees, agreements to train and employ local people, and commitments to respect customary rights and traditions). Contracts with private tourism operators are one way that Indigenous Peoples and local communities can establish a secure investment in tourism facilities on their land, as well as gain the experience needed to eventually transition to direct management if they so desire. All this can

Box 2.8

NGO-run protected areas: The Royal Society for the Conservation of Nature (Jordan)

Established in 1966 under the patronage of the late King Hussein, The Royal Society for the Conservation of Nature (RSCN) is a non-governmental organisation devoted to the preservation of Jordan's natural resources. It is one of the few organisations in the Middle East to be granted this kind of public service mandate to manage public lands.

Tourists experiencing the desert landscape in Wadi Rum Protected Area, Jordan. © Mei Yee Yan

RSCN introduced its innovative people-centred approach to protected area management in 1994 in the Dana Biosphere Reserve near Petra. Working directly with local villages and Bedouin communities, income-generating projects and employment opportunities have been created that utilise the Reserve's natural beauty and wildlife. These include small handicraft enterprises and a range of tourism facilities, including campsites, guesthouses and an ecolodge. Such ventures continue to make nature conservation important to the lives of Dana residents and create a constituency of local support for the Reserve. A recent RSCN innovative venture is a concession agreement granted to manage the 26-room Feynan Ecolodge at the western edge of the Dana Biosphere Reserve. Dana is an area of tremendous variety in terms of wildlife, geology, landscape and night-time stargazing. In September 2009, EcoHotels, a commercial enterprise, was granted a concession to manage and operate the lodge, offering travellers an opportunity to experience Jordan's wilderness, meet its people and explore its ancient history, while minimising impact on the environment.

The mission of Wild Jordan, the socioeconomic development and ecotourism division of RSCN, is to develop viable nature-based businesses within and around RSCN's protected areas in order to bring tangible economic and social benefits to local communities and generate financial, political and popular support for nature conservation throughout the Kingdom of Jordan. The RSCN and Wild Jordan manage a number of reserves, many of which have accommodations.

Sources: Feyna Ecolodge, 2017; RSCN, 2017

Box 2.9

Community-based tourism and conservation in Thembang Bapu Community Conserved Area (India)

Training programme for community members (Left). Villagers from Thembang with WWF team members (Right). Both photos © WWF India

Several hundred thousand Indigenous Peoples and Community Conserved Territories and Areas (ICCAs) cover a large area of the world's surface. ICCAs can generate substantial economic livelihoods and benefits for local people while promoting conservation, though these benefits have yet to be systematically documented.

Several Community Conserved Areas (CCAs) exist in the state of Arunachal Pradesh situated in Eastern Himalaya in India, a global biodiversity hotspot endowed with diverse landforms, ethnic groups and resources. These CCAs are situated in Unclassed State Forest (USF) lands that have been traditionally controlled by local communities and governed by their customary laws.

WWF-India engaged with the local Monpa community in the western part of Arunachal Pradesh to secure the forests under community jurisdiction and to implement livelihood activities to boost conservation. WWF-India helped develop a community-based tourism (CBT) plan and trained community members to run it. The Monpas are one of the so-called primitive tribes of the Tawang and West Kameng districts in Arunachal Pradesh, with a population of 50,000. In 2005, the Monpas of Thembang village, West Kameng district, set up the Thembang Bapu Community Conserved Area (TBCCA) on 18 km^2 of forests under their control. The TBCCA now covers 635 km^2, encompassing dense forests, snow-capped mountains and high-altitude lakes that provide a secure habitat for several rare species of flora and endangered mammals, including red panda (*Ailurus fulgens*), snow leopard (*Uncia uncia*), marbled cat (*Pardofelis marmorata*), and Himalayan black bear (*Ursus thibetanus*).

The Thembang CBT programme comprises four home-stay units (maximum of 10 tourists), home restaurants, a cultural troupe to showcase Monpa art and culture, organised treks through the CCA, and provision of trained service providers (guides, cooks, porters, etc.). The programme includes many families to ensure benefits are spread throughout the community. The Thembang CBT programme has increased its turnover four-fold from the time of inception to US$ 15,000 in 2013. The Arunachal Pradesh government has solicited support from WWF-India for the development of home-stay guidelines.

The local community has initiated a process to notify (gazette) one-third of TBCCA as a Community Reserve under the provision of the Amended Wildlife (Protection) Act, 1972. The community reserve notification will further augment the protection of community forests.

Sources: Mishra, et al., 2006; Kothari, 2008

Box 2.10

Public–private management of Šargan–Mokra Gora Nature Park (Serbia)

Nature Park Šargan–Mokra Gora, originally a part of Tara National Park, was designated as Landscape of Outstanding Features 'Šargan–Mokra Gora' in 2005. When its area was enlarged from 3,678 ha to 10,813 ha in 2008, it received the status of Nature Park, a natural asset of exceptional national importance. It is managed as an IUCN Category V (protected landscape) area.

'Nature Park Mokra Gora', a limited liability company, manages this protected area, which is one of nine in Serbia managed by either private companies or NGOs. The famous film director Emir Kusturica helped found the company and has taken a vital managerial role in Šargan–Mokra Gora Nature Park, and has brought many innovative aspects to the protected area's operations. There are about 30 company employees in four sectors: management, protection, supervision and technical/ maintenance.

Park landscape: preserved natural and local values. © Ilija Resimić

Activities in Šargan–Mokra include scientific research, conservation, education and tourism. The protected area is accessible to visitors seven days a week, with a wide range of activities offered. Revenues from these activities are all reinvested into the protected area's operations.

Some of the key factors underlying the evolution of the Nature Park include:

- **Commitment from a champion**: Currently a member of the Nature Park assembly, Emir Kusturica has invested his own resources and reputation in the protected area. He created Kustendorf, an international film and music festival, that has brought many famous international and domestic figures to Šargan–Mokra. This has generated interest in, and drawn numerous visitors to, the protected area.
- **Economic opportunities**: With an advantageous geographical position and good accessibility, Šargan–Mokra is one of the most famous destinations in Serbia. The protected area offers various tourism opportunities, including magnificent nature; a bounty of thermal-mineral waters; the ethno-village Drvengrad (The Wooden City), created from restored authentic old Vlach log cabins; skiing areas; the unique Šargan's Eight, an outdoor museum and tourist railway; and traditional products created by local villagers, who are known for their hospitality. Drvengrad is now a place where cultural events occur and where numerous artists and athletes from around the world gather.
- **Infrastructure and services**: With the help of State ministries, the Nature Park's management contributes to both local community welfare as well as the protection of nature. These contributions have included the provision of sewage treatment, plumbing, high-speed internet connections, wastewater treatment and fire protection systems.
- **Local support of young generations**: Local elderly inhabitants have some difficulties understanding and accepting the new rules and restrictions (e.g. on hunting, tree cutting, construction) posed by the management. On the other hand, the younger generations perceive these things as a means for sustainable development of the area.

Sources: http://kustendorf-filmandmusicfestival.org; http://parkprirodemokragora.org/index.php?l=16

also be achieved through partnership with NGOs. Box 2.9 gives a good example from India.

2.7 Five ways governments can lead in promoting sustainable tourism

Governments are uniquely positioned to foster sustainable tourism in protected areas, especially through legislation. They can also set precedents, lead by example, and coordinate policies across sectors. Five examples are presented below, followed by a short discussion of the role national tourism organisations play in relation to protected area tourism.

Rights of Indigenous Peoples and local communities should be legally recognised

Governments can fundamentally empower Indigenous Peoples and local communities by enshrining their rights in law. Following this basic recognition, governments can also let communities decide how to use their own land. This opens the door to their balancing traditional activities with other uses, such as tourism linked to conservation, if they wish. With targeted support from government and other organisations, these communities can negotiate fair tourism agreements, ensuring that a share of the economic benefits from tourism benefit them.

For their part, protected area management authorities should review legislation relevant to Indigenous Peoples and local communities to make sure they have a say in tourism development and operations on lands and waters traditionally occupied or used by them (CBD, 2004b).

The tourism industry should be encouraged to adopt sustainable operations

Even when tourism operations are carried out by private-sector enterprises, governments have a crucial role to play in encouraging sustainable practices in the industry (UNWTO & UNEP, 2005). Governments (at both the national and subnational levels) are uniquely able to create conditions and enact policies that can change visitor behaviour so as to maximise benefits and minimise negative impacts. Of course, many governments also directly support tourism through marketing, information services and education. These activities are often carried out through public–private frameworks and partnerships (Box 2.10).

At the national level, a host of government institutions could be involved in both tourism issues and conservation. Among them are ministries dealing with planning and land use, economic development, environment, rural development, and management of natural resources (e.g. forests, marine resources, water), as well as those responsible for protected areas and for tourism. Other tiers of government, particularly at state/provincial and local levels, are also involved with at least some of these issues.

Biodiversity and tourism policy should be integrated

Government activities related to tourism (both generally and specifically in protected areas) should be coordinated with those affecting conservation of biodiversity in general. For example, National Biodiversity Strategies and Action Plans (NBSAPs), as central decision-making tools for addressing conservation and sustainable use, should include tourism in their considerations. Likewise, national tourism plans should address biodiversity issues (CBD, 2004b). Strategies, plans and policies currently lacking such integration should be revised accordingly (CBD, 2017).

Tourism legislation and regulations should be part of broader planning

Passing laws and issuing regulations are fundamental ways that governments can promote sustainable tourism in

Nature camp inside Thembang Bapu Community Conserved Area, India. © WWF India

protected areas. Aside from legislation and rules directly pertinent to protected areas, those related to land-use planning, coastal zone and marine areas management, environmental assessment, business establishment and licensing, building regulations, and tourism standards also may be relevant.

Protected areas with the potential to draw large numbers of tourists call for careful planning extending beyond their legal boundaries. Countries that have a nature tourism strategy backed by appropriate laws and policies are in the best position to achieve this kind of planning. Attractive destinations in countries lacking that kind of legal and policy foundation could soon find themselves surrounded by unplanned towns with excessive or inappropriate development, bringing with it a host of harmful effects: inadequate management of human wastes, denuded landscapes, poorly planned infrastructure, and much more. Under these circumstances, even best-practice protected area management would be unlikely to overcome the problems.

Managers should have clear authority to plan and control tourism

Of the legal components that support sustainable tourism in protected areas, perhaps the most important is legislation that endorses it. This should include clear authority for managers to control, plan, manage and monitor tourist activity, and to take enforcement action if required. Managers should have the power to limit the scale, type and timing of tourism, or exclude it altogether, as needed to make certain that the protected area's fundamental conservation mission is met. Managers also should be enabled to develop clear and enforceable regulations, supported by licensing as appropriate, wherever necessary. While this will ensure that minimum standards of acceptability are met, managers should also have the ability to offer voluntary measures, such as incentives, to raise sustainability performance to a higher level (UNWTO & UNEP, 2005).

Managers would do well to review all legislation that might be relevant to tourism in their protected area, assessing how effective it is and how well it is currently enforced. This review can identify gaps to be addressed, for example through revising existing or developing new legislation, by improving enforcement, or by providing additional resources, staff training or both. It may well be the case that there are incompatibilities between different pieces of relevant legislation. Then it may be necessary to harmonise them through revisions, or even to pass new legislation that provides the clear legal framework managers need.

2.8 The role of national tourism organisations

We have already touched upon the activities of the UN's World Tourism Organization. In addition, most countries have ministries or departments with specific responsibilities for tourism, as well as a national tourism organisation that operates semi-autonomously from government. Typically, these organisations are responsible for tourism marketing and branding, developing and carrying out promotional campaigns, and fostering more expertise within the tourism sector. However, their mandates may not include promoting protection of the natural environment. This potential disconnect makes it desirable to coordinate policies specific to protected area tourism with those on the national level. Doing so will help create tourism in protected areas that supports key conservation goals.

In some cases, national tourism policies for protected areas may also include other societal goals such as improving people's livelihoods, creating jobs, boosting local development, improving public health, and raising the profile of the country internationally. These goals must be carefully defined so that they do not override or erode the primacy of conservation in protected areas.

2.9 Understanding the larger context makes for better management

This chapter demonstrates that the pursuit of sustainable tourism in protected areas is going on within a rich context of governance, legislation and policy of which managers should be aware. Knowledge of this larger context will make managerial actions at the protected area system or site level more informed, more effective and more justifiable with respect to society at large.

Governance, legislation and policy are products of a larger social, political and environmental context, but the challenge of applying them in protected areas falls largely on the shoulders of managers. In terms of tourism in protected areas, a central challenge is to find ways to integrate legislation, policies and the institutions responsible for them so that the results deliver conservation goals.

Good governance entails well-thought-out legislation and policies. With these in place, planning, management, monitoring, capacity building and financing for sustainable tourism is much easier, and key protected area goals much more likely to be reached.

2.10 Best Practices

- Encourage national tourism policies that fulfil the 'triple bottom line' by requiring protected area tourist activities to explicitly contribute to the conservation of nature, generate economic benefits to both protected area authorities and local communities, and account for and minimise negative social impacts.
- Ensure that all site planning for tourism in protected areas follows a basic four-step process: (i) a baseline environmental and social evaluation that informs (ii) a conceptual model, which in turn is used to devise both (iii) a site plan and (iv) a system of monitoring and assessment that guides needed adjustments to site management.
- Develop tourism management plans in collaboration with all relevant stakeholders, including affected Indigenous Peoples and local communities and the tourism private sector.
- Give tourists a wider context on management issues in the protected area by connecting them to similar issues globally, and, where appropriate, international conservation initiatives.
- Follow internationally adopted guidelines on tourism and biodiversity that provide a framework for policy, planning, management and monitoring of tourism and its impacts.

The impacts of protected area tourism

3

© Wilderness Safaris and Dana Allen

3.1 Weighing positive and negative impacts

Tourism in protected areas can have a variety of positive and negative impacts. The types of impacts are broad in their range, and affect protected area resources, local economies, local communities, and the tourists themselves. These Guidelines highlight many best practices that aim to maximise positive impacts of tourism while minimising its negative impacts.

Sometimes the balance is difficult to establish. As more infrastructure has been built in some protected areas in response to increased visitation, concerns have been expressed about the negative environmental and social impacts of visitors and the facilities required to serve them. For example, in Yellowstone National Park (USA), at the popular Fishing Bridge area, it was recognised that much of the infrastructure was located in important grizzly bear (*Ursus arctos*) habitat and that this infrastructure, because it attracted visitors, contributed to a growing number of conflicts between them and bears. This is a classic conundrum for managers: how to weigh a positive impact (a popular visitor experience) against negative ones (impingements on habitat and human–wildlife conflicts)? Similar anxieties are frequently expressed today as countries struggle to integrate the need to protect the natural heritage in protected areas with society's demand for visiting, seeing and appreciating them, and further, with the opportunity they present as a source of income and foreign exchange.

A common scenario occurs when an attractive protected natural area is 'discovered' or promoted for tourists. Inevitably local people wish to benefit. However, without adequate planning and regulation accommodation gets built in inappropriate places, destroying ambience and wildlife habitat; sewage, solid waste and litter are poorly managed; and popular sites within the protected area become overcrowded, damaging both the environment and the visitors' experience.

Impacts of tourism on protected areas fall into three broad, often overlapping, categories: *environmental, economic,* and *social*. (The term 'environmental' includes biophysical impacts, while 'social' includes cultural, community and other heritage-related impacts.) This chapter outlines these impacts, illustrates them with examples, and discusses best-practice principles to help managers decide how to maximise positive, and minimise negative, impacts. Specific best-practice tools and techniques for doing this are covered in later chapters. Part of that discussion addresses how to use adaptive management and monitoring to respond to unanticipated negative impacts.

Table 3.1. A summary of potential benefits of tourism in protected areas

Type of Benefits	Examples of Potential Benefits—Protected Areas Can:
Environmental	• Provide public education on conservation issues and needs • Transmit understanding and greater appreciation of natural values and resources through experiences, education and interpretation • Create awareness of the value of natural resources and protect resources that otherwise have little or no perceived value to residents, or are considered a cost rather than a benefit • Support research and development of good environmental practices and management systems to influence the operation of travel and tourism businesses, as well as visitor behaviour at destinations • Support environmental and species monitoring through citizen science volunteers
Economic	• Generate economic benefit to a nation, region or community to strengthen the commitment to conserve the natural area and its wildlife • Increase jobs and income for local residents • Stimulate new tourism enterprises and diversify the local economy • Improve local facilities, transportation and communications with greater sustainability • Encourage the local manufacture and sale of goods and provision of services • Access new markets and foreign exchange • Generate local tax revenues • Enable employees to learn new skills • Provide financial support to protected areas through payment of tourism fees and charges
Social/Community	• Improve living standards for local people • Encourage people to value and take pride in their local culture and protected areas • Support environmental education for visitors and local people, and foster greater understanding of cultural heritage values and resources • Establish attractive environments for destinations, for residents as much as visitors, which may support other compatible new activities (e.g. service or product-based industries) • Improve intercultural understanding through social contact • Encourage the development and conservation of culture, crafts and the arts • Encourage people to learn the languages and cultures of others • Promote aesthetic, spiritual, health and other values related to well-being • Improve physical health through recreational exercise (e.g. walking, cycling) • Contribute to mental health by reducing stress and fatigue • Raise the profile of conservation at local, national and international levels • Interpret values, conservation issues and management issues for visitors

Sources: Eagles, et al., 2002; CBD, 2004b; Maller, et al., 2009, IUCN, 2010; Spenceley, et al., 2015

Box 3.1

Multiple benefits from mountain gorilla tourism in Volcanoes National Park (Rwanda)

Within the 160-km^2 area of Volcanoes National Park (VNP) in Rwanda, the endangered mountain gorilla (*Gorilla beringei beringei*) is the main tourist attraction. In Rwanda, nature-based tourism has been enthusiastically supported by government and conservationists, and plays a crucial role in conserving mountain gorillas. However, Rwanda also has some of the highest densities of people in Africa, with 820 people per km^2 in some areas, and people living around the VNP are extremely poor farmers. As a consequence, mountain gorillas are severely threatened by agricultural conversion and illegal resource use (e.g. hunting with snares). Ensuring tangible benefits for local community members is critical for the survival of the gorillas.

A guided mountain gorilla tour in Volcanoes National Park (Top). © Anna Spenceley. One of the mountain gorilla social groups observed by tourists (Bottom). © Mei Yee Yan

Some of the benefits from mountain gorilla tourism include:

- **Environmental**: While there are many other variables that affect mountain gorilla populations, Fawcett (2009) suggested that the presence of tourists acted as a deterrent to poachers.
- **Economic**: Employment opportunities are offered to local people (including ex-poachers) as guides, trackers and anti-poaching guards.
- **Social**: Between 2005 and 2010, about US$ 428,000 has been directly invested in Rwandan community projects, including building schools, environmental protection projects (e.g. tree planting, soil erosion control), the installation of over 30 water tanks that serve at least 1,250 people, and implementing food security initiatives. The projects were financed through a revenue-sharing scheme whereby 5% of tourism revenues from the park fees are used in community projects around the protected area.

Box 7.5 (Chapter 7) provides further discussion on visitor permits and viewing activity fees in this national park. IUCN Species Survival Commission (Macfie & Williamson, 2010) has provided further details on the potential benefits and costs as well as management guidelines for great ape tourism more broadly.

Sources: Plumptre, et al., 2004; Bush, et al., 2008; Fawcett, 2009; Uwingeli, 2009; Macfie & Williamson, 2010; Nielsen & Spenceley, 2011

Positive or negative—Who decides? Who benefits?

Note that 'impacts' is a neutral term by definition, as impacts perceived as positive by one person or group can be seen as negative by another. In this chapter and throughout the book, it is crucial to bear in mind the question: "Who decides whether an impact is positive or negative?"

Tourists spend a considerable amount of money in protected areas or on activities associated with them through entrance fees, payments for accommodation, charges for activities (e.g. guided drives and walks), and purchases of food, drink and crafts. This money can be accrued by governments, protected area agencies, travel agents, tour operators, accommodation providers, retailers, service providers and members of local communities. How should these benefits be allocated? The answer to that question goes a long way toward determining whether tourism in a given protected area is sustainable or not.

Keeping in view the overarching goal—that tourism in protected areas must contribute to conservation of nature and associated cultural values—we see that the conservation benefits of sustainable tourism in protected areas are interwoven with a mix of economic and social benefits. Table 3.1 provides a summary of the major benefit types. Note how the environmental benefits listed at the top of the table imply economic and social benefits; the same is true for the other two categories—all three are mixed together. Often, all three forms of benefit are realised in one tourism destination (Box 3.1). In a best-practice protected area sustainable tourism programme, all three reinforce each other. With that in mind, we next look at the conservation, economic and social benefits of protected area tourism in turn.

3.2 Direct conservation benefits

Tourism in protected areas can generate important positive impacts related to conservation (Buckley, 2010a). Depending on the circumstances, tourism in protected areas may be a small or a large component of conservation efforts (Pegas & Stronza, 2008; Steven, et al., 2013). In some cases, tourism enterprises directly support the protection or rehabilitation of habitat for target species. On Phillip Island (Australia), user fees charged for viewing little penguins (*Eudyptula minor*) helped purchase critical habitats for the species (Harris, 2002). In other cases, the tourism activities (or their resultant revenue) can help reduce poaching of rare species or promote the gathering of scientific data for wildlife monitoring. Many people participate in 'voluntourism' programmes in and near protected areas to gather data for scientists and support protected area conservation projects. For example, the NGO Global Vision International runs 'conservation expeditions' in the Seychelles that work on projects in national marine parks and other protected areas. The volunteers contribute to biological research and coral reef monitoring in Baie Ternay National Park and Curieuse National Park. Copies of the research data are sent to the Seychelles National Park Authority bi-annually (Spenceley, 2016). Sometimes the mere presence of tourists in a protected area can reduce destructive and illegal activities. In the Central African Republic, managers of the Dzanga–Sangha Project promote tourism involving gorilla (*Gorilla* spp.) watching in order to help reduce poaching (Greer & Cipolletta, 2006). In the Virunga Volcanoes of Rwanda, the densities of snares and poachers' tracks crossing transects in gorilla tourism and research areas were 25–50% less than in areas without those activities (McNeilage, 1996).

At the national level, protected area tourism revenue can contribute to foreign exchange earnings and the balance of payments (Mathieson & Wall, 1982), which can be used to justify expenditures on conservation. Tourism can also provide revenue directly to protected area authorities for conservation, incentivise local people to care for natural resources, and encourage the private sector to conserve biodiversity (Bushell & McCool, 2007; Buckley, 2010a; Hvenegaard, 2011). These three elements are outlined below.

Revenue for protected area management

In many instances involving government-governed protected areas, funds derived from tourism go into the central treasury. Where this is not the case, revenue raised from tourism can directly contribute to management of protected areas. Among the many mechanisms, entrance fees or user fees are most common. Such fees can also help manage numbers of visitors, provide learning opportunities, and even subsidise other units in a protected area system (Lindberg, 1998). Tourism revenues can also be used to directly fund and maintain sustainable infrastructure (e.g. solar electric generation) within both the host protected area and local communities.

The amount of gross income from tourism going directly to protected area agencies can be very significant, as the following examples from Africa show:

- US$ 58 million from accommodation, canoe trail and houseboat concessions, combined with rentals of shops and restaurants in South African national parks (2002–2012) (SANParks, 2012).
- US$ 65,000 annual revenue to the Niassa Reserve management in Mozambique, derived from 12 concession sites in the reserve (Rodrigues, 2012).
- US$ 1.7 million from 45 tourism concessions in conservancies and protected areas in Namibia (Thompson, et al., 2014).

The efficient management of these revenues is critical to conservation. For example, in some destinations, operating profits of protected areas can be eroded by the costs of running large, centrally managed protected area headquarters (Aylward, 2004). In response to a decrease in government grants in Canada, and through improvements in organizational structures, special spending accounts, decision making and legal abilities to receive gifts, Ontario Parks increased its tourism income from US$ 14.7 million to US$ 52.8 million (257%) over a 15-year period by increasing fee levels in general, establishing price tiers for different qualities of products, and generating income from additional tourism products and services (Eagles, 2014).

However, because tourism income varies widely, managers and planners at the system level will have to assess each protected area carefully to ascertain whether this revenue stream is a dependable source of financing for the system as a whole. Many protected area systems contain individual protected areas that simply do not (and likely will not ever) realise large sums from tourism, and other systems may have all or most of their tourism revenue accrued by a handful of the most popular protected areas. This can lead to difficult decisions about how to apportion the revenues so that they benefit the system as a whole.

Economic benefits to local communities that encourage residents to support conservation in and around the protected area

Tourism that produces benefits for nearby residents can promote stewardship and local support for the protected area (Pegas & Stronza, 2008; Biggs, et al., 2011). For example, after gorilla tourism increased in Central African parks, attitudes among nearby residents became more favourable toward protected area and gorilla conservation (Weber, 1987; Blom, 2000; Lepp, 2002) (see also Box 3.1). Recent reviews of this relationship suggest that there are many other factors contributing to local residents' support (de Vasconcellos Pegas, et al., 2013; Hayes, et al., 2015). In general, building consensus within a local community to support conservation requires years of commitment (Box 3.2).

Direct private-sector support for conservation in the protected area and beyond

Some tour operators promote conservation through donations (e.g. for operations, park ranger salaries, or equipment), in-kind support (e.g. free tours, transportation, or accommodation), or lobbying on behalf of conservation (Buckley, 2010a; Bottema & Bush, 2012). A review of travel philanthropy by Goodwin, et al. (2009) identified £159.4 million worth of donations raised from 29 travel company initiatives. These included donations towards wildlife and protected area initiatives from such companies as andBeyond (£451,000 in 2007), Friends of Conservation (£158,152 during 2007–2008), Robin Pope

Box 3.2

Linking biodiversity and livelihoods: A sustainable protected area-community partnership

Kenting National Park (KNP) was established in 1982 as the first national park in Taiwan, Province of China. It is one of Taiwan's most popular protected areas, receiving millions of tourists coming to enjoy the park's coastlines, coral reefs, wetlands and biodiversity. KNP is threatened by extensive tourism-driven coastal development nearby. To protect valuable natural resources while supporting local community development, the KNP Administration Office (AOKNP) initiated an ecotourism programme with the Shirding community to promote community-based green tourism. A key partner of the ecotourism project was Shirding Cultural Development Association (SCDA), a community organisation, which organised ecotourism activities with local volunteers.

Shirding community, located in the geographic centre of KNP, is one of the settlements of Paiwan Indigenous People. The Shirding community has a permanent population of approximately 400 persons in 60 households. In the past, they maintained a subsistence living through hunting, fishing and slash-and-burn agriculture. Gradually, the community turned to souvenir selling and catering to visitors' dining needs. Now, around 70% of the villagers are engaged in seasonally paid work in the forest and agricultural sectors, or in retail business in tourism. Some of the continuing traditional activities have created tension between KNP and the local communities.

Since 2009, the AOKNP has been promoting and expanding the Shirding model throughout the park, building up an ecotourism network. In 2010, there were around 4,000 visitors participating in Shirding ecotourism activities; there were 7,000 in 2011, and over 10,000 in 2012. Project aspects that have contributed to this success include:

- Organisation of the local community around ecotourism development by the SCDA;
- Support of the AOKNP from the management level to actively include the local community, which helped build mutual trust;
- Long-term engagement to establish local consensus on, and support for, ecotourism development;
- Conservation linked to ecotourism activities, including the gathering of ecological monitoring data and work on anti-poaching; and
- Comprehensive capacity building for the locals, including surveying, patrolling, monitoring, interpretation, organising, communication and marketing.

Despite these advances the project still faces problems, so continuing self-reflection and critical thinking are needed to make sure it remains on the right path to true sustainable development.

Sources: Huang, 2011; Shih, 2011; Liu, 2013

The administration of Kenting National Park cooperates with local people to protect forests and develop ecotourism in Shirding (Top). The trained and authenticated local volunteer wears uniform to guide an ecotourist group in Shirding (Bottom). © Dau-Jye Lu and Chih-Liang Chao

SPOTLIGHT BEST PRACTICE

Support community-based delivery of tourism services that is market related. Consider partnerships between community enterprises and the private sector to improve the chances of commercial success.

Safaris (£63,000 per annum), and Tour Operations for Tigers (£15,000 per annum). To illustrate, Lindblad Expeditions developed targeted communication strategies to solicit philanthropic support from their Galápagos tour clients for the Charles Darwin Foundation. Lindblad's efforts quadrupled the average philanthropy from US$ 1,800 to US$ 6,700 per Galápagos tour. Over a ten-year period, the travel philanthropy programme raised over US$ 4.5 million to support local conservation efforts of the Charles Darwin Research Station and Galápagos National Park (Ham, 2011).

Volunteer tourism organisations, such as Earthwatch, also contribute a percentage of each participant's fee to conservation. Other tour operators may encourage their customers to donate to conservation causes or to carbon offset programmes.

3.3 Economic benefits that indirectly support conservation

A great deal of conservation benefit to a protected area can derive indirectly from tourism's positive impacts on the local economy. Spending by tourists can benefit intermediaries and local communities in many ways. It can spur employment and entrepreneurial activities, directly through jobs in tourism operations and indirectly through employment in support businesses and spin-offs. Examples include travel agents or e-booking sites, who are paid to arrange accommodation, travel and activities; retailers who sell articles made by local craftspeople, or food that is produced locally, to tourists; and providers of products and services that support tourism enterprises, retailers and tourists themselves. Such job growth reverberates through the local economy, resulting in more spending on goods and services in general, as well as increasing tax revenues. Tourism activities can also enable employees to learn new skills that are transferable to other industries (Box 3.3). The generation of these benefits generally promotes goodwill for conservation efforts in the protected area and supportive behaviour in the community. Community support in turn often translates to political support.

The variety and magnitude of direct and indirect tourism spending

Table 3.2 provides a summary of the sources of potential revenue associated with tourism spending, both direct and indirect. In general, it is best practice to maximise the amount of this revenue that stays in local communities.

The magnitude of tourism's economic impact is affected by many factors, which include:

- The nature of the protected area, its facilities, accessibility and its attractiveness to tourists;
- The volume and intensity of tourist expenditure in the destination;
- The level of economic development and size of the economic base of the protected area; and
- The degree to which tourism expenditures re-circulate within the destination (Mathieson & Wall, 1982).

3.4 Social benefits that indirectly support conservation

The positive social impacts of tourism can also indirectly benefit conservation. Education about conservation issues in and around particular protected areas, directed towards visitors and local residents, may increase their support for conservation (Beaumont, 2001; Zeppel & Muloin, 2008). For visitors and residents, involvement in tourism activities may increase awareness and concern about local threats, conservation issues and management solutions (Hill, et al., 2010). Tourism operators and guides have a strong role to play in offering tourism

Table 3.2. Sources of potential revenue associated with tourism spending in protected areas

Direct spending by tourists	Indirect spending by operator or protected area authority
Booking fees for accommodation and activities	Uniform manufacture
Transport (e.g. buses, automobiles, airplanes, boats, parking)	Supplies, building materials
Entrance fees	Furniture manufacture
Accommodation (operated by protected area agency or the private sector)	Local crafts for interior decoration in hotel rooms
Guiding services and education fees	Waste disposal (including recycling)
Food and drink (restaurant and shops)	Concession fees paid by the private sector to provide services to visitors
Information (guide books, films, books, videos)	Royalties from the sales of branded products
Recreation service fees, special events and special services	Taxes
Equipment rental	
Merchandise (e.g. equipment, clothing, souvenirs, crafts, community-based wildlife and cultural products)	
Fuel (wood, charcoal)	
Voluntary donations, carbon offsets	

Sources: DFID, 1998; van Sickel & Eagles, 1998; Drumm, 2007; Eagles, 2014

Guided walk on Bartolomé Island, Galápagos National Park, Ecuador. © Yu-Fai Leung

Box 3.3

Building business skills through partnerships

Many conservation organisations consider tourism as one of the sectors with the greatest potential for linking conservation to economic development for local communities. However, as many local communities have limited business experience, their tourism products and services can fail the market test and consequently have a negative effect on conservation efforts. Conversely, a wealth of knowledge and experience exists in the tourism industry that can support conservation organisations in designing economically viable ecotourism products, and several partnerships have evolved between the two that support the transfer of tourism business skills.

IUCN's Business and Biodiversity Programme and the IUCN Netherlands Committee organised a pilot training session during the IUCN World Conservation Congress in Barcelona in 2008, which led to four more regional training sessions in Cambodia (2010), Kenya (2011), Lao People's Democratic Republic (2012), and Republic of Korea (2012).

Business skills for tourism include safe transportation of visitors. © Giulia Carbone

The target audiences for these training sessions were conservation organisations, community organisations and protected area managers. The events aimed to provide participants with a strong foundation in business skills that would enable them to design and run tourism businesses successfully. In targeting protected area managers, a secondary objective was to ensure that tourism and recreation in protected areas are developed and managed in an economically viable way. The training sessions focused on delivering skills in key areas of business development and management, such as understanding the market context, business planning, health and safety, sustainable operations, marketing, sales and customer service.

Starting in 2011, the IUCN Business and Biodiversity Programme has organised the trainings in partnership with Kuoni, a leading European tour operator. Kuoni has provided support in the design of the trainings but more instrumentally in providing the technical resources to deliver the training sessions. Kuoni's health and safety, marketing and product development experts, among others, have joined the trainings and shared their professional experiences with the participants, bringing the sessions to life with real examples and a professional presence. As a concrete follow-up to the trainings, Kuoni's local partner offers participants the possibility to make a formal 'pitch' for their tourism product for inclusion in Kuoni's future packages. An overview of this partnership and training workshop summaries is available at http://www.iucn.org/ecotourism.

SPOTLIGHT BEST PRACTICE

Build training in business development and management skills into community-based delivery of tourism services, and include community members, NGO representatives and protected area managers in the training.

experiences that build support for conservation (Powell, et al., 2009; Curtin, 2010), through fostering increased knowledge, expressing supportive attitudes toward conservation issues, and encouraging environmentally friendly behaviour and philanthropic support (Powell & Ham, 2008; Weaver, 2013).

The combination of social and economic benefits of tourism may encourage the designation of additional protected areas and the enlargement or improved management of existing ones (Dabrowski, 1994). These effects have been demonstrated in Kenya (Sindiyo & Pertet, 1984), Canada (Sewell, et al., 1989), and Australia (Harris, 2002), and in privately protected reserves in general (Moore, 1991).

3.5 Tourism benefits that also promote community and individual well-being

Positive social and economic impacts not only strengthen arguments for conservation and protected areas but also provide other benefits to visitors and local residents. This section addresses two main themes: benefits to local communities and health benefits.

Benefits to local communities

Local community development can happen in a variety of ways, including through tourism. In some cases, tourism to protected areas can be a key driver for local community development (Eagles, et al., 2002; Telfer & Sharpley, 2008; Mitchell & Ashley, 2010; Snyman, 2013). When proper planning and design of a tourism operation are in place, the positive returns can be substantial. Sustainable protected area tourism can help to:

- Maintain and improve the local communities' standard of living and quality of life. This can be achieved through a number of initiatives, including improvements to infrastructure and telecommunications, education, training and healthcare;
- Ensure sustainable growth in the local community by emphasising the value of local arts and culture, as well as the importance of local environmental sites and wildlife, all of which contribute to the inherent qualities and motivators that generate tourism to the area;
- Support and strengthen the local community through skills development and improved governance; and
- Be the vehicle bringing basic healthcare, social infrastructure and other developments to remote local communities.

Box 3.4

Partnering with health care: Parks Victoria, Medibank Australia, and the National Heart Foundation (Australia)

Physical inactivity is a major problem in Australia, with more than half of the adult population not sufficiently physically active enough to attain health benefits and avoid obesity. The direct and indirect costs of obesity and obesity-related illnesses from 2008 to 2009 were estimated to be AUD37.7 billion. Further, it is estimated that 7,200 Australians die each year due to obesity and obesity-related illness.

To address this problem, Parks Victoria has organised its activities around a mission of enhancing human health through its Healthy Parks Healthy People (HPHP) model to encourage more people to visit the state's parks and protected areas. To expand the reach of HPHP, Parks Victoria formed a partnership with two major players in Australia's health care delivery system, Medibank Australia and the National Heart Foundation.

The partnership made sense for Medibank and the National Heart Foundation because parks are an important part of improving and maintaining health, both for individuals and the community. They provide a place to exercise and so can improve people's physical and mental health. Greenspaces are also proven contributors to well-being, with nature being a buffer to stress and the development of mental illness. Dr. Rob Grenfell of the HPHP Programme notes that with Medibank's support, Parks Victoria can encourage more people to get outside and exercise in Australia's protected areas and open spaces. Dr. Lyn Roberts, CEO of the National Heart Foundation, confirms that walking for 30 minutes a day or more can reduce the risk of heart disease and stroke by as much as half.

As part of the partnership, the Medibank Community Fund is piloting another programme with HPHP to provide health care professionals with resources and support to prescribe physical activity in protected areas as a means of proactive disease prevention.

Source: HPHP, 2017

For more information on the role of protected areas for human health and well-being, see https://www.iucn.org/sites/dev/files/import/downloads/natural_solutions_pas__health_and_well_being.pdf.

SPOTLIGHT BEST PRACTICE

Re-imagine recreational activities in protected areas as a way to meet community needs and address larger societal goals, such as those related to human health and well-being.

For communities to be able to realise these socioeconomic benefits, the tourism destination must be accessible (Spenceley, 2008) and have appropriate infrastructure to sustain the level of tourism sought and the related growth in the local population. Freshwater provision, sewerage systems and waste management are all fundamental, along with maintaining and upgrading roads, promoting sustainable means of transportation to and from the protected area, and building communications networks such as landline telephones, cellular telephone towers and internet access. This facilitates the necessary virtual and physical connections among tourists, the local community, the protected area and the outside world.

Tourism businesses often partner with existing non-profit organisations, or create new ones, whose purpose is to raise funds to support local community projects, such as increasing access to clean water, improving agricultural practices, building community centres, or collecting donations of basic materials and supplies for local schools, children and families in need (Wilderness Holdings, 2013). Providing these services and resources is a direct way that tourism can have a beneficial impact on community development.

Sometimes the tourism employer provides employees with basic language, literacy and numeracy training, which increases the educational level of the local community. These are transferable skills that can then be applied in the greater community and used in future employment (Snyman, 2013).

Health benefits to individuals

On an individual basis, tourism to protected areas has long been linked with positive outcomes for health and well-being. Human health is dependent on nature for providing a multitude of ecosystem services, including clean air and water. Equally important to our health, nature nourishes and nurtures our psychological, emotional, aesthetic and spiritual needs (e.g. visitors to protected areas seek out opportunities for joy, adventure, respite, inspiration and creativity, among many other motivations). These elements are all essential for our individual well-being (SHSD, 2008). Collectively, some of these health benefits are motivations to initiate social programs that address issues such as depression, new migrant settlement, refugee trauma recovery, children at risk, and recidivist criminals.

Substantial evidence from many fields (e.g. ecology, biology, environmental psychology, landscape design, psychiatry and medicine) points to many health benefits of nature (Maller, et al., 2009). Some of the benefits relate to a range of lifestyle-related issues. Being in nature helps reduce risks from obesity, cardiovascular and pulmonary disease, diabetes, stroke, cancer, musculoskeletal disease, depression, osteoporosis, anxiety, sleep problems, behavioural conditions and degenerative conditions (Sparkes & Woods, 2009; Lemieux, et al., 2012; Romagosa, et al., 2015). Regularly visiting a protected natural area is now seen as preventive medicine. In recent years a global movement, called Healthy Parks Healthy People, has sprung up to promote the value of protected areas as a fundamental health resource (HPHP, 2017; see Box 3.4).

3.6 The downsides of tourism

While tourism in protected areas can bring a multitude of benefits, if not managed well it can cause many negative impacts to the environment and local communities (Box 3.5). Protected areas have a mandate to protect the natural environment, so it

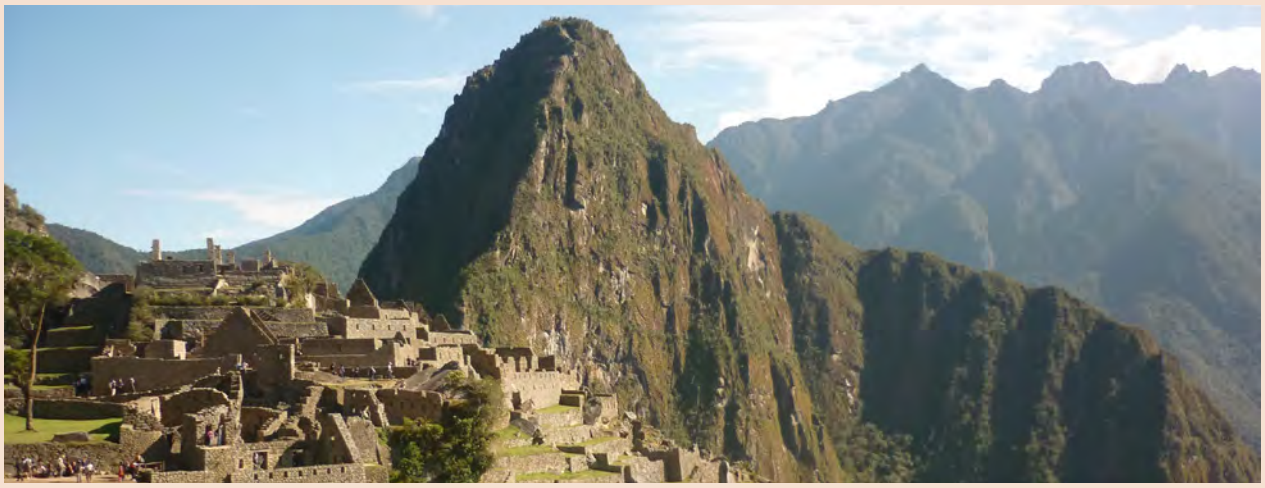
Miquelon Lake Provincial Park (Canada) is an Important Bird Area within the Beaver Hills Biosphere Reserve, which also provides opportunities for multiple ways of nature connection. © Glen Hvenegaard

A tourist viewing photos contributed by other visitors at the Tijuca National Park Visitor Centre, Brazil. © Yu-Fai Leung

is critical for managers to identify negative impacts early in an attempt to avoid, mitigate or minimise problems (CBD, 2015). Tourism activities in protected areas can also negatively affect local communities and local landowners. Managers and the tourism industry have a responsibility to be good neighbours and partners with local communities. Managers should continually monitor the environmental and social impacts of tourism within and around the protected area. This is essential to help identify potential problems, track changing conditions, take mitigating action where necessary, and evaluate the effectiveness of responses. This section outlines the types of potential negative impacts generated by tourism, examines how those impacts can be assessed, and provides recommendations for managing them.

Box 3.5

Impacts of tourism at Machu Picchu (Peru)



Machu Picchu is an iconic UNESCO World Heritage Site and prime tourist destination in Peru. © Brendali Carrillo Barrera

The famous ancient Inca city of Machu Picchu in Peru is a designated National Historic Sanctuary and a UNESCO World Heritage Site. Despite the benefits of a thriving tourism industry, pressure from the increasing number of tourists and their associated developments threatens to destroy the ecological integrity and cultural authenticity of the area. The impacts on nature include:

- **Impacts on biodiversity**. Current and proposed tourism developments in the region threaten some of South America's last remaining pockets of Andean cloud forest. Increasing visitor traffic on the historic Inca Trail footpath (a key access point) has led to increased anthropogenic waste and damage to fragile, high-elevation *páramo* grasslands. Among the many negative wildlife impacts, noise pollution has contributed to the disappearance of Andean condors (*Vultur gryphus*), and tourism infrastructure jeopardises the migration corridors and montane habitats of the endangered spectacled bear (*Tremarctos ornatus*).
- **Impacts on topography**. Machu Picchu's unique topography and geological instability are particularly vulnerable to tourism pressure. Portions of the ancient city are already sliding downhill, and constructing additional visitor facilities at the summit may precipitate landslides along the Urubamba River Valley.
- **Impacts on archaeological ruins**. The city, built around 1470 A.D., cannot withstand current levels of use. In Inca times, no more than 500 people occupied Machu Picchu, but visitation today often exceeds 2,000 per day. Despite regulations and guide supervision, many historic structures have been chipped, broken or damaged.
- **Infrastructure and visitor experience**. At Machu Picchu, with its natural constraints on infrastructural development, and growing tourist numbers, crowding and congestion (both real and perceived) are major concerns. To minimise impacts and maintain visitor satisfaction, managing bodies want to establish and enforce an appropriate carrying capacity. Permits and quotas are already enforced at adjoining sites such as the Inca Trail; the high demand forces many aspiring hikers to wait six months or more to gain access.

This summary highlights the threats that tourism poses to the long-term viability and resiliency of Machu Picchu. Achieving a balance at Machu Picchu between resource protection and tourism access will be critical to preserving the long-term natural and cultural values of the site.

Sources: LaFranchi, 2001; INC, 2005; Sassa, et al., 2005; Collyns, 2007; Larson & Poudyal, 2012

Negative impacts are inevitable

An important point to keep in mind is that even well-managed tourism will create some amount of negative impact. By simply travelling to a protected area, for instance, visitors almost always leave a carbon footprint, while visitor use inside the area will need to be managed to avoid degrading fragile habitats.

3.7 Negative impacts on the environment

All tourism-related activities can potentially cause negative impacts to the conservation values of the protected area, whether they are large-scale infrastructure projects to provide access and accommodation or more modest facilities such as small-scale campsites or visitor trails. Prior to any construction the management should conduct an environmental impact assessment should be conducted (see below) to analyse and mitigate likely impacts.

Box 3.6

Impacts associated with infrastructure

Protected area infrastructure involves developments such as hiking trails, boardwalks, bridges, cliff and treetop walks, look-outs and signs, campsites, cabins, and visitor centres. Some protected areas include tourist accommodation owned by the managing agency. Others include privately owned accommodation, catering and/or activity infrastructure. Examples include ski lifts, marine mooring pontoons and scenic transport infrastructure, such as cableways.

Environmental impacts of infrastructure include water pollution, visual and sound disturbance, and invasive alien species. Environmental footprints extend beyond the infrastructure itself. Construction impacts include lighting, construction noise, vehicle movements, earth-moving operations, slopewash and turbid runoff from earthworks, water and air pollution, wastes, introduction of weed seeds and pathogens, and the introduction of feral animals. Large-scale visitor infrastructure can lead to habitat fragmentation, vehicular collisions with wildlife, traffic noise and light pollution, while new roads and visitor trails can lead to the spread of invasive alien species. New infrastructure increases visitation, creating further impacts and pressures for further site hardening.

Impact management approaches are reviewed by Buckley (2004, 2009, 2011, and 2012b), and can differ greatly in scale. Technologies for sewage and wastewater treatment, for example, may range from small-scale composting toilets for low-visitation infrastructure in warm moist climates, to multi-stage industrial sewage treatment systems with artificial wetland finishing ponds, appropriate for infrastructure with high visitor volumes. Controlling diffuse impacts is especially challenging. For instance, to prevent earth-moving equipment or hikers' boots and tent pegs from transporting fungal spores requires washdown and sterilisation, to a standard rarely achieved. Weed seeds are spread on vehicles and clothing.

For heavily visited protected areas, some elements of large-scale visitor infrastructure are needed for visitor safety and comfort. Negative impacts can be reduced by concentrating visitors into specified areas where technological approaches are available, but such infrastructure also has its own impacts. It is preferable to locate most large-scale infrastructure, such as accommodation, catering, and transport hubs, on private land in gateway zones outside the protected area proper. Recreational infrastructure such as golf courses, residential developments and ski resorts create severe negative impacts for conservation, do not contribute to visitor appreciation of nature, and are entirely inappropriate within protected areas. The same applies for infrastructure unrelated to either conservation or recreation, such as power lines, telecommunications towers, major arterial highways and hydroelectric dams. These have major detrimental environmental impacts with no gains for conservation or recreation.

Sources: Liddle, 1997; Buckley, 2004; Buckley, 2009; Buckley, 2011; Buckley, 2012b

Biophysical impacts

Potential biophysical impacts include those at the landscape level, i.e., that could affect the entire protected area (and beyond), such as degradation of air and water quality, increased water use, permanent changes in landforms due to the building of extensive infrastructure (Box 3.6), mineral and energy consumption, disturbance or destruction of wildlife habitat, habituation of animals, introduction of invasive alien species, land-based pollution, general aesthetic impacts on viewsheds, diminishment of dark night skies and other forms of light pollution, and impairment of natural soundscapes. All of these may also occur at the site level (i.e. at particular locations in the protected area but not in others), and their intensity and seriousness will probably vary among sites in cases where they appear more than once.

Impacts on flora, fauna and habitat

Potential impacts on flora and fauna follow the same patterns: some may affect the whole protected area while others only individual sites. Negative impacts on vegetation may include inadvertent introduction of invasive alien species or pathogens, trampling, the creation of unplanned trails, and intentional removal of valued species. Impacts on wildlife may occur directly, as in cases of vehicle-related mortality of wildlife, hunting and fishing to supply tourist markets, the introduction of disease vectors, and the culling of human-habituated animals. The latter is a major problem in some protected areas, either due to feeding by visitors or by the animals' scavenging unsecured or discarded human food. A related problem is harassment (usually unintentional) of wildlife by visitors. These negative tourist–wildlife interactions may cause indirect impacts too, such as behavioural changes in some species, and can even, over time, alter the composition of entire species ensembles in the protected area. Beyond this, impacts can occur on important species that are usually not considered 'wildlife', such as microorganisms and soil biota.

Furthermore, the habitat type and its sensitivity to disturbance also have a bearing on the extent of the impact. For example, excessive trampling in rocky areas with resistant surfaces and no sensitive plants would tend to have a lower negative impact on vegetation than trampling in a wetland area with sensitive substrates and flora. Similarly, any impacts from tourism must be considered in light of other background conditions, such as the vulnerability of ecosystems stressed from climate change.

Environmental impact assessments

Environmental impact studies are common in tourism research (e.g. Gutzwiller, 1995; Buckley, 2004). A summary of the potential impacts of tourism on different environmental components is outlined in Table 3.3.

Table 3.3. Potential negative environmental and ecological effects of tourism activities

Area of impact	Tourism Activities	Examples of Potential Consequences
Air	Transportation and electricity	• Air and noise pollution from vehicles • Increased carbon dioxide emissions
Light	Lighting in and near facilities	• Light pollution can distract sea turtle hatchlings from heading to sea
Sound	Construction or operation of facilities	• Noise pollution from vehicles can affect breeding success of birds
Water	Disposal of waste	• Minerals, nutrients, sewage, solid waste, petrol and toxins added to the environment • Contamination reduces water quality • Increased water consumption
Geology and soil	Collection, vandalism, erosion	• Graffiti on and/or removal of minerals, rocks, fossils • Physical and chemical changes in soil
Landscape	Development	• Visual impact of settlements on the landscape
Habitats	Clearing, use of natural resources, pollution	• Fragmentation of natural habitat (e.g. wetlands) • Competition between native and invasive plant species • Altered fire frequency leading to habitat change (including from accidental fires) • Destruction of habitats and clearing of lands (e.g. mangroves) • Overfishing to supply food for visitors • Eutrophication and sedimentation
	Pedestrian and vehicular traffic	• Changes in plant establishment, growth and reproduction, affecting diversity, composition and morphology (e.g. through trampling)
Wildlife	Hunting, fishing	• Changes in species composition, reproduction and behaviour • Culling of habituated animals
	Pollution	• Psychological stress, behavioural changes, reduced productivity • Use of waste disposal areas as sources of food • Eutrophication
	Harassment from viewing and photography	• Behavioural changes (e.g. avoidance, habituation or attraction to humans) • Physiological changes (e.g. heart rate, growth rates and abundance) • Species changes (e.g. composition, diversity and abundance, distribution and interspecific interactions)
	Highways and trails in natural areas	• Barrier effects to carnivores, collisions, increased accessibility by poachers • Increase in sun-loving plant species in travel corridors • Dead or maimed wildlife (i.e. roadkill), benefitting scavengers

Sources: Knight & Cole, 1995; Sun & Walsh, 1998; Buckley, 2004; CBD, 2004b; Spenceley, et al., 2015

Environmental Impact Assessments (EIAs) should be applied to specific tourism development proposals within protected areas and/or their buffer zones. EIAs describe the project or development, predict key environmental impacts and their significance, facilitate public consultation and participation, suggest appropriate mitigation methods, and document the process of decision making, monitoring and post-project audits (Bagri, et al., 1998). National legislative frameworks usually include provisions for EIAs, and there are often stringent requirements in protected areas, which are specified in protected area management plans. For example, in Mozambique, developments in national parks and reserves require a detailed 'Category A' EIA, the most rigorous form of assessment that can be required.

At a broader scale, *Strategic Environmental Assessments* (SEAs) evaluate the environmental effects of a policy, plan or programme and its alternatives. In protected areas, SEAs can be used to assess the overall impacts of all tourism developments and activities, and then used (for example) as a preparatory planning tool for tourism concessions (Therivel, et al., 1992). Whereas EIAs are used to assess effects of individual projects (e.g. one hotel development), policies relating to multiple projects with cumulative, synergistic global or regional effects require the more strategic SEA approach (Therivel & Thompson, 1996).

Table 3.4. Potential negative impacts on protected area host communities: Social, cultural and economic

Area of impact	Examples of potential consequences
Social and cultural	
Traditions	*Commodification and demeaning of ceremonies* that are re-enacted for tourists, causing changes in arts, crafts, dress, festivals for display *Disruption of traditional patterns and timing of cultural and religious ceremonies* *Deterioration of workmanship* of crafts as increased volumes are made for tourists
Psychology	The *"demonstration effect,"* whereby people change their behaviour by observing others in hopes of achieving what they perceive to be a higher status; may lead local people to imitate tourists but become disillusioned
	Offence caused to residents when confronted by inaccurate depiction of their cultures or inappropriate behaviour from tourists, resulting in xenophobia and conflict between communities and tourists
Crime and Stability	*Destabilisation of communities*, leading to increased crime, prostitution, gambling, begging, alcohol and drug use
	Sexual exploitation of women and youths
	Displacement and resettlement of local communities deemed incompatible with tourism development
Roles	*Tension and loss of self-esteem*, especially for men and older generations who are not actively involved in the tourism industry
Economic	
Employment	*Employment options may be menial*, with low wages and low skill requirements, offering little opportunity for advancement and training of local people
	Seasonal job losses during low seasons
Local business development	*Economic leakage*, when a large portion of foreign exchange earnings from tourism is repatriated, hindering local business development
	Seasonality of business may cause difficulties for enterprises during low seasons
Diversification	*Opportunity costs* of forgoing other revenue-generating industries with which tourism may be incompatible, such as agriculture or mining
	Dependency on tourism, making the economy vulnerable, with service and product providers at risk if there is a downturn in visitation
	Unequal distribution of benefits, as when they are accrued by a small, elite group
	Inflation, through which destinations in tourism growth regions may become too expensive for staff.

Sources: Mathieson & Wall, 1982; Krippendorf, 1987; Diaz, 2001; Spenceley, et al., 2015

3.8 Negative social and cultural impacts

Research on the social and cultural impacts of tourism has focused on *tourists* (e.g. demands for tourist services, motivations, attitudes and expectations); the *host community* (e.g. employment, services and opportunity costs); and *tourist–host community interrelationships* (e.g. nature and consequence of contact; Deery, et al., 2012). Determining whether impacts on a community are negative, benign or positive depends in part on the temporal or spatial scales chosen. Table 3.4 summarises the potential social, cultural and economic impacts of tourism on host communities (which are equivalent to our term 'local communities') in and around protected areas.

Some of these impacts can be particularly acute, yet subtle. For example, raw materials (e.g. energy, food and water) may be prioritised for the demands of tourists over the needs of local people or other local industries. Another insidious threat is the possibility that local communities compromise their traditional lifestyles by trying to meet a high volume of demand from tourists for 'authentic' cultural experiences, art and craftwork. This 'cultural dilution' can even reach so far as the realms of religion and language. *Social Impact Assessments* (SIAs) can be useful tools to estimate the social consequences that are likely to occur as a result of a specific policy, action or development in the context of relevant legislation (Burdge & Vanclay, 1995; Esteves, et al., 2012). Sustainable protected area tourism properly educates and informs visitors about local values and culture, and provides appropriate, respectful and non-invasive ways for visitors to interact with local inhabitants. Done sensitively, this improves intercultural understanding and helps ensure that the local cultural identity remains intact. Even ostensible advantages, such as the direct income and associated indirect favourable effects that derive from protected area tourism, can create serious tensions within communities over how these benefits are distributed.

Visitors experiencing the 16 crystalline lakes at Plitviče Lakes National Park, Croatia. © Mei Yee Yan

Coatis (*Nasua narica*) begging for human food at Iguazu National Park, Argentina. © Yu-Fai Leung

Visitors themselves are not exempt from social impacts. Notably, high levels of tourism can impact visitor experiences in several ways. Visitors who seek solitude may be displaced from desirable sites in the protected area because of crowding, resulting in dissatisfaction or even conflicts among user groups (Needham & Rollins, 2009). Even more subtly, high tourism levels can also change expectations of visitors before they even arrive, affecting the nature of their current or future experiences (McCool, 2006). Managers can ensure that there is adequate guidance on visitor behaviour available through signage and pamphlets, and by managing the distribution of visitation to avoid crowding. This can be done through various means including negotiating schedules of operators or restricting the size of car parks at key sites to limit numbers. High-quality visitor experiences are important in maintaining the community and conservation benefits of protected area tourism.

The foundation for reducing tourism impacts on local communities and visitors is to develop partnerships between tourism operators, their customers, the protected area authority and its managers, and local communities. Such partnerships help promote coherent tourism plans, identify potential impacts, support conservation, and encourage long-term relationships and visitor satisfaction.

No tourism operation will be successful if its customers are unhappy, and in an era of social media and easily accessible online reviews bad experiences are soon shared with others and sustainability will be damaged. The consequence of unhappy residents is more complex, but can be equally fatal. A dissatisfied local community makes for an unstable social environment (e.g. with crime or harassment of visitors) that discourages tourism. Residents who do not perceive benefits from protected areas may be more likely to undermine the area's conservation objectives, such as by harvesting resources from the protected area unsustainably or illegally. On the other hand, a supportive community opens the door to sustainable tourism. In South Africa's iSimangaliso Wetland Park, a local resident who benefitted from tourism and business development outreach by the park noted, "We now know that tourism plays a key role in our area, so we need to assist iSimangaliso to protect and promote the area" (iSimangaliso Wetland Park, 2017).

3.9 Best Practices

- Support community-based delivery of tourism services that is market related. Consider partnerships between community enterprises and the private sector to improve the chances of commercial success.
- Build training in business development and management skills into community-based delivery of tourism services, and include community members, NGO representatives and protected area managers in the training.
- Re-imagine recreational activities in protected areas as a way to meet community needs and address larger societal goals, such as those related to human health and well-being.

Aligning management objectives with tourism impacts

4

© Wilderness Safaris

4.1 Tourism management is about responding to uncertainties

The overall premise of these Guidelines is that tourism and visitor use in protected areas, if managed sustainably, can be a positive agent for nature conservation and, where appropriate, community development. By applying best practices, sustainable tourism can also help realise a wide range of natural and social values that contribute both to the conservation mission of the protected area and, where possible, to benefits for local communities. Two key issues therefore arise: first, how to provide for visitor use within protected areas without threatening their core natural and associated cultural and spiritual values, and second, how to provide opportunities for recreation and tourism in protected areas that are appropriate, of high quality, and provide benefits to all stakeholders. Taken together, these two issues essentially re-state the sustainability challenge with which these Guidelines began: how to maximise tourism's benefits while minimising its negative impacts.

Both tourism and recreation are complex endeavours and subject to major uncertainties (Lausche, 2011), such as fluctuations in market demand resulting from shifts in tourist preferences and economic conditions, as well as changing patterns of investment in tourism-related public infrastructure and by private-sector developers. Protected areas are already important destinations in many countries; for some (e.g. Kenya, Australia, New Zealand), they are a main tourist attraction.

IUCN's guidance includes the importance of ensuring broad participation of all rights-holders and stakeholders, use of the best available science and other information, and application of an adaptive management approach (IUCN-WCPA, 2007).

Ten principles of tourism and visitor management

A set of ten principles summarised in Table 4.1 (based on McCool, 1996, Eagles, et al., 2002, and EUROPARC Foundation, 2012) provides guidance for decision making on the key issues of sustainable tourism and visitor management in protected areas. The rest of this chapter, which builds on previous IUCN guidance on visitor management (i.e. Eagles, et al., 2002; Spenceley, et al., 2015), steps through the first six of these principles, discussing tools and techniques for aligning protected area objectives and values with planning and management responses to potential negative impacts from tourism. Four tourism management frameworks are described, keyed to their appropriate principle: (i) the Recreation Opportunity Spectrum (ROS), (ii) carrying capacity, (iii) Limits of Acceptable Change (LAC), and (iv) indicators and quality standards. Each framework has a distinctive approach to assessing and managing the negative impacts.

Once such tools and techniques are in place, an integrated adaptive programme of resource monitoring, repeated self-evaluation, public engagement, and communications outreach is called for. These points, laid out in the last four of the ten principles, are covered in the next chapter.

Visitors at the popular Tunnel View attraction site in Yosemite National Park, California, USA. © Yu-Fai Leung

4.2 Principle #1: Appropriate management depends on objectives and protected area values

The bedrock for appropriate and sustainable protected area tourism is to identify clear tourism and visitor management objectives that connect to equally clear conservation values. Making an explicit and repeated connection between objectives and values in practice can be made easier if that practice is guided by a tourism management framework. A tourism management framework can be a useful tool to support and defend management decisions. Some typical topics that are addressed within tourism management frameworks include:

- Strategies and plans for tourism that are consistent with conservation;
- Types and scale of tourism development and activities that can be permitted at particular locations, as well as areas where tourism is not permitted (i.e. through zonation);
- Measures to manage impacts—both actual and anticipated—from tourism development and activities;
- Monitoring and reporting on tourism development and activities, and associated impacts;
- Measures to ensure compliance with agreements concerning permitted tourism development and activities;
- Benefit sharing with Indigenous Peoples and local communities; and
- Benefits for conservation and protection of ecological services.

4.3 Principle #2: Proactive planning for tourism and visitor management enhances effectiveness

Protected areas need to manage the planning, development, operation and decommissioning of tourism activities. As with Principle #1, tourism management frameworks can be useful here. Planning takes place on two scales: for commercial tourism and for individual visitors; the discussion below focuses on the former.

Table 4.1. Ten principles of tourism and visitor management in protected areas

Principles	Overview	Actions
1. Appropriate management depends on objectives and protected area values	• Objectives within protected area management plans provide definitive statements of the desired outcomes of protected area management. • They identify the appropriateness of management actions and indicate acceptable resource and social conditions. • They allow evaluation of success of management actions.	• Ensure management plans include clear appropriate objectives, with conservation primary above all. • Establish and agree to objectives through public participation.
2. Proactive planning for tourism and visitor management enhances effectiveness	• Proactive management starts with the articulation of protected area values and management objectives. Policies and management decisions that can be tied to these values have a better chance for effective implementation. • The practice of forward-thinking can lead to better awareness of emerging opportunities for recreation and tourism activities.	• Provide opportunities for visitors to learn about protected area values through information and programming. • Be cognizant of emerging visitor activity or use pattern that may have management implications
3. Changing visitor use conditions are inevitable and may be desirable	• Impacts, use levels and expectations of appropriate conditions tend to vary (e.g. impact of a campsite in the periphery vs. centre of the protected area). • Environmental variables influence visitor use and level of impact (e.g. topography, vegetation, access).	• Use zoning explicitly to manage for diverse recreation opportunities. • Use knowledge of diversity to make decisions on desirability of tourism in specific locations (thereby separating technical decisions from those based on value judgements)
4. Impacts on resource and social conditions are inevitable consequences of human use	• Any level of recreational use leads to some impact; in most cases the initial, small levels of use generate the greatest impacts per unit use. Where there is a conflict between conservation and other objectives conservation has primacy. • The process of determining the acceptability of impact is central to all visitor use planning and management. • Evidence of impacts can be used for environmental education for park visitors.	• Managers must ask: "How much impact is acceptable based on protected area values and objectives?" • Managers must act appropriately to manage the acceptable level of impact.
5. Management is directed at influencing human behaviour and minimising tourism-induced change	• Protected areas often protect natural processes and features, so management is generally oriented toward managing human-induced change since it causes most disturbances. • Human-induced change may lead to conditions considered to be undesirable. • Some changes are desirable and may be the reason for the creation of the protected area. For example, many protected areas are created to provide recreation opportunities and local economic development.	• Management actions determine what actions are most effective in influencing amount, type and location of changes.
6. Impacts can be influenced by many factors so limiting the amount of use is but one of many management options	• Many variables other than *level of use* affect the use/impact relationship in protected areas (e.g. behaviour of visitors, travel method, group size, season and biophysical conditions). • Impacts from visitor use or management activities may occur outside the protected area, or not be visible until later (e.g. prohibitions of use may displace that use to other areas; or poor water treatment may result in water pollution downstream). • Planners need substantial knowledge of relationships between use and impacts to predict future impacts at a variety of scales and over time.	• Education and information programmes, as well as regulations aimed at restricting visitor behaviour, may be necessary.

Table 4.1. continued

7. Monitoring is essential to professional management	• Monitoring is a key step for all adaptive or proactive management frameworks, generating data on resource, social, community and economic conditions that inform management decisions. • Monitoring need not be complicated or expensive. There are often several possible options.	• Enhance public engagement and visitor education by encouraging their involvement in monitoring.
8. The decision-making process should separate technical description from value judgements	• Many protected area management decisions are technical (e.g. location of trail, design of visitor centre), but others reflect value judgements (e.g. decisions on whether and how to limit use, types of facilities and tourism opportunities provided).	• Decision processes should separate questions of 'existing conditions' from 'preferred conditions'.
9. Affected groups should be engaged since consensus and partnership is needed for implementation	• All management decisions affect some individuals and groups. These groups should be identified early in the decision-making process.	• Rights-holders and stakeholders of protected area should be involved in identifying values of protected areas and developing indicators • With suitable training, rights-holder and stakeholder groups should be able to engage in monitoring, management and education.
10. Communication is key to increased knowledge of and support for sustainability	• Communication of results from monitoring tourist impacts on conservation and community benefits can explain reasons for management decisions.	• A communication strategy is needed to support a proactive or adaptive management process.

Sources: Adapted from McCool, 1996; Borrie, et al., 1998; Eagles, et al., 2002; CBD, 2004b; EUROPARC Federation, 2012

Three pillars of commercial tourism management

Commercial tourism management is built upon three pillars (Eagles, et al, 2002): the policy framework, prospectus development, and the operational phase.

- The *policy framework* outlines best practices for how programmes are defined and regulated. The framework generally refers to public administration guidelines and implementation strategies that satisfy both the public interest and respond to collective needs, such as land ownership, extent of private-sector involvement, sustainability components, biodiversity and environmental management, local communities' rights and benefits, and high-quality visitor experiences. Additionally, a legal framework refers to the hierarchical set of rules and regulations (Spenceley & Casimiro, 2012).
- The *prospectus development* outlines how commercial opportunities are defined, structured, priced and brought to the market and how suitable operators are selected through a request for proposals process. The prospectus includes templates of commercial agreements (Spenceley & Casimiro, 2012). The request for proposals can also provide incentives for high-standard operators.
- The *operational phase* follows signing of the commercial contract, and may be a lengthy period during which the contract/concession is managed (e.g. 10–30 years). The management of the contract not only relates to its technical clauses, but also to the relationship between the contracting parties. During the operational phase, the protected area management authority needs tools and mechanisms to: (i) manage and monitor the commercial operation to ensure that performance is satisfactory, and (ii) deliver on any agreed incentives.

Commercialisation manuals

A commercialisation manual can be a useful tool to guide the process and provide clear information to all parties on how each element of the contract should be conducted (Box 4.1). Further information on concessions is provided in Chapter 7, and more detailed guidance on tourism concessions can be found in other volumes (e.g. Eagles, et al., 2009; Spenceley, 2014b; Thompson, et al., 2014; Spenceley, et al., 2015; Spenceley, et al., 2017b).

Gauging commercial tourism's impacts

The impact of commercial tourism infrastructure on a protected area depends significantly on where and how facilities are sited. Interpretation centres, washroom facilities, hotels, cabins and campgrounds, restaurants, parking lots, trail heads, and many other facilities can all be categorised as tourism infrastructure. The key challenge is to ensure that they are sustainable and in tune with local ecosystems and cultures.

Environmental Impact Assessments (EIAs; described further in Chapter 3) are a necessary first step in determining the appropriate location and scale of developments. Input from protected area management, local communities, developers and tourists is essential. Sustainable design strives to create an intimate association between a facility and the ecosystem in which it is constructed (Box 4.2). Providing onsite building developers with an understanding of the natural processes of the ecosystem will help avoid later costly ecosystem degradation, and turn natural features such as gravity, wind, water sources, vegetation and shade into assets. Factors that should be considered when developing a new tourism service site include: views, natural hazards, traditional activities, transportation

Box 4.1

Subjects to include in a commercialisation manual for a protected area

- Contract legal aspects (including obligations and rights, term, options for renewal, transfer of rights, risks, conflict settlement, ownership of intellectual property);
- Project life cycle;
- Communication channels;
- Environmental and conservation requirements (including integrated environmental management, presence of environmental control officers, conservation of cultural and natural resources, acceptable manipulation of wildlife habitat, game control, monitoring and research, patrols, fire management, dealing with problem animals and alien biota, firearms regulations, staff issues, aircraft and vehicle use, game drive and guided walk procedures, codes of conduct, safety procedures);
- Infrastructure management (including construction and design, power, water extraction, communications infrastructure, waste management, roads and track development);
- Environmental and technical monitoring;
- Social and empowerment requirements (including shareholding, training and promotion, business opportunities for local communities);
- Financial requirements (including concession fees, minimum rental, fixed fees, annual fees, monitoring);
- Breach of agreement procedures (including those relating to financial, empowerment and environmental aspects, as well as processes for remedial action, including performance bond, notifications, and termination);
- Fixing fines and penalties;
- Code of conduct (including working relationships with concessionaires, permanent and temporary residents); and
- Background information (including protected area policies and regulations, templates for reporting, templates for applications).

Source: SANParks, n.d.

Box 4.2

Biodiversity principles for siting and design of hotels and resorts

IUCN has identified five biodiversity principles to support stakeholders involved in the siting and design stages of hotel and resort developments. The principles provide an holistic approach to integrating biodiversity considerations, while emphasising the importance of rights-holder and stakeholder involvement.

1. Adopt an ecosystem-based approach in tourism development planning.
2. Manage impacts on biodiversity from hotel development and attempt to achieve an overall positive contribution.
3. Design with nature and adopt nature-based solutions.
4. Respect, involve and support local communities.
5. Build collaboration among rights-holders and stakeholders.

Source: IUCN, 2012b

Kingfisher Bay Resort on Fraser Island, Queensland, Australia, a facility certified by both Green Globe and Ecotourism Australia. © Yu-Fai Leung

access for staff and tourists, climate, slope, access to natural and cultural features, energy and utilities, proximity to relevant goods and services, and staff availability and housing. Paying attention to these considerations can yield significant cost savings, in addition to achieving an aesthetic outcome and enhanced visitor experience (Sweeting, et al., 1999).

Planning for sustainable infrastructure

By intentionally restricting facilities to a minimum, or providing none at all, protected areas can also reduce visitor overcrowding and discourage unwanted uses while still providing a high-quality experience (Pedersen, 2002). Box 4.3 provides a good example of how Wadi El-Hitan World Heritage Site (Egypt) was designed with minimal facilities to enhance both environmental protection and visitor experience. Along the Appalachian National Scenic Trail (USA), visitor use was regulated by closing and rehabilitating heavily impacted campsites in flat areas and replacing them with smaller campsites in side-hill locations that offered more privacy and discouraged campsite expansion, reducing the total area of environmental disturbance and resulting in higher visitor satisfaction (Daniels & Marion, 2006). Elsewhere, symbolic rope fencing along the margins of trails in Acadia National Park (USA) was used to discourage visitors from walking off trail (Park, et al., 2008). This approach was found to be substantially more effective than were several information/education practices. Good facility development, design and maintenance can contribute to meaningful experiences that result in return visitation, positive word of mouth promotion of the protected area as a destination, and related loyalty behaviours from visitors.

The thorny problem of transportation

Transportation modes and infrastructure are probably the most important aspects of commercial tourism management to get right because of their potential for serious negative effects on both protected areas and local communities. Sustainable transportation initiatives—those that try to minimise energy consumption, carbon emissions, and infrastructure footprint, while still maintaining a high-quality visitor experience—have received special attention in the US National Park System. Transportation specialists have been working with the US National Park Service to limit automobile use by improving public transit access (e.g. through park trolley systems), building biking trails, and installing thoughtful signage (Manning, et al., 2014). The *National Park Service Congestion Management Toolkit* (USNPS, 2017b) provides an extensive collection of tools with guidance on problem solving. In Gatineau Park (Canada) and De Hoge Veluwe National Park (The Netherlands) visitors are encouraged to park their cars and hire bicycles to travel through the protected area.

4.4 Principle #3: Changing visitor use conditions are inevitable and may be desirable

The kinds of tourism and recreation that are appropriate for individual protected areas will vary significantly from place to place—and, importantly, may change over time. New demands for tourist activities are a challenge for protected area managers, but also an opportunity to embrace and facilitate new visitor experiences that may support conservation. The Recreation Opportunity Spectrum is one tourism management framework that can help managers respond to such new demands.

Managing bicycles at the car-free De Hoge Veluwe National Park, the Netherlands. © Yu-Fai Leung

Wooden sculpture by the Torf Haus National Park visitor centre, Germany. © Yu-Fai Leung

Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) is a widely applied management framework that fosters diversity in protected area tourism and outdoor recreation through a zoning approach (McCool, et al., 2007; Manning, 2011). ROS applies *indicators and standards of quality* (for more on which, see below) to each of the three components of parks and outdoor recreation—resources, experiences and management—to illustrate a broad range of recreation opportunities. For example, Figure 4.1 illustrates a situation in which the 'presence of wildlife' represents the resource conditions of outdoor recreation, and can range from the presence of wild to domesticated animals. Similarly, 'level of solitude' represents the experiential component of outdoor recreation, and this can range from high to low levels. 'Level of development' of facilities represents the managerial component of outdoor recreation, and this can range from no development to high levels of development. This structured approach can be used by protected area managers to identify different zones that match diverse demands of visitors with recreation opportunities that are appropriate for each zone's conservation and management objectives, as well as for resource and social conditions.

Box 4.3

Designing for protection and inspirational visitor experiences: Wadi El-Hitan—Valley of the Whales World Heritage Site (Egypt)

Wadi El-Hitan—Valley of the Whales lies 170 km southwest of Cairo in Egypt's Western Desert. Designated as a World Heritage Site in 2005, Wadi El-Hitan is the most important site in the world for demonstrating the evolution of Eocene-aged whales (38–42 million years before present) from land animals to marine animals. Prior to its World Heritage designation, there was no form of management oversight; fossil collection and indiscriminate four-wheel-drive vehicle access threatened its values. World Heritage recognition, together with donor funding, enabled effective planning, management and ecotourism development activities to proceed. A key ingredient was the preparation of the project plan, whose main elements of this initiative, as they pertain to site design, infrastructure and transportation, include:

Wadi El- Hitan-Valley of the Whales World Heritage Site with eco-architectural features. © Dan Paleczny

- **Access route to the site**: Through an environmental impact study, five alternative routes to the site were evaluated against five criteria: length of road and ease of construction, impacts on protected area values, operational effectiveness, potential for economic benefits to local communities, and suitability for visitors.
- **Conservation of fossil values**: The core fossil area required physical barriers to secure and close the valley. Signs and targeted communications were established and daily enforcement patrols were conducted.
- **Visitor needs**: A visitor survey and visitor management plan considered the types of services that should be provided, such as shaded structures to escape the sun, an orientation area, parking, washrooms, a cafeteria, internal transportation, a craft shop and camping.
- **Interpretation**: The core area was planned as an open-air museum, featuring local handcrafted materials. Paths were defined in the desert sand. Fossil sites were delineated with clay columns, hand-braided palm rope and baked clay signs. Interpretive stations, made from mud brick and plaster, were designed to mimic the surrounding landforms.
- **Travel within the core area**: Potential modes of travel within the core area were carefully considered in view of the extreme heat in summer, age of visitors and wilderness character of the site. The travel methods selected as appropriate were walking, by camel and by camel cart, as these are all sustainable, clean and provide additional local business opportunities.
- **Site planning**: Site planning identified the precise placement of infrastructure, taking into account anticipated numbers of visitors, their movement around the facilities, and types of vehicles.
- **Facility design, materials and methods**: Architectural plans and guidelines were developed to respond to the unique character of the sandstone cliffs, the hot climate, and to harness the combined creative talents of local communities and artists. Through mimicking earth tones, textures and shapes, the mud brick and plaster structures have minimal visual impact on the fossils or the landscape. The earth structures are both durable and degradable, and when they disintegrate, they will blend back into the earth without scarring the landscape.
- **Site construction**: Construction progressed with extreme caution to minimise impacts, and relied on the use of local craftsmen and labour, which fostered a sense of ownership and pride within the community in addition to providing employment benefits.
- **Evaluation tools**: Evaluation tools include monitoring the fossil resource and visitors, and carrying out enforcement patrols. An evaluation of management effectiveness helped to establish a practical context for World Heritage Site status reporting.

SPOTLIGHT BEST PRACTICE

Choose materials for site design and construction based on sources that minimise damage and exhibit properties such as durability, recyclability, availability and sustainability. Incorporate design that is in keeping with the local cultural and physical landscape as well as climatic conditions; and use native plant species for landscaping and natural insect control.

Source: http://egyptheritage.com/Eco%20Hitan%20Open%20Air.html

Figure 4.1. A simplified example of the Recreation Opportunity Spectrum (ROS)

Source: Manning, et al., 2017

4.5 Principle #4: Impacts on resource and social conditions are inevitable consequences of human use

Carrying capacity

Earlier in these Guidelines we emphasised that some level of impact necessarily comes with tourism and visitor use in protected areas, and that what makes these activities sustainable is the ongoing attempt by managers to use best practices to minimise the negative impacts and maximise the positive ones. Much of the discussion of how to achieve this in protected areas has considered the concept of visitor carrying capacity. Research has documented many impacts of tourism and recreation on protected area resources and the quality of the visitor experience. As visitor numbers increase, protected areas become more crowded, leading to increasing environmental and social impacts that can pose threats to protected area values. At some point, the impacts may become unacceptable based on physical evidence or visitors' evaluations of their experience (Shelby & Heberlein, 1986; Whittaker, et al., 2011). In other words, the number of visitors may have exceeded the *visitor carrying capacity* or *visitor capacity*. Box 4.4 provides a brief history and clarification of this concept.

Panoramic views along a popular hiking trail on Padar Island, Komodo National Park, Indonesia. © Mei Yee Yan

Limits of Acceptable Change

Contemporary approaches to understanding and applying visitor capacity rely on determining Limits of Acceptable Change (LAC), which, like ROS, is a well-developed tourism and visitor management framework. LAC establishes measurable limits to human-induced changes in the natural and social settings of protected areas, and uses these to create appropriate management strategies to maintain or restore acceptable conditions. LAC combines rational planning, quality management and public involvement to identify measurable environmental aspects of quality, and monitors whether quality is maintained (Sidaway, 1994). This is a management-by-objectives approach, which is also referred to as an 'indicators-based' or 'standards-based' framework (Leung, et al., 2008; McCool, et al., 2007; Manning, et al., 2017).

LAC can be strongly influenced by people's values, culture and other factors linked to the amount and type of visitor use (Manning, 2007; Manning, 2011; Manning, et al., 2017). When applying LAC in protected areas, management objectives are statements about the desired conditions of protected areas and outdoor recreation, including the level of protection of resources and the type and quality of the recreation experience so that conservation always has primacy.

Indicators and standards of quality

Indicators of quality reflect the essence of the management objectives; they can be thought of as quantifiable proxies of management objectives. *Standards of quality* define the minimum acceptable condition of indicator variables. For example, in relation to levels of solitude, studies have found that wilderness visitors generally are willing to accept encountering fewer than six groups per day along trails, and that they wish to camp out of sight and sound of other groups (Manning, 2011). Therefore, using "a maximum of five encounters with other groups along trails and no other groups camped within sight or sound" as a standard can be appropriate for managing at least some wilderness areas. Formulating management objectives and expressing them in the terms of quantitative indicators and standards of quality is an important part of visitor management. Detailed information on and numerous examples of indicators for sustainable tourism are available in the UNWTO indicators guidebook (UNWTO, 2004).

Box 4.4

A brief history of carrying capacity

In the context of tourism, the term 'carrying capacity' refers to the maximum number of people that may visit a tourist destination (here, a protected area) at the same time, without causing (i) destruction of the physical, economic and sociocultural environment, and (ii) an unacceptable decrease in the quality of visitors' satisfaction.

First applied to protected areas and outdoor recreation in the 1960s, the concept's initial focus was on the environmental impacts of outdoor recreation. It was used to respond to the question: "How much use can be accommodated in a protected area before the its natural resources are unacceptably impaired?" However, it quickly became apparent that there is also a social or experiential component to carrying capacity in protected area, namely: "How much use can be accommodated in a protected area before the quality of visitor experience is degraded to an unacceptable degree?" A related term, 'visitor capacity', has been commonly used to frame visitor management challenges, with the intention of identifying an acceptable number of visitors to a protected area.

Tourists waiting for boat ride at Plitviče Lakes National Park, Croatia. © Mei Yee Yan

While site-level visitor capacity can be useful and sometimes necessary (e.g. determining maximum attendance in a visitor centre at any one time), contemporary applications of this concept are largely made through standards-based management frameworks driven by protected area values, management objectives and their associated indicators and standards. In recent years, the debate has been revisited with the emergence of the term 'overtourism', but this should be addressed using LAC and ROC approaches, and potentially establishing visitor-use limits, rather than using the concept of carrying capacity as a basis.

Sources: Lucas, 1964; Wagar, 1964; Graefe, et al., 1984; Shelby & Heberlein, 1986; McCool & Cole, 1997; Manning, 2007; McCool, et al., 2007; Manning, 2011; Whittaker, et al., 2011; IVUMC, 2016; IVUMC, 2017

SPOTLIGHT BEST PRACTICE

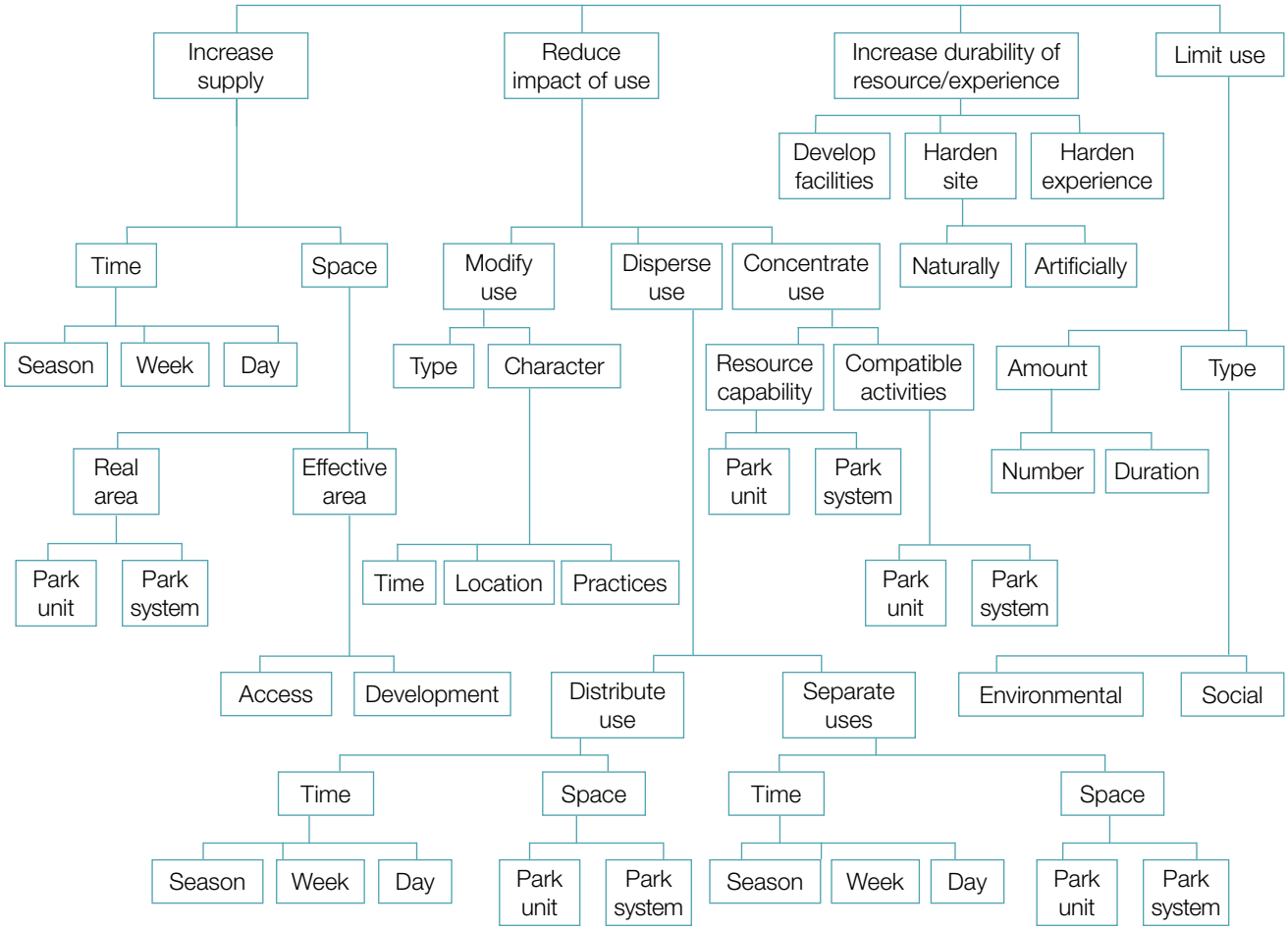
Apply standards-based management frameworks driven by protected area values, management objectives, and their associated indicators and standards, to help inform the management challenge of balancing visitation and conservation in protected areas.

4.6 Principle #5: Management is directed at influencing human behaviour and minimising tourism-induced change

Because tourism activities in protected areas can negatively affect the area's natural values, four basic types of management strategies have been developed. All of them revolve around the concept of *supply and demand* (Figure 4.2). The first two manipulate supply and demand, either by increasing the supply of tourism opportunities to accommodate more use and/or spread it more evenly (top left box in Figure 4.2), or by reducing the demand for problematic uses through measures short of formal limits or outright prohibitions (top second box). The other two basic strategies treat supply and demand as fixed. They focus on reducing the impacts of use by modifying visitor behaviour, or enhancing the durability of sensitive features in the protected area (top third box), or simply limiting the problematic use (top fourth box). In this section we briefly look at the four general strategies before reviewing some of the most common tools used to manage tourism impacts: zoning, rationing, and enforcement of rules and regulations.

Biodiversity adds to visitor experience at Chapada dos Veadeiros National Park, Brazil. © Yu-Fai Leung

Figure 4.2. Strategies for managing tourism and visitor use



Source: Manning, et al., 2017

The section concludes with a discussion of the security and safety concerns that underlie all tourism management efforts.

Increasing supply of tourism opportunities

The supply of tourism opportunities can be increased in terms of time or space (top left box and subsidiaries, Figure 4.2). With respect to time, the use of protected areas is typically concentrated into a small percentage of all potentially available days and hours. If some peak use can be shifted to lower-use periods, then some of the pressure of overuse might be relieved. The more traditional way to consider increasing supply is through the space dimension, by expanding the physical area available for visitor use (e.g. by creating more and/or larger parks, more and/or improved facilities).

Reducing demand for problematic visitor uses

Reducing demand for problematic uses is a second basic strategy for managing tourism (second box and subsidiaries, Figure 4.2). This can be done by modifying the character of the use so its impacts are lessened. In this way, potentially damaging activities might not have to be eliminated or capped, but rather altered with respect to their timing (e.g. most tiger reserves in India are closed for 1–2 months at the beginning of the wet season), location (e.g. restricted to areas below tree line), or practices (e.g. elimination of campfires, but not camping itself). Another way is to disperse the use so it takes place over a wider area, thereby 'diluting' the impact. Dispersing recreation relies on the assumption that spreading the use out over a wider area if feasible, or else partitioning it so that it takes place at different times for different user groups, will result in (i) no single area receiving an unacceptable level of impacts, and (ii) a reduction or elimination of conflicts between user groups. This assumption will not always be valid, of course. A third possibility is to take the opposite tack and concentrate the use so most of its impacts affect only a small area, or 'sacrifice zone'. For example, recreation may be directed toward areas where natural resources such as soil and vegetation are relatively resistant to impacts, or around visitor centres. Recreation may also be concentrated based on compatibility, so that users with similar activities, values and motivations are grouped together.

'Hardening': Increasing durability of resources

Treating supply and demand as fixed, a third strategy aims to increase the physical durability of the protected area resources subject to the problematic use (third box and subsidiaries, Figure 4.2). This is typically referred to as 'hardening' because it often entails creating a hard surface to absorb the direct physical impacts of visitor activities, such as driving, walking, and camping. A very common example is building hard-surfaced boardwalks on portions of trails that cross fragile wetlands. This also may be done in a semi-natural fashion, through such means as planting hardy species of vegetation in areas subject to trampling. Another way to accomplish the same ends is to metaphorically 'harden the experience' of visitors by informing them of the damaging resource conditions being caused by the use, so that they are motivated to reduce their impacts.

Limiting problematic visitor uses

The fourth and perhaps most common strategy—which also treats supply and demand as fixed—is to put hard limits (up to and including bans) on problematic visitor uses (fourth box and subsidiaries, Figure 4.2). Rules and regulations are a common visitor management practice (Lucas, 1982; Lucas, 1983; Monz, et al., 2000; Manning, 2011). Commonly used rules and regulations relate to group size limits, assigned campsites and/or travel itineraries, area closures, length-of-stay limitations, and restrictions or prohibitions on recreation activities and behaviours that have substantive resource or experiential impacts.

The effectiveness of rules and regulations is an important consideration for protected area managers. For example, a study conducted in several protected areas in the USA examined three regulatory approaches addressing campfires: banning them, restricting them to certain sites, or leaving them unregulated (Reid & Marion, 2004). Findings suggest that banning them does not substantially reduce their impacts, but that having no regulation results in excessive resource degradation. The study concluded that designating campfire sites, combined with banning the use of axes, hatchets and saws, was the best way to control the impacts of campfires while preserving an option that is highly valued by visitors. To be effective, managers need to communicate the rules and regulations clearly so that visitors are aware of them, the reasoning behind them, and the sanctions associated with a failure to comply (e.g. fines, penalties).

Zoning

Zoning is one of the most commonly used tools for managing tourism impacts and is an essential component in all tourism and visitor management processes (Manning, 2011; Manning, et al., 2017). In its simplest form, zoning assigns certain recreation activities to selected areas or certain times (Box 4.5). Zoning can also be used to ban problematic activities in environmentally sensitive areas, or separate conflicting recreational

Box 4.5

Planning and zoning in Grand Canyon National Park (USA)

Grand Canyon National Park, one of the 'crown jewel' national parks in the USA, is a UNESCO World Heritage Site. The Colorado River—the living heart of Grand Canyon—has been a vital source of water for Native American tribes for 12,000 years, provided inspiration to artists and writers, and been the focus of some major environmental controversies in American history. In recent years, the Colorado River has also become a mecca of white-water boating, boasting nearly 300 miles of free-flowing river with over 100 major rapids, some of them requiring considerable expertise and experience to negotiate.

Rafting through the Grand Canyon. © Robert Manning

The park's current management plan is designed to protect the river from over-use, and its objective is to "conserve park resources and visitor experiences while enhancing river-running recreational activities." The plan relies on several management practices, including limiting use, rules and regulations, and zoning.

Recreational use of the river is strictly limited in order to minimise the potential impacts on natural and cultural resources, and to protect the quality of the visitor experience. Limits apply to both commercial trips (i.e. those led by licensed companies) and those made by 'non-commercial' users (i.e. private individuals). Non-commercial users must obtain a permit, which are distributed based on a sophisticated 'weighted lottery system', which replaced a previous version that generated waiting periods of over 20 years. The current system requires non-commercial boaters to file an application each year with preferred launch dates for the following year; successful applicants are selected at random. However, the chances of being selected are enhanced if potential trip leaders have not boated on the river in recent years, which helps to ensure that those who are unlucky in the lottery system are more likely to be selected in future years.

SPOTLIGHT BEST PRACTICE

Employ a combination of visitor use management tools and techniques that reinforce and complement each other.

Rules and regulations are also an important component of the river management plan. For example, commercial boat passengers must be accompanied by a National Park Service-approved guide on all trips, and visitors are not allowed to use some parts of the park during certain seasons to protect threatened plant species.

Finally, the plan also incorporates both spatial and temporal zoning. The river is divided into three spatial zones ('primitive', 'semi-primitive', and 'rural natural setting') designed to offer three different types of visitor experiences. Temporal zoning is also used to address the issue of conflict between motorised and non-motorised use; motorised use is only permitted from 1 April through 15 September each year.

uses. In the general management planning of Uganda's protected areas, for instance, a zoning system determines the type of accommodation, transportation and tourist activities, including group size (Bintoora, 2014). Zoning can also be used to create different types of tourism and recreation opportunities; as such, it is a key concept of the Recreation Opportunity Spectrum (ROS), discussed earlier.

Rationing

Rationing tourism and recreation opportunities is another option (Table 4.2). Lotteries and auctions for access permits, for instance, are management options used in US national parks (see Box 4.5). Critical elements of use-rationing, lotteries and other allocation practices are fairness, efficiency and equity (e.g. using higher prices to ration use can be seen as discrimination against selected groups based on their socio-economic status).

'Soft' and 'hard' enforcement

Enforcement is required to support the rules and regulations behind limiting visitor use. Various enforcement tactics can be used, and for any given park or protected area, the choice is guided by the type of infractions that need to be addressed. 'Soft' enforcement includes management measures that encourage people to follow the rules. For example, park signage and interpretive messages can guide visitors toward positive (Marion & Reid, 2007) and safer behaviour (e.g. how to behave around wildlife, information on potentially dangerous trail or weather conditions). Codes of practice can also be used to influence visitor use numbers, as well as development and construction, and to restrict certain activities to maximise safety (Eagles, et al., 2002). Tour operators and concessionaires can be central to the success of such measures and should be required to promote them. In cases where soft enforcement is not effective, 'hard' law enforcement—such as the issuance of citations and fines, and, in the most serious instances, arrests—may be needed (Wynveen, et al., 2007).

The type of enforcement used at any given park must be carefully chosen to strike a balance between visitor safety, compliance with rules, and visitor enjoyment (Manning, et al., 2017). There is much debate on *how hard* enforcement in protected areas should be, but very little research has been done on the effectiveness of different types. One study at Mount Rainier National Park (USA) found that the presence of a uniformed ranger significantly reduced off-trail hiking (Swearingen & Johnson, 1995). Moreover, visitors tended to react positively when they understood that the presence of a uniformed ranger was needed for information dissemination, visitor safety and resource protection. Also, a long-term study of four marine sanctuaries in the Philippines found improved coral reef ecological conditions and fish species abundance and richness, attributing the improvements to enforcement and enhanced management activities and community support (Walmsley & White, 2003).

Table 4.2. Types of rationing systems

Tourism rationing system	Characteristics
Reservation systems	Requires potential visitors to reserve a space or permit in advance of their visit
Lotteries	Allocates opportunities or permits on a random basis
First-come, first-served or queuing	Requires potential visitors to wait for available spaces or permits
Pricing	Requires visitors to pay a fee for a permit, which may 'filter out' those who are unable or unwilling to pay
Merit	Requires potential visitors to 'earn' the right to a permit by virtue of demonstrated knowledge or skill (e.g. low-impact recreation behaviour)

Sources: Stankey & Baden, 1977; Cable & Watson, 1998; Whittaker & Shelby, 2008; Manning, 2011

Visitor information and electronic visitor counter at the trail entrance to Tortuga Bay, Galápagos National Park, Ecuador. © Yu-Fai Leung

Table 4.3. Examples of direct and indirect management practices

Type	Examples
Direct (Emphasis on regulation of behaviour; individual choice restricted; high degree of control)	• Increase area surveillance • Zone incompatible uses spatially or temporally (e.g. biker-only zones, hiker-only days, prohibit motor use) • Limit stays in some campsites to one night • Rotate use (e.g. open or close roads, access points, trails, campsites) • Require reservations • Assign campsites and/or travel routes to each camper group in remote areas • Limit usage via access point • Limit size of groups (e.g. number of horses, vehicles) • Limit camping to designated campsites only • Limit length of stay in area (i.e. maximum/minimum) • Restrict building campfires • Restrict fishing or hunting • Require or encourage visitors to hire guides • Impose fines
Indirect (Emphasis on influencing or modifying behaviour; individual retains freedom to choose; control less complete, more variation in use possible)	• Improve (or not) access roads, trails • Improve (or not) campsites and other concentrated-use areas • Advertise and encourage conservation of specific attributes of the area • Identify the range of recreation opportunities in surrounding area • Educate visitors about ecology and outdoor ethics • Advertise underused areas and general patterns of use • Charge entrance fee • Charge differential fees (e.g. by trail, zone, season) • Require proof of ecological knowledge and recreational activity skills

Sources: CBD, 2004b; Manning, et al. 2017

Security and safety concerns

Security and safety are concerns that all protected area visitors face. Threats may originate from other visitors, wildlife, environmental hazards and illegal activities occurring within the protected area. At the most serious level, visitors to protected areas may be threatened by activities such as organised poaching and guerrilla warfare, as in Virunga National Park (Democratic Republic of the Congo) (Virunga National Park, 2018). The presence of enforcement officials (rangers, wardens, etc.) is one way to minimise all security concerns. Their mere presence has been found to increase feelings of safety amongst visitors (Wynveen, et al., 2007), but it can be costly. In developing countries, partnerships with NGOs and locals to monitor and patrol the protected area is a potential solution (Coad, et al., 2008).

Protected areas should also have a clear and robust crisis and emergency response plan for residents, tourists and tourism-related enterprises. This should be integrated within the park management plan and must be appropriately communicated, both internally to visitors and staff, and externally to potential travellers. For example, Kruger National Park (South Africa) has experienced extreme flooding associated with El Niño, which has led to roads and bridges being damaged. South African National Parks uses its website and social media as two important communication tools to inform the travel industry and visitors of such security-relevant situations.

4.7 Principle #6: Impacts can be influenced by many factors so limiting amount of use is but one of many management options

As described the preceding principle, limiting visitor use is considered one of the basic strategies in managing tourism-induced change. Indeed, limiting visitor use is a common first response to many management problems associated with tourism. However, as illustrated in Principle #4, decades of research and practice on visitor carrying capacity have led to significant advancements in visitor and tourism management decision making, characterised by standards-based frameworks that incorporate protected area values and management objectives. Protected area managers increasingly recognise that negative impacts can be influenced by a range of factors (e.g. mode of transport, group size, season of use). Simply imposing restrictions on a problematic visitor use may not get at its root cause in many cases. Other strategies may achieve better results by attempting to influence visitors' decisions on what activities to pursue, when, and where (Table 4.3). Generally, indirect practices are less obtrusive to the visitor experience, but when these prove ineffective, or if resource conditions warrant, direct approaches are necessary (Hall & McArthur, 1998; Manning, et al., 2017).

Using pricing to manage visitation

One indirect alternative strategy to simply limiting uses is to apply pricing schemes to manage visitation. *Multi-tiered pricing*, for example, involves setting prices based on visitors' age, place of residence and other factors, and this can help encourage certain types of visitors that the protected area is particularly trying to reach. *Differential pricing* is characterised by different prices being charged based on the services offered. For example, a campground situated on a scenic river site might be more expensive than one located in a less desirable location. Charging higher prices during peak season or for entrance to highly popular sites may reduce crowding.

The problem of displacement

Negative impacts from visitor use, and unintended consequences of management responses, may not be immediately apparent within the protected area, or may occur outside of it entirely. For example, prohibiting a damaging visitor use may eliminate the problem within the protected area, but users may simply go elsewhere nearby to engage in that activity—so the problem has been merely displaced, not truly solved. Protected area planners need substantial knowledge of relationships between use and impacts to predict future consequences over time and at a variety of scales. Education and information programmes, as well as regulations restricting visitor behaviour, may be necessary.

4.8 Best Practices

- Choose materials for site design and construction based on sources that minimise damage and exhibit properties such as durability, recyclability, availability and sustainability. Incorporate design that is in keeping with the local cultural and physical landscape as well as climatic conditions; and use native plant species for landscaping and natural insect control.
- Apply standards-based management frameworks driven by protected area values, management objectives, and their associated indicators and standards, to help inform the management challenge of balancing visitation and conservation in protected areas.
- Employ a combination of visitor use management tools and techniques that reinforce and complement each other.

Entry ticket for a Malaysian marine park. © Elizabeth Halpenny

Tourists on a snowshoe excursion in Polistovsky Zapovednik, Russia. © Elena Nikolaeva

Paddle boarding and snorkeling activities in Virgin Islands National Park, US Virgin Islands. © Yu-Fai Leung

Adaptive management for sustainable tourism

5

© Wilderness Safaris and Dana Allen

Once the tools and techniques discussed in the previous chapter have been chosen appropriately and are in place, managers need to design and carry out a programme of resource monitoring, repeated self-evaluation, public engagement, and communications outreach. This chapter covers these actions by going through the last four of the ten management principles outlined in Table 4.1, beginning with Principle #7. Then, the potential for increasing the quality of tourism management through various certification programmes is considered. The chapter concludes with a discussion of a threefold tourism and visitor management framework that brings together key elements of an adaptive approach to managing protected area tourism for sustainability.

5.1 Principle #7: Monitoring is essential to professional management

The integrated role of monitoring

An essential component of any tourism management strategy is a commitment to sustained monitoring that tracks current conditions, evaluates the efficacy of management actions, and provides the basis for taking appropriate remedial action and any needed adjustments to management plans. The basic steps in the project management cycle are illustrated in Figure 5.1. Sustained and effective monitoring programmes require a good programme design, careful selection of indicators and measurements, and a long-term commitment to financing, staff, equipment and infrastructure for their implementation (Miller & Twining-Ward, 2005; Gitzen, et al., 2012).

Many protected area agencies and conservation organisations, however, fall short of meeting some or all of these requirements (Price & Daust, 2009; Groves & Game, 2016). Consequently, monitoring programmes are too often short-lived, following changes in funding priorities or personnel. Protected area managers need to understand why monitoring has failed and how the reasons for failure can be overcome.

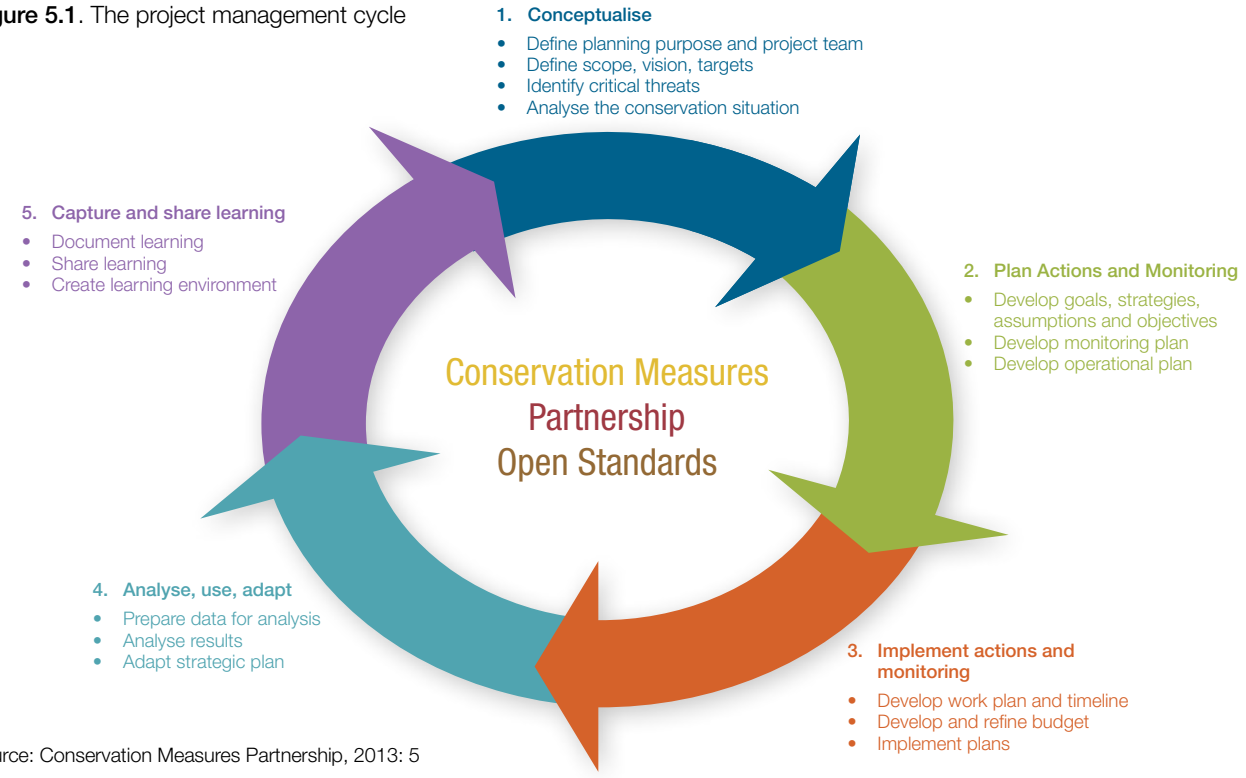
Given the importance of monitoring and evaluation in conservation, guidelines have been developed to improve the quality, cost effectiveness and sustainability of monitoring programmes. Groves & Game (2016), for example, provides a succinct summary of major approaches and design considerations of conservation monitoring and evaluation, helping managers define the target audiences and make smart monitoring investments to address their information needs accordingly (see also Gitzen, et al., 2012). Global programmes and initiatives, such as the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC, 2017) and Biodiversity Indicators Partnership (BIP, 2017), also facilitate protected area monitoring programmes with a special focus on indicator development, as well as on data reporting and sharing.

Basic questions to answer

To design an effective monitoring programme with useful outputs, managers should consider the following basic questions (Eagles, et al., 2002):

1. **Why monitor**: Is monitoring intended to detect long-term resource or use trends (often called 'ambient monitoring'), support a management framework, or provide short-term efficacy evaluation of a management strategy (often called 'effectiveness monitoring')?
2. **What to monitor**: What indicators are clearly linked to protected area values or directly relevant to management decision making? What type of impact (e.g. environmental, economic, social, cultural) is most important? Comparing input (e.g. number of visitors, tourist behaviour) and output/outcome indicators (e.g. economic benefit, visitor experience or ecological impact), what is most critical for managers to track if monitoring for both types of indicators is not feasible?
3. **Where and when to monitor**: Should monitoring take place in the most sensitive habitats or in areas that show signs of rapid change? Should monitoring take place

Figure 5.1. The project management cycle



Source: Conservation Measures Partnership, 2013: 5

Box 5.1

Park volunteers as citizen scientists and monitors

Protected area agencies are increasingly dependent on volunteer assistance to run programmes, maintain infrastructure and participate in planning processes. These volunteer activities help protected areas meet their conservation and recreation agendas. Understanding what motivates volunteers is essential for designing programmes that are meaningful and appealing. Volunteerism also serves the important role of forging stronger connections between a country's citizens and its protected areas (see Waithaka, et al., 2012 for best practice examples).

Training volunteers to collect visitor-activity data in Yosemite National Park, USA. © Yu-Fai Leung

A popular form of protected area-based volunteerism is *citizen science*, or public participation in organised research efforts. The scale can range from small projects (e.g. led by a single institution and involving one community of volunteers) to large ones (e.g. having international reach with volunteers from multiple countries). Sampling protocols can be very simple, asking volunteers to provide nothing more than 'snapshot data', which can be used to identify patterns and create databases. Alternatively, protocols can be very strict, with volunteer-gathered data intended to contribute to solving a specific research question. Citizen scientists are sometimes tourists who have travelled to a protected area specifically for this purpose, but more often they are local outdoor recreationists who enjoy leisure opportunities in protected areas while at the same time contributing their energy and skills to science.

Protected area managers can use citizen science to develop effective interventions for resource management issues. For example, in Australia, the Victoria Marine National Park and Sanctuary started the *Sea Search* citizen science project to gather information about the health of the network of Victoria's marine parks and sanctuaries. Similarly, the University of York in the UK used volunteers to document sightings of over 250 species of invertebrates.

Citizen science can help develop inter-agency and community partnerships, create stewards out of volunteers and engage communities; it is especially effective when adequate training and instruction are provided.

SPOTLIGHT BEST PRACTICE

Harness the skill and enthusiasm of volunteers through citizen science and other programs to carry out needed management activities, but be sure to provide proper oversight and quality control.

Sources: Cassie & Halpenny, 2003; Halpenny & Cassie, 2003; Koss, et al., 2009; Dickinson & Bonney, 2012; University of York, 2012; Waithaka, et al., 2012; Follett & Strezov, 2015; Parks Victoria, 2017

in only in the sensitive seasons (e.g. breeding season for birds) or throughout the year to evaluate seasonal changes? What indicators should be monitored most frequently? What should trigger a change in monitoring frequency?

4. **Who should monitor**: Should data be collected by managers such as wardens or rangers, by academic researchers, or by volunteers? Can some or all parts of a monitoring programme be run by a local community? What agency and community capacity can a protected area leverage to support a sustained monitoring programme? What level of training is needed to ensure data quality? Can the data be collected by tour or concession operators?
5. **Who will analyse the data**: Will monitoring results be analysed by protected area managers, academic researchers, or a combination of the two?
6. **How will the data be used**: How will the results be incorporated and used by managers?

Thorough consideration of these questions helps to ensure that monitoring is effective, yields benefits and is undertaken at a reasonable cost. Numerous guidelines and handbooks are available to provide examples of tourism-oriented monitoring methodology and programmes (e.g. Hornback & Eagles, 1999; UNWTO, 2004; Miller & Twining-Ward, 2005).

Community-based monitoring

Monitoring tourism and visitor use can be an expensive undertaking, one that overwhelms the capacity of protected areas with a small budget or staff. However, depending on the indicators to be monitored, some programmes can be relatively simple and cost effective. The cost can be further reduced through the participation of community volunteers, visitors or tour/concession operators in data collection (Miller, et al., 2012; Chase & Levine, 2016), including through citizen science to monitor both tourist numbers and species information (Box 5.1).

Community members can also be used to monitor tourism's impact on natural resources. Box 5.2 provides an example of a community-based wildlife monitoring programme in Namibia that was primarily motivated by tourism.

Next, we look at some of the major types of monitoring relevant to managing tourism: *visitor use monitoring, visitor impact monitoring, visitor experience monitoring,* and *monitoring management effectiveness*.

Visitor use monitoring

The amount, type and distribution of recreation and tourism visitation are fundamental data, although such data are not routinely or systematically collected in many protected areas (Hornback and Eagles, 1999). Some of the most common visitor or tourist use variables include:

- **Visitor count**: the number of individual visitors entering or leaving a protected area regardless of the length of stay;
- **Visitor nights**: the count of persons staying overnight in a protected area;
- **Visitor hours**: the total length of time, in hours, that visitors stay in the protected area;
- **Visitor days**: the total number of days that visitors stay in the protected area; and
- **Visitor spending**: the total consumption expenditure made by a visitor, or on behalf of a visitor, for goods and services during his/her trip and stay at a protected area.

The level of monitoring required will be based on the extent to which sustainable tourism is a management objective and staff and budgets available (Hornback and Eagles, 1999). Box 5.3 provides one of the most elaborate examples of visitor use monitoring programmes, developed by Nordic and Baltic countries.

Box 5.2

Community-based natural resource monitoring in Namibia: The Event Book System

Antelopes (*Oryx* spp.) moving across conservancy land in Namibia. © Ralf Buckley

Community-based natural resource monitoring (CBNRM) is different from traditional monitoring programmes as it allows local community members to determine which aspects of the resource should be monitored, and often involves public participation in data collection and analysis.

CBNRM was introduced in Namibia as a solution to illegal poaching, as well as to promote tourism opportunities and support wildlife preservation. In 1996, conservancies started the CBNRM movement, giving certain rights to communities to benefit from wildlife on communal land. External experts designed the early monitoring systems, conservancy members collected data, and external experts analysed the results, without feedback to the conservancies. In response, the 'Event Book System' was developed and has been operational since 2000. In this system, members of the local community decide what to monitor, collect the data and perform all analyses.

Monitoring indices are determined based on the community's priorities for natural resource management. Standardised protocols are prepared and shared for data collection, reporting and tracking long-term trends. External stakeholders provide skill training and conduct an annual audit, and data are collected with permission from conservancy members and fed back into decision making. Local knowledge is combined with scientific knowledge of external experts.

Conservancies within the Event Book System generally have three levels of institutional hierarchy, including community rangers, a natural resource supervisor and a conservancy manager or elected chair. This multi-level structure contributes to the programme's sustainability. As of 2010 there were over 50 CBNRM programmes in Namibia, and the Event Book System has also been implemented in Mozambique, the United Republic of Tanzania, Botswana and Cambodia.

Sources: Ashley & Barnes, 1996; Stuart-Hill, et al., 2005; Conrad & Daoust, 2008; Boudreaux & Nelson, 2011; Stuart-Hill, 2011

Box 5.3

Standardised visitor monitoring: A coordinated effort between Nordic and Baltic countries

Concentrated trail-based activity in Tyresta National Park, Sweden (Left). © Yu-Fai Leung. Dispersed bog-shoeing activity in Soomaa National Park, Estonia (Right) © Mark Ballantyne

Regional, national and international visitor data can play an important role in protected area planning and policy decisions. Many methods exist to gather visitor information at the site level, often making comparisons difficult across sites, agencies and countries. Established guidelines for monitoring visitor use can help identify common methodologies, key indicators and standard reporting criteria to allow for the comparison of reliable data at different spatial and temporal scales.

Visitor Monitoring in Nature Areas: A Manual Based on Experiences in the Nordic and Baltic Countries represents one of the first coordinated efforts between several countries to develop complementary visitor use data collection and reporting measures. Funded by the Nordic Council of Ministries and the Swedish Environmental Protection Agency (Naturvårdsverket), the manual details common methods and recommendations of key indicators for onsite visitor monitoring, and suggests results reporting formats for Nordic (Denmark, Finland, Iceland, Norway and Sweden) and Baltic (Estonia, Latvia and Lithuania) protected areas.

The manual presents sample visitor monitoring efforts from protected areas around the region. For example, Metsähallitus, Parks & Wildland Finland, the national protected area agency of Finland, implemented a visitor monitoring programme in over 400 of the country's protected areas. The programme consisted of continuous visitor counting in 60 protected areas (e.g. national parks, national recreation areas, wilderness areas) and a visitor survey conducted every five years using guidelines harmonised by Metsähallitus and the manual.

Key indicators important to protected area management and relevant at multiple scales include visitor counts, profiles, activities, expenditures, motivations and satisfaction, as well as trip characteristics (i.e. duration, distribution). Model questions are also included to assist with rapid survey development and standardisation. The report suggests using detailed data rather than categories for easier comparison.

The project's database enables comparisons between individual protected areas and the country as a whole, tracks economic impacts and overall visitor satisfaction at both the site and national level, and allows for the integration into other databases to ensure broadly and openly disseminated data.

Sources: Kajala, et al., 2007; Kajala, 2013; https://www.naturvardsverket.se/Documents/publikationer/620-1258-4.pdf

Visitor impact monitoring

Indicators for monitoring visitor impacts have been developed for a wide variety of settings, ranging from whole ecosystems to individual facilities (Table 5.1, next page) (Buckley, 2003a; UNWTO, 2004). Monitoring can be focused on the condition of recreation infrastructure, which should be able to sustain visitor impacts through its design and management. Ecological resources can also be the focus, especially for sensitive landscapes, habitats or species. Visitor use and behaviour can be monitored to evaluate impact-causing behaviour, such as littering and off-trail walking. The selection of a monitoring focus and specific indicators is largely dependent on the management objectives. Some indicators, such as soil erosion, are common across regions or ecosystems, while others, such as disturbance of certain wildlife species and unique tourism infrastructure, may be region-specific (Leung, 2012).

Low-cost programmes typically involve photographs taken repeatedly from the same location of concern, often referred to as a 'photopoint' (Lucey & Barraclough, 2001; Augar & Fluker, 2015). Changes in resource conditions can be detected or quantified by comparing a series of images over time. Mid- and high-cost programmes require field equipment such as GPS

Table 5.1. A summary of common monitoring approaches to visitor impact indicators

Monitoring Focus	Low-cost	Mid-cost	High-cost
Recreation infrastructure (trails, campsites, scenic overlooks, etc.)	Repeat Photography	Fixed transects	Comprehensive inventory and assessment
Ecological Resources (soil, vegetation, wildlife, water)	Repeat Photography	Fixed transects; camera traps	Detailed ecological assessment
Visitor use and behaviour (e.g. type and distribution of use, evidence of non-compliant behaviour)	Visitor Counts	Behaviour observation or mapping	Camera/video monitoring; visitor surveys

Box 5.4

Monitoring of visitor use and impact indicators in Yosemite National Park (USA)

Yosemite National Park (YNP), established in 1890 and declared a UNESCO World Heritage Site in 1984, is renowned for its biodiversity and valued landscapes, attracting nearly four million tourist visits each year.

In 2004, YNP began developing, testing and refining protocols to collect data related to the health and performance of natural and cultural resources, as well as conditions influencing visitor experience. These indicators were chosen by a collaborative group consisting of YNP managers and planners, interagency partners, contractors and academic institutions based on the values identified in management plans for the park and its rivers. Refinements over time have included the elimination of data redundancies and streamlining of condition categorisations, where appropriate, to increase reliability and sensitivity. Eight major indicators are being monitored as part of the programme:

1. **Water quality**: nutrient levels, *E. coli* and total petroleum hydrocarbons;
2. **Riverbank condition**: channel morphology, vegetation condition, people-at-one-time counts at the monitoring site;
3. **Visitor-created informal trails**: extent, condition, fragmentation effects;
4. **Natural soundscapes**: noise level, intensity, duration, type of impact;
5. **Archaeological site conditions, stability and integrity**: type and intensity of human disturbances;
6. **Visitor use variables**: people at one time, people per viewscape, boats at one time, vehicles at one time (translated into densities);
7. **Wilderness encounters**: hourly average number of encounters per day with groups, individuals, and pack stock, monitored by discrete trail segments; and
8. **Wildlife exposure to human food**: rate of compliance with food storage regulations at campgrounds and parking lots.

Informal trails and related disturbed areas are one of the selected visitor impact indicators for Yosemite National Park (Top). A popular visitor attraction in Yosemite National Park, Glacier Point (Bottom). © Yu-Fai Leung

Baseline measurements from repeat monitoring are used to establish scientifically based standards for long-term planning and management. A *Field Monitoring Guide*, which includes indicator selections and monitoring schedules, as well as annual reports with results and proposed standards, is publicly available on the YNP website and has been widely shared in public meetings. To ensure the sustainability of the large-scale monitoring programme, in addition to park staff YNP has engaged park partners and interns in data collection, which has proven time- and cost-effective.

Source: Yosemite National Park, 2015

(Global Positioning System) units, infrared cameras, measuring tapes, soil testing tools and vegetation quadrats. Categorical or numerical measures are taken by trained field staff or volunteers, resulting in richer datasets. Handbooks and protocols have been developed for recreation sites (Cole, 1989) and trails (formal and informal) (Marion & Wimpey, 2011).

Effective ecological monitoring is relatively expensive. For example, proper impact monitoring of treated sewage outflows into an ecologically significant creek system, with sufficient detail to detect ecological threats, requires frequent and year-round measurements of physical parameters, such as turbidity; chemical parameters, such as nitrogen and phosphorus; microbiological parameters, such as faecal coliforms and particular protozoa and bacteria; and populations of any threatened fish and macroinvertebrate species, such as crayfish. These parameters need to be measured at control sites, as well as the site of the discharge itself. One way to handle the work is to contract it to specialists. Zhangjiajie National Park (China), for example, contracted with a nearby university to establish and operate a water quality monitoring laboratory to track all these parameters, both upstream and downstream, of various visitor toilet facilities inside the park.

Monitoring diffuse impacts is even harder. For example, monitoring for new invasive species that may be accidentally introduced into a protected area by tourist activity requires tireless vigilance by field staff with sufficient taxonomic expertise to recognise non-native species, even when they are cryptic. The following four examples may illuminate this difficult task: (i) the only sign of feral cats, dogs or foxes may be the remains of kills and an occasional scat; (ii) introduced rats and mice may be detected only through routine trapping, until they reach ineradicable plague proportions; (iii) invasive plants may not be detectable until they flower and set seed; and (iv) invasive pathogens may not be detected until they have widespread effects on native plant or animal species. These difficulties are even more severe in marine protected areas, where a variety of vessels can discharge—largely undetected—untreated human waste and ballast water.

Tracking social impacts on local communities is also an important part of visitor impact monitoring. The Tourism Impact Attitude Scale tests the effects of many variables on the attitudes of residents towards tourism, such as residence, economic dependency on tourism, distance of the tourism centre from the resident's home, resident involvement in tourism decision making, birthplace, level of knowledge, level of contact with tourists, demographic characteristics, level of tourism development, perceived impacts on local outdoor recreation opportunities, and rates of community growth (Lankford & Howard, 1994).

Several research databases have compiled a catalogue of visitor impact indicators. Examples include the Wilderness Recreation Searchable Database (http://leopold.wilderness.net/recData/) and the US National Park Service's Indicators and Standards Database (http://usercapacity.nps.gov/search.aspx) which help determine what indicators to measure and what methodologies to use for each indicator. Box 5.4 provides an example of an ongoing visitor use and impact monitoring programme in Yosemite National Park, USA. This programme supports the park's visitor use planning efforts through implementation of an adaptive management model derived from the Visitor Experience and Resource Protection Framework (USNPS, 1997).

Endangered African wild dogs entertain safari goers at DumaTau Camp, in Botswana's Linyanti Region. © Wilderness Safaris and Russel Friedman

Box 5.5

Visitor monitoring using multiple techniques: Willmore Wilderness Park (Canada)

Horseback riders are a major user group in many protected areas, so monitoring their numbers and trends over time is important for park managers. © Debbie Mucha

Willmore Wilderness Park (WWP), located in the Canadian Rocky Mountains and approximately 4600 km^2 in area, is Alberta's largest wilderness provincial park. Willmore has a diverse ecological landscape, which is home to a variety of fauna and flora species such as wolverine (*Gulo gulo*), fisher (*Martes pennantei*), grizzly bear (*Ursus arctos*), whitebark pine (*Pinus albicaulis*) and Porsild's bryum (*Mielichhoferia macrocarpa*). Willmore consists of rugged, remote and extensive natural landscapes capable of providing rare and unique wilderness experiences and a wide array of recreational activities.

Due to the park's physical remoteness, the challenges associated with monitoring dispersed wilderness use, and limited resources, few attempts had been made to gather relevant visitor information. There was no registration requirement (or user fee) for visitors, so it was not possible to gather information from permits. Without information on visitor numbers and activities, it was difficult for managers to make accurate decisions about the park.

SPOTLIGHT BEST PRACTICE

Coordinate and integrate monitoring of environmental and social impacts, with appropriate technologies and sufficient funding.

Existing visitor data collected for WWP was sparse and out-of-date, so the park began a new monitoring programme. To acquire an improved understanding of WWP visitors, managers used traditional study instruments (e.g. surveys) along with recent and emerging technologies (e.g. trail cameras and GPS 'tracksticks', a portable location recording device). Self-administered trail surveys were distributed through trailhead kiosks, local visitor information centres and through the internet. In-depth surveys were mailed out to users who provided their contact information on the trail surveys. Visitor characteristics and visit information were acquired by placing trail cameras at the main trail entrance at each of the four staging areas into Willmore (on the Alberta side). GPS devices were deployed to capture satellite-based route information about users. Lastly, semi-structured interviews focused on users' relationships to the park. Interview participants were selected through a 'snowball' sampling technique, which identified participants based on referrals from preceding participants. The multiple techniques utilised in this project produced a wealth of visitor information for Willmore that managers can use to maintain and improve visitor experiences within the park.

This project was undertaken with limited resources within a large study area, yet produced valuable visitor information. An improved understanding of park visitors benefitted not just park managers, but commercial operators, the park visitors themselves, special interest groups and user groups, as well as the general public. However, visitor monitoring cannot just exist as a snapshot in time but needs to be continued. By understanding more about park users over time, this ongoing project will help balance conservation with recreation objectives within WWP.

Visitor experience monitoring

The quality of visitor experience is an essential indicator of sustainable protected area tourism (McCool, 2006). Informal data provided by visitors on service feedback cards, visitor logs or social media provide some hints of visitor experience, although such information may be biased toward the extremes. More systematic ways to monitor visitor information involve on-site surveys, usually administered at visitor centres or the main tourist access points. Post-visit mail-back, email or internet survey techniques are also feasible options. Boxes 5.5 and 5.6 provide examples of visitor experience monitoring from Canada and the Czech Republic, respectively.

Box 5.6

Monitoring the patterns of visitor experience at Průhonice Park (Czech Republic)

A panoramic view of the trail system of the Průhonice Park (Left). Popular visitor activities focus on walking, taking pictures and viewing plants and flowers (Right). © Luis Monteiro

Průhonice Park, classified in 1992 as a World Heritage Site as part of the Historic Centre of Prague, is one of the most intensively used parks in the Czech Republic. Covering an area of approximately 250 ha and with 30 km of trails, it is located 15 km southeast of Prague city centre and stands out for its special combination of ecological and cultural values, together with significant outdoor recreational opportunities. The park receives an average of 155,000 visitors annually, with the most intensive visitation occurring in April and May. Due to the park's high popularity, some of its areas are crowded at certain times. To address concerns about social impacts, Průhonice Park management established a research programme to monitor visitor experience, and to understand and analyse visitor movement and behaviour patterns. The research was based on a hybrid approach consisting of two complementary parts: questionnaires and GPS surveys. The research was divided into three main stages: data collection, survey analysis and data synthesis.

During eleven random days in June 2012, visitors were contacted at the park's main entrance and invited to participate voluntarily prior to registration. They were briefly introduced to the project and asked to fill in a simple sociodemographic questionnaire. Each respondent was then given a GPS unit and asked to carry it during the remainder of his or her visit and return the unit upon completion. GPS data were downloaded for spatial and temporal analyses. All units were returned, resulting in a total of 112 completed visitor surveys. The GPS dataset was linked with equivalent questionnaires in strict association with visitor type, and information was generated regarding the most popular places, preferred itineraries, time spent at each site, and distance and speed of travelling. Results were overlapped with a GIS data inventory of Průhonice Park's trail system including the different attractions and facilities. This allowed the production of more realistic scenarios regarding typical visitor movement patterns, preferences and behaviours within the park.

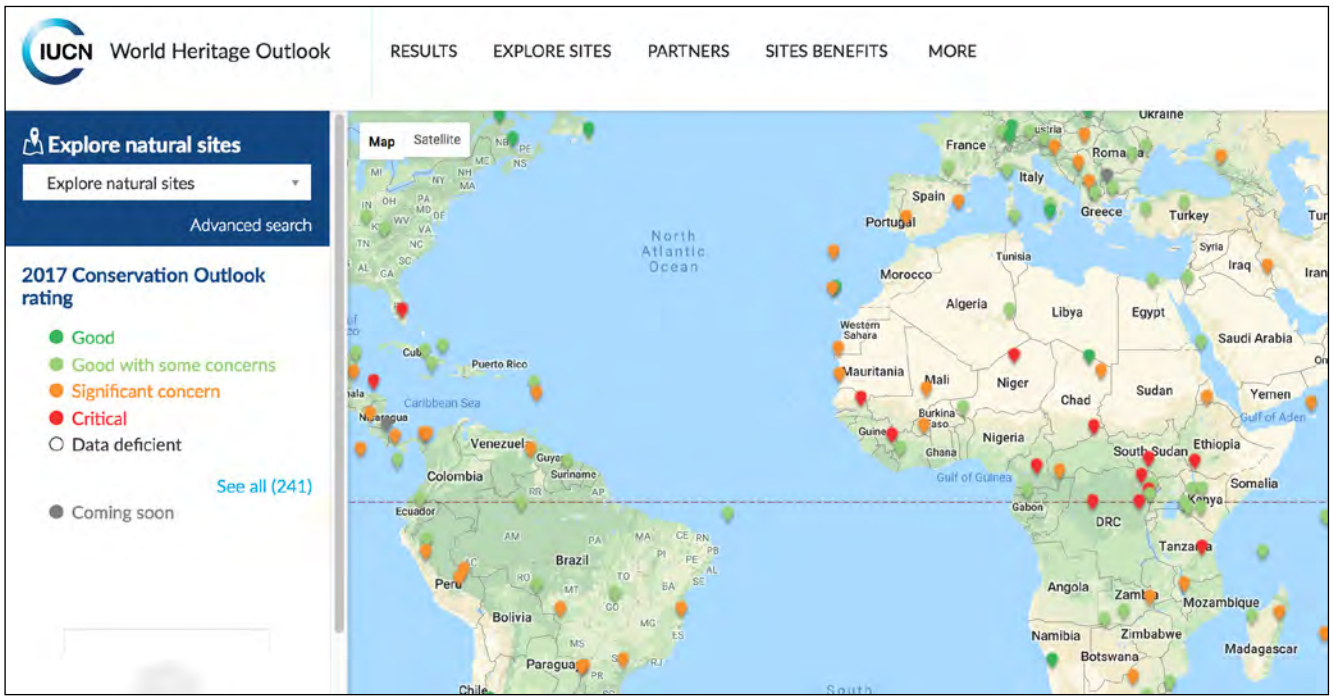
As expected, park use is concentrated near the main entrance, and visitors of all types tend to spend between one and two hours in the park while covering an average distance of 4.2 km per visit. The highest visitor use was found near cultural and natural locations, such as the castle complex, ponds and botanical garden. Therefore, it was possible to identify different park areas likely to become crowded and put in place measures to avoid overcrowding and degradation due to human activities.

SPOTLIGHT BEST PRACTICE

Understand what values are being protected and the operational context prior to selecting a visitor management tool or practice.

Source: Průhonice Park, 2017

Figure 5.2. The World Heritage Outlook user interface on the IUCN website



Source: http://www.worldheritageoutlook.iucn.org/

Monitoring management effectiveness

The importance of assessing management effectiveness for protected areas has been increasingly recognised. IUCN WCPA has established a six-element framework for assessment along with detailed guidelines for its implementation, and visitation and tourism indicators can be an important set of assessment criteria (Hockings, et al., 2006). Criteria include tourism-related legislation and policy, governance, infrastructure, resources to support visitor management, and efficacy of management actions. Repeated assessments of these criteria serve as a monitoring mechanism to track performance of tourism and visitor management at the protected area site or system level.

Similarly, the *Conservation Outlook Assessment*, undertaken by the IUCN World Heritage programme, monitors the status of natural World Heritage Sites, the effectiveness of their protection and management, and trends in threats facing them (IUCN, 2014). Reports and classifications of sites are accessible through the World Heritage Outlook interactive web map (Figure 5.2). Additionally, the reports are used to communicate the benefits of natural World Heritage Sites and conservation efforts to rights-holders and stakeholders (IUCN, 2012a; IUCN, 2014; IUCN, 2017b).

5.2 Principle #8: The decision-making process should separate technical description from value judgements

This principle is essentially a basic check on how we think about tourism management issues. Most of these decisions have a technical component that can be described straightforwardly, as when we decide where to route a trail and then mark it out on a map. This may seem like a purely technical decision, but it is determined by what we value: we may, for example, decide to place the trail so it avoids a rare plant community that we believe is worthy of preservation.

Behind every technical decision lies a value judgement, and human values are the drivers of what we care about—protected area managers included. For managers, the values that are actionable are those embedded in laws, regulations and policies. Technical information and data inform actions that managers can take to help us realise those values. Being clear about the distinction between technical description and their source in value judgements helps us understand why we make the decisions we do.

5.3 Principle #9: Affected groups should be engaged since consensus and partnership is needed for implementation

Partnerships are an important part of sustainable tourism in protected areas. For a partnership to be truly successful managers must ensure that:

1. All partners decide on, understand and agree to their roles and responsibilities and document them in writing;
2. All those involved equally shoulder the duties and commitment;
3. The partnership is mutually beneficial;
4. Mechanisms are in place to evaluate the success and benefits of the partnership; and
5. Open and honest communication is a priority.

Partnerships between protected area agencies and NGOs, Indigenous Peoples, local communities, and the private sector can be very rewarding, but also highly challenging because each group has different goals as well as different ways of achieving them. By working jointly through participatory planning to develop management plans and activities, effective partnerships can be established between multiple stakeholders and with local communities.

Box 5.7

Planning process case study: Phong Nha–Ke Bang National Park (Viet Nam)

A panoramic view of the eastern entrance of the Phong Nha–Ke Bang National Park (Left). © Li Migura. Discussion during a participatory planning meeting (Right). © Maximilian Roth

Phong Nha–Ke Bang National Park is located in the central Vietnamese province of Quang Binh. In 2003, the National Park was declared a UNESCO World Heritage Site for its geological and geomorphological values, specifically its unique limestone karst formations and cave system. The designation as a World Heritage Site helped promote tourism in the Quang Binh province, with tourist arrivals increasing from 80,000 in 1999 to over 400,000 in 2012.

This rapid tourism growth increased pressures on the ecosystems in the region and the communities living within the National Park's buffer zone, which rely heavily on the local natural resources. In 2007, the Vietnamese government began implementing a collaborative development project with Germany's Federal Ministry for Economic Cooperation and Development. The project focused on the core zone of the National Park and the buffer zone, which includes 13 communes and 157 villages. The project sought to create a management plan for the National Park to protect its biodiversity and ecosystems, support the local population through sustainable development of the buffer zone, and promote sustainable tourism in the region.

A participatory process with rights-holders and stakeholders led to the development of a Sustainable Tourism Development Plan 2010–2020, which serves as the major planning tool for local and provincial authorities. Significant collaboration among government authorities, park managers and local communities is one of the key reasons that the plan was mutually agreed to.

Sources: GIZ, 2014; Hübner, et al., 2014; GIZ, 2015a; GIZ, 2015b

Specific guidelines on tourism partnerships are available. For example, the Canadian Tourism Commission has published best practice guidelines for collaborations between protected areas and tourism operators, which can serve an example for similar documentation of best practices in other parts of the world (Pam Wight and Associates, 2001).

Participatory planning and community engagement

Sustainable tourism and visitor management entails a planning process with numerous steps and can engage many rights-holders and stakeholders, including Indigenous Peoples and local communities (Box 5.7). More examples of best practices in tourism planning are in Melenhorst, et al. (2013) and GIZ (2014).

Collaborative planning can be a proactive approach to build community consensus, engagement and capacity for managing the positive and negative impacts of tourism. It should be recognised, however, that genuine engagement with local communities on tourism management is only one end of a spectrum of types of participation. Communities can also be 'engaged' in a purely passive—or even manipulative—way. Genuine, collaborative engagement involves interactive participation with joint development or implementation of plans (Table 5.2, next page).

5.4 Principle #10: Communication is key to increased knowledge of and support for sustainability

Protected area managers need to develop with a clear communications strategy to support sustainable tourism. They need to consider who their target audience is, and tailor the message to that audience, as well as to the context in which communication is taking place. Feedback is an essential aspect of

communication, providing evidence that the desired message was received and understood. Stakeholder meetings, in-person consultations, use of social media, and online discussion groups are all essential communication tools. Clear and tailored messages are essential for written communication tools, such as park signage, websites, newsletters and brochures. Indirect communication also takes place through such channels as protected area employee conduct and appearance, and the maintenance condition of tourism infrastructure. Done well, communication can build public support for protected area conservation and management (see Box 5.8).

Table 5.2. Types of community participation in tourism management for protected areas

Types	Characteristics
Manipulative participation	Participation is a pretence: people have no power in decision making.
Passive participation	People participate by being told what has been decided or has already happened.
Participation by consultation	People participate by being consulted or by answering questions. Process does not allow any shared decision making. Professionals are not required to include people's views.
Participation for material incentives	People participate by contributing resources (e.g. labour) in return for food, cash or other material incentives. People have no stake in prolonging practices when the incentives end.
Functional participation	Participation seen by external agencies as means to achieve project goals; may include shared decision making, but only after major decisions have already been made by external agents.
Interactive participation	People participate in joint analysis and development of action plans. Participation is a right, involving structured learning processes.
Self-mobilisation	People take initiatives independently of external institutions. They retain control over resource use and decision making.

Source: Pretty, 2005

Box 5.8

The role of Almaty Nature Reserve in changing the perception of a protected area among a local population in Kazakhstan

Almaty Nature Reserve occupies an area of 71,700 ha on the northern slope of Transili Alatau, one of the Northern Tien Shan mountain ranges. The reserve contains 1,100 species of higher plants and more than 50 of rare plants, including 26 listed in the Red Data Book of Kazakhstan, a publication similar to an endangered species list.

For decades since its establishment in 1931, the nature reserve had no public access, and only allowed visits from research scientists and some educational visits for schools to the reserve's museum. The protectionist approach led to negative attitudes among the local population, because prior to the reserve's establishment, berry-, mushroom- and fruit-picking took place, and these activities had contributed significantly to family incomes.

A Reserve educator shows children rare plant species in the Nature Museum. © Alexandra Vishnevskaya

To promote more positive local perceptions about the protected area the reserve staff adopted a strategy including environmental, educational and public components.

The *environmental* component of the strategy focuses the protection of the natural mountain complexes of the Transili Alatau, including its flora and fauna. The *educational* component includes close collaboration with the local schools in Talgar. The *public* component consists of important initiatives such as "March for Parks", close collaboration with the media and public bodies, and production of publications, leaflets and brochures.

Following 10 years of this approach, local perceptions about the reserve are more positive, with more than 50% of the population speaking favourably of the Almaty Nature Reserve. Future plans include developing responsible ecotourism, continuing educational work and building partnerships with the protected areas and higher education institutions worldwide.

Source: Dzhanyspayev, 2006

Use of information technologies

Satellite phones, GPS-enabled smart phones and other navigational devices help rangers, game guards and wardens engaged in law enforcement, and enable park visitors to travel into remote areas with greater ease. One example is WebPark, a location-based service available in Europe that allows individuals to use their mobile device to obtain information about protected areas, including trail conditions and avalanche warnings (Krug, et al., 2003), and provides quick access to emergency services. However, research indicates that visitors may take greater risks due to the inaccurate perception that such services can minimise the dangers of wilderness travel.

Furthermore, access to mobile telephone service and the provision of wireless internet in campgrounds and interpretive centres poses both benefits and drawbacks. On one hand, young people may be more inclined to visit a protected area with their parents if internet and social media access is available. On the other, this constant connection to the outside world may erode the restorative properties of nature, disrupt social bonding opportunities, and discourage physical activity.

Technology use by the protected area agency to facilitate visitation has also advanced (Box 5.9). Examples include GIS planning tools used to integrate conservation and visitor experience goals, and satellite-enabled feeds from visitor counter

Box 5.9

The application of information technology in Jiuzhaigou Valley National Park (China)

Famous waterfalls in Jiuzhaigou Valley National Park, China. © Chengzhao Wu

Jiuzhaigou Valley (Chinese for "Nine Village Valley") is located in Sichuan Province of China. The valley stretches over 720 km^2 with a buffer zone of 598 km^2. The superb landscapes of Jiuzhaigou Valley are known for their iconic narrow conical karst landforms, fabled blue and green barrier lakes, and spectacular waterfalls. It is also the habitat for a number of endangered plant and animal species, and is one of China's thirteen giant panda (*Ailuropoda melanoleuca*) sanctuaries. In 1992, Jiuzhaigou Valley National Park (IUCN Category V) was declared a UNESCO World Heritage Site. It is one of most visited World Heritage Sites in China, posing significant tourism management challenges to managers.

Modern information technology is utilised in this protected area to support management and improve tourism services. A platform has been established to collect and manage information and facilitate policy-making processes, using satellite navigation and communication technology to integrate several advanced technologies and methods, including a GIS (Geographic Information System), RS (Remote Sensing), a GPS/CNSS (Global Positioning System/Compass Navigation Satellite System), RFID (Radio Frequency Identification), EB (Electronic Business/Commerce), and VR (Virtual Reality). This platform is helping optimise business operations and public relationships, including the alleviation of crowding during peak season. Other functions include constant, accurate monitoring of ecosystem changes within the preserve, so that alerts about natural disasters are more rapidly disseminated and emergency responses are better planned.

Source: IUCN, 2017e

devices that ensure more accurate and timely visitor monitoring. Through the internet, visitors can participate in online blogs about their favourite parks, observe conservation in action through park-hosted webinars, and make campground reservations in real time with 360-degree previews of their selected campsites. Protected area agencies use social media such as Facebook and Twitter to communicate urgent news, such as wildfire outbreaks, and build communities of supporters with shared park interests.

Education and interpretation

Education and interpretation are key objectives of many protected areas. Protected areas have enormous value as places people can learn about nature and cultures, and develop positive attitudes towards conservation. Education and interpretation programmes facilitate this process whilst also providing valuable tools for addressing visitor behaviour and its impacts.

Box 5.10

Interpretation centres in the National System of Natural Protected Areas in Peru

Interpretation Centre Education Panel. © Jorge Chávez

Paracas National Reserve Interpretation Centre. © Jorge Chávez

Peru's National System of Natural Protected Areas is an essential part of the country's natural heritage, covering more than 22 million ha—almost 17% of the country. Its main objective is to preserve representative samples of the natural diversity of the country.

The National System of Natural Protected Areas aims to develop sustainable and diversified tourism with minimal negative impacts. In line with the System's objectives, tourism is understood as a tool for encouraging public use and access to these areas. To this end, key guidelines for tourism include ensuring minimum social and environmental standards in quality and competitiveness in service; contributions to the knowledge of natural and cultural resources in the areas through the development of environmental awareness; and the generation of income to protected areas.

SPOTLIGHT BEST PRACTICE

Be strategic about which protected area values are highlighted in environmental education and interpretation programmes and align them with the overall goals and objectives of the protected area and/or the system of which it is a part.

Interpretation centres have been developed to inform and educate visitors in a simple, flexible and instructive way, using information technology and other basic resources to deliver the message. For example, the interpretation centre at Paracas National Reserve on the southern coast has information displays covering the historical, geological, paleontological, oceanographic, biological and socio-economic value of the reserve's 335,000-ha area. Interpretation combines resources, such as a video room; life-size reproductions of marine species; posters and photographs; a novel 'wind tunnel' that recreates the high winds, called *paracas*, that regularly hit the area; and video and sound systems about existing natural diversity and its relation with local populations. This interpretation centre cost US$ 800,000 and was built with the support of the Spanish Agency for International Development Cooperation. This is a best-practice example of environmental interpretation in Peru.

Interpretation is a communication process that forges emotional and intellectual connections between the audience and the meanings inherent in the resource (NAI, 2018). Performed well, for example, in the context of guided tours, visitor centres or published media, it can be highly effective (Box 5.10). In contrast, the broader process of *education* is concerned with the culture or development of personal knowledge and understandings that involve the growth of character, and moral and social qualities. It is a capacity-building process whereby the learner becomes able to relate the subject to pre-existing understandings, attitudes and perhaps deeply held values. To this end, it is useful to distinguish different levels of literacy:

- **Functional**—understanding the literal meaning of terms such as 'species', 'wildlife', and 'biodiversity';
- **Cultural**—understanding something within its cultural context (Box 5.11); and
- **Critical**—making sense of it in terms of its ideological underpinnings.

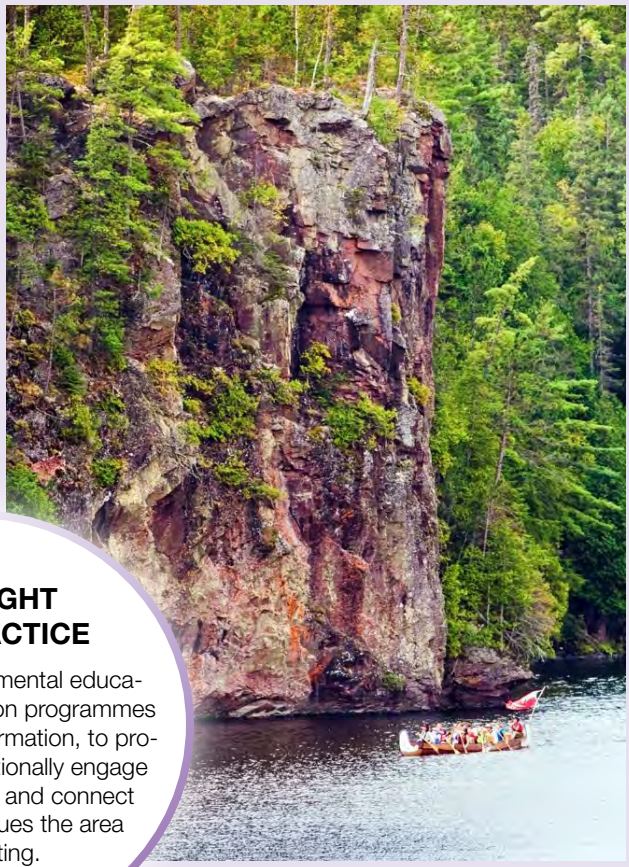
Marketing

A specialised form of communication, marketing deals with creating and delivering messages that have value to customers, clients and society at large. It traditionally entails a focus on the *four Ps*: products (offerings), pricing, promotion and place (distribution) (Halpenny, 2007). For protected area managers dealing with tourism, efforts may focus on market research to understand the needs, characteristics and behaviours of potential visitors. But marketing outreach can also target rights-holders and stakeholder groups, employees, and many other audiences (Wearing, et al., 2007). As a practical matter, most protected areas that want to do market research will not have the expertise needed on-staff, and will have to contract for it.

Box 5.11

Participatory history: Engaging visitors through knowledge and skills-based interpretation (Canada)

Samuel de Champlain and Mattawa River are two of Ontario, Canada's, 330 Provincial Parks. They are located on the Mattawa River, recognised today as a Canadian Heritage River. The Provincial Parks feature 200 camping sites, a store, more than 20 km of hiking trails, a back-country canoe route and a visitor centre. During summer 15 to 20 people staff the facilities. Six interpreters provide a range of free traditional interpretive programming, including guided hikes, children's programmes and evening programmes. For a modest fee, visitors can participate in the *Voyageur Adventure Tour* programme. Through first-hand experiential learning, participants gain an appreciation of Canada's history and develop a strong connection to the Mattawa River.



Visitors participate in experiential learning in replica voyageur canoes on the Mattawa River. © Jake Paleczny

SPOTLIGHT BEST PRACTICE

Move from environmental education and interpretation programmes that simply relay information, to programmes that emotionally engage visitors and youth, and connect them with the values the area is protecting.

On a Voyageur Adventure Tour, 10 participants spend 1.5 hours paddling a replica 11-m voyageur canoe on the Mattawa River. A brief introduction by guides lays out necessary safety precautions and sets the scene. Once out on the river, interpretation begins with the tangible components of the immediate setting, including the replica voyageur canoe, paddles and period clothing of the voyageurs. Costumed interpreters sing the traditional songs of voyageurs while paddling, creating an authentic, uninhibited atmosphere. As the initial novelty of being in a voyageur canoe starts to fade, interpreters engage participants with skill-based activities around paddling and manoeuvring the canoe. Then the interpreters begin adding on cultural elements by telling stories and teaching participants voyageur songs. Interpreters recall place-specific historic records, eliciting personal stories and experiences that provide a point of connection between today's visitors and the Mattawa River.

The Voyageur Adventure Tour has a strong foundation in a clear, accessible, place-based theme. Participatory learning experiences are highly engaging for the participants, and incorporating skills helps avoid information overload. Visitors are truly participants in both a physical sense as they paddle, and in an intellectual sense as they discuss, question and have fun!

Box 5.12

Parks Canada's use of market research data and experience marketing

Parks Canada, the federal agency responsible for the country's National Parks (as well as other kinds of protected natural areas and cultural sites), has focused heavily on understanding who its clients are and how to deliver memorable, transformative, tailored experiences in order to reinforce political support for nature conservation. Parks Canada invests in social science research that documents visitors' attitudes towards, and use patterns of, the protected areas under its management. This involves surveys and monthly research panels that ask past visitors about specific protected area tourism subjects (e.g. opinions about human–wildlife conflict or effectiveness of reservations systems). The agency also pays for nationwide telephone surveys of Canadians to obtain information about those who do not visit, and purchases data from market research firms to augment its understanding of social, economic and cultural trends that shape Canadians' opinions about protected areas, and their decisions to visit them or not.

The Explorer Quotient (EQ) Quiz accessed from the Parks Canada's *Planning Your Visit* webpage (http://www.pc.gc.ca/en/voyage-travel/)

In collaboration with the Canadian Tourism Commission and research firm Environics Canada, the agency has identified nine distinct experiential user types who visit Canadian protected areas. This outcome was used to create the Explorer Quotient (EQ) programme, which uses psychographic research to explain why people travel and what experiences they seek. Distinct EQ experiences are staged by Parks Canada at each protected area to meet the needs of each of these user types. Visitors can take the Explorer Quotient quiz, and prior to their visit, download a list of offerings available at the protected area that are tailored to their specific travel interests. See http://www.pc.gc.ca/voyage-travel/qe-eq/qe-eq_e.asp for more examples. When combined with other sources of market data, the EQ programme assists Parks Canada to make sound decisions on how to develop and facilitate experience opportunities.

A second important social science dataset is Environics Analytics' segmentation system, called PRIZM C2, which classifies Canada's neighbourhoods into 66 unique lifestyle types based on psychographic and demographic data. Cross-referencing these classifications with the EQ programme data enables Parks Canada to target promotions to specific neighbourhoods across the country, increasing the efficiency and effectiveness of its communications efforts. See http://www.environicsanalytics.ca/data/segmentation/prizmc2 for more information. An example of its use with Canadian protected area visitors is available at http://www.environicsanalytics.ca/blog-details/ea-blog/2014/07/11/summer-s-here-but-some-are-not.

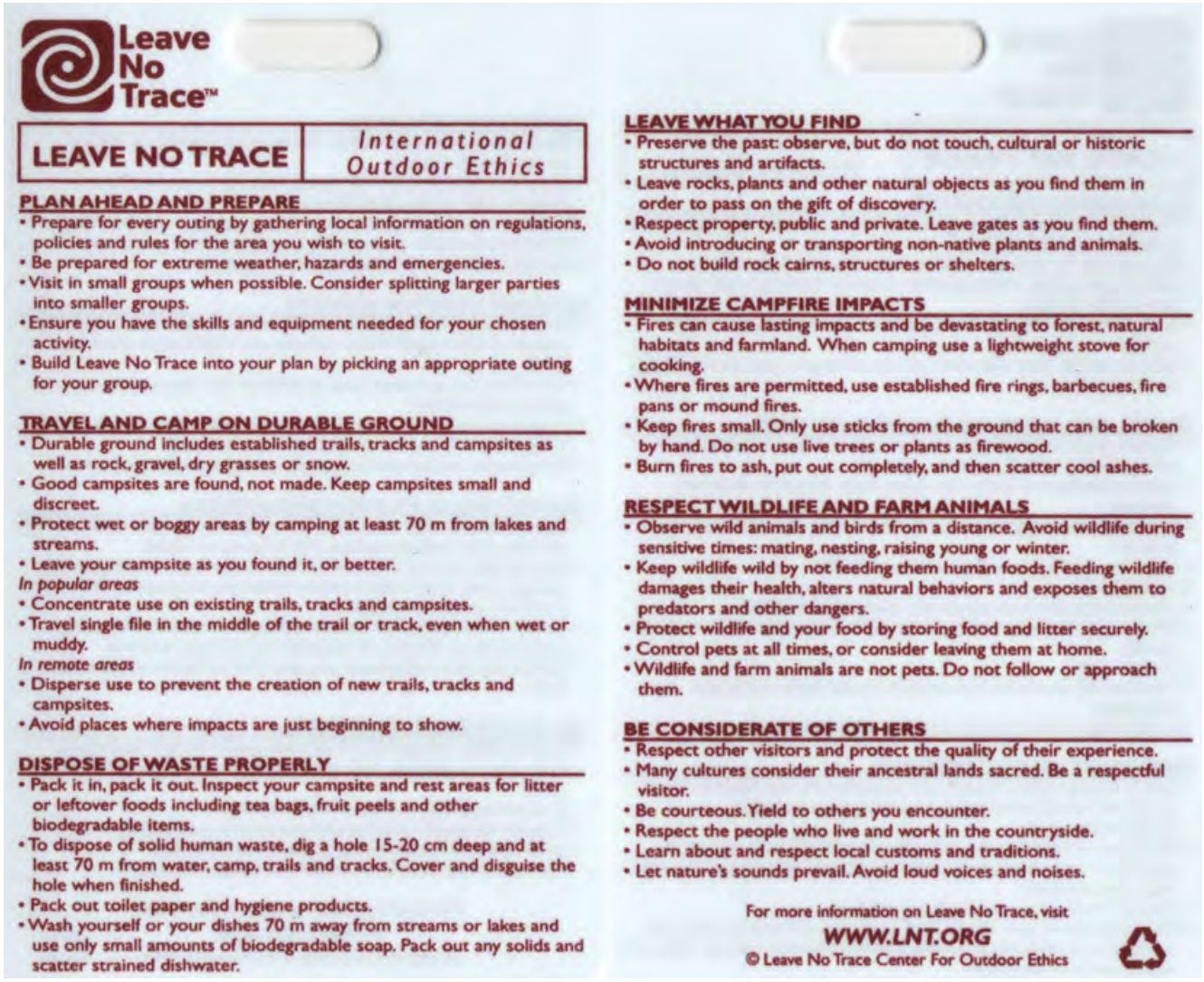
Source: Jager & Halpenny, 2012

SPOTLIGHT BEST PRACTICE

Achieve a strong understanding of different constituents through research and analysis prior to engaging in marketing strategies.

Protected agencies can engage in five types of marketing:

1. **Social marketing prioritises** outcomes that will benefit society and the individual. For example, Parks Victoria partnered with health care professionals to promote their Healthy Parks, Health People campaign (Box 3.4). As part of this campaign, doctors prescribed a park visit to patients, which resulted in improved human health.
2. **Relationship marketing** occurs through long-term, mutually beneficial relationships between protected area agencies and rights-holder and stakeholder groups (Borrie, et al., 2002). This includes fostering positive and supportive internal relationships within a protected area organisation as well as with partners. An annual volunteer recognition event is one mechanism for fostering positive relations. Coordinating a visiting journalists' programme is another possible approach (Wearing, et al., 2007).
3. **Demarketing** is a strategy used when protected area managers need to discourage demand for a particular location or service to reduce environmental impacts or enhance visitor experiences. Methods of demarketing can include increasing prices, creating a queuing system, generally promoting less, or promoting only to select audiences. Promoting alternative offerings that may satisfy the same needs and wants, or highlighting over-visitation problems, such as environmental degradation, are other ways to demarket a site (Armstrong & Kern, 2011).



Leave No Trace™

LEAVE NO TRACE | *International Outdoor Ethics*

PLAN AHEAD AND PREPARE
- Prepare for every outing by gathering local information on regulations, policies and rules for the area you wish to visit.
- Be prepared for extreme weather, hazards and emergencies.
- Visit in small groups when possible. Consider splitting larger parties into smaller groups.
- Ensure you have the skills and equipment needed for your chosen activity.
- Build Leave No Trace into your plan by picking an appropriate outing for your group.

TRAVEL AND CAMP ON DURABLE GROUND
- Durable ground includes established trails, tracks and campsites as well as rock, gravel, dry grasses or snow.
- Good campsites are found, not made. Keep campsites small and discreet.
- Protect wet or boggy areas by camping at least 70 m from lakes and streams.
- Leave your campsite as you found it, or better.

In popular areas
- Concentrate use on existing trails, tracks and campsites.
- Travel single file in the middle of the trail or track, even when wet or muddy.

In remote areas
- Disperse use to prevent the creation of new trails, tracks and campsites.
- Avoid places where impacts are just beginning to show.

DISPOSE OF WASTE PROPERLY
- Pack it in, pack it out. Inspect your campsite and rest areas for litter or leftover foods including tea bags, fruit peels and other biodegradable items.
- To dispose of solid human waste, dig a hole 15-20 cm deep and at least 70 m from water, camp, trails and tracks. Cover and disguise the hole when finished.
- Pack out toilet paper and hygiene products.
- Wash yourself or your dishes 70 m away from streams or lakes and use only small amounts of biodegradable soap. Pack out any solids and scatter strained dishwater.

LEAVE WHAT YOU FIND
- Preserve the past: observe, but do not touch, cultural or historic structures and artifacts.
- Leave rocks, plants and other natural objects as you find them in order to pass on the gift of discovery.
- Respect property, public and private. Leave gates as you find them.
- Avoid introducing or transporting non-native plants and animals.
- Do not build rock cairns, structures or shelters.

MINIMIZE CAMPFIRE IMPACTS
- Fires can cause lasting impacts and be devastating to forest, natural habitats and farmland. When camping use a lightweight stove for cooking.
- Where fires are permitted, use established fire rings, barbecues, fire pans or mound fires.
- Keep fires small. Only use sticks from the ground that can be broken by hand. Do not use live trees or plants as firewood.
- Burn fires to ash, put out completely, and then scatter cool ashes.

RESPECT WILDLIFE AND FARM ANIMALS
- Observe wild animals and birds from a distance. Avoid wildlife during sensitive times: mating, nesting, raising young or winter.
- Keep wildlife wild by not feeding them human foods. Feeding wildlife damages their health, alters natural behaviors and exposes them to predators and other dangers.
- Protect wildlife and your food by storing food and litter securely.
- Control pets at all times, or consider leaving them at home.
- Wildlife and farm animals are not pets. Do not follow or approach them.

BE CONSIDERATE OF OTHERS
- Respect other visitors and protect the quality of their experience.
- Many cultures consider their ancestral lands sacred. Be a respectful visitor.
- Be courteous. Yield to others you encounter.
- Respect the people who live and work in the countryside.
- Learn about and respect local customs and traditions.
- Let nature's sounds prevail. Avoid loud voices and noises.

For more information on Leave No Trace, visit
WWW.LNT.ORG
© Leave No Trace Center For Outdoor Ethics

A hangtag outlining the seven Leave No Trace principles of outdoor ethics and recommended practices (www.LNT.org). © Leave No Trace Centre for Outdoor Ethics

4. **Co-marketing** involves the protected area agency and a specific partner (or partners) joining together to promote an offering and, mutually, take benefit from it. This is a financially savvy means to expand communication opportunities by reaching the partners' distinct audiences. Partnering with a media organisation, especially one with excellent internet reach, is a highly effective approach. For example, National Geographic Traveler and the US National Park Service worked together to promote tourism to the Waterton–Glacier International Peace Park World Heritage Site and the communities surrounding these parks. They branded the initiative 'Crown of the Continent', which raised awareness of the region's tourism and environmental stewardship development.
5. **Experience marketing** arranges for visitors to be immersed in the creation and delivery of a protected area experience, producing a very memorable and relevant outcome, which in turn can result in positive emotional ties, behaviour change and support for management (Box 5.12). Protected areas must pay particular attention to setting the stage for the experience, engaging all the senses, individualising the experience, tailoring it to a particular client group, keeping it fun, and providing memorabilia (O'Sullivan & Spangler, 1998; Pine & Gillmore, 1999; Ellis & Rossman, 2008).

Tourists accessing the land using a small boat in Antarctica. © Daniela Cajiao

5.5 Certification

Tourism certification generally involves a voluntary, third-party assessment of a tourism enterprise's conformity to a set of standards, including specific sustainability targets. A certification label awarded to tourism businesses can be used as a marketing tool to attract and reassure tourists about the responsibility and sustainability of the operator's activities. However, debate continues as to whether certification can actually influence consumer travel decision making, as many tourists are unaware of, or unsure of, what the many available certification labels mean (Font, et al., 2007; Haaland & Aas, 2010; Esparon, 2013).

Protected area agencies can give preference to companies that are certified by sustainable tourism schemes, such as Green Globe, Green Key and the Sustainable Tourism Eco-certification Standard (STEP), or regional programmes, such as Costa Rica's Certification in Sustainable Tourism Programme. This is only recommended if the park agency feels the certification scheme genuinely assesses and supports operators' efforts in sustainable practices. The rigor of many of these programmes remains contested (Spenceley & Bien, 2013).

In addition to tourism operators pursuing certification, protected area themselves can aspire to obtain eco-labels relevant to tourism management. For example, they can pursue certification of specific buildings (e.g. LEED, Leadership in Energy and Environmental Design) or daily operational efforts and processes (e.g. the International Organisation for Standardisation's ISO 14001 Environmental Management Standard) (CaGBC, 2017).

Protected area systems can initiate their own certification system in which sustainability targets are set and which each individual protected area must strive to meet. One example, the European Charter for Sustainable Tourism (ECST), is described in Box 5.13. Its Charter Toolbox defines the necessary criteria, minimum standards and monitoring indicators to be used when awarding a sustainable tourism certificate to a protected area.

Global Sustainable Tourism Council certification criteria

At the global scale, the Global Sustainable Tourism Council (GSTC) has developed criteria for certification and accreditation programmes that are applicable to protected areas (see Box 2.3), and recognises and accredits certification standards that are aligned with these criteria. The International Organisation for Standardisation (ISO) has the voluntary standard ISO 18065:2015, which specifies requirements for visitor services provided by protected area agencies (ISO, 2015).

The IUCN Green List of Protected and Conserved Areas

One recent development in assessing the effectiveness of protected areas at a global scale is the IUCN Green List of Protected and Conserved Areas programme, which entails a systematic process of nominating high-performing protected areas to an international roster (i.e., the Green List). The selection process is based on the effective management of protected areas for sustaining multiple benefits (IUCN, 2017d).

Box 5.13

Promoting partnerships through the European Charter for Sustainable Tourism

Set up in 1995, the European Charter for Sustainable Tourism in Protected Areas is a model of governance that provides a road map for a protected area to receive formal recognition as a Sustainable Destination. Achieving this award requires a long-term commitment from the candidate protected area to bettering its tourism management in ways that foreground conservation objectives while considering the welfare of local communities.

The charter recognises that the long-term management of protected areas requires the support of local partners, and that one of the best ways to garner it is to offer local communities and businesses economic opportunities compatible with each area's specific conservation objectives. Protected areas of all kinds and sizes can earn the European Charter.

The process for getting a European Charter requires the protected area to have five components in place:

1. A Sustainable Tourism Forum where the protected area authority, local municipalities, conservation and community organizations, and representatives of the tourism businesses can communicate with one another.
2. A Strategy and Action Plan, based on consultations with rights-holders and stakeholders, that includes an assessment of the current situation, a strategic direction, and a practical action plan.
3. An Evaluation mechanism, including on-site verifications that are reviewed by the Charter's Evaluation Committee.
4. Monitoring and Review protocols, including agreed indicators of performance.
5. A Partnership and Communication programme that includes the awarding of Charter Partner status to tourism businesses that meet agreed criteria for partnerships with protected area authorities.

By linking good protected area management with businesses committed to sustainable tourism, the European Charter offers an attractive and effective way to safeguard and augment the natural and cultural heritage of protected areas and prevent excessive or other inappropriate tourism development.

Sources: EUROPARC Federation, 2010, 2012, and 2018

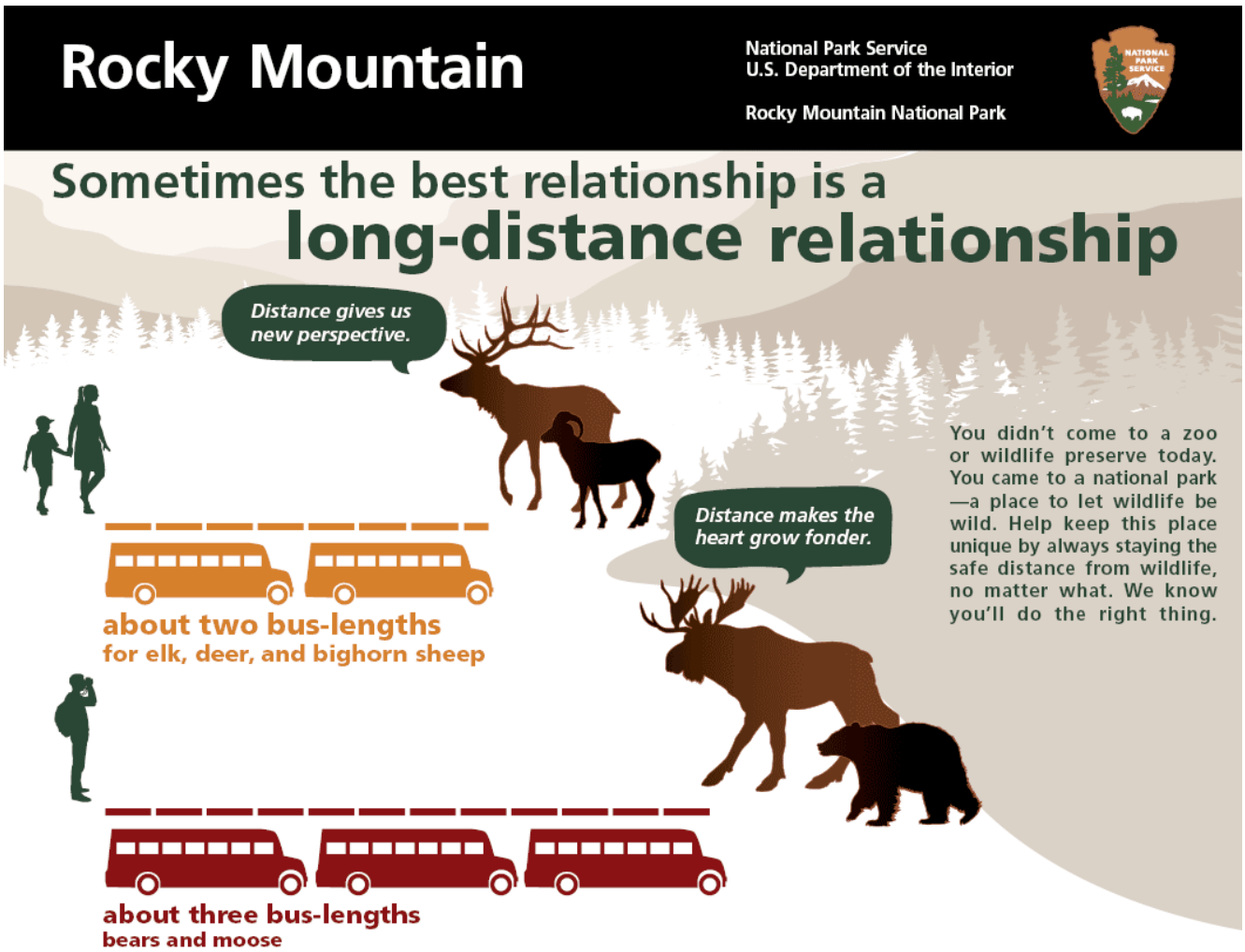
This includes assessment of tourism standards in areas that have a significant level of tourist visitation. One of the Green List pilot areas was Arakwal National Park (Australia), where tourism is an integral part of the conservation strategy (Bushell & Bricker, 2017). The criteria used for assessing protected area performance includes a suite of relevance to the management of tourism. Many of the criteria and indicators referenced above regarding the quality of tourism in protected areas would be a foundation for further assessment using the Green List criteria. Indeed, the recognition of a protected area on the IUCN Green List would also highlight its tourism potential and draw attention to the quality of tourism being conducted in and around the site. Further information on the IUCN Green List can be obtained at https://www.iucn.org/theme/protected-areas/our-work/iucn-green-list.

5.6 A threefold tourism and visitor management framework

We discussed four tourism management frameworks in Chapter 4: (i) the Recreation Opportunity Spectrum (ROS), (ii) carrying capacity, (iii) Limits of Acceptable Change (LAC), and (iv) indicators and standards of quality. Recent practice in the field of protected areas and outdoor recreation has evolved from an initial emphasis on resource considerations toward a more comprehensive approach, one which recognises a threefold framework of concerns that encompasses all or parts of the above four management frameworks, as well as the ten principles discussed above. The threefold tourism and visitor management framework proceeds according to these adaptive management cycle steps:

1. Management objectives and associated indicators and standards of tourism quality are formulated for a protected area as a whole, or for a site within it.
2. Indicators of tourism quality are monitored to see if standards are being maintained.
3. If standards of tourism quality are not being maintained, or are in danger of not being maintained, then management action is required to ensure that they are restored.

The threefold management framework takes slightly different forms in alternative contexts. For example, the US Forest Service uses the LAC framework (Stankey, et al., 1985), while the US National Park Service uses a framework known as Visitor Experience and Resource Protection (VERP) (USNPS, 1997). Parks Canada has adopted a framework called the Visitor Activity Management Process (VAMP) (Nilsen & Tayler, 1997), while a framework called the Tourism Optimization Management Model (TOMM) (Manidis Roberts Consultants, 1996) has been developed and used in Australia. South African National Parks applies a Thresholds of Concern framework to manage tourism and biophysical changes. While there are some differences in terminology and sequencing of steps, these and related frameworks rely on the three basic steps



A visitor education sign designed to address visitor-wildlife interaction issues in US national parks, including Rocky Mountain National Park, Colorado, USA.
© US National Park Service

described above (Manning, 2004). The generic threefold management framework requires periodic monitoring of indicators of quality, implementation of actions to maintain standards of quality, and adjustment of practices based on monitoring data. When circumstances change or a management plan needs to be revised, objectives and associated indicators and standards of quality can be reconsidered.

Management objectives and associated indicators and standards of quality can and should be considered for all three parts of tourism recreation in protected areas—the resource, experiential, and management components. The management component can be structured to ensure that costs and benefits are equitably distributed (e.g. through employing local residents) and that a reasonable share of economic benefits is used for conservation in the protected area.

In the USA, the need to integrate different visitor management frameworks to provide common guidance was recognised by six major federal natural resources agencies that, together, manage over 2.7 million km^2 of public lands. These agencies formed the Interagency Visitor Use Management Council (IVUMC, 2017) to provide a consistent, science-based visitor management framework that is applicable to them all and supported by communication and training strategies. In 2016, the council released the first guidebook on its own Visitor Use Management Framework (https://visitorusemanagement.nps.gov/VUM/Framework).

To date, visitor management frameworks have been applied primarily in North America, but use is increasing in other protected area systems around the world (Brown, et al., 2006; McCool, et al., 2007; Roman, et al., 2007; Reck, et al., 2015) to facilitate the adaptive management of visitor use.

Interpretation at Prince Albert National Park, Canada. © Glen Hvenegaard

Indigenous engagement in all aspects of park tourism can enhance management effectiveness. Daintree National Park, Queensland, Australia. © Glen Hvenegaard

UNESCO has also developed a World Heritage Sustainable Tourism Online Toolkit, which contains a series of guidelines that address strategy, governance, engagement, communication, infrastructure, product and service development, visitor behaviour, funding and monitoring (http://whc.unesco.org/sustainabletourismtoolkit/). The guidelines have been applied in destinations such as Maloti–Drakensberg Park World Heritage Site (Lesotho and South Africa), and Serengeti National Park World Heritage Site (United Republic of Tanzania). Finally, yet another visitor management framework, the World Tourism Organization's Sustainable Tourism Framework, has been proposed for adoption at Machu Picchu World Heritage Site (Peru) (Larson & Poudyal, 2012).

5.7 Best Practices

- Harness the skill and enthusiasm of volunteers through citizen science and other programs to carry out needed management activities, but be sure to provide proper oversight and quality control.
- Coordinate and integrate monitoring of environmental and social impacts, with appropriate technologies and sufficient funding.
- Understand what values are being protected and the operational context prior to selecting a visitor management tool or practice.
- Be strategic about which protected area values are highlighted in environmental education and interpretation programmes and align them with the overall goals and objectives of the protected area and/or the system of which it is a part.
- Move from environmental education and interpretation programmes that simply relay information, to programmes that emotionally engage visitors, and connect them with the values the area is protecting.
- Achieve a strong understanding of different constituents through research and analysis prior to engaging in marketing strategies.

Capacity building for sustainable tourism management

6

6.1 The components of capacity

Given that a basic principle of protected area tourism development is that experiences are dependent on the attributes of the area and should not compromise the conservation values contained within it (Eagles, et al., 2002; Eagles & McCool, 2002), competent management is essential not only for protection of the area but for the realisation of sustainable tourism. Management must ensure that visitor impacts are within acceptable limits and make possible the kinds of experiences that are appropriate for the protected area and consistent with its conservation objectives (Cole, 2004; Jager, et al., 2006; Worboys, et al., 2015). Building professional competency is one way of becoming more efficient in decision making and implementation (McCool, et al., 2012; Appleton, 2016).

This chapter expands on this important topic and provides a focused discussion on *capacity building* for tourism management, drawing on other efforts to promote capacity development in protected areas overall (IUCN, 2017a). 'Capacity building' is the process by which people acquire the means (the capacity) to achieve a set of goals or accomplish a project successfully. Capacity building does not simply mean training; it is much more than that. The process of capacity building includes enabling people to acquire the knowledge and abilities they need, whether through specific training, education in the broad sense, or development of critical thinking skills.

Capacity building includes a physical component: providing people with the facilities, equipment and natural resources necessary to achieve the goals of a programme or project. To build appropriate expertise and experience, it also includes a social, cultural and legislative/regulatory component: the development of the community support, legal and political institutions, and managerial structure required to achieve appropriate and sustainable tourism in the protected area. This chapter covers basic concepts and international examples of successful capacity building programmes or projects. Some barriers and problems are also identified.

Gliding along tranquil channels of the Okavango Delta in a traditional dug-out canoe, known locally as a "mokoro". Kwetsani Camp, Okavango Delta, Botswana. © Wilderness Safaris and Dana Allen

Every role in protected area tourism has its own set of core competencies

Core competencies (i.e. indispensable skills) need to be developed in a variety of people who are involved in managing tourism in protected areas, including:

- Managers who hold the legal responsibility to protect the area's natural heritage and associated cultural values, to design and manage appropriate tourism plans;
- Planners, architects, engineers and construction workers who develop and maintain facilities (e.g. roads, trails, visitor centres, toilets, overlooks);
- Employees of local businesses that provide needed services (e.g. food, transportation, lodging, interpretation);
- Commercial tour operators who conduct the activities that create visitor experiences;
- Employees of community and destination marketing organisations that promote the protected area;
- Scientists who develop knowledge about the impacts of tourism and the types of experiences visitors seek at an area;
- Other individuals who help communities and residents cope with social impacts and exploit new opportunities; and
- Communication specialists who develop environmental and cultural educational materials.

Provision of appropriate and high-quality visitor experiences requires an integrated approach involving each of these players. Each, therefore, requires a set of competencies to perform in a responsible and effective manner (Competencies Working Group, 2002; McCool, et al., 2012, Appleton, 2016).

Kinds of competencies

Building capacity is a process of communicating physical needs (e.g. law enforcement, interpretation, trail building), strategic requirements, and conceptual and critical thinking skills (e.g. reflection, understanding trade-offs, developing goals, creating alternatives, evaluating new challenges) (McCool, et al., 2012; Appleton, 2016). These latter capacities are the less tangible ones (Wigboldus, et al., 2010) and include being able to:

- Learn, focus and strategise;
- Predict, adapt and respond to volatile and ever-changing contexts;
- Motivate and inspire personnel;
- Communicate effectively with internal and external constituencies; and
- Learn and apply lessons to improve performance.

McCool, et al. (2012) identify three areas of professional competency needed by protected area managers in relation to tourism:

- **Strategic competencies**: the long range-thinking about the role of a protected area and how it fits in with local, regional, national and even international needs and expectations.
- **Planning competencies**: the specific needs for integrating tourism, visitation and other protected area management goals along with addressing how the protected area can encourage economic development in a local area.
- **Operational competencies**: the day-to-day needs of managing tourism and visitation.

Guided bike tour at De Hoge Veluwe National Park, the Netherlands. © Yu-Fai Leung

In IUCN WCPA's *Global Register of Competencies for Protected Area Practitioners*, Appleton (2016: 116–123) compiled competencies for tourism, recreation and public use management in protected areas. There are four main areas of competencies and 25 specific competencies. The main competencies are:

1. Enable system-wide provision of opportunities for environmentally and economically sustainable tourism and recreation;
2. Direct development and implementation of programmes for sustainable tourism and recreation appropriate to the protected area;
3. Plan, manage and monitor programmes, activities and services for visitors to the protected area;
4. Guide, assist and supervise protected area visitors and recreational activities.

In summary, professional competencies to manage tourism and visitation recognise the dynamic, changing and complex character of protected areas, help management think through and reflect upon new challenges and opportunities, involve learning and problem-solving skills, and prepare staff to be adaptive and skilful in the application of concepts (Appleton, 2016).

6.2 Capacity building for managers

Protected areas and nature conservation agencies should have staff members who have expertise in tourism planning and management. If staff are not trained in tourism and visitor management but are assigned to such tasks, it is critically important to have opportunities for them to gain the necessary expertise.

Building capacity may involve a variety of approaches. These include short courses and workshops, twinning of protected areas, staff exchanges, conferences and symposia, mentoring, sabbaticals and educational leaves (McCool, et al., 2012). Some of these efforts at formal education and training may lead to degrees, diplomas, certificates, and other tourism qualifications that are recognised by protected area agencies and the tourism industry. Capacity should be built into a programme (Ackoff, 1996) rather than being viewed as a separate or one-off activity (McCool, et al., 2012). For example, in southern Africa a series of capacity building and networking activities on tourism concessions has been offered to protected area managers over the past five years, led by members of the IUCN World Commission on Protected Areas' Tourism and Protected Areas Specialist Group (Spenceley, et al., 2010; Spenceley, et al., 2017b). This sort of recurring engagement is highly desirable.

6.3 Capacity building for local communities

Building capacity in local communities to engage in, and benefit from, tourism centred on the protected area requires an understanding of what a community entails, including its boundaries and the rights-holder and stakeholder groups it recognises, along with any factors that may hinder collaboration among them. It is important to share information with community members to allow them to reflect on the potential impacts of tourism, including both opportunities and threats, as well as to develop a future vision of tourism that they support. Learning and reflection should lead to a commitment to actions, and a promise by local rights-holders and stakeholders to invest resources in the effort.

Obstacles to community participation in tourism management in the protected area may include legal constraints that limit community involvement, the difficulty of maintaining a representation of diverse views, the loss of interest (for whatever reason) by one or more stakeholder groups, the inherent length of the decision-making process entailed by a participatory planning approach, and the requirement of additional resources to fund effective community participation (Pretty, 2005). Other impediments may be the lack of common goals among stakeholders; the difficulty of facilitating local ownership of tourism development processes; different levels of education, capacity and language skills among stakeholder groups; and limited knowledge or awareness of tourism operations. Table 6.1 provides a set of criteria to be considered when engaging with local communities on capacity building related to tourism initiatives.

An example of a capacity building programme that is designed for a local community is Children in the Wilderness, supported by Wilderness Safaris, a wildlife tourism operator (Children in the Wilderness, 2017). Targeted at rural children in Africa, this is a life-skills programme focusing on the next generation of conservation decision makers through leadership development. The programme takes place at a Wilderness Safaris camp, which is devoted to this purpose for a few days each year. Between 16 and 30 children selected from neighbouring schools and communities, ranging in age from 10 to 17, are hosted in the camp. Since 2001, 4,500 children have taken part in Wilderness Safaris' camps in seven countries (Children in the Wilderness, 2017). The programme is so successful, it is able to attract a range of other sponsors. Another innovative community capacity building programme, the result of a partnership between the local community of Ometepe in Nicaragua, the national government, the Planeterra Foundation, and an international tour operator, is described in Box 6.1.

6.4 Capacity building through partnership

Capacity building requires time, money, skills and knowledge, and entering into partnerships with other organisations can add considerably to the chances of success. Capacity building can be individual, organisational or societal, and can involve training and institution building.

Forming partnerships for capacity building allows protected area staff to focus on their core business (conservation) and to optimise the use of resources, including time and materials. Making use of NGO, government, academic and private-sector experience, skills and knowledge to build capacity can be beneficial for protected areas by promoting diversity of skills, training and education.

Training workshops for Wilderness Safaris guides. © Wilderness Safaris and Dana Allan

Capacity-building and awareness-raising meetings at Torra Conservancy, Namibia. © Wilderness Safaris and Mike Myers

Table 6.1. Evaluative criteria for community participation in capacity-building efforts

Criteria	Description of Elements
Goals of participation	• Is the goal ... Democracy? The project's acceptability? Equitably distributed benefits?
Who is (are) the affected community(ies)?	• What is the level of tourism awareness and knowledge? • What is the community institutional capacity? • Have community leadership roles been identified? • Do participants acknowledge a need for the capacity-building efforts? • Is participation voluntary?
Who are the tourism rights-holders and stakeholders?	• Have affected rights-holders and stakeholders been identified? • Have rights-holders been appropriately engaged? • Have stakeholder representatives been selected?
What methods should be used for effective public participation?	• Empowerment and community building • Have participants been provided sufficient and timely training, funding and information? • Has timely notification of opportunities to participate been given? • Are tourism-related entities committed to a participatory process? • Is the number of participants or representatives manageable? • Has a realistic time frame been set? • Are financial, in-kind and logistical support in place?

Source: Modified from Wisansing, 2008

Exploring the intertidal environment at Pacific Rim National Park Reserve in British Columbia, Canada. © Glen Hvenegaard

Hiking on the Mauna Loa Trail, Hawaii Volcanoes National Park, USA. © Yu-Fai Leung

Box 6.1

Capacity building for communities in buffer zones

Small tourism enterprises in buffer zones of protected areas frequently fail to achieve financial success. The problem is often deeply rooted in fundamental issues related to business models: products and services do not address actual market demand, and lack of diversified product leads to unprofitable, intense competition.

Consider the case of community-based tourist facilities on the island of Ometepe in Nicaragua (population 42,000). As of 2012, Ometepe had six donor-supported home-stay projects, each with 11–60 households, competing for business. But most tour operators used mainstream hotels instead, and offered customers popular itineraries focused on trekking to volcanoes by day and dining in restaurants by night. The communities had not been given the essential knowledge and tools to evaluate the marketplace and actual visitor demand.

G Adventures and Planeterra Foundation team at a community restaurant, Ometepe (Nicaragua). © Megan Epler Wood

SPOTLIGHT BEST PRACTICE

Assess the capacity of local communities to deliver tourism services and ensure that adequate business modelling has been completed before investments.

The Planeterra Foundation, an NGO associated with the eco-travel company G Adventures, surveyed the home-stay projects as part of a process for creating more effective, market-based enterprises. They found that the majority of the households lacked even the most basic requirements—bathrooms, electricity, running water—needed to run a home-stay business successfully. But even if they had, it would be much more productive for these would-be home-stays to switch to becoming businesses that supported the market demand for trekking and dining. So, Planeterra came up with a blueprint for creating supply-chain micro-enterprises. Several grants, each amounting to less than US$ 1,000, were given to foster the new business direction. They included grants to three families to produce organic fertiliser for local farm-to-table enterprises, to a local women's group to make fruit preserves for sale in hotels and home-stays, to an Indigenous community to invest in costumes and dance choreography for performances for visitors, and for stainless steel water bottles for local guides to provide to their clients to avoid use of plastic. Funds were also provided for training in basic business skills. The success of this programme is now being promoted by G Adventures in their operations throughout the world, with plans to expand it to 50 similar social enterprise projects.

Sources: Galaski, 2015; Planeterra Foundation, 2015

Box 6.2

Resource Africa's capacity building through partnerships

The People and Parks Toolkit (Left). The Toolkit being applied by community members (Right). © Dani Ndebele

An excellent example of capacity building through partnerships is provided by Resource Africa, a South Africa-based NGO funded through GIZ (Germany's agency for international cooperation). Resource Africa developed a toolkit of best-practice guidelines for community-based natural resource management (CBNRM), with a significant proportion of natural resources constituting the resource basis for nature tourism.

After the IUCN World Parks Congress in 2003, South Africa's Department of Environmental Affairs (DEA) committed to encouraging and supporting improved community participation in protected area natural resource management. Capacity building to support conservation and community development goals, including sustainable tourism, was required to create an enabling environment for DEA's People and Parks Programme to succeed.

DEA and Resource Africa obtained funding from the National Lotteries Distribution Trust Board. This partnership allowed Resource Africa to adopt a three-pronged approach to capacity building: (i) the development of a new, tailored *People and Parks Toolkit*; (ii) a Theatre Outreach Programme using performing arts to teach CBNRM; and (iii) an intensive skills audit identifying learning gaps that prevent local businesses from participating in the protected area economy. A three-year project worked with 30 protected areas across the country and engaged over 1,400 people. This is a good example of a partnership between a government-driven programme that determines the country's resource management imperatives, initiated by a willing donor that shares the same vision, and implemented by an NGO that specialises in providing the relevant education and training at the local level. These unique teaching approaches have now been institutionalised, and the Southern African Wildlife College runs accredited CBNRM courses for learners.

Source: http://www.resourceafrica.org/directory/background.html

Capacity-building partnerships can empower protected area staff to deal with community and other rights-holder and stakeholder issues, and enable communities to deal with their business and conservation responsibilities, as well as creating new local support institutions. Partnerships may be formed at any level and may involve any number of different stakeholders. They provide the opportunity to pool resources—monetary, material and human. They build on the specific skills and strengths of each partner to maximise benefits.

Partnerships to build capacity can assist in ensuring that tourists have a high-quality experience and that natural resources in the protected area are conserved (Box 6.2). Wegner, et al. (2010) emphasise that collaborative partnerships have the potential to enhance protected area agencies' capacity to deal with problems by addressing issues through a holistic and encompassing approach.

A national protected area tourism programme has little chance of succeeding if the people on the ground do not have the capacity for its implementation. Strong capacity building partnerships can provide a win-win-win situation: government departments get external support to drive their objectives, the private sector can help to build capacity in communities and protected area staff, and NGOs can support these strong and committed partnerships. Building capacity for tourism through partnerships is not without challenges, however (Box 6.3).

6.5 Best Practices

- Assess the capacity of local communities to deliver tourism services and ensure that adequate business modelling has been completed before investments.
- Make sure all partnership-related work is officially accounted for and recognised, including time spent recruiting partners and maintaining relationships with them.

Box 6.3

Partnerships for tourism management: A case study of the US Forest Service

Friends of Marble Creek Campground is a volunteer organisation that formed to maintain a campground on the Mark Twain National Forest (USA) that was set to be decommissioned in 2006. © Erin Seekamp

SPOTLIGHT BEST PRACTICE

Make sure all partnership-related work is officially accounted for and recognised, including time spent recruiting partners and maintaining relationships with them.

The US Forest Service (USFS) manages the largest portion of the USA's public lands (155 national forests and 20 grasslands). Portions of USFS land are administered as protected areas, which generate a variety of benefits, including biodiversity conservation, outdoor recreation, and scenery, and are popular for tourism. In recent years, budget and staffing constraints, along with a desire to expand public engagement in forest management, have resulted in greater reliance on partners, expanding from supplementary activities to more mission-critical tasks. USFS has hired partnership coordinators and volunteer coordinators at every level, and the agency developed a National Partnership Office in 2003 to disseminate partnership guidelines, tools and techniques, and policy information to agency personnel.

Despite this institutional commitment to enhance the agency's partnership culture, a recent study highlighted that the level of administrative support for conducting partnerships varied among national forests and ranger districts. Individual employees' initiative often drives the extent of partnership work. The study found that motivations to work with partners include: promoting stewardship, building agency trust, considering it is a duty of a public land management agency, feelings of personal accomplishment, and more. These findings suggest that strategically hiring individuals with such motivations and self-initiative will be advantageous.

Varying attitudes and motivations among adjacent local communities have led USFS staff to utilise different partnership approaches. Some ranger districts near places with a high proportion of active volunteers (which include both engaged urban areas and service-destination areas with high tourism and second-home ownership rates) have partnered with an 'umbrella' organisation that trains and matches interested volunteers with specific projects. Other ranger districts, often in rural areas with low tourism and second-home ownership rates, have elected strategically to partner primarily with highly organised groups to streamline agency effort and partnership impact.

A key take-home message for tourism managers in government agencies and the private sector who are considering leveraging limited resources through partnership development is to ensure that partnership-related work—including not only the training of and time spent working with partners, but also recruitment and relationship maintenance—is actively accounted for, represented in job duties, and rewarded through incentives and recognition. This will help justify this sort of work, as it is costly in terms of employee time and effort.

Sources: Seekamp & Ceverny 2010; Seekamp, et al., 2011; McCreary, et al., 2012; Seekamp, et al., 2013

Managing tourism revenues and costs to achieve conservation benefits

7

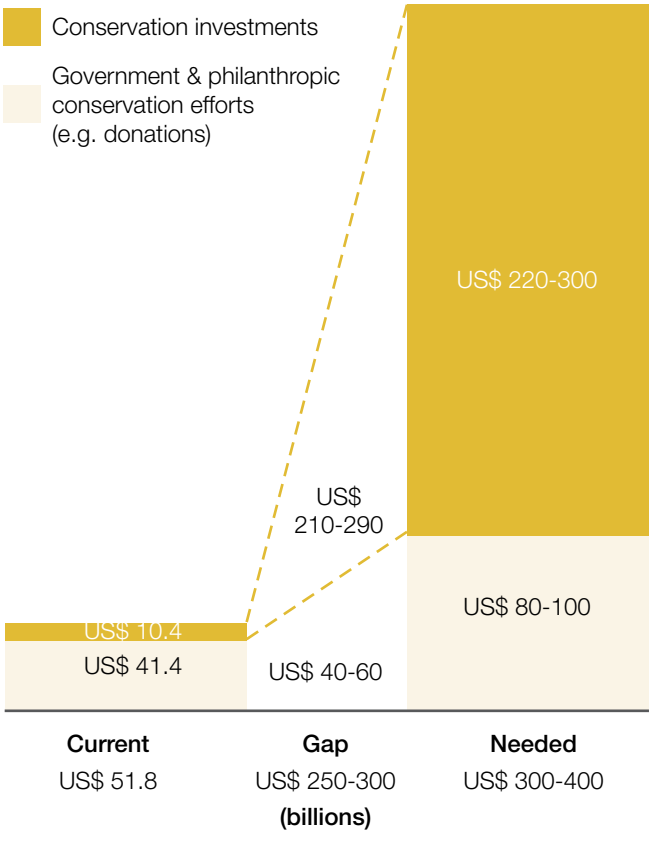
© Wilderness Safaris

7.1 The biodiversity conservation finance gap

The overriding goal of any protected area is the conservation of biodiversity. Tourism, where it is appropriate, can assist protected areas in financing activities to achieve this goal. This chapter outlines the increasing need for protected areas to move beyond traditional financing sources to achieve their conservation goals, and how tourism revenue can be generated from protected areas. It highlights the range of options available and how they are applied, and provides globally relevant examples and insights from practitioners. It emphasises that tourism is one option in a range of possible financing mechanisms available to protected area authorities. Several considerations in generating and managing revenues from the provision of tourism services are discussed. Next, options to generate revenue directly from tourism at a site level are analysed, along with cost-saving initiatives that generate greater efficiency gains for protected areas, helping reduce their financing needs. The chapter concludes with a discussion of the wider economic benefits of tourism.

Low levels of funding for biodiversity conservation and protected area management are a universal concern (UNEP-WCMC & IUCN, 2016). Increasingly, protected area agencies do not have sufficient funds to support optimal conservation management activities, and most governments do not fund protected areas fully (Buckley, 2003b; Eagles, et al., 2012; Mitchell, et al., 2013; Weaver & Lawton, 2017). Many protected areas are still heavily dependent upon government budget allocations (Bovarnick, et al., 2010), and even in developed countries, protected area budgets are under pressure as governments reduce funding to balance national accounts (Parks Forum, 2012). As a result, there is increasing pressure for protected area systems to strengthen existing private-revenue streams, as well as develop and diversify new sources of income (Watson, et al., 2014). Figure 7.1 illustrates the scope of the conservation finance gap. While government and traditional philanthropic sources dominate the current conservation financing landscape, at least a doubling of this amount, combined with a twenty- to thirtyfold increase in the amount of private-sector conservation investments, are needed to meet conservation goals.

Figure 7.1. Filling the conservation finance gap



Source: Adapted from Huwyler, et al., 2014

The obvious need to address this significant gap has helped spur the field of conservation finance to develop an ever-increasing list of options for revenue-generation, not just that derived from tourism. Table 7.1 provides a brief typology of types of mechanisms available for financing protected areas.

Tourism is just one of a series of market-based options to generate revenue, and doesn't automatically provide tangible benefits to conservation (Box 7.1). A diversification of revenue sources is important to ensure that the protected areas budgets are cushioned from external shocks, such as a financial crisis or other events that deter paying visitors.

7.2 Generating tourism revenue from fees

Market-based financing mechanisms, such as tourism user fees, can provide the means to make protected area management more efficient, equitable and environmentally sustainable. They can help contribute to financing protected areas (Table 7.2, next page). Many countries (e.g. Canada, South Africa) have diversified their funding of protected areas by starting to charge fees to visitors, tour operators and investors for using services and facilities (van Sickel & Eagles, 1998; Spenceley, 2004). In general, this shift has been caused by changes in government priorities for the use of public funds (Spenceley, et al., 2017a). User fees provide a mechanism for protected area authorities to capture some financial benefits from tourism that often accrue primarily to the private sector, and which can be used to manage high-use sites or restore damaged areas (Kibira, 2014), as well as for general management. However, most protected areas need a basket of funding sources and tourism fees should be used to supplement and not replace essential core government budgets.

The revenues generated by tourism can be combined with money from other sources to finance activities including:

- Maintenance and infrastructure development (e.g. roads, trails, jetties, toilet facilities, signage, etc.);
- Community benefit sharing (e.g. for social infrastructure, health, education and water);
- Conservation management in general, or in areas particularly where tourism takes place and habitat maintenance is required; and
- Destination marketing and promotion.

In a transboundary conservation area in southern Africa, annual adventure races (e.g. Desert Knights, Tour de Tuli, Tour de Pafuri) have been used primarily to raise the profile of these destinations, rather than generate revenue (see

Table 7.1. Financing mechanisms for protected areas

1. External Flows	2. Market-based mechanisms	3. Cost-saving Mechanisms
• Government budgets • Donor bi/multilateral grants • Environmental trust funds • Biodiversity enterprise or challenge funds • Taxes and subsidies earmarked for the environment • Environmental fines • Fiscal transfers between sectors • Tax deductions for donations • Individual donations • Corporate donations • Debt-for-nature swaps	2a. Tourism revenues • Entry fees • Concessions fees • Activity fees • Tourism taxes • Bed (lodging) levy • Mooring and landing fees 2b. Resource extraction user • Forestry and timber products • Bioprospecting • Fishing • Biosecurity • Hunting fees • Agriculture 2c. Ecosystem services • Carbon • Water quality • Water flow regulation 2d. Biodiversity offsets • Mariculture • Petroleum/gas • Infrastructure	• Co-management with private sector, non-governmental organisations or communities • Public–private partnerships • Activity-based collaboration • Volunteers and interns

Source: Rylance & Barois, 2016

Box 7.1

Linking tourism spending to conservation outcomes

A recurring challenge facing protected areas, especially those governed by government bodies, is that tourism revenue generated does not always go directly into protected area management activities. In some cases, budget-dependent government authorities generate revenue that is returned to a consolidated government budget. In other cases, only a proportion of generated revenue is returned to protected areas, or is delayed by government accounting and budgeting processes, impacting management effectiveness. Before embarking on developing tourism in a protected area, ensure that the governance arrangements surrounding pricing, collection, reporting and retaining revenue are clear. Tourists and private tourism operators are often more willing to pay if it is clear how their contributions will directly impact biodiversity conservation. Furthermore, communities are more likely to support tourism if they are able to see the tangible link between visitation and improved economic and social impacts.

Signs at Vale de Mai World Heritage Site (Seychelles), communicating how entrance fees also help support conservation at Aldabra World Heritage Site. © Andrew Reliance

Table 7.2. Types and values of different tourism user fees for SANParks (South Africa)

Source of Revenue	Local currency amount (ZAR) (year ended March 2012) (000s)	US$ equivalent (000s)	% of total tourism revenue
Retail activities by SANParks	**147,600**	**19,021**	**16.4%**
Shops and restaurant	27,190	3,504	3.0%
Petrol station	120,411	15,517	13.4%
Tourism	**452,930**	**58,369**	**50.5%**
Accommodation	381,771	49,199	42.5%
Game drives	30,277	3,902	3.4%
Guided hiking trails	24,550	3,164	2.7%
Other tourism-related activities	16,332	2,105	1.8%
Tourism concessions	**66,636**	**8,587**	**7.4%**
Facilities rental on retail and restaurants	25,758	3,319	2.9%
Accommodation concession fees	40,878	5,268	4.6%
Conservation levy and entrance fees	**214,044**	**27,584**	**23.9%**
'Wild Card' income (annual entrance fee)	25,356	3,268	2.8%
Conservation levy	184,696	23,802	20.6%
Entrance fees	3,992	514	0.4%
Other	**16,198**	**2,087**	**1.8%**
Rent received	10,915	1,407	1.2%
Services rendered (e.g. technical services)	5,283	681	0.6%
TOTAL	**897,408**	**115,649**	

Source: Adapted from SANParks, 2012

Box 7.2

Using a recreation event to promote a transboundary protected area: Desert Knights (Namibia)

Desert Knights is a seven-day event that combines night-time mountain biking and a day of canoeing in the |Ai|Ais–Richtersveld Transfrontier Park of Namibia. The event was designed to promote cross-border tourism activities in transboundary conservation areas. The Namibian Ministry of Environment and Tourism embarked on a concession-recruiting process in 2011 on behalf of the Joint Management Board (JMB). However, because the event did not have a track record in the market and operational costs were unknown, private operators were unwilling to agree to fixed minimum fees. Since then, Namibia Wildlife Resorts, the Namibian parastatal responsible for tourism management in protected areas, has been tasked by the JMB to operate the event on their behalf. The event was piloted over two years, 2011 and 2012, where logistics and market demand were tested, and journalists and operators were invited to participate and profile the event. For the 2014 tour, 100 tourists had signed up within 2 weeks of bookings opening, and from 2015, two events will be held each year. These events have been driven by the desire to promote transboundary conservation areas to tourists and tour operators, rather than to generate revenue.

Source: Spenceley, 2014b

Box 7.2). More information on transboundary tourism can be found in the IUCN Best Practice Guidelines on transboundary conservation (Vasilijević, et al., 2015).

An example of how tourism fees can be used effectively for conservation management in Mongolia is provided in Box 7.3. Later in this chapter, another example from Namibia will be presented, in which an efficient benefit-sharing mechanism is established to support community development initiatives through funding generated from a tourism accommodation facility.

Entrance fees

Entrance fees are those charged to visitors to access the protected area. They can be assessed at a flat rate or scaled according to residency (e.g. foreign nationals pay more), income or some other factor. They may include a conservation levy (a surcharge that directly supports conservation in the protected area), or multiple access passes to encourage repeat visitation. The mechanisms through which the fee is applied varies depending upon the country and the prevailing sociopolitical dynamics.

Box 7.3

Using tourism to help finance protected area management: Hustai National Park (Mongolia)

Przewalski's horses in Hustai National Park (Left). A tourist camp with solar-powered supporting facilities (Right). © Dashpurev Tserendeleg

Located 95 km from the capital Ulaanbaatar, Hustai National Park (HNP) is one of 99 protected areas in Mongolia and a UNESCO Biosphere Reserve. HNP was designated as a Specially Protected Area by the Mongolian government in 1993 after an attempt to reintroduce the Przewalski's horse (*Equus przewalskii*), also known as *takhi*, to the area. The Przewalski's horse is the only living wild horse and was considered extinct in the wild by the 1960s. HNP now supports a free-roaming population of over 340, the biggest in one area in the world.

In 2003, the Hustai National Park Trust (HNPT), a conservation NGO, entered into an agreement with the Mongolian government to assume management responsibilities for HNP, making it the only National Park in Mongolia managed by an NGO. HNP has never been financed with state government funds; over 80% of the park's total income is generated from tourism. Sources of tourist revenue include entrance and lodging fees, horse riding and souvenirs. The other 20% of revenue is generated from research activities, including eco-volunteering and student internships, as well as donations and soft loan interest. Soft loans are distributed to individuals living in HNP's buffer zone to encourage local herders to start income-earning enterprises other than traditional animal husbandry, such as community-based tourism operations, vegetable gardening, and felt making.

This model has also resulted in a net profit for the park, which has indirectly helped support the success of core conservation activities of HNPT. For example, sustained wildlife monitoring indicates increasing numbers of key species in the park, demonstrating success in anti-poaching and Przewalski's horse reintroduction programmes. Increasing numbers of wildlife species can also contribute to the overall tourist experience. Alternative technologies integrated into tourism infrastructure and the HNP administration and research centre (e.g. solar panels to heat shower facilities) also contribute to cost savings.

Initial construction of the park and tourism facilities required significant investments, which were obtained from the government of the Netherlands, a Dutch NGO, and the Foundation for the Preservation and Protection of Przewalski's Horse. However, the current, stable and successful financing model has allowed park management to consider improvements to tourist infrastructure using environmentally friendly materials, while keeping in mind tourism capacity and quality, and increasing accessibility. Above all, this case demonstrates how an NGO has successfully managed a protected area to generate income from tourism and other activities and achieved its budget goals.

Sources: Tserendeleg, 2013; Hustai National Park, 2017

Entrance gates and visitor service facilities at Zhangjiajie National Forest Park, Wulingyuan World Heritage Site, China. © Yu-Fai Leung

An entrance fees sign at Yosemite National Park, USA. © Yu-Fai Leung

A comparison of different levels of user fees for certain protected areas internationally can be found in Table 7.3. The entrance fees vary in price and how they are charged (e.g. a flat fee for all, different rates depending on where the visitor is domiciled, or a fee related to the means of travel). Prices can either be set according to demand (e.g. established from a rigorous willing to pay survey) or at a level to help achieve the management targets, such as to either limit visitation in sensitive breeding periods or encourage more local residents to visit. Individual protected areas may be able to set their own entrance or other user fees, or there may be fees that are set by national government regulations (e.g. in Mozambique). In some countries, entrance fees are charged using a season ticket allowing discounted multiple entry to one protected area or to all protected areas country-wide (e.g. South African National Parks' Wild Card). As a rule, the more complicated the pricing strategy the more complicated and time-consuming the payment reconciliation and reporting system will be.

Deciding whether to charge high, low or no entrance fees depends upon the conservation goals that protected area managers want to achieve (Box 7.4). The decision might be based on:

- **Recovering costs**: Charging fees to recoup the cost of implementing the activity, such as the cost of hiking trail maintenance.
- **Generating 'profit'**: Excess revenue can be used to finance additional conservation activities or a budget reserve that can be used either in periods of financial shocks (e.g. tourism downturn) or when unexpected ecological impacts (e.g. coral bleaching) arise.
- **Financing traditional conservation activities**: If current budget allocations do not cover daily conservation

Table 7.3. Comparison of protected area entrance fees

Country	Protected Area	Entrance Fee (adult)
Ecuador	Galápagos National Park	• Fee depends on age and nationality; • International: Most pay US$ 100 • Nationals: US$ 6
Indonesia	Komodo National Park	• International: IDR 150,000 per day (Mon–Sat) (US$ 11) • International: IDR 225,000 per day (Sun, Public holidays) (US$ 16) • Nationals: IDR5,000 per day (US$ 0.4)
South Africa	Kruger National Park	• International: ZAR328 per day (US$ 23) • Regional (SADC): ZAR164 per day (US$ 11.5) • Citizens/residents: ZAR82 per day (US$ 5.8)
UK	Lake District National Park	• Free
USA	Everglades National Park	• Private vehicle: US$ 25 (for 7 days) • Motorcycle: US$ 20 (for 7 days) • Pedestrian/cyclist: US$ 8 (for 7 days)
Zimbabwe	Victoria Falls World Heritage Site	• International: US$ 30 • Regional (SADC): US$ 20 • Local resident: US$ 7

Sources:
- Ecuador: https://www.galapagosislands.com/travel/transportation/entry-fees.html. Accessed on 9 November 2017.
- Indonesia: http://uberscubakomodo.com/komodo-national-park-fee/ Accessed on 5 November 2017.
- South Africa: https://www.sanparks.org/parks/kruger/tourism/tariffs.php. Accessed on 5 November 2017.
- USA: https://www.nps.gov/ever/planyourvisit/fees.htm. Accessed on 5 November 2017.
- Zimbabwe: https://victoriafalls24.com/blog/2017/01/23/2015-zimbabwe-national-parks-fees/. Accessed on 5 November 2017.

activities on site or as a means to cross-subsidise other protected areas.

- **Generating local business opportunities**: A reduction in fees or charges in order to stimulate greater visitation, which may provide more benefits to local communities.
- **Promoting learning**: Using tourism to provide awareness raising on the importance of nature protection.
- **Managing visitors**: Higher fees to reduce congestion and/or ecological damage, which would involve fees high enough to influence visitor behaviour (Lindberg, 2001).

To balance these different motivations, it is important to determine how entrance fee pricing contributes to achieving the conservation management goals of the protected area, and where it is not appropriate. For example, a protected area might want to limit the number of tourists involved in a particular activity because of its relative impact. This would justify a high price to limit demand. Conversely, a priority may be to encourage local children to spend time with their families in nature, which would justify a lower fee.

Tourist activity fees

Fees that are directly related to specific tourist recreational activities include charges for services (e.g. guided walks, game drives), permits (e.g. for hiking or climbing) and accommodation (food and lodging). These can be either charged instead of or in addition to the entrance fee. In some cases it may be more cost effective and acceptable to tourists to charge a single fee for access to a series of activities rather than a repeated requests for small payments.

Visitors making travel decisions based on the latest information provided at a visitor centre in Yosemite National Park, California, USA. © Yu-Fai Leung

Box 7.4

Variations in entrance fees within the United Republic of Tanzania

The three protected area agencies in the United Republic of Tanzania—The Wildlife Division/Tanzania Wildlife Management Authority, Tanzania National Parks, and the Ngorongoro Crater Conservation Authority—have very different fee schedules. Although the quality of the natural and cultural attractions and the standard of visitor facilities varies (which is reflected in different prices charged), the fact that the three agencies are essentially competing on price has made the fee system a matter of debate. Critics feel that they should be collaborating on pricing in order to ensure an overall increase in tourism revenue and to better conserve protected areas in the country as a whole.

SPOTLIGHT BEST PRACTICE

Undertake a systematic financial assessment of the protected area (or broader protected area system) before setting entrance fees. Analyse current conditions, revenues and costs, and use the information to weigh different options for determining the fee, such as by residency status, age, or popularity of the site, or a combination thereof.

Category	Wildlife Division/TAWA			TANAPA fees						NCCA
	Game Reserves		WMA	National Parks						NC
	S, I, G, M	Other reserves	All	Ser	Kil	Ar, Ta, Man	Kat	Gomb	Mah	
Non-citizen adult	50	30	10	50	70	45	30	100	80	60
Non-citizen child	30	15	5	30	20	15	10	20	20	20
Citizen adult	2.5	1	1	30	35	22.5	15	50	40	7
Citizen child	1.5	0.5	0	10	10	7.5	5	10	10	

Fees are in US$. Acronyms: WMA = Wildlife Management Areas, NC = Ngorongoro Crater; S = Selous; I = Ikogoro; G= Grumeti; M = Maswa; Ser = Serengeti; Kil = Kilimanjaro; Ar = Arusha; Ta = Tarangire; Man = Lake Manyara; Kat = Katavi, Mikumi, Ruaha, Rubondo, Saadani, Kitulo, Mkomazi, and Udzungwa; Gomb = Gombe; Mah = Mahale.

Source: Spenceley, et al., 2017b

Box 7.5

Gorilla viewing activity fees in Volcanoes National Park (Rwanda)

Rwanda tourism revenue from visits to see mountain gorillas inside Volcanoes National Park is the country's largest source of foreign exchange, raising US$ 200 million annually. Furthermore, the activity generated employment opportunities for communities surrounding Volcanoes National Park. Box 3.1 (Chapter 3) briefly described the multitude of benefits from mountain gorilla tourism. This box focuses on visitor permits and visitor activity fees.

Visitors are willing to pay US$ 1,500 to spend even short periods of time in the presence of gorillas, because of the unique experience. There are only around 700 mountain gorillas left in the wild, and only 20,000 visitor permits are available a year. In such instances, the revenue from tourism, and the overall pricing policy, can:

- Provide important funds to support the conservation efforts of protected area authorities;
- Regulate the volume of visitors, maintaining the visitor experience while avoiding disturbance to wildlife; and
- Provide incentives for local people to value, rather than exploit, natural resources (e.g. poachers who have become tour guides in the Virunga Volcanoes region of Rwanda).

Sources: Spenceley, et al., 2010; Nielsen & Spenceley, 2011; Maekawa, et al., 2013; Spenceley, 2014a

SPOTLIGHT BEST PRACTICE

Test the willingness to pay for fees among tourists and tour operators for each user fee. Benchmark fees against those of local and regional protected areas with similar attractions that are competing for the same visitors.

The amount of money derived from this kind of fee can be earmarked for improving the visitor experience as well as to support the protected area's conservation objectives (Box 7.5).

A recent review found that one of the most extensively used approaches to informing entrance fee setting was the application of contingent valuation approaches with willingness-to-pay (WTP) surveys, even though the actual fees are influenced by other factors. The WTP studies reviewed often find that travellers are (i) willing to pay to visit protected areas, and (ii) are willing to pay more than the established fee. For example, WTP studies have found the following (adapted from Spenceley, et al., 2017a):

- In Annapurna Conservation Area (Nepal), visitors reported being willing to pay an entrance fee of US$ 69, rather than the actual fee of US$ 27 (Baral, et al., 2008).
- In Komodo National Park (Indonesia), tourists were willing to pay more than ten times the current entrance fee (Walpole, et al., 2001).
- In Kgalagadi Transfrontier Park (Botswana and South Africa), a study found that conservation fees could be increased by up to 115% (Dikgang and Muchapondwa, 2017).
- In Bonaire National Marine Park (Netherlands Antilles), the average WTP for annual access ranged from US$ 61 to US$ 134, but the actual fee was only US$ 10. It was predicted that doubling the US$ 10 access fee would have virtually no impact on visitation rates (Thur, 2010).

Tourists are more likely to increase their willingness to pay if they are aware of how their user fees impact conservation. There is great merit in protected area managers using entry points and/or websites to communicate what the entrance fee is being used for; the website for Galápagos National Park (Ecuador) provides a very clear, detailed example (https://www.galapagosislands.com/travel/transportation/entry-fees.html).

In summary, the decision to introduce fees and charges depends upon a number of factors:

- The current financing gap facing the protected area, to increase biodiversity protection in the area.
- The overriding management objectives of the site, to determine the appropriateness of each fee to achieving their goals.
- The market demand to accept the proposed fees, depending on the site's popularity and location.
- The political and social environment, to determine the most acceptable mechanism and level.
- The current stage of development of the site as well as the capacity to develop, implement and monitor the impact of initiatives.

7.3 Generating tourism revenue from concessions

Public–private partnerships and concessions

Public–private partnerships are formal agreements between the protected area authority and private sector in which the private partner is able to deliver a particular tourism product or service at a greater quality and efficiency, allowing protected area managers to focus on their core functions. The 'private sector' may be a commercial business, an NGO or a community organisation. Concessions are one type of public–private partnership and are an important means of engaging the private sector in protected area conservation (Thompson, et al., 2014). Concession agreements for businesses operating in protected areas may be structured as formal public–private partnerships, leases, licences, permits or easements

Table 7.4. How concessions are categorised and processed in New Zealand

Concession	Definition	Process	Examples
Permit	Granted up to 10 years, activity based	Generally non-notified, from 5 to 45 working days for simple applications (up to 65 working days for complex ones)	Guiding (includes walking, tramping, climbing, hunting, fishing, biking, kayaking and canoeing)
Licence	Granted up to 10 years non-notified, or 30 years notified*	Either the non-notified approach or the notified approach (below) applies	Renting a Department-owned building and hiring recreational equipment
Lease	Granted up to 30 years; involves an interest or exclusive use of the land	Notified: 85 working days if no submissions received (up to 140 working days if submissions received but no hearing, or 160 working days if submissions received and a hearing)	Fixed structures, such as hotel buildings, airports, cafes, bungee-jumping structures, telecommunications facilities
Easement	Up to 30 years for services or access	Can be notified or non-notified	Roadways, pipelines, water pipes, telecommunications lines

* In New Zealand 'notified' means that the Department of Conservation's intention to grant a concession must be advertised in local or national newspapers, and the public has the right to make submissions and can request the right to speak about submissions at a hearing.

The starting point of an underwater snorkeling trail with posted visitor information in Trunk Bay, St John, Virgin Islands National Park, US Virgin Islands. © Yu-Fai Leung

Piers at the Flamingo Visitor Center at Everglades National Park, USA, where many guided and self-guided boat tours begin. © Yu-Fai Leung

(Table 7.4). These legal agreements stipulate the key terms and conditions, such as duration, type of operation, environmental conditions and fees under which the business must operate (Spenceley, et al., 2017b). Concession fees are a type of user fee because concessionaires are paying for the exclusive right to use the protected area to conduct business. A concession may involve providing such services as accommodation, food and beverage, recreational activities, educational and interpretive programmes, and retail merchandise (Eagles, et al., 2009).

Concessionaires can provide a number of important opportunities for assisting park agencies to manage appropriate tourism and achieve their conservation goals. Concessions fees and rental income can contribute to funding protected areas, and well-run concessions deliver positive outcomes by providing a high-quality visitor experience. In developing countries, best-practice concession activities can provide a vital link between local communities, rural development and conservation. In developed countries, concession operations provide revenue that helps to justify investment in protected area conservation (USNPS, 2017a).

It can be useful for protected area authorities to grant concessions to the private sector when for-profits have commercial tourism operations as their core business, are in a position to assume the risks and responsibilities, and, in comparison with the protected area authority, have:

- More capacity to easily adapt to changing market needs and conditions;
- More flexibility in labour contracts;
- More freedom to innovate and respond quickly;
- More access to capital and other funds for infrastructure;
- More freedom in setting price levels; and
- Fewer bureaucratic constraints (Eagles, et al., 2009; Buckley, 2010a).

Three key tourism concession guidelines for protected areas have been developed and are extremely useful resources for any protected area considering this option: UNDP's Tourism concession in protected natural areas (Thompson, et al., 2014); the World Bank Group's Introduction to Tourism Concessioning: 14 Characteristics of Successful Programs (Spenceley, et al., 2016), and the Convention on Biological Diversity's Guidelines for tourism partnerships and concessioner protected areas (Spenceley, et al., 2017b).

There are a variety of fees that can be charged to a concessionaire, including user fees, performance bonds, fees for maintenance, and fines for breaches. Of these, concessionaire user fees are the main revenue-generating tool. These are commonly used and can be designed as a flat rate. This is the easiest way to charge a concessionaire because the alternative, a sliding rate based on earnings, means tracking and calculating profits, income and number of tourists, all of which can be difficult. The risk to a concessionaire with using a flat-rate fixed fee is that it must be paid by whether a profit is made or not. On the other hand, the concessionaire may be steadily increasing its business while the annual fee remains the same—good for them, but not for the managing authority. It is not unusual for concessionaires to make a significant profit, while protected area administrations receive very little in fees. Concessionaires can also pay a portion of their net revenues in addition to a reduced flat rate to decrease some of the risk involved for both parties (Wyman, et al., 2011). Box 7.6 provides an example of how concession contracts are handled in South African National Parks.

Box 7.6

Tourism concession contracts in South African National Parks

In South Africa, concessions allow private operators to build and operate tourism facilities within the national parks through a contract. The concessionaire pays to use a defined area of land plus any buildings that may already exist there for a specified period (usually 20 years). In cases where lodge facilities already exist, the concessionaire takes them over or upgrades them, or builds new ones to suit its purposes. Against these rights of occupation and commercial use of facilities, there is a set of obligations on the part of the concessionaire regarding financial terms, environmental management, social objectives, empowerment and other factors. Infringement of these requirements carries penalties underpinned by performance bonds and, ultimately, termination of the contract with the assets reverting to SANParks (the parastatal responsible for national parks).

The annual concession fee is the higher of (i) a minimum rental as determined by the agreement for the concession year, or (ii) a calculated annual concession fee based on the bid percentage of gross revenue for the concession year. At the end of the contract, the concessionaire relinquishes the concession area, all physical assets, and all other rights or interests to SANParks at no charge.

Benefits of the arrangement include that SANParks can attract capital, leverage private-sector business skills, transfer business risks to the private sector, create employment, and enhance SANParks' image by making good use of its resources. Some of the challenges have included when inexperienced concessionaires over-bid, but were contractually held to their forecasts. Increasing the relative weighting of technical ability of the performance helps to avoid appointing unsuitable operators.

Sources: Varghese, 2008; SANParks, 2012

A national park staff member helping tourists at a visitor centre and park store in Virgin Islands National Park, US Virgin Islands. © Yu-Fai Leung

In addition to core commercial issues associated with park concessions, the impacts on the local economy can be considerable in relation to revenue sharing, local business involvement and employment:

- **Community revenue sharing**: Management plans and concession agreements can specify any revenue-sharing options between local communities and private concessionaires (Spenceley, 2014a).
- **Local business involvement**: Concession contracting processes can confer 'preferred bidder' status on local companies. Also, concessionaires can be encouraged to support local businesses, and strengthen local supply and value chains (Spenceley, 2014a).
- **Local community employment**: Protected area authorities can require concessionaires to employ members of local communities or even hire local communities as a whole to run the concession (Wyman, et al., 2011).

Concessions are generally overseen by a small group of specialised protected area management staff who understand commercial tourism operations, and who work with the protected area's operations staff and decision makers to administer and award concession opportunities. The management and awarding of concessions opportunities can require a significant amount of staff time. Table 7.5 demonstrates the scale and scope of concession work for a number of protected area agencies, in relation to the income they generate.

Table 7.5. Examples of concession scale and scope in five countries

Characteristics	Country/Agency				
	US National Park Service	Parks Canada	New Zealand Department of Conservation	Namibia	Great Barrier Reef Marine Park Authority (Australia)
Number of concessions	600 contracts plus 6,000 commercial use authorisations	2,752 leases, licenses, business licenses	3,700, of which 43% are business related	45	940 (approx.) tourism permissions
Income from concessions	US$ 60 million	CAD$8.2 million (US$ 6.7 million)	NZ$ 14.3 million (US$ 10.5 million) (from tourism and other concessions)	N419 million (US$ 31.5 million)	AU$ 8 million (US$ 6.4 million) (approximate) through an environmental management charge
Number of employees managing concessions (full-time equivalent)	200 (40 in head office)	30	25	3	22
Time frames for processing small concessions	2 years (excluding plan changes)	3–6 months	65 days (2 months)	3–12 months	8–10 weeks; four months to run an expression of interest (EOI) process
Time frames for processing large concessions	2 years (excluding plan changes)	60 days effort (non- continuous)	160 working days (5 months)	12–24 months	Approval for major projects such as pontoons may take considerably longer
Structure (centralised or decentralised)	Centralised over US$ 3 million	Tender	Regionalised processing centres	Centralised	Application on a first-come, first-served basis; capped opportunities through EOI
Preferred allocation mechanism	Tender	Centralised for large-scale issues, decentralised for smaller concessions and for relationship management and monitoring	Receipt of applicants from the private sector	Direct award to communities, tender, auction and directly with applicants	Centralised processing and contract management; field staff do compliance

Sources: Adapted from Thompson, 2009; Thompson, 2014

Desert-adapted group of elephants in Damaraland, Huab River Valley, Namibia. © Wilderness Safaris and Dana Allen

7.4 Generating tourism revenue from philanthropy

Individual and business donations

Tourists to protected areas are potentially a large pool of donors to conservation. One way managers can facilitate this is to enable tourists to donate to a specific cause (i.e. a conservation project) or to protect a specific species; in either case, donors typically receive regular feedback on the change that their contribution has created. In 2003, the government of Maldives established the Atoll Ecosystem Conservation (AEC) Project (with support from the UN Development Programme and the Global Environment Facility) in order to declare the entire 1,200 km^2 Baa Atoll as the country's first UNESCO Biosphere Reserve. The AEC project established a fund for the management of the biosphere reserve. A majority of the tourist resorts in Baa Atoll have pledged an annual contribution to help support projects promoting environmental conservation and sustainable livelihood opportunities through hiring practices. Additionally, a portion of revenue generated by ecosystem-dependent activities such as dive tourism, visitor access permits and souvenir sales is channelled back into conservation efforts within the atoll (Ferretti, 2012; MEE-RoM, 2012; VCTS, 2017). While this is a good example of a well-planned donation program, if money from tourist philanthropy is managed poorly, the results can be failed projects, corruption, lack of transparency, broken promises and divisions in the local community (Goodwin, et al., 2009; Honey, 2011).

In some countries, businesses are able to provide charitable giving that is also tax-deductible, and protected areas can be the beneficiaries of such donations (e.g. Goodwin, et al., 2009). In the Seychelles, the Seychelles National Parks Authority has partnerships with a number of tourism businesses that provide contributions to conservation, including financing researchers, collecting and providing biological monitoring data, and buying equipment (e.g. mooring buoys, toilets, signage) (Spenceley, 2016). Businesses can donate 0.25% of their taxable income as a corporate social responsibility payment directly to a registered conservation organisation.

Furthermore, tourists can channel donations to protected areas through tourism businesses. For example, in Brazil, the hotel company Marriott International signed an agreement in 2008 with the State of Amazonas to conserve 1.4 million acres of rainforest in the Juma Reserve. The initiative helps to support employment, education and health care for 2,000 residents in the reserve, who in turn help to protect the rainforest from illegal farming and logging. Marriott customers are encouraged to donate to the scheme through a website and in hotels (Goodwin, et al., 2009).

Another example is the Wilderness Wildlife Trust (WWT), a non-profit organisation funded by Wilderness Safaris, an ecotourism operator in southern Africa. A portion of each guest's safari fee is allocated to the WWT, and 100% of these funds go to trust-approved projects. In 2009, research units were established in Botswana around three camps to provide logistical support, food and vehicle maintenance. Between 2013 and 2014, an estimated US$ 411,000 was spent on biodiversity conservation research and monitoring in Botswana (Wilderness Holdings, 2014), and research results were shared with the government's wildlife department to inform conservation decision making in the Okavango Delta (Spenceley & Snyman, 2017).

7.5 Cost-saving and efficiency initiatives

This section highlights options where tourism can support the reduction in costs or the improvement of management actions.

Contracting out tourism management

Not every protected area can—or should—operate its own tourism programme. In some countries, such as the United States, the service in charge of national parks is forbidden by law to run tourism facilities itself; this is done instead through

concessions. In other instances, circumstances other than legal restrictions may dictate that the protected area authority cede tourism operations to another entity. In these situations, it is common for the operations to be contracted out.

For protected area managers, the benefit of letting contracts is that the work is put into the hands of specialists who are much more likely to have the knowledge needed to run a successful tourism business. This in turn makes it more probable (though certainly not guaranteed) that the protected area will realize financial gains from the tourist and visitor activities. In any event, protected area managers must develop considerable familiarity with tourism plans and operations to provide oversight and make certain that they support conservation objectives.

Managers probably will need to enlist legal specialists to advise on the many complex issues involved in contracting between protected areas and tourism businesses. These agreements generally come in the form of concessions, leases or licensing arrangements. Each one has its own particularities, but in general, all contracts need to:

- Establish a duration, bearing in mind that short periods may limit the willingness of businesses to invest, while excessively long ones may lock the protected area into an outdated contract that cannot respond to new economic or environmental conditions, or emerging tourism trends;
- Explicitly detail what forms and levels of tourism are allowable, in what locations and at what times;
- Mandate that the business involved will comply with the protected area's regulations, management objectives and conservation goals;
- Require the business to adhere to any entrance, access and use fees or other special levies that it may be responsible for collecting from visitors;
- Spell out certain aspects of how the business delivers information (e.g. requiring them to highlight the natural and associated cultural values of the protected area in their marketing, or to tell visitors about the conservation implications of their activities);
- Define the investments the business must make in facilities, as well as payments back to the protected area (these often entail an annual concession fee, plus additional payments scaled to annual receipts);
- Make clear how Indigenous Peoples and local communities in and around the protected area may participate in, and potentially benefit from, the contractual arrangement, both financially and in terms of skills development;
- Pinpoint how the terms of the agreement will be overseen, and whether and how it can be amended; and
- Set out the conditions for early termination of the agreement (e.g. for non-compliance or poor performance);

No matter what, contracts must clearly support achievement of the protected area's conservation objectives (Box 7.7).

The downsides of contracting out tourism should be carefully considered before deciding to do it. The fundamental issue in doing so is that protected area management gives up direct day-to-day control over an important part of operations. This can lead to a number of difficult situations. Perhaps most challenging are what to do when a contractor is not financially or operationally successful, or else simply does not comply with the terms of the contract. There is also the propensity of governments to support economic prerogatives over conservation, and a concessionaire or other contractor can often bypass protected area managers to push higher-level officials to approve expanding facilities, gain greater access to parts of the protected area, or allow new infrastructure such as viewing areas and roads. Such pressures can have major impacts by distorting the protected area's budget and conservation priorities.

Sharing services with tourism operators

Private tourism operators within protected areas have a vested interest in improving the financial efficiency of protected area management. They also incur a number of similar types of costs as does the protected area management team. Therefore, there are opportunities to either share resources or costs in order to reduce the unit price to each organisation. Examples already applied in protected areas include:

- Joint use of vehicle and boat maintenance facilities, reducing both the fixed costs of operating a garage and employing mechanics;
- Aligning the scheduling of contractors to periods when the protected area managers and private operations require the same service, reducing the cost to each;
- Conducting joint trainings of staff on topics such as tourism and enforcement;
- Combining purchase orders to gain discounts from economies of scale, which is especially efficient for isolated protected areas; and,
- Sharing transport for staff to reduce fuel costs and environmental impacts.

Activity-based collaboration

There may be a series of activities where tourism operators are willing to collaborate with protected area teams to deliver an improved conservation outcome. These may be activities that bolster the management performance of the protected areas, thereby improving the quality of the tourism product in the protected area and the potential business success of the tourism operator. Examples of this form of collaboration might include:

- Tourism operators reporting illegal activities inside the protected areas, acting as a wider network for enforcement;
- Joint promoting of special tourism activities taking place in the protected area, such as sporting events; and,
- Developing a collective approach to community engagement and awareness around the contribution of the protected areas to local livelihoods, or involving children in conservation.

Voluntourism

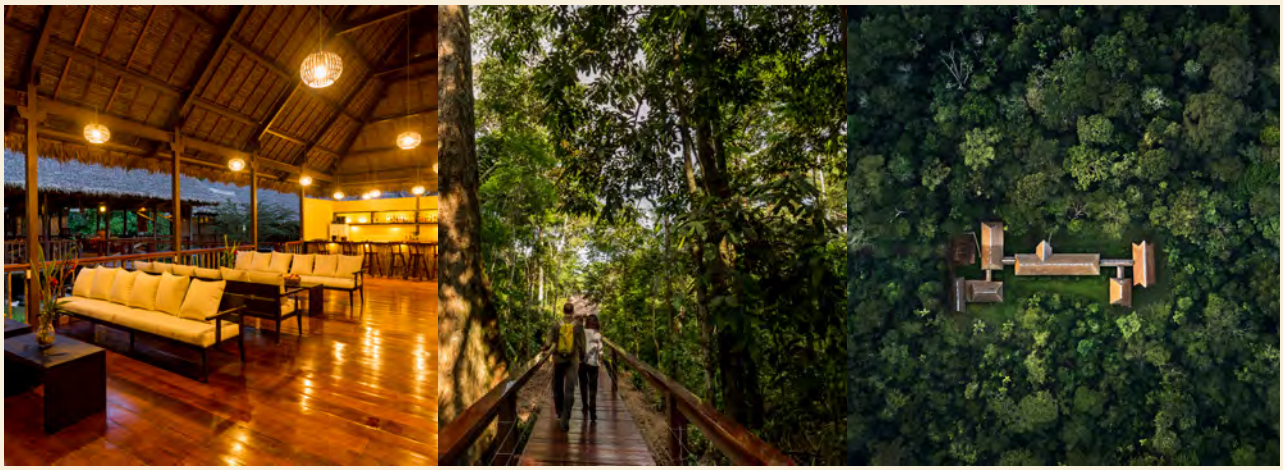
'Voluntourism' is a growing trend where tourists choose to visit a specific location with the purpose of making a meaningful contribution to the destination. As a result, a number of private for-profit and non-profit organisations have emerged offering this type of experience. Protected areas can benefit from this by offering opportunities for volunteers to engage in conservation activities, either for a fee or at no charge as a way to supplement staff (for more, see Chapter 3).

Box 7.7

Successful tourism contracting: Tambopata Research Center and the Tambopata National Reserve (Peru)

The partnership between the tour operator Rainforest Expeditions, the Tambopata Research Center (TRC), and Peru's National Service of Natural Areas Protected by the State (SERNANP) is an example of a successful public–private alliance that promotes conservation and tourism. An ecotourism concession contract was signed between Rainforest Expeditions and SERNANP in 2006 for access and use of a small area of the Tambopata National Reserve in south-eastern Peru, in the Amazon jungle. This contract is renewable every 20 years.

In 1989, Eduardo Nycander and Kurt Holle founded TRC to host ecotourism and to conduct macaw conservation research (the Tambopata Macaw Project). In 1992, they founded the for-profit ecotourism company Rainforest Expeditions; TRC was its first lodge. Currently, the company has two more lodges, one of them operated with a local community.



Tambopata Research Centre lodge. © Rainforest Expeditions

The TRC is a lodge with eighteen bedrooms. It was built to accommodate tourists and researchers and protect the adjacent clay lick used by various macaw species, which is the largest known site of its kind. The lodge is located in an area where one can see dusky-headed titis (*Callicebus moloch*), squirrels (various species), brown capuchins (*Cebus apella*), red howler (*Alouatta seniculus*) and black spider (*Ateles paniscus*) monkeys, capybaras (*Hydrochoerus capybara*), caimans (various species), agoutis (*Dasyprocta punctata*) and white-lipped peccaries (*Tayassu pecari*). The small-scale infrastructure and operations, as well as the permanent presence of researchers and naturalist guides, make TRC an excellent place to investigate the wildlife of the Amazon.

SPOTLIGHT BEST PRACTICE

Stipulate support for sustainable practices, and for the conservation objectives of the protected area, as part of contracts with tourism operators.

The agreement between Rainforest Expeditions and the State includes the following:

- **Development of scientific research and other publications**: Since its inception, Rainforest Expeditions has supported scientific research, primarily on Psittacidae (parrots), by supporting grants for volunteers of the Tambopata Macaw Project.
- **Generation of direct and indirect jobs and training**: Rainforest Expeditions prioritises the recruitment of staff from Indigenous communities in the nearby Madre de Dios Region. Rainforest Expeditions implements annual training courses in housekeeping, restaurant service, food preparation, guiding and skippering, which enable continuous improvement and specialization in those areas.
- **Good environmental practices**: Rainforest Expeditions respects the norms and regulations of the National Reserve, and commits to supporting its conservation management.
- **Promotion of the National Reserve**: By promoting its ecotourism through the media, Rainforest Expeditions disseminates the value of biological and cultural diversity in the Region of Madre de Dios, and particularly in Tambopata National Reserve.

7.6 Wider economic benefits and their link to conservation outcomes

Finally, although not a revenue-generating or cost-saving option specifically, the wider economic benefits created from tourism are an important consideration because ultimately those benefits—if recognised as deriving from protected areas—can translate into more public support for conservation. In areas with limited economic alternatives, well-managed tourism can reduce stresses stemming from high levels of unemployment. Ensuring that the highest possible proportion of tourism revenue remains in the local economy, and the greatest number of economic tourism-related opportunities are made preferentially available to local communities, are two ways of maximising the wider economic benefits.

Specifically in southern Africa, generating economic benefits for local communities is a prerequisite for the sustainability of protected areas in Africa (Hoon, 2004; Musumali, et al., 2007). A number of studies have shown that where communities benefit from tourism and/or protected areas, people have more positive attitudes towards protected areas (Infield, 1988; Gillingham & Lee, 1999; Alexander, 2000; Mehta & Heinen, 2001; Sekhar, 2003) and tourism development (Bauer, 2003; Lepp, 2007; Chandralal, 2010; Snyman, 2014) (Box 7.8).

The degree to which agencies or individual protected areas can and should rely on tourism as a source of conservation finance is a matter of considerable debate. The answer varies greatly because of accessibility, market factors and policy considerations (Box 7.9). For example, for protected area agencies in poorer developing countries where most visitors are tourists from wealthier countries, and where straightforward practical mechanisms are available for charging entry or activity fees, it can be both equitable and efficient for at least some of the costs of conservation management to be met through visitor entry fees. In these situations, however, it may be unrealistic to expect fees to cover a large portion of costs. There are a large number of non-tourism financing options available, both at the site and the national level, the selection of which will depend upon the type of protected area and its allowable activities (also see Chapter 3).

In South Africa, the government has required the national park agency (SANParks) to earn an increasing proportion of its budget from tourism sources, rather than from state expenditures (Table 7.6). Is this good or bad? Relying too much on fee revenue places any protected area at risk from downturns in inbound international tourism. In this respect, income diversification is critical. Furthermore, if the limited budgets of fee-dependent agencies are used to fund high-cost visitor infrastructure in a few heavily visited protected

Box 7.8

Community sharing of economic benefits: Damaraland Camp and the Torra Conservancy (Namibia)

Images from Damaraland Camp, Namibia. © Wilderness Safaris and Dana Allen

SPOTLIGHT BEST PRACTICE

Form agreements with concessionaires to employ a certain number of local staff, spend locally where possible, and contract out services to local businesses.

Sharing of economic benefits from tourism with local communities can be a big incentive for gaining their support. Wilderness Safaris, a private-sector ecotourism operator, has various community benefit-sharing partnerships in its operations across southern Africa. An example is a joint venture partnership (JVP) between the Torra Conservancy and Wilderness Safaris' Damaraland Camp in Namibia.

Over US$ 320,000 was paid by Damaraland Camp to the conservancy during the period 2005–2011. In 2013 alone, over US$ 70,000 was paid in the form of lease fees, laundry services and road maintenance. Damaraland Camp employs 30 individuals, of which 77% come from the conservancy. The conservancy itself employs approximately nine local people in administration and management, and the trophy hunting concessionaire employs temporary staff in the hunting season. Staff spending their salaries in the community, as well as their contributions to dependants, results in an important additional injection of cash into the local economy.

Source: Rylance & Spenceley, 2014

Table 7.6. Revenue sources for South African National Parks, 2016

Type of revenue	ZAR (000s)	US$ equivalent (000s)	% of revenue
Revenue from exchange transactions			
Tourism, retail, concession and other	1,497,892	95,044	51.6%
Sales—fauna and flora	48,791	3,096	1.7%
Other operating income	37,134	2,356	1.3%
Interest and royalties received	37,189	2,360	1.3%
Total revenue from exchange transactions	1,621,006	102,856	55.8%
Revenue from non-exchange transactions			
Transfer revenue			
Government grants and other funding	1,265,772	80,315	43.6%
Donations	16,936	1,075	0.6%
Total revenue from non-exchange transactions	1,282,708	81,390	44.2%
Total revenue	**2,903,714**	**184,246**	**100.0%**
Currency exchange: US$:ZAR, as of 1 June 2016: 15.76			

Source: South African National Parks, 2016

areas that drive most of the revenue, this could reduce the amount of money devoted to conservation management in its other protected areas. Disparities in the amount of tourism revenue generated by individual protected areas within a country can be considerable. As noted earlier, in many countries revenue from government-governed protected goes to the central treasury instead of staying with the protected area or network to be used for operations and improvement of facilities. Nevertheless, if government funding for conservation management is inadequate, tourism revenue can be a useful supplement to regular core budgets.

7.7. Best Practices

- Undertake a systematic financial assessment of the protected area (or broader protected area system) before setting entrance fees. Analyse current conditions, revenues and costs, and use the information to weigh different options for determining the fee, such as by residency status, age, or popularity of the site, or a combination thereof.
- Stipulate support for sustainable practices, and for the conservation objectives of the protected area, as part of contracts with tourism operators.
- Form agreements with concessionaires to employ a certain number of local staff, spend locally where possible, and contract out services to local businesses.

Box 7.9

Financing tourism management in Corbett National Park (India)

Corbett National Park (CNP) was established in 1936 and is the oldest national park in South Asia. When India's flagship species conservation programme *Project Tiger* was launched in 1973, CNP became one of India's first Tiger Reserves. Set in the foothills of Himalayas, CNP is renowned for its remarkable landscape beauty, high tiger (*Panthera tigris tigris*) density and amazing avifaunal diversity.

Tiger observed at the Corbett National Park. © Rajiv Bhartari

Within CNP, situated on the banks of the Ramganga river, there is a renowned 33-room forest lodge in Dhikala and several smaller lodges in other locations such as Gairal and Sarpduli. In the absence of dedicated funding for tourism management, it was challenging to maintain these lodges. In 2001, the park management instituted a housekeeping fee of US$ 2 per room, which generated US$ 20,000 in one year. However, this sum was still too small to enable proper management of the lodges. In 2005, the rates for housekeeping fees were doubled and extended to dormitories and additional beds, leading to generation of approximately US$ 75,000 annually. The use of these funds was regulated and earmarked for specific tourism-related activities, such as consumables, furnishings, lighting, fuel, salaries and emergencies. In 2009, CNP received "India's Best Maintained Tourist Friendly National Park Award" from the Indian Ministry of Tourism.

As per the amended Indian Wildlife (Protection) Act, 1972, and the Ecotourism Guidelines issued by the National Tiger Conservation Authority, CNP established the Corbett Tiger Foundation as an institution to aid in tiger conservation. The Government has authorised using tourism revenues generated from CNP for the newly established Corbett Tiger Foundation, which is expected to receive nearly US$ 500,000 per annum. These funds are being used for financing of protection, habitat management, tourism management, staff welfare and community development activities. Similar tiger foundations have been set up in 44 other tiger reserves in India.

Source: NTCA, 2012; Corbett National Park, 2017

The future of protected area tourism

8

© Daniela Cajiao

8.1 Tourism can help achieve fundamental conservation objectives

Why is tourism such a critical issue for policy makers and protected area managers? In some cases, it can generate negative impacts that compromise the conservation values of protected areas. However, if tourism is managed *sustainably*, it provides a powerful incentive to support the conservation of nature and to provide political and financial support to protected areas.

Visitor experiences are fundamental to the purpose of most protected areas, and high sustainability standards can deliver excellence in tourism without compromising ecological integrity, while also generating crucial revenues. As noted at the outset, for tourism in protected areas to be sustainable, it must, first and foremost, contribute to the conservation of nature over the long term, not just briefly or sporadically. Sustainable tourism provides opportunities to promote nature conservation and associated cultural values in protected areas—values that are part of the very definition of the term.

The purpose of these Guidelines is to increase understanding of protected area tourism in theoretical and practical ways, with a goal of ensuring that it contributes to, but does not undermine, the primary conservation objectives of protected areas. This is not always an easy task—that is the sustainability challenge. This concluding chapter briefly considers sustainable tourism's place in the world today, speculates on some critical future trends for which protected area managers should prepare, and offers suggestions as to how managers can interpret or implement the recommendations contained in this volume.

8.2 Sustainable tourism comes of age

From a policy perspective, the importance of sustainable tourism in protected areas is increasingly emphasised on the global stage (Spenceley, 2017). For example, in 2014 the UN General Assembly adopted a resolution that recognised the contribution of sustainable tourism to poverty eradication, community development and the protection of biodiversity (Resolution A/RES/69/233). In that same year, the Convention on Biological Diversity invited parties to "*build the capacity of national and subnational park and protected area agencies . . . to engage in partnerships with the tourism industry to contribute financially and technically to the establishment, operations and maintenance of protected areas through appropriate tools such as concessions, public-private partnerships . . .*" (CBD, 2014). We also have seen that sustainable tourism is relevant to several of the UN's Sustainable Development Goals.

In addition, one of the six emphases of the World Tourism Organization's 10-Year Framework of Programmes is on sustainable tourism, and its mission is to catalyse changes in tourism operations that promote sustainability. Lastly, 2017 was declared the United Nations International Year of Sustainable Tourism for Development, which emphasised tourism's role in: (i) sustainable economic growth; (ii) social inclusiveness, employment and poverty reduction; (iii) resource efficiency, environmental protection and climate change; (iv) cultural values, diversity and heritage; and (v) mutual understanding, peace and security (UNWTO, 2017). All of these themes relate to the sustainability of tourism and visitation in protected areas and the role that tourism can play as a vehicle to promote biodiversity conservation in protected areas (Spenceley, 2017).

Tourists waiting for the sunrise at Mount Nemrut National Park, Turkey. © Mei Yee Yan

8.3 Future trends

Looking to the future, there are some critical issues that nature conservation agencies and protected area managers should consider as they identify, evaluate and manage tourism in their protected areas.

Population growth and increasing consumption

With a growing global human population, there will be an increased demand for tourism in protected areas. While visitation to protected areas has fluctuated in some parts of the world (e.g. Canada and Japan), it has risen steadily in many other countries (Pergams & Zaradic, 2006; Shultis & More, 2011). There will be increasing needs for recreational and physical activity opportunities near the cities where most people live, including establishment of new urban protected areas (Trzyna, 2014). For example, the new Rouge National Urban Park in Toronto, Canada, specifically caters to biodiversity conservation and recreation in a metropolitan context (Parks Canada, 2013).

Protected area managers will be pressed to consider what tourism will look like in a world with possibly 9–10 billion people by 2050, with growing resource consumption demands. Managers will also be challenged by a basic ethical question: should they promote travel to remote protected areas in a world where energy and materials consumption is threatening to exceed — or perhaps in some respects already is exceeding —planetary limits?

Urbanisation

In an increasingly urbanised world, a great deal of concern has been expressed about the possibility of city dwellers, and young people in general, becoming estranged from nature (Trzyna, 2014). Much has been written about this problem—the 'nature deficit disorder'—and while anecdotally it seems serious, it is unclear how truly widespread or deep it is (Dickinson, 2013). In any case, urbanisation presents an opportunity to create what have been called 'natureful' cities where protected areas and greenspace are infused throughout the urban landscape. For example, the city-state of Singapore—one of the most densely populated places in the world—has been pursuing efforts to fuse urban development and nature since the 1960s. Its motto—'Singapore: City in a Garden'—is reflected in an impressive network of trails and pathways that allow people to walk, bike and jog between various greenspaces without leaving vegetated areas. Singapore also integrates nature into its vertical spaces. A number of high-rise buildings have installed green roofs and indoor hanging gardens to lessen urban heat build-up. All this is part of conscious planning to infuse as much nature as possible into the urban environment (http://biophiliccities.org/). The growth of cities also gives protected area authorities an opening to forge potential partnerships with technology companies to create products that encourage urban residents to engage with protected areas and their natural/cultural values, both physically and virtually.

Other demographic and legal developments

The world's demographics are changing quickly, with real implications for sustainable tourism. The rapid rise of a substantial middle class (as well as a burgeoning upper class) in populous countries such as China and India is resulting in tens of millions of additional potential international tourists. In 2017, for example, Asia's tourism industry boomed on the strength of increasing incomes among Chinese citizens, resulting in a jump in outbound leisure travel. A 2025 forecast for tourism's direct contributions to the region's economy projects nearly a 6% increase (Corben, 2017). In some countries, improved recognition of women's rights and expansion of economic opportunities for women and girls is also adding to the ranks of potential travellers.

Tourist infrastructure in a challenging environment within Songshan UNESCO Global Geopark © Yu-Fai Leung

How income is distributed across the world is, of course, a complex phenomenon, and generalisations must be viewed with caution. Nonetheless, one recent study projects that by 2035 a standard global measure of income inequality will continue to decline, largely because of rapid economic growth in emerging-market economies (such as Brazil, Russia, India, and China), and that there will be "major increases in the potential pool of consumers worldwide, with the largest net gains in the developing and emerging-market economies" (Hellebrandt & Mauro 2015: 1). If true, this will have huge implications on the amount of discretionary income available globally that people can potentially spend on tourism.

In a different vein, Indigenous Peoples and local communities are increasingly asserting their rights, and in some places are attaining legal recognition of land tenure; this too will affect protected areas, and the tourism taking place in them. Examples illustrated in these Guidelines include Ni'iinlii'Njik (Fishing Branch) Protected Area in Yukon Territory, Canada (Box 2.7) and Thembang Bapu Community Conserved Area in India (Box 2.9).

The Antarctic ecosystem under threat by climate change is being witnessed by tourists. © Daniela Cajiao

Box 8.1

Tourism and climate change in Peru's protected natural areas: Assessment of potential impacts and guidelines for adaptation

Known for its rich natural and cultural history, Peru drew over 2.8 million tourists in 2012, generating over US$ 3.2 billion and 1 million jobs. Within its three geographic regions, Peru contains 80% of the world's climate types and 84 of the 114 life zones. Climate model projections created by the Intergovernmental Panel on Climate Change predict changes in mean temperature and precipitation, as well as increased atmospheric variability, in the decades ahead. For Peru, the potential negative economic impacts from climate change could be on the order of US$ 10 billion.

With funds from the German government, the Public Investment and Climate Change Adaptation Project (IPACC) provided resources for political decision makers to assess the potential costs and benefits of climate change impacts in priority sectors, and to guide public investment criteria for climate change adaptation and risk reduction in Peru. One of the priority sectors was the tourism industry associated with Peru's 77 protected areas. Risks identified to the protected areas include impacts to flora and fauna (which are the main reason for tourism), increases in tropical disease vectors that affect human health, deglaciation in high-mountain tourist corridors, sea-level variations, damage to the infrastructure of support centres, and shortages in food supply.

SPOTLIGHT BEST PRACTICE

Use best available climate projections and adaptation science to make user-friendly recommendations to decision makers to address large-scale trends such as climate change.

In response, IPACC created guidelines for public investment projects in coastal and marine protected areas to reduce the sensitivity or increase the adaptive capacity of resources and facilities to climate change and to bring positive social benefits. For example, new tourist facilities potentially subject to heavy rains should be built in locations away from possible landslides, thereby reducing the prospect of costly repairs and threats to visitor safety. In addition to protecting infrastructure and planning for resilient development, the guidelines also provide visitor and resource management strategies. By identifying possible environmental, social and economic costs of climate change in Peru's protected areas, climate-relevant criteria can be incorporated into public investment project planning and implementation. Such consideration reduces climate change-related damage, promotes biodiversity conservation, and protects local economies dependent on protected area tourism.

Sources: BMUB, 2015; IPACC, 2017

Climate change

Looming over all these trends are the effects of global climate change. Much is uncertain, but one thing is not: projected climate change will affect tourism demand and tourism attractions (Buckley & Foushee, 2012). It is predicted that visitation to protected areas will shift as tourism attractions change in timing, nature and quality (e.g. shorter seasons for snow-based activities, and altered ecosystems for wildlife viewing). As climate change-induced extreme weather events increase in frequency and intensity (e.g. catastrophic fire, flood, hurricanes), damage to the natural and cultural resources of protected areas and their tourism infrastructure will likely happen more often. A recent example is the devastation brought in 2017 by severe hurricanes to protected areas and the tourism industry in parts of the Caribbean. The tourism industry itself contributes significantly to annual greenhouse gas emissions, notably through transportation, and should be a key player in any climate change mitigation strategies (Hall, et al., 2013). Assessments should consider the broad range of impacts of both long-haul international and short-haul domestic travel. Any mitigation strategies that involve reductions in travel possibilities will affect tourism in protected areas (Box 8.1).

Other imponderables

Some implications of global change are truly novel, and beyond our ability to predict. Terrorism by definition falls into this category. Terrorists often specifically target tourists and popular tourist sites (known as 'soft targets') for strategic reasons, but many times the victims of terrorist attacks just happen to include tourists. Although no one can infallibly predict when and where terrorists will strike, protected area managers can include strategies for defending against and responding to terrorism in their security plans (Fagel & Hesterman, 2017). A wider issue is how, and how much, terrorism changes tourism and travel patterns in general. There is conflicting evidence on these questions, but it is clear that major terrorist attacks do have long-lasting effects on the leisure travel choices people make.

Another new development is the recent, unexpected emergence of 'bucket list' or 'last chance' tourism: travel for the specific purpose of seeing places, including protected areas, before they are destroyed or irretrievably altered by climate change, or of seeing wildlife species before they go extinct (Muller, et al. 2013). Yet another is the uncertain future of the transportation upon which tourism depends: how will people travel to and within protected areas in a post-fossil-fuels world?

The future will bring new technologies that we simply cannot foresee at present. These technologies may allow protected area tourists to get information in novel ways to plan their trips, time their visits to coincide with desired natural events (e.g. wildlife migrations or bird nesting), digitally connect with friends and family about their experience, and improve safety.

Recreation preferences in protected areas will undoubtedly change over time, and will be affected by a wide range of factors, including an ageing population, immigration, opportunity to travel, means of physical access, affluence and access to information and technology.

Visitors taking a selfie with free-roaming horses on the beach at Cape Lookout National Seashore, North Carolina, USA. © Yu-Fai Leung

Table 8.1. Summary of best practice examples in these Guidelines

Source	Best practice
Planning and policy issues	
Box 2.3. Global Sustainable Tourism Council criteria	Follow internationally adopted guidelines on tourism and biodiversity that provide a framework for policy, planning, management and monitoring of tourism and its impacts.
Box 2.4. Supporting sustainable tourism in protected areas with policy: A case study of Botswana	Encourage national tourism policies that fulfil the 'triple bottom line' by requiring protected area tourist activities to explicitly contribute to the conservation of nature, generate economic benefits to both protected area authorities and local communities, and account for and minimise negative social impacts.
Box 2.6. The Community Management of Protected Area Conservation Programme (COMPACT)	Ensure that all site planning for tourism in protected areas follows a basic four-step process: (i) a baseline environmental and social evaluation that informs (ii) a conceptual model, which in turn is used to devise both (iii) a site plan and (iv) a system of monitoring and assessment that guides needed adjustments to site management.
Box 2.7. Cooperative planning and management of Ni'iinlii Njik (Fishing Branch) Protected Area (Yukon, Canada)	Develop tourism management plans in collaboration with all relevant stakeholders, including affected Indigenous Peoples and local communities and the tourism private sector.
Box 4.3. Designing for protection and inspirational visitor experiences: Wadi El-Hitan—Valley of the Whales World Heritage Site (Egypt)	Choose materials for site design and construction based on sources that minimise damage and exhibit properties such as durability, recyclability, availability and sustainability. Incorporate design that is in keeping with the local cultural and physical landscape as well as climatic conditions; and use native plant species for landscaping and natural insect control.
Box 4.4. A brief history of carrying capacity	Apply standards-based management frameworks driven by protected area values, management objectives, and their associated indicators and standards, to help inform the management challenge of balancing visitation and conservation in protected areas..
Box 4.5. Planning and zoning in Grand Canyon National Park (USA)	Employ a combination of visitor use management tools and techniques that reinforce and complement each other.
Box 5.5. Visitor monitoring using multiple techniques: Willmore Wilderness Park (Canada)	Coordinate and integrate monitoring of environmental and social impacts, with appropriate technologies and sufficient funding.
Box 5.6. Monitoring the patterns of visitor experience at Průhonice Park (Czech Republic)	Understand what values are being protected and the operational context prior to selecting a visitor management tool or practice.
Box 8.1. Tourism and climate change in Peru's protected natural areas: Assessment of potential impacts and guidelines for adaptation	Use best available climate projections and adaptation science to make user-friendly recommendations to decision makers to address large-scale trends such as climate change.
Community and communication issues	
Box 2.1. Communicating World Heritage to visitors: Gunung Mulu National Park (Malaysia)	Give tourists a wider context on management issues in the protected area by connecting them to similar issues globally, and, where appropriate, international conservation initiatives.
Box 3.2. Linking biodiversity and livelihoods: A sustainable protected area–community partnership	Support community-based delivery of tourism services that is market related. Consider partnerships between community enterprises and the private sector to improve the chances of commercial success.
Box 3.4. Partnering with health care: Parks Victoria, Medibank Australia, and the National Heart Foundation (Australia)	Re-imagine recreational activities in protected areas as a way to meet community needs and address larger societal goals, such as those related to human health and well-being.
Box 5.1. Park volunteers as citizen scientists and monitors	Harness the skill and enthusiasm of volunteers through citizen science and other programs to carry out needed management activities, but be sure to provide proper oversight and quality control.

Table 8.1 continued

Source	Best practice
Box 5.10. Interpretation centres in the National System of Natural Protected Areas in Peru	Be strategic about what protected area values are highlighted in environmental education and interpretation programmes and align them with the overall goals and objectives of the protected area and/or the system of which it is a part.
Box 5.11. Participatory history: Engaging visitors through knowledge and skills-based interpretation (Canada)	Move from environmental education and interpretation programmes that simply relay information, to programmes that emotionally engage visitors and youth, and connect them with the values the area is protecting.
Box 6.1. Capacity building for communities in buffer zones	Assess the capacity of local communities to deliver tourism services and ensure that adequate business modelling has been completed before investments.
Box 6.3. Partnerships for tourism management: A case study of the US Forest Service	Make sure all partnership-related work is officially accounted for and recognized, including time spent recruiting partners and maintaining relationships with them.
Financial issues	
Box 3.3. Building business skills through partnerships	Build training in business development and management skills into community-based delivery of tourism services, and include community members, NGO representatives and protected area managers in the training.
Box 5.12. Parks Canada's use of market research data and experience marketing	Achieve a strong understanding of different constituents through research and analysis prior to engaging in marketing strategies.
Box 7.4. Variations in entrance fees within the United Republic of Tanzania	Undertake a systematic financial assessment of the protected area (or broader protected area system) before setting entrance fees. Analyse current conditions, revenues and costs, and use the information to weigh different options for determining the fee, such as by residency status, age, or popularity of the site, or a combination thereof.
Box 7.7. Successful tourism contracting: Tambopata Research Center and the Tambopata National Reserve (Peru)	Stipulate support for sustainable practices, and for the conservation objectives of the protected area, as part of contracts with tourism operators.
Box 7.8. Community sharing of economic benefits: Damaraland Camp and the Torra Conservancy (Namibia)	Form agreements with concessionaires to employ a certain number of local staff, spend locally where possible and contract out services to local businesses.

8.4 Conclusions

Tourism in protected areas generates impacts that require identification, evaluation and management in order to achieve conservation goals. By encouraging visitors to protected areas, however, we can generate greater advocacy and support for conservation. In many cases, tourism is critical for the establishment and management of protected areas. The discussion and selected best practices in this volume (Table 8.1) provide conceptual background for understanding protected area tourism and best-practice practical advice and tools to managers. Again, this is not an exhaustive list, but a sampling of best practices drawn from case studies presented throughout these Guidelines. This list contributes to the global portfolio of best practices of tourism for biodiversity conservation and sustainability (e.g., Europarc Federation, 2012; CBD, 2007; CBD, 2015).

How should these recommendations be interpreted and implemented? Only as they are appropriate to the national and local context and to current conditions. Policy makers and managers should undertake comprehensive assessments before making decisions to ensure all influential factors are considered. These recommendations have wide applicability as they are based on experiences from around the world, but every protected area has its unique aspects. Managers should assess their individual situations, anticipate changing conditions, and implement recommendations accordingly.

Finally, managers should monitor conditions, document changes, and make adjustments when needed. They should set realistic short-, mid-, and long-term goals to evaluate progress toward conserving natural values, including biological diversity, as well as promoting high-quality visitor experiences. Incentives can encourage the larger society to make decisions that support these goals.

Throughout these Guidelines we have returned again and again to the sustainability challenge: the use of best practices to minimise the negative impacts of tourism and maximise the positive ones. Sustainable protected area tourism is both a process and a goal, something that managers must at once work *through* and *toward*. It is a long-term commitment.

None of this will happen without effective communication and partnerships among all protected area rights-holders and stakeholders. That is essential to generating the discussion, debate, and, eventually, broad support for and action toward achieving protected area conservation goals. We hope that these Guidelines will help serve as a catalyst in this regard.

Glossary

Best practices
Field-proven strategies, techniques, and methods that are the most effective ways to manage tourism in protected areas. Best practices may change over time as new knowledge results in improvements. Best practices are manifestations of technical know-how, as well as the attitudes, efforts and commitments of managers, tourism-sector entities, communities and tourists themselves that are successfully using tourism as a means to achieve protected area conservation goals.

Biodiversity
The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems.

Biosphere reserves
Protected areas forming an international system of overseen by UNESCO, and which promote biodiversity, conservation and its sustainable use, along with interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems.

Branding
The use of an image, theme, design, or other identifying element (or a combination thereof) to symbolise a protected area for the purpose of promoting tourism.

'Bucket list' or 'last chance' tourism
Travel for the specific purpose of seeing places, including protected areas, before they are destroyed or irretrievably altered by climate change, or of seeing wildlife species before they go extinct.

Capacity building
The process by which people acquire the means (the capacity) to achieve a set of goals or accomplish a project successfully.

Carrying capacity, tourism
The maximum number of people that may visit a tourist destination [here, a protected area] at the same time, without causing destruction of the physical, economic, socio-cultural environment and an unacceptable decrease in the quality of visitors' satisfaction.

Certification
A voluntary, third-party assessment of a protected area tourism enterprise's conformity to a set of standards, including specific sustainability targets.

Commercialisation manual
A step-by-step guide for protected area managers on how to contract with for-profit tourism operators.

Community
A social group of any size whose members reside in a specific locality, share government and may have a common cultural and historic heritage/s. It can also refer to a group of individuals who interact within their immediate surroundings, exhibits cohesion and continuity through time, and displays characteristics such as social interaction, intimacy, moral commitments, multi-faceted relations, and reciprocity.

Competencies, operational
The skills and abilities needed to professionally manage the day-to-day business of protected area tourism and visitation.

Competencies, planning
The skills and abilities needed to integrate tourism, visitation and other protected area management goals along with addressing how the protected area can encourage economic development in a local area.

Competencies, strategic
The skills and abilities needed to accomplish long range-thinking about the role of a protected area and how it fits in with local, regional, national and even international needs and expectations.

Concession; concessionaires
A contractual arrangement granted by the protected area management authority that gives an entity (usually a for-profit company) the exclusive right to offer specified services in a protected area. The entity is referred to as a concessionaire (also spelled concessioner).

Concession fees
The user fees that concessionaires pay for the exclusive right to use the protected area to conduct business. They may take the form of a direct fee, performance bonds, fees for maintenance, and fines for breaches.

Conservation ethic
A state of mind in which a person supports the safeguarding of nature and associated cultural values because he or she is convinced that it is right to do so. One of the objectives of sustainable tourism in protected areas is to encourage a conservation ethic.

Cultural heritage
An expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions and values. It is often expressed as either 'intangible' (e.g. customs, language) or 'tangible' (e.g. physical artefacts) (International Council on Monuments and Sites). Heritage refers specifically to the condition of being inherited from past generations, maintained in the present, and bestowed to future generations.

Co-marketing
A form of marketing in which a protected area agency works with partners to promote tourism opportunities that will benefit all parties.

Concentration of use; Dispersal of use
The former is a strategy in which managers attempt to limit the negative impacts of a particular visitor use by restricting it to a relatively small part of the protected area. The latter is the opposite: an attempt to lessen the negative impacts by spreading the use out over a wider area, either through encouragement or regulation.

Demarketing
A strategy in which protected area managers intentionally discourage tourist demand for a particular location or service to reduce environmental impacts or enhance visitor experiences.

Differential pricing
A system that involves setting prices based on demand, such as charging more for a lakeside campsite or a higher entrance fee during peak season.

Ecotourism
Responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education.

Entrance fees
Charges to visitors simply to enter the protected area.

Environmental impact assessment
A formal analysis that describes a proposed project or development, predicts key environmental impacts and their significance, facilitates public consultation and participation, suggests appropriate mitigation methods, and documents the process of decision making, monitoring and post-project audits.

Gazetted
The condition of being published in an official government gazette, that is, of coming under the jurisdiction of a civil government. A protected area that is gazetted is governed under statutory civil law (as opposed to, for example, being governed under traditional rules observed by a community).

Global geoparks
An international system of protected areas in which sites and landscapes of international geological significance are managed to simultaneously achieve protection, education and sustainable development.

Governance
Decision making about principles, laws, policies, rules, and day-to-day management of tourism and visitor use in support of protected area goals.

Governance types
The classes under which protected area authority fall. The four main governance types for protected areas are (i) government-governed, (ii) shared governance, (iii) privately governed (including NGO-run), and (iv) areas and territories governed by Indigenous Peoples and local communities. In each type, it is possible that responsibility for tourism is delegated to another governing authority, or contracted to private operators.

Green exercise
Exercising in the presence of nature or engaging in nature-based recreation.

Hardening
A strategy in which managers intervene to increase the resiliency of protected area resources to direct visitor impacts. The hardening may be physical, such as creating a hard surface to absorb the direct physical impacts of visitor activities (e.g. the paving of a popular path), or metaphorical, in which case managers 'harden the experience' of visitors by informing them of the damaging resource conditions being caused by the use, so that they are motivated to reduce their impacts.

Indigenous Peoples
Those which, by virtue of having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories.

Indicators and quality standards
Measurable aspects of the natural and social environment that can be defined in terms of lesser or greater quality, thus enabling monitoring of changes in that standard of quality. Indicators of quality reflect the essence of the management objectives; they can be thought of as quantifiable proxies of management objectives. Standards of quality define the minimum acceptable condition of indicator variables.

Infrastructure
Any part of the built environment that is used to facilitate tourism in a protected area, such roads, visitor centres, information kiosks, etc.

Interpretation
A communication process that forges emotional and intellectual connections between the audience and the meanings inherent in the resource.

Law enforcement, 'soft' and 'hard'
In protected areas, 'soft' law enforcement involves nonpunitive management measures that encourage visitors to follow rules, such as signage, verbal instructions, etc. 'Hard' law enforcement involves punitive measures for serious violations, such as citations, fines, and arrests.

Legislation
Laws and legal agreements that provide sets of enforceable rules and responsibilities that define what actions and activities may or may not be permitted in particular circumstances and locations within the protected area.

Limits of Acceptable Change
A management framework that establishes measurable limits to human-induced changes in the natural and social settings of protected areas, and uses these to create appropriate management strategies to maintain or restore acceptable conditions.

Literacy, critical
In protected area educational contexts, the ability to make sense of something in terms of its ideological underpinnings.

Literacy, cultural
The ability to understand something within its cultural context.

Literacy, functional
The ability to understand the literal meaning of technical terms.

Local community; host community
The community or communities of residents living near (and sometimes within) a protected area. Host community is synonymous.

Marketing
A specialised form of communication, marketing deals with creating and delivering messages that have value to customers, clients and society at large.

Marketing, experience
A form of protected area tourism marketing in which visitors are involved in the creation and delivery of a protected area experience.

Marketing, relationship
A form of protected area tourism marketing that occurs through long-term, mutually beneficial relationships between protected area agencies and stakeholder groups. It includes fostering positive and supportive internal relationships within a protected area organisation.

Marketing, social
A form of protected area tourism marketing that prioritises outcomes that will benefit society and the individual.

Monitoring
A coordinated effort to track current conditions and evaluate the efficacy of management actions in a protected area.

Multi-tiered pricing
A system that involves setting prices based on visitors' age, place of residence and other factors in an attempt to encourage certain types of visitors that the protected area is particularly interested in reaching.

National Biodiversity Strategies and Action Plans (NBSAPs)
The principal instruments for implementing the Convention on Biological Diversity at the national level, NBSAPs lay out each Contracting Party's commitment to the conservation and sustainable use of biological diversity and to including that commitment across all sectors of the national economy and policy-making framework.

Natural heritage
The sum total of the elements of biodiversity, ecosystems, and geology, and other abiotic components of Earth that are not the result of human action. Heritage refers specifically to the condition of being inherited from past generations, maintained in the present, and bestowed to future generations.

Nature-based tourism
Forms of tourism that use natural resources in a wild or undeveloped form. Nature-based tourism is travel for the purpose of enjoying undeveloped natural areas or wildlife.

Outstanding universal values
The specific values recognised by the World Heritage Convention as being the reasons for according a site World Heritage status, and which are considered to be important to all humankind.

Photopoint
A location from which repeat photographs are taken to monitor changes in visitor impacts.

Policies
Principles of action adopted or proposed by organisations, including all tiers of government, businesses, NGOs, civil society organisations or individuals.

Precautionary principle
A principle of decision making that states: "where knowledge is limited and there is lack of certainty regarding the threat of a serious environmental harm, this uncertainty should not be used as an excuse for not taking action to avert that harm" (Lausche, 2011).

Protected area
A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve long-term conservation of nature with associated ecosystem services and cultural values.

Protected area categories
A set of six classes, devised by IUCN, into which a protected area can be grouped according to its primary overall management objectives. Many protected areas, however, are divided into zones, each of which may have a different management objective that serves the overall primary objective.

Protected area manager
A professional or other stakeholder working on tourism in protected areas. The term includes administrators, managers and planners who may work for and with government agencies, non-governmental organisations, local community groups, private landowners, or other entities.

Protected area context
The wider governance, political, social/cultural, and environmental conditions in which protected area tourism management takes place.

Ramsar Sites
An international system of protected wetlands recognised as globally important under the Ramsar Convention. (Ramsar is the name of a city in Iran where the convention was adopted.)

Rationing
The use of a formal system (e.g. a lottery or a pricing scheme) to restrict a particular visitor use.

Recreation
Activities by visitors to protected areas undertaken either for enjoyment, physical and mental challenge, enrichment and learning, or a combination thereof.

Recreation Opportunity Spectrum
A management framework for understanding the range of relationships and interactions between visitors, settings, and desired experiences.

Rights-holders
Persons or organisations socially endowed with legal or customary rights with respect to land, water, and natural resources.

Social impact assessment
A formal analysis of the social consequences that are likely to occur as a result of a specific policy, action or development in the context of relevant legislation.

Stakeholders
Persons or organisations possessing direct or indirect interests and concerns with respect to land, water, and natural resources, but who do not necessarily enjoy a legally or socially recognised entitlement to them.

Strategic environmental assessment
A formal evaluation of the environmental effects of a policy, plan or programme and its alternatives.

Sustainability
For protected areas, the condition of its persisting for a long time with core natural and cultural values intact, though not necessarily entirely unchanged.

Sustainable development
Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable financing
Financing for protected areas that is long-term and dependable.

Sustainable tourism
Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities.

Sustainable transportation
Initiatives that try to minimise energy consumption, carbon emissions, and infrastructure footprint of transportation within protected areas while still maintaining a high-quality visitor experience.

Threefold protected area tourism management framework
A framework that encompasses the Recreation Opportunity Spectrum, carrying capacity, Limits of Acceptable Change, and indicators and quality standards in order to (i) formulate protected-area-wide management objectives and standards of tourism quality, (ii) monitor those indicators, and (iii) take management action to correct any shortcomings.

Tourism
The activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes.

Tourism demand
The total number of persons who actually travel or wish to travel to a particular protected area.

Tourism Impact Attitude Scale
A measure of the social impacts of protected area tourism that tests the effects of many variables—such as place of residence, the extent to which the community depends on tourist revenue, etc.—on the attitudes of residents towards tourism.

Tourism provider
Any individual or organisation that is actively engaged in facilitating visitor use in a protected area.

Tourist
A visitor (domestic, inbound or outbound) whose trip to a protected area includes an overnight stay.

Triple bottom line
A measure of the success of a given effort not just in terms of its economic payoff, but also in terms of the environmental and social value it creates. In terms of the triple bottom line, sustainable protected area tourism in protected areas is that which (i) contributes to the conservation of nature (environmental value); (ii) generates economic benefits to protected area authorities to help support management costs, and also sustainable livelihood opportunities in local communities (economic value); and (iii) contributes towards the enrichment of society and culture (social value).

User fees
Charges to visitors for taking part in an activity (such as going on a guided walk) or engaging in a particular use of the protected area's facilities or resources (such as staying in a campground).

Values, protected area
Physical features or experiential conditions that have been judged to be important to a protected area's identity.

Visitor
For protected areas (PAs), a visitor is a person who visits the lands and waters of the PA for purposes mandated for the area. A visitor is not paid to be in the PA and does not live permanently in the PA. The purposes mandated for the area typically are recreational, educational or cultural.

Visitor carrying capacity
The maximum number of people that may visit a destination at the same time without causing destruction of the physical, economic, and sociocultural environment and/or an unacceptable decrease in the quality of visitors' satisfaction.

Visitor count
The number of individual visitors entering or leaving a protected area regardless of the length of stay.

Visitor days
The total number of days that visitors stay in the protected area.

Visitor experience
A "complex interaction between people and their internal states, the activity they are undertaking, and the social and natural environment in which they find themselves" (Borrie & Roggenbuck, 1998, p. 115). In protected area tourism, a high-quality (satisfying) visitor experience is the 'product' that is being aimed for.

Visitor hours
The total length of time, in hours, that visitors stay in the protected area.

Visitor management
The process of tracking visitor usage in a protected area.

Visitor nights
The count of persons staying overnight in a protected area.

Visitor spending
The total consumption expenditure made by a visitor, or on behalf of a visitor, for goods and services during his/her trip and stay at a protected area.

Visitor use
Any activity by visitors in a protected area.

Voluntourism
Organised programmes through which visitors come to a protected area specifically to work on an activity that supports its conservation objectives.

Willingness to pay (WTP) surveys
A type of research study in which respondents are asked to specify how much they are willing to pay to see that some sort of action is carried out (or not), or some condition is maintained, in a protected area.

World Heritage Sites
An international system of protected areas, created under the World Heritage Convention, which is intended to include the world's most outstanding examples of natural and cultural heritage.

Zone; zoning
A portion of a protected area that is managed for a specific objective. For example, a protected area may have a zone in which motorised recreation is prohibited, while also having a zone where it is allowed. Zoning used in this way creates a range of tourism and recreation opportunities. On a more general level, sometimes protected areas have a core zone with a high level of restrictions on human activity in order to promote nature protection, surrounded by a buffer zone where restrictions are looser.

Contributing authors

Family Name	Given Name	Country/Territory of Residence	Chapter Sections (*Chapter Coordinator)	Case Boxes
Barborak	James	USA	7	
Bhartari	Rajiv	India		2.9, 7.9
Borges	Maria Ana	Switzerland		3.3
Bricker	Kelly	USA		2.3
Bride	Ian	UK	5	
Buckley	Ralf	Australia	2, 5, 7, 8	3.6, 5.13
Bushell	Robyn	Australia		3.4
Carbone	Giulia	Switzerland		3.3, 4.2
Cerveny	Lee	USA		6.3
Chao	Chih-Liang	Taiwan, Province of China		3.2
Chávez	Jorge	Peru		5.10, 7.7
Chen	Mei-Hui	Taiwan, Province of China		3.2
Damnjanović	Ivana	Serbia		2.10
de Urioste-Stone	Sandra	USA	6	
Eagles	Paul F. J.	Canada	1, 2, 3, 7	
Epler Wood	Megan	USA		6.1
Halpenny	Elizabeth	Canada	4*, 5*	5.12
Hawkins	Donald	USA		2.8
Holle	Kurt	Peru		7.7
Hüebner	Anna	Germany		5.7
Hvenegaard	Glen	Canada	2*, 3*, 8*	5.13
King	Delphine M.	Kenya		2.5
King	Lisa M.	Malaysia		2.1
Larson	Lincoln	USA		3.5
Leung	Yu-Fai	USA	1*, 2, 3, 4*, 5*, 8	5.4, 5.13
Lu	Dau-Jye	Taiwan, Province of China		3.2
Manning	Robert	USA	4, 5	4.4, 4.5
Massyn	Peter J.	South Africa	7	
McCool	Stephen	USA	1, 2, 3, 6	
Medhi	Kamal	India		2.9
Miller	Anna	USA		5.2, 5.4
Milstein	Mark	USA		6.1

Family Name	Given Name	Country/Territory of Residence	Chapter Sections (*Chapter Coordinator)	Case Boxes
Monteiro	Luis	Czech Republic		5.6
Moreira	Jasmine C.	Brazil		2.2
Mucha	Debbie	Canada		5.5
Ndebele	Dani	South Africa		6.2, 7.8
Newsome	David	Australia		2.2
Ng	Young	Hong Kong SAR, China		2.2
Notarianni	Marcello	Italy	7	
Paleczny	Dan	Canada		2.7, 4.3
Paleczny	Jake	Canada		5.11
Paxton	Midori	Thailand	7	
Rafiq	Mohammad	UK		2.5
Ran	Jianghua	China		5.9
Riedmiller	Sibylle	United Republic of Tanzania		2.5
Rylance	Andrew	UK	7	7.1
Salenieks	Theresa	Canada	4*, 5*	5.1
Seekamp	Erin	USA		6.3
Snyman	Susan	South Africa	6, 7	6.2, 7.8
Spenceley	Anna	South Africa	1, 2, 3*, 4, 6*, 7*, 8	1.1, 2.3, 3.1, 4.1, 4.4, 5.13, 7.2, 7.4, 7.5, 7.6
Thompson	Andy	New Zealand	7	
Tserendeleg	Dashpurev	Mongolia		7.3
Val	Erik	Canada		2.7
Vishnevskaya	Alexandra	Kazakhstan		5.8
Walden-Schreiner	Chelsey	USA	5, 7	2.3, 2.4, 2.6, 5.3, 5.4, 7.3, 8.1
Woodward	Dilya	Kazakhstan		5.8
Wu	Chengzhao	China		5.9
Zhang	Xiaoping	China		5.9

References

Ackoff, R.L. (1996). 'On Learning and the Systems that Facilitate It'. Center for Quality of Management Journal 5(2):27–35.

AFCD (Agriculture, Fisheries and Conservation Department, Hong Kong SAR Government) (2017). 'Hong Kong UNESCO Global Geopark'. http://www.geopark.gov.hk/en_index.htm. Accessed 15 February 2017.

Alexander, S. (2000). 'Resident Attitudes toward Conservation and Black Howler Monkeys in Belize: the Community Baboon Sanctuary'. Environmental Conservation 27(4):341–350. https://doi.org/10.1017/S0376892900000394.

Appleton, M.R. (comp.) (2016). A Global Register of Competences for Protected Area Practitioners. Gland, Switzerland: IUCN. Protected Area Technical Report Series No. 2. https://portals.iucn.org/library/node/46292. Accessed 28 March 2018.

Araripe Geopark (2005). Application Dossier for Nomination. Ceará, Brazil: Governo do Estado do Ceará. Crato.

Armstrong, E.K. and Kern, C.L. (2011). 'Demarketing Manages Visitor Demand in the Blue Mountains National Park'. Journal of Ecotourism 10(1):21–37. https://doi.org/10.1080/14724040903427393

Ashley, C. and Barnes J. (1996). Wildlife Use for Economic Gain: The Potential for Wildlife to Contribute to Development in Namibia. DEA Research Discussion Paper No. 12. Windhoek, Namibia: Ministry of Environment and Tourism.

Augar, N. and Fluker, M. (2015). 'Towards Understanding User Perceptions of a Tourist-based Environmental Monitoring System: An Exploratory Case Study'. Asia Pacific Journal of Tourism Research 20:1081–1093. https://doi.org/10.1080/10941665.2014.962554

Aylward, B. (2004). 'The Actual and Potential Contribution of Nature Tourism in Zululand: Considerations for Development, Equity and Conservation', In: B. Aylward and E. Lutz (eds.), Nature Tourism, Conservation, and Development in Kwazulu-Natal, South Africa, pp. 3–40. Washington, DC: World Bank.

Bagri, A., McNeely, J. and Vorhies, F. (1998). 'Biodiversity and Impact Assessment'. Paper presented at IUCN Workshop on Biodiversity and Impact Assessment, Christchurch, New Zealand, 21–22 April.

Baral, N., Stern, M.J. and Bhattarai, R. (2008). 'Contingent Valuation of Ecotourism in Annapurna Conservation Area, Nepal: Implications for Sustainable Park Finance and Local Development'. Ecological Economics 66(2–3):218–227. https://doi.org/10.1016/j.ecolecon.2008.02.004

Bauer, H. (2003). 'Local Perceptions of Waza National Park, Northern Cameroon'. Environmental Conservation 30(2):175–181. https://doi.org/10.1017/S037689290300016X

Beaumont, N. (2001). 'Ecotourism and the Conservation Ethic: Recruiting the Uninitiated or Preaching to the Converted?' Journal of Sustainable Tourism 9(4):317–341.

Biggs, D., Turpie, J., Fabricius, C. and Spenceley, A. (2011). 'The Value of Avitourism for Conservation and Job Creation—An Analysis from South Africa'. Conservation and Society 9(1):80–90. https://doi.org/10.4103/0972-4923.79198

Bintoora, A.K. (2014). Personal communication. Uganda Wildlife Authority.

BIP (Biodiversity Indicators Partnership) (2017). 'Biodiversity Indicators Partnership'. https://www.bipindicators.net. Accessed 15 February 2017.

Blaikie, P. (2006). 'Is Small Really Beautiful? Community-based Natural Resource Management in Malawi and Botswana'. World Development 34:1942–1957. https://doi.org/10.1016/j.worlddev.2005.11.023

Blom, A. (2000). 'The Monetary Impact of Tourism on Protected Area Management and the Local Economy in Dzanga–Sangha (Central African Republic)'. Journal of Sustainable Tourism 8:175–189. https://doi.org/10.1080/09669580008667357

BMUB (German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety) (2015). 'Public Investment and Climate Change Adaptation (IPACC)'. http://www.giz.de/en/worldwide/13314.html. Accessed 15 February 2017.

Borrie, W.T. and Roggenbuck, J.W. (1998). 'Describing the Wilderness Experience at Juniper Prairie Wilderness Using Experience Sampling Methods'. In: D.L. Kulhavy and M.H. Legg (eds.), Wilderness and Natural Areas in Eastern North America, pp. 165–172. Nacogdoches, TX: Stephen F. Austin State University.

Borrie, W.T., McCool, S.F. and Stankey, G.H. (1998). 'Protected Area Planning Principles and Strategies'. In: K. Lindberg, M.E. Wood and D. Engeldrum (eds.), Ecotourism: A Guide for Planners and Managers (Vol. 2), pp. 133–154. North Bennington, VT: The Ecotourism Society.

Borrie, W.T., Christensen, N.A., Watson, A.E., Miller, T.A. and McCollum, D. (2002). 'Public Purpose Recreation Marketing: A Focus on the Relationships between the Public and Public Lands'. Journal of Park and Recreation Administration 20:49–68.

Borrini-Feyerabend, G., Dudley, N., Jaeger, T., Lassen, B. Broome, N.P., Phillips A. and Sandwith, T. (2013). Governance of Protected Areas: From Understanding to Action. Best Practice Protected Area Guidelines Series No. 20. Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/29138. Accessed 28 March 2018.

Bottema, M.J.M. and Bush, S.R. (2012). 'The Durability of Private Sector-Led Marine Conservation: A Case Study of Two Entrepreneurial Marine Protected Areas in Indonesia'. Ocean and Coastal Management 61:38–48. https://doi.org/10.1016/j.ocecoaman.2012.01.004

Boudreaux, K. and Nelson, F. (2011). 'Community Conservation in Namibia: Empowering the Poor with Property Rights'. Economic Affairs 31(2):17–24. https://doi.org/10.1111/j.1468-0270.2011.02096.x

Bovarnick, A., Fernandez Baca, J., Galindo, J. and Negret, H. (2010). Financial Sustainability of Protected Areas in Latin America and the Caribbean: Investment Policy Guidance. New York: United Nations Development Programme and The Nature Conservancy.

Brooks, C. (2013). Personal communication. Botswana, Integrated Natural Resource Management Coordinator, Southern Africa Regional Environment Program.

Brown, G., Koth, B., Kreag, G. and Weber, D. (2006). Managing Australia's Protected Areas: Review of Visitor Management Models, Frameworks and Processes. Gold Coast, Queensland: Sustainable Tourism Cooperative Research Centre.

Brown, J. and Hay-Edie, T. (2013). COMPACT: Engaging Local Communities in the Stewardship of World Heritage. New York: UNDP.

Buckley, L.B. and Foushee, M.S. (2012). 'Footprints of Climate Change in U.S. National Park Visitation'. International Journal of Biometeorology 56:1173–1177. https://doi.org/10.1007/s00484-011-0508-4

Buckley, R.C. (2003a). 'Ecological Indicators of Tourist Impacts in Parks'. Journal of Ecotourism 2(1):54–66. https://doi.org/10.1080/14724040308668133

Buckley, R.C. (2003b). 'Pay to Play in Parks: An Australian Policy Perspective on Visitor Fees in Public Protected Areas'. Journal of Sustainable Tourism 11(1):56–73. https://doi.org/10.1080/09669580308667193

Buckley, R.C. (ed.) (2004). Environmental Impacts of Ecotourism. Wallingford, UK: CABI.

Buckley, R.C. (2009). Ecotourism: Principles and Practices. Wallingford, UK: CABI.

Buckley, R.C. (2010a). Conservation Tourism. Wallingford, UK: CABI.

Buckley, R.C. (2010b). 'Safaris Can Help Conservation'. Nature 467:1047. https://doi.org/10.1038/4671047d

Buckley, R.C. (2011). 'Tourism and Environment'. Annual Review of Environment and Resources 36:397–416. https://doi.org/10.1146/annurev-environ-041210-132637

Buckley, R.C. (2012a). 'Tourism, Conservation and the Aichi Targets'. Parks 18(2):12–19. https://doi.org/10.2305/IUCN.CH.2012.PARKS-18-2.RB.en

Buckley, R.C. (2012b). 'Sustainable Tourism: Research and Reality'. Annals of Tourism Research 39(2): 528–546. https://doi.org/10.1126/science.344.6182.358-b

Buckley, R.C. (2014). 'Protecting Lemurs: Ecotourism'. Science 344:358.

Burdge, R.J. and Vanclay, F. (1995). 'Social Impact Assessment'. In: F. Vanclay and D.A. Bronstein (eds.), Environment and Social Impact Assessment, pp. 31-66. New York: John Wiley.

Bush, G., Hanley, N. and Colombo, S. (2008) 'Measuring the Demand for Nature-based Tourism in Africa: A Choice Experiment Using the "Cut-off' Approach'. Discussion Paper 2008-6, Stirling Economics, University of Stirling, Stirling, UK.

Bushell, R. and Bricker, K. (2017). 'Tourism in Protected Areas: Developing Meaningful Standards'. Tourism and Hospitality Research 17(1):106–120. https://doi.org/10.1177/1467358416636173

Bushell, R. and McCool, S.F. (2007). 'Tourism as a Tool for Conservation and Support of Protected Areas: Setting the Agenda' In: R. Bushell and P.F.J. Eagles (eds.) Tourism and Protected Areas: Benefits beyond Boundaries, pp. 12–26. Wallingford, UK: CABI. https://doi.org/10.1079/9780851990224.0012

Cable, S. and Watson, A.E. (1998). Recreation Use Allocation: Alternative Approaches for the Bob Marshall Wilderness Complex. Research Note RMRS-RN-1. Ogden, Utah: USDA Forest Service, Rocky Mountain Research Station.

Cabral, N.R.A.J. and Mota, T.L.N.G. (2010). 'Geoconservação em Áreas Protegidas: o Caso do GeoPark Araripe–CE'. Natureza & Conservação 8(2):184–186. https://doi.org/10.4322/natcon.00802013

CaGBC (Canada Green Building Council) (2017). 'LEED'. http://www.cagbc.org/. Accessed 15 February 2017.

Cassie, L.T. and Halpenny, E.A. (2003). 'Volunteering for Nature: Motivations for Participating in a Biodiversity Conservation Volunteer Program'. World Leisure Journal 45(2):38–50. https://doi.org/10.1080/04419057.2003.9674315

CBD (Secretariat of the Convention on Biological Diversity) (2004a). Akwé: Kon Guidelines. Montreal: Secretariat of the Convention on Biological Diversity. http://www.cbd.int/traditional/guidelines.shtml. Accessed 15 February 2017.

CBD (2004b). Guidelines on Biodiversity and Tourism Development. Montreal: Secretariat of the Convention on Biological Diversity. http://www.cbd.int/tourism/guidelines.shtml. Accessed 15 February 2017.

CBD (2007). Managing Tourism and Biodiversity: User's Manual on the CBD Guidelines on Biodiversity and Tourism Development. Montreal: Secretariat of the Convention on Biological Diversity. https://www.cbd.int/doc/programmes/tour- ism/tourism-manual-en.pdf. Accessed 15 February 2017.

CBD (2014). 'Decision XII/11: Biodiversity and Tourism Development'. Decision adopted by the Conference of the Parties to the Convention on Biological Diversity, Pyeonchang, Republic of Korea, 6–17 October. https://www.cbd.int/decision/cop/ default.shtml?id=13374. Accessed 15 February 2017.

CBD (2015). Tourism Supporting Biodiversity: A Manual on Applying the CBD Guidelines on Biodiversity and Tourism Development. Montreal: Secretariat of the Convention on Biological Diversity. https://www.cbd.int/tourism/doc/tour- ism-manual-2015-en.pdf. Accessed 15 February 2017.

CBD (2017). 'National Biodiversity Strategies and Action Plans (NBSAPs)'. https://www.cbd.int/nbsap/. Accessed 20 April 2017.

Chandralal, K. (2010). 'Impacts of Tourism and Community Attitudes towards Tourism: A Case Study in Sri Lanka'. South Asian Journal of Tourism and Heritage 3(2):41–49.

Chase, S.K. and Levine, A. (2016). 'A Framework for Evaluating and Designing Citizen Science Programs for Natural Resources Monitoring'. Conservation Biology 30(3):456–466. https://doi.org/10.1111/cobi.12697

Children in the Wilderness (2017). 'Children in the Wilderness'. http://www.childreninthewilderness.com. Accessed 15 February 2017.

Coad, L., Campbell, A., Miles, L. and Humphries, K. (2008). 'The Costs and Benefits of Protected Areas for Local Livelihoods: A Review of the Current Literature'. Cambridge, UK: UNEP World Conservation Monitoring Centre. https://www.biodiversitylibrary.org/bibliography/57966#/summary. Accessed 28 March 2018.

Cole, D.N. (1989). Wilderness Campsite Monitoring Methods: A Sourcebook. General Technical Report INT-259. Ogden, Utah: USDA Forest Service, Intermountain Research Station. https://doi.org/10.2737/INT-GTR-259

Cole, D.N. (2004). 'Wilderness Experiences: What Should We be Managing for?' International Journal of Wilderness 10(3):25–27.

Collyns, D. (2007). 'Bridge Stirs the Waters in Machu Picchu'. BBC News. http://news.bbc.co.uk/2/hi/americas/6292327.stm. Accessed 15 February 2017.

Competencies Working Group. (2002). Competencies: Report of the Competencies Working Group. Albany: New York State Department of Civil Service.

Conrad, C.T. and Daoust, T. (2008). 'Community-based Monitoring Frameworks: Increasing the Effectiveness of Environmental Stewardship'. Environmental Management 41(3):358–66. https://doi.org/10.1007/s00267-007-9042-x

Conservation Measures Partnership (2013). 'Open Standards for the Practice of Conservation, Version 3.0/April 2013'. http://cmp-openstandards.org/download-os/. Accessed 28 March 2018.

Corben, R. (2018). 'Upbeat Outlook for ASEAN Tourism Growth'. https://www.voanews.com/a/upbeat-outlook-for-asean-tourism-growth/3677824.html. Accessed 8 April 2018.

Corbett National Park (2017). 'Corbett National Park'. http://www.corbettnationalpark.in. Accessed 15 February 2017.

Curtin, S. (2010). 'Managing the Wildlife Tourism Experience: The Importance of Tour Leaders'. International Journal of Tourism Research 12:219–236. https://doi.org/10.1002/jtr.747

Dabrowski, P. (1994). 'Tourism for Conservation, Conservation for Tourism'. Unasylva 45(1):42–44.

Daniels, M.L. and Marion, J.L. (2006). 'Visitor Evaluations of Management Actions at a Highly Impacted Appalachian Trail Camping Area'. Environmental Management 38(6):1006–1019. https://doi.org/10.1007/s00267-004-0368-3

Deery, M., Jago, L. and Fredline, L. (2012). 'Rethinking Social Impacts of Tourism Research: A New Research Agenda'. Tourism Management 33:64–73. https://doi.org/10.1016/j.tourman.2011.01.026

de Vasconcellos Pegas, F., Coghlan, A., Stronza, A. and Rocha, V. (2013). 'For Love or for Money? Investigating the Impact of an Ecotourism Programme on Local Residents' Assigned Values Towards Sea Turtles'. Journal of Ecotourism 12(2):90-106. https://doi.org/10.1080/14724049.2013.831099

DFID (UK Department for International Development) (1998). Changing the Nature of Tourism. London: DFID.

Diaz, D. (2001). The Viability and Sustainability of International Tourism in Developing Countries. Report to the Symposium on Tourism Services, 22–23 February 2001. Geneva: World Trade Organization.

Dickinson, E. (2013). 'The Misdiagnosis: Rethinking "Nature-deficit Disorder"'. Environmental Communication 7(3):315–335.

Dickinson, J. and Bonney, R. (2012). Citizen Science: Public Participation in Environmental Research. Ithaca, NY: Comstock. https://doi.org/10.1080/17524032.2013.802704

Dikgang, J. and Muchapondwa, E. (2017). 'The Determination of Park Fees in Support of Benefit Sharing in Southern Africa'. Tourism Economics 23(6):1165-1183. https://doi.org/10.1177/1354816616655254

Drumm, A. (2007). 'Tourism-based Revenue Generation for Conservation'. In: R. Bushell and P.F.J. Eagles (eds.), Tourism and Protected Areas: Benefits beyond Boundaries, pp. 191–209. Wallingford UK: CABI.

Dudley, N. (ed.) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. https://portals.iucn.org/library/efiles/documents/PAPS-016.pdf. Accessed 1 April 2018.

Dudley, N., Shadie, P. and Stolton, S. (2013). Guidelines for Applying Protected Area Management Categories Including IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types. Best Practice Protected Area Guidelines Series No. 21. Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/30018. Accessed 1 April 2018.

Dzhanyspayev, A.D. (2006). 'Almaty Reserve'. In: A.A. Ivashenko (ed.), Nature Reserves and National Parks of Kazakhstan, pp.62–81. Almaty, Kazakhstan: Almatykitap.

Eagles, P.F.J. (2014) 'Fiscal Implications of Moving to Tourism Finance for Parks: Ontario Provincial Parks'. Managing Leisure 19(1):1–17. https://doi.org/10.1080/13606719.2013.849503

Eagles, P.F.J. and McCool, S.F. (2002). Tourism in National Parks and Protected Areas: Planning and Management. Wallingford, UK: CABI. https://doi.org/10.1079/9780851995892.0000

Eagles, P.F.J., Bowman, M.E. and Tao, C.-H.T. (2001). Guidelines for Tourism in Parks and Protected Areas of East Asia. Gland, Switzerland and Cambridge, UK: IUCN. https://portals.iucn.org/library/node/7934. Accessed 28 March 2018.

Eagles, P.F.J., McCool, S.F. and Haynes, C. (2002). Sustainable Tourism in Protected Areas: Guidelines for Planning and Management. Best Practice Protected Area Guidelines Series No. 8. Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/8024. Accessed 28 March 2018. https://doi.org/10.2305/IUCN.CH.2002.PAG.8.en

Eagles, P.F.J., Baycetich, C.M., Chen, X., Dong, L., Halpenny, E., Kwan, P.B., Lenuzzi, J.J., Wang, X., Xiao, H. and Zhang, Y. (2009). Guidelines for Planning and Management of Concessions, Licenses and Permits for Tourism in Protected Areas. Waterloo, Ontario: Tourism Planning and Management Program, University of Waterloo.

Eagles, P., Romagosa, F., Buteau-Duitschaever, W., Havitz, M., Glover, T. and McCutcheon, B. (2012). 'Good Governance in Protected Areas: An Evaluation of Stakeholders' Perceptions in British Columbia and Ontario Provincial Parks'. Journal of Sustainable Tourism 21(1):60–79. https://doi.org/10.1080/09669582.2012.671331

Ellis, G.D. and Rossman, J.R. (2008). 'Creating Value for Participants through Experience Staging: Parks, Recreation, and Tourism in the Experience Industry'. Journal of Park and Recreation Administration 26(4):1-20.

Esparon, M.C. (2013). 'The Role of Certification in Advancing the Sustainable Tourism Agenda: A Case Study of the ECO Certification Scheme in the Wet Tropics World Heritage Area (WTWHA)'. PhD dissertation. Townsville, Queensland: James Cook University.

Esteves, A.M., Franks, D. and Vanclay, F. (2012). 'Social Impact Assessment: The State of the Art'. Impact Assessment and Project Appraisal 30:34–42. https://doi.org/10.1080/14615517.2012.660356

EUROPARC Federation (2010). Joining Forces: How the European Charter for Sustainable Tourism in Protected Areas is Successfully Implementing the Convention on Biological Diversity Guidelines for Biodiversity and Tourism Development. http://www.europarc.org/wp-content/uploads/2015/05/2010-Joigning-Forces-ECST.pdf. Accessed 28 March 2018.

EUROPARC Federation (2012). Practical, Profitable, Protected: A Starter Guide to Developing Sustainable Tourism in Protected Areas. Grafenau, Germany: EUROPARC Federation. https://portals.iucn.org/library/node/28972. Accessed 28 March 2018.

EUROPARC Federation (2018) Become a Sustainable Destination - Charter Part I. http://www.europarc.org/sustainable-tourism/become-a-sustainable-destination-charter-part-i/. Accessed 28 February 2018.

Fagel, M.J. and Hesterman, J. (2017). Soft Targets and Crisis Management: What Emergency Planners and Security Professionals Need to Know. Boca Raton, Florida: CRC Press.

Fawcett, K. (2009). Personal communication. Director, Karisoke Research Centre, 16 September.

Ferretti, E.L. (2012). 'Atoll Ecosystem-based Conservation of Globally Significant Biological Diversity in the Maldives' Baa Atoll: GEF Project'. Terminal Evaluation Report. http://erc.undp.org/evaluationadmin/manageevaluation/viewevaluationdetail.html?evalid=5571. Accessed 15 February 2017.

Feynan Ecolodge (2017). 'Feynan Ecolodge'. http://ecohotels.me/Feynan. Accessed 5 November 2017.

Follett, R. and Strezov, V. (2015). 'An Analysis of Citizen Science Based Research: Usage and Publication Patterns'. PLoS ONE 10(11):e0143687. https://doi.org/10.1371/journal.pone.0143687

Font, X., Epler Wood, M., Black, R. and Crabtree, A. (2007). 'Sustainable Tourism Certification Marketing and Its Contribution to SME Market Access'. In: R. Black and A. Crabtree (eds.), Quality Assurance and Certification in Ecotourism, pp. 147–163. Wallingford, UK: CABI. https://doi.org/10.1079/9781845932374.0147

Galaski, K. (2015). Personal communication. Program and Operations Manager, Americas, and Technical Director, MIF/IDB Project, Planeterra Foundation.

GGN (Global Geoparks Network) (2017). 'Global Network of National Geoparks'. http://www.globalgeopark.org/. Accessed 15 February 2017.

Gillingham, S. and Lee, P. (1999). 'The Impact of Wildlife-related Benefits on the Conservation Attitudes of Local People around the Selous Game Reserve, Tanzania'. Environmental Conservation 26(3):218–228. https://doi.org/10.1017/S0376892999000302

Gitzen, R.A., Millspaugh, J.J., Cooper, A.B. and Licht, D.S. (2012). Design and Analysis of Long-term Ecological Monitoring Studies. Cambridge, UK: Cambridge University Press. https://doi.org/10.1017/CBO9781139022422

GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) (2014). 'Tourism as a Part of Integrated Development Planning and Nature Conservation' [brochure]. Eschborn, Germany: GIZ.

GIZ (2015a). 'Integrated Nature Conservation and Sustainable Management of Natural Resources in Phong Nha–Ke Bang National Park'. http://www.giz.de/en/worldwide/18650.html. Accessed 15 February 2017.

GIZ (2015b). 'Phong Nha–Ke Bang National Park Region: Nature Conservation and Sustainable Management of Natural Resources'. http://www.pnkb-quangbinh.org.vn/. Accessed 15 February 2017.

Goodwin, H. McCombes, L. and Eckardt, C. (2009). 'Advances in Travel Philanthropy: Raising Money through the Travel and Tourism Industry for Charitable Purposes'. WTM Responsible Tourism Day Report No. 2.

Graefe, A., Vaske, J. and Kuss, F. (1984). 'Social Carrying Capacity: An Integration and Synthesis of Twenty Years of Research'. Leisure Sciences 8:275–295. https://doi.org/10.1080/01490408609513076

Greer, D. and Cipolletta, C. (2006). 'Western Gorilla Tourism: Lessons Learnt from Dzanga–Sangha'. Gorilla Journal 33:16–19.

Groves, C. and Game, E.T. (2016). Conservation Planning: Informed Decisions for a Healthier Planet. Greenwood Village, CO:Roberts & Co.

GSTC (Global Sustainable Tourism Council) (2017a). 'Global Sustainable Tourism Council'. http://www.gstcouncil.org. Accessed 15 February 2017.

GSTC (2017b). "GSTC Industry Criteria Formally Released". https://www.gstcouncil.org/en/about/news/1315-gstc-industry-criteria-formally-released.html . Accessed 15 February 2017.

Gutzwiller, K.J. (1995). 'Recreational Disturbance and Wildlife Communities'. In: R.L. Knight and K.J. Gutzwiller (eds.), Wildlife and Recreationists: Coexistence through Management and Research, pp. 169–182. Washington, DC: Island Press.

Haaland, H. and Aas, Ø. (2010). 'Ecotourism Certification–Does it Make a Difference? A Comparison of Systems from Australia, Costa Rica and Sweden'. Scandinavian Journal of Hospitality and Tourism 10(3):375–385. https://doi.org/10.1080/15022250.2010.486262

Hachileka, E. (2003). 'Sustainability of Wildlife Utilization in the Chobe District, Botswana'. South African Geographical Journal 85(1):50–57. https://doi.org/10.1080/03736245.2003.9713784

Hall, C.M. and McArthur, S. (1998). Integrated Heritage Management: Principles and Practices. London, UK: The Stationery Office.

Hall, C.M., Scott, D. and Gössling, S. (2013). 'The Primacy of Climate Change for Sustainable International Tourism'. Sustainable Development 21:112–121. https://doi.org/10.1002/sd.1562

Halpenny, E. (2007). 'Financing Parks through Marketing: A Case Study of Ontario Parks'. In: R. Bushell and P.F.J. Eagles (eds.), Tourism and Protected Areas: Benefits beyond Boundaries, pp. 277–300. Wallingford, UK: CABI. https://doi.org/10.1079/9780851990224.0277

Halpenny, E.A. and Caissie, L.T. (2003). 'Volunteering on Nature Conservation Projects: Volunteer Experience, Attitudes and Values'. Tourism Recreation Research 28(3):25–33. https://doi.org/10.1080/02508281.2003.11081414

Ham, S. (2011). 'The Ask—Or Is It the Offer?' In: M. Honey (ed.), Travelers' Philanthropy Handbook, pp. 141–149. Washington, DC: Center for Responsible Travel (CREST).

Harris, R. (2002). 'The Tale of the Little Penguins and the Tourists—Making Tourism Sustainable in Phillip Island Nature Park'. In: T. Harris, T. Griffin and P. Williams (eds.), Sustainable Tourism: A Global Perspective, pp. 238–251. Amsterdam: Elsevier Butterworth-Heinemann. https://doi.org/10.1016/B978-0-7506-8946-5.50019-8

Hayes, M.C., Peterson, M.N., Heinen-Kay, J. and Brian Langerhans, R. (2015). 'Tourism-related Drivers of Support for Protection of Fisheries Resources on Andros Island, The Bahamas'. Ocean and Coastal Management 106:118-123. https://doi.org/10.1016/j.ocecoaman.2015.01.007

Hellebrandt, T. and Mauro, P. (2015). 'The Future of Worldwide Income Distribution'. PIIE Working Paper 15-7. https://piie.com/publications/working-papers/future-worldwide-income-distribution. Accessed 8 April 2018.

Hill, G.H., Cable, T.T. and Scott, D. (2010). 'Wildlife-based Recreation as Economic Windfall: A Rhetorical Analysis of Public Discourse on Birding'. Applied Environmental Education and Communication 9:224–232. https://doi.org/10.1080/1533015X.2010.530888

Hockings, M., Stolton, S., Leverington, F., Dudley, N. and Courrau, J. (2006). Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas (2nd ed.). Best Practice Protected Areas Guidelines Series No. 14. Gland, Switzerland: IUCN. https://doi.org/10.2305/IUCN.CH.2006.PAG.14.en

Honey, M. (ed.) (2011). Travelers' Philanthropy Handbook. Washington, DC: Center for Responsible Travel.

Hoon, P. (2004). 'Impersonal Markets and Personal Communities? Wildlife, Conservation and Development in Botswana'. Journal of International Wildlife Law & Policy 7(3):143–160. https://doi.org/10.1080/13880290490883223

Hornback, K.E. and Eagles, P.F.J. (1999). Guidelines for Public Use Measurement and Reporting at Parks and Protected Areas. Cambridge, UK: IUCN. https://portals.iucn.org/library/node/7545. Accessed 28 March 2018.

HPHP (Healthy Parks Healthy People) (2017). 'Healthy Parks Healthy People Central'. http://www.hphpcentral.com. Accessed 15 February 2017.

Huang, Y.W. (2011). 'Ecotourism Development and Promotion in Taiwan: Perspective on the Role and Actions of the State'. Journal of National Park 21(1):1–22.

Hübner, A. Phong, L.T. and Châu, T.S.H. (2014). 'Good Governance and Tourism Development in Protected Areas: The Case of Phong Nha–Ke Bang National Park, Central Vietnam'. Koedoe 56(2). https://doi.org/10.4102/koedoe.v56i2.1146

Hustai National Park (2017). 'Hustai National Park'. http://www.hustai.mn. Accessed 15 February 2017.

Huwyler, F., Käppeli, J., Serafimova, K., Swanson, E. and Tobin, J. (2014). Conservation Finance: Moving beyond Donor Funding towards an Investor-driven Approach. Gland, Switzerland: WWF, Credit Suisse, and McKinsey & Company.

Hvenegaard, G.T. (2011). 'Potential Conservation Benefits of Wildlife Festivals'. Event Management 15(4):373–386.

Hvenegaard, G.T., Halpenny, E.A. and McCool, S. (2012). 'Protected Area Tourism and the Aichi Targets'. Parks 18(2): 6–11.

INC (Instituto National de Cultura) (2005). Plan maestro del santuario historico de Machupicchu. Cusco, Peru: Instituo Nacional de Cultura, Instituo Nacional de Recursos Naturales y Dirección Regional de Cusco.

Infield, M. (1988). 'Attitudes of a Rural Community towards Conservation and a Local Conservation Area in Natal, South Africa'. Biological Conservation 45(1):21–46. https://doi.org/10.1016/0006-3207(88)90050-X

IPACC (2017). 'The IPACC Project'. http://www.ipacc.pe/qsomos.html. Accessed 15 February 2017.

iSimangaliso Wetland Park (2017). 'iSimangaliso – Caring for the Coast'. https://isimangaliso.com/newsflash/isimangaliso-caring-for-the-coast/. Accessed 8 April 2018.

ISO (International Organization for Standardisation) (2015). 'ISO 18065:2015'. http://www.iso.org/iso/catalogue_detail.htm?csnumber=61250. Accessed 15 February 2017.

IUCN (International Union for Conservation of Nature) (2010). 'Communicating for Success: Ensuring MPAs are Valued'. http:// www.cectalksnature.org/_literature_125750/MPA_Communications_Planning_Handbook. Accessed 15 February 2017.

IUCN (2012a). IUCN Conservation Outlook Assessments—Guidelines for their Application to Natural World Heritage Sites. Gland, Switzerland: IUCN. http://cmsdata.iucn.org/downloads/guidelines_iucn_conservation_outlook_assessments_08_12.pdf. Accessed 15 February 2017.

IUCN (2012b). Siting and Design of Hotels and Resorts: Principles and Case Studies for Biodiversity Conservation. Gland, Switzerland: IUCN. https://portals.iucn.org/library/efiles/documents/2012-013.pdf. Accessed 15 February 2017.

IUCN (2014). 'Brief—IUCN Conservation Outlook Assessments'. https://cmsdata.iucn.org/downloads/brief_iucn_conservation_outlook_assessments 0812.pdf. Accessed 15 February 2017.

IUCN (2017a). 'IUCN Global Protected Areas Programme'. https://www.iucn.org/theme/protected-areas/about/iucn-global-protected-areas-programme. Accessed 15 February 2017.

IUCN (2017b). 'IUCN—World Heritage Outlook'. http://www.worldheritageoutlook.iucn.org/. Accessed 15 February 2017.

IUCN (2017c). 'Key Biodiversity Areas'. https://www.iucn.org/theme/protected-areas/wcpa/what-we-do/biodiversity-and-protected-areas/key-biodiversity-areas. Accessed 15 February 2017.

IUCN (2017d). 'IUCN Green List'. http://www.iucn.org/about/work/programmes/gpap_home/gpap_quality/gpap_greenlist/. Accessed 15 February 2017.

IUCN (2017e). World Heritage Outlook: Jiuzhaigou Valley Scenic and Historic Interest Area. http://www.worldheritageoutlook.iucn.org/search-sites/-/wdpaid/en/67732?p_p_auth=rVuYfC0y. Accessed 8 November 2017.

IUCN Botswana (2002). Botswana National Ecotourism Strategy. Final Report. http://www.ub.bw/ip/documents/2002_Botswana%20National%20Ecotourism%20Strategy.pdf. Accessed 15 February 2017.

IUCN-WCPA (2007). 'Guidelines for Applying the Precautionary Principle to Biodiversity Conservation and Natural Resource Management'. As approved by the 67th meeting of the IUCN Council, 14–16 May 2007. http://cmsdata.iucn.org/downloads/ln250507_ppguidelines.pdf. Accessed 15 February 2017.

IVUMC (Interagency Visitor Use Management Council) (2016). Visitor Use Management Framework: A Guide to Providing Sustainable Outdoor Recreation (Edition One). Denver, CO: IVUMC. https://visitorusemanagement.nps.gov/VUM/ Framework. Accessed 15 February 2017.

IVUMC (2017). 'Interagency Visitor Use Management Council'. http://visitorusemanagement.nps.gov/. Accessed 15 February 2017.

Jager, E. and Halpenny, E.A. (2012). 'Supporting the CBD Aichi Biodiversity Conservation Targets through Park Tourism: A Case Study of Parks Canada's Visitor Experience Programme'. Parks 18(2):78–91. https://doi.org/10.2305/IUCN.CH.2012.PARKS-18-2.EJ.en

Jager, E., Sheedy, C., Gertsch, F., Phillips, T. and Danchuk, G. (2006). 'Managing for Visitor Experiences in Canada's National Heritage Places'. Parks 16(2):18–24.

Kajala, L. (2013). 'Visitor Monitoring in Finnish National Parks and ASTA Visitor Information System'. Paper presented at the Visitor Monitoring in National Parks Workshop, Gardemoen Airport, Norway.

Kajala, L., Almik, A., Dahl, R., Dikšaité, L., Erkkonen, J., Fredman, P., Jensen, F., Søndergaard, F., Karoles, K., Sievänen, T., Skov-Petersen, H., Vistad, O.I. and Wallsten, P. (2007). Visitor Monitoring in Nature Areas: A Manual based on Experiences from the Nordic and Baltic Countries. Stockholm, Sweden: Swedish Environmental Protection Agency/TemaNord. https:// www.naturvardsverket.se/Documents/publikationer/620-1258-4.pdf. Accessed 18 November 2017.

Kibira, G. (2014). 'The Economic Implications of Conservation in Serengeti National Park on Adjacent Local Communities in Tanzania'. PhD progress report, School of Economics, University of Cape Town.

King, L., McCool, S., Fredman, P. and Halpenny, E. (2012). 'Protected Area Branding Strategies to Increase Stewardship among Park Constituencies'. Parks 18(2):54–63. https://doi.org/10.2305/IUCN.CH.2012.PARKS-18-2.LMK.en

Knight, R.L. and Cole, D.N. (1995). 'Wildlife Responses to Recreationists'. In: R.L. Knight and K.J. Gutzwiller (eds.), Wildlife and Recreationists: Coexistence through Management and Research, pp. 51–70. Washington, DC: Island Press.

Koss, R., Miller, K., Wescoh, G., Bellgove, A., Boxshall, A., McBurnie, J., Bunce, A., Gilmour, P. and Lerodiaconou, D. (2009). 'An Evaluation of Sea Search as a Citizen Science Programme in Marine Protected Areas'. Pacific Conservation Biology 15:116–127.

Kothari, A. (2008). 'Protected Areas and People: The Future of the Past'. Parks 17(2):23–34.

Krippendorf, J. (1987). The Holiday Makers: Understanding the Impact of Leisure and Travel. Oxford: Heinemann.

Krug, K., Mountain, D. and Phan, D. (2003). 'Location-based Services for Mobile Users in Protected Areas'. http://mp.mountain- trip.eu/uploads/media/scientific_publication/webpark_sp4.pdf. Accessed 15 February 2017.

LaFranchi, H. (2001). 'Machu Picchu's Slide'. Christian Science Monitor 93(112):7.

Lankford, S.V. and Howard, D.R. (1994). 'Developing a Tourism Impact Attitude Scale'. Annals of Tourism Research 21:121–139.

Larson, L.R. and Poudyal, N.C. (2012). 'Developing Sustainable Tourism through Adaptive Resource Management: A Case Study of Machu Picchu, Peru'. Journal of Sustainable Tourism 20(7):917–938.

Lausche, B. (2011). Guidelines for Protected Areas Legislation. Gland, Switzerland: IUCN. https://portals.iucn.org/library/efiles/ documents/eplp-081.pdf. Accessed 15 February 2017.

Leménager T., King, D., Elliott, J., Gibbons, H. and King, A. (2014). 'Greater than the Sum of Their Parts: Exploring the Environmental Complementarity of State, Private and Community Protected Areas'. Global Ecology and Conservation 2:238-247. https://doi.org/10.1016/j.gecco.2014.09.009

Lemieux, C.J., Eagles, P.F.J., Slocombe, D.S., Doherty, S.T., Elliott, S.J. and Mock, S.E. (2012). 'Human Health and Well-being Motivations and Benefits Associated with Protected Area Experiences: An Opportunity for Transforming Policy and Management in Canada'. Parks 18(1):71-85.

Lepp, A. (2002). 'Uganda's Bwindi Impenetrable National Park: Meeting the Challenges of Conservation and Community Development through Sustainable Tourism'. In: R. Harris, T. Griffin and P. Williams (eds.), Sustainable Tourism: A Global Perspective, pp. 211–220. Amsterdam: Elsevier Butterworth-Heinemann. https://doi.org/10.1016/B978-0-7506-8946-5.50017-4

Lepp, A. (2007). 'Residents' Attitudes toward Tourism in Bigodi Village, Uganda'. Tourism Management 28:876–885. https://doi.org/10.1016/j.tourman.2006.03.004

Leung, Y.-F. (2012). 'Recreation Ecology Research in East Asia's Protected Areas: Redefining Impacts?' Journal for Nature Conservation 20(6):349–356. https://doi.org/10.1016/j.jnc.2012.07.005

Leung, Y.-F., Marion, J.L. and Farrell, T.A. (2008). 'Recreation Ecology in Sustainable Tourism and Ecotourism: A Strengthening Role'. In: S.F. McCool and R.N. Moisey (eds.), Tourism, Recreation and Sustainability: Linking Culture and the Environment (2nd ed.), pp. 19–37. Wallingford, UK: CABI. https://doi.org/10.1079/9781845934705.0019

Liddle, M.J. (1997). Recreation Ecology. Dordrecht, Netherlands: Kluwer Academic.

Lindberg, K. (1998). 'Economic Aspects of Ecotourism'. In: K. Lindberg and M.E. Wood (eds.), Ecotourism: A Guide for Planners and Managers (Vol. 2), pp. 87–117. North Bennington, Vermont: The Ecotourism Society.

Lindberg, K. (2001). Protected Area User Fees: Summary. Report prepared for the project 'Generating Revenue through Ecotourism for Marine Protected Areas in Belize'. Summit Foundation and The International Ecotourism Society.

Liu, S.G. (2013). 'Government and Local People are Not Enemies but Friends, Brilliant Outcomes of Ecotourism in Pintung'. http://travel.udn.com/mag/travel/storypage.jsp?f_ART_ID=87332#ixzz2Q23cIK2w. Accessed 20 March 2013.

Lucas, R.C. (1964). 'Wilderness Perception and Use: The Example of the Boundary Waters Canoe Area'. Natural Resources Journal 3:394–411.

Lucas, R.C. (1982). 'Recreation Regulations—When are They Needed'? Journal of Forestry 80(3):148–151.

Lucas, R.C. (1983). 'The Role of Regulations in Recreation Management'. Western Wildlands 9(2):6–10.

Lucey, W.P. and Barraclough, C.L. (2001). A User Guide to Photopoint Monitoring Techniques for Riparian Areas—Field Test Edition. Kimberley, BC: Aqua-Tex Scientific Consulting Ltd.

Macfie, E.J. and Williamson, E.A. (2010). Best Practice Guidelines for Great Ape Tourism. Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/9636. Accessed 28 March 2018.

Maekawa, M., Lanjouw, A., Rutagarama, E. and Sharp, D. (2013). 'Mountain Gorilla Tourism Generating Wealth and Peace in Post-conflict Rwanda'. Natural Resources Forum 37(2):127-137. https://doi.org/10.1111/1477-8947.12020

Magole, L.I. and Magole, L. (2011). 'Revisiting Botswana's High-value, Low-volume Tourism'. Tourism Analysis 16(2):203–210.

Maller, C., Townsend, M., St Leger, L., Hendersen-Wilson, C., Pryor, A., Prosser, L. and Moore, M. (2009). 'Healthy Parks, Healthy People: The Health Benefits of Contact with Nature in a Park Context'. The George Wright Forum 26(2):51–83.

Manidis Roberts Consultants (1996). 'Developing a Tourism Optimisation Management Model (TOMM): A Model to Monitor and Manage Tourism on Kangaroo Island' (Draft Consultation Report). Adelaide: South Australian Tourism Commission.

Manning, R. (2004). 'Recreation Planning Frameworks'. In: M.J. Manfredo, J.J. Vaske, B.L. Bruyere, D.R. Field and P.J. Brown (eds.), Society and Natural Resources: A Summary of Knowledge, pp. 83–96. Jefferson, Missouri: Modern Litho.

Manning, R. (2007). Parks and Carrying Capacity: Commons without Tragedy. Washington, DC: Island Press.

Manning, R. (2011). Studies in Outdoor Recreation (3rd ed.). Corvallis: Oregon State University Press.

Manning, R., Lawson, S., Newman, P., Hallo, J. and Monz, C. (2014). Sustainable Transportation in the National Parks. Lebanon, New Hampshire: University Press of New England.

Manning, R., Anderson, L. and Pettengill, P. (2017). Managing Outdoor Recreation: Case Studies in the National Parks (2nd ed.). Cambridge, Massachusetts: CABI. https://doi.org/10.1079/9781786391025.0000

Marion, J.L. and Reid, S. (2007). 'Minimizing Visitor Impacts to Protected Areas: The Efficacy of Low Impact Education Programmes'. Journal of Sustainable Tourism 15(1):5–27. https://doi.org/10.2167/jost593.0

Marion, J.L. and Wimpey, J. (2011). Informal Trail Monitoring Protocols: Denali National Park and Preserve. Blacksburg, Virginia: US Geological Survey, Patuxent Wildlife Research Center, Virginia Tech Field Unit. https://profile.usgs.gov/myscience/upload_folder/ci2012Feb2415041636429DENA%20Trails%20Final%20Rpt.pdf. Accessed 15 February 2017.

Mathieson, A. and Wall, G. (1982). Tourism: Economic, Physical and Social Impacts. London: Longman.

Mbaiwa, J.E. (2005). 'The Problems and Prospects of Sustainable Tourism Development in the Okavango Delta, Botswana'. Journal of Sustainable Tourism 13(3):203–227. https://doi.org/10.1080/01434630508668554

Mbaiwa, J.E. and Stronza, A.L. (2011). 'Changes in Resident Attitudes towards Tourism Development and Conservation in the Okavango Delta, Botswana'. Journal of Environmental Management 92(8):1950–1959. https://doi.org/10.1016/j.jenvman.2011.03.009

McCool, S.F. (1996). 'Limits of Acceptable Change: A Framework for Managing National Protected Areas: Experiences from the United States'. Paper presented at the Workshop on Impact Management in Marine Parks, Kuala Lumpur, Malaysia, 13-14 August.

McCool, S.F. (2006). 'Managing for Visitor Experiences in Protected Areas: Promising Opportunities and Fundamental Challenges'. Parks 16(2):3–9.

McCool, S.F. and Cole, D.N. (comps.) (1997). Proceedings—Limits of Acceptable Change and Related Planning Processes: Progress and Future Directions. Ogden, Utah: USDA Forest Service, Intermountain Research Station. http://www.fs.fed.us/rm/pubs_int/int_gtr371.pdf. Accessed 15 February 2017.

McCool, S.F. and Moisey, R.N. (2008). 'Introduction: Pathways and Pitfalls in the Search for Sustainable Tourism'. In: S.F. McCool and R.N. Moisey (eds.), Tourism, Recreation and Sustainability (2nd ed.), pp. 1–16. Wallingford, UK: CABI. https://doi.org/10.1079/9781845934705.0001 https://doi.org/10.4324/9780203496039.ch1

McCool, S.F., Clark, R.N. and Stankey, G.H. (2007). An Assessment of Frameworks Useful for Public Land Recreation Planning. General Technical Report PNW-GTR-705. Portland, Oregon: USDA Forest Service, Pacific Northwest Research Station. http://www.fs.fed.us/pnw/pubs/pnw_gtr705.pdf. Accessed 15 February 2017. https://doi.org/10.2737/PNW-GTR-705

McCool, S., Hsu, Y.C. Rocha, S.B., Sæþórsdóttir, A.D., Gardner, L. and Freimund, W. (2012). 'Building the Capability to Manage Tourism as Support for the Aichi Target'. Parks 18(2):92–106. https://doi.org/10.2305/IUCN.CH.2012.PARKS-18-2.SM.en

McCreary, A., Seekamp, E., Cerveny, L.K. and Carver, A. (2012). 'Natural Resource Agencies and Their Motivations to Partner: The Public Lands Partnership Model'. Leisure Sciences 34(5):470–489. https://doi.org/10.1080/01490400.2012.714707

McKeever, P. (2010). 'Communicating Geoheritage: An Essential Tool to Build a Strong Geopark Brand'. In: Abstracts of the 4th International UNESCO Conference on Geoparks, 9–15 April, 2010, Langkawi, Malaysia.

McNeely, J.A., Thorsell, J.W. and Ceballos-Lascurain, H. (1992). Guidelines: Development of National Parks and Protected Areas for Tourism. UNEP-IE/PAC Technical Report Series No. 13. Madrid: UNWTO and UNEP.

McNeilage, A. (1996). 'Ecotourism and Mountain Gorillas in the Virunga Volcanoes'. In: V.J. Taylor and N.Dunstone (eds.), The Exploitation of Mammal Populations, pp. 334–344. London: Chapman & Hall. https://doi.org/10.1007/978-94-009-1525-1_19

MEE-RoM (Ministry of Environment and Energy, Republic of Maldives) (2012). 'President Launches the Baa Atoll UNESCO Biosphere Reserve, Office and Baa Atoll Conservation Fund'. http://www.environment.gov.mv/v1/news/president-launches-the-baa-atoll-unesco-biosphere-reserve-office-and-baa-atoll-conservation-fund/. Accessed 15 February 2017.

Mehta, J. and Heinen, J. (2001). 'Does Community-based Conservation Shape Favourable Attitudes among Locals? An Empirical Study from Nepal'. Environmental Management 28(2):165–177. https://doi.org/10.1007/s002670010215

Melenhorst, E., Tapaninen, M. and Ferdinandova, V. (2013). Sustainable Tourism Management in the Transboundary Areas of the Dinaric Arc Region: Manual for Planning, Development and Monitoring of Tourism in the Protected Areas of the Dinaric Arc. Gland, Switzerland: IUCN.

Miller, A.B., Leung, Y.-F. and Lu, D.-J. (2012). 'Community-based Monitoring of Tourism Resources as a Tool for Supporting the Convention on Biological Diversity Targets: A Preliminary Global Assessment'. Parks 18(2):120–134. https://doi.org/10.2305/IUCN.CH.2012.PARKS-18-2.AM.en

Miller, G. and Twining-Ward, L. (2005). Monitoring for a Sustainable Tourism Transition: The Challenge of Developing and Using Indicators. Wallingford, UK: CABI.

Mishra, C., Madhusudan, M.D. and Datta, A. (2006). 'Mammals of the High Altitudes of Western Arunachal Pradesh, Eastern Himalaya: An Assessment of Threats and Conservation Needs'. Oryx 40(1):29–35.

Mitchell, J. and Ashley, C. (2010). Tourism and Poverty Reduction: Pathways to Prosperity. London: Earthscan.

Mitchell, R., Wooliscroft, B. and Higham, J. (2013). 'Applying Sustainability in National Park Management: Balancing Public and Private Interests Using a Sustainable Market Orientation Model'. Journal of Sustainable Tourism 21(5):695–715. https://doi.org/10.1080/09669582.2012.737799

Monz, C., Roggenbuck, J., Cole, D., Brame, R. and Yoder, A. (2000). 'Wilderness Party Size Regulations: Implications for Management and a Decision Making Framework'. In: D.N. Cole, S.F. McCool, W.T. Borrie and J. O'Loughlin (comps.), Wilderness Science in a Time of Change Conference—Volume 4, pp. 265–273. Ogden, Utah: USDA Forest Service, Rocky Mountain Research Station. https://www.fs.usda.gov/treesearch/pubs/22036. Accessed 28 March 2018.

Moore, A.W. (1991). 'Planning for Ecotourism in Protected Areas'. In: J.A. Kusler (ed.), Ecotourism and Research Conservation, pp. 563–574. Merida, Mexico, and Miami Beach, Florida: International Symposia on Ecotourism and Resource Conservation.

Moreira, J. (2011). Geoturismo e Interpretacao Ambiental. Ponta Grossa, Brazil: Editora UEPG.

Muller, D.K., Lundmark, L. and Lemelin, R.H. (2013). New Issues in Polar Tourism. New York: Springer.

Musumali, M., Larsen, T. and Kaltenborn, B. (2007). 'An Impasse in Community Based Natural Resource Management Implementation: The Case of Zambia and Botswana'. Oryx 41(3):306–313.

NAI (National Association for Interpretation) (2018). 'About Interpretation'. http://www.interpnet.com/. Accessed 8 April 2018.

Needham, M.D. and Rollins, R. (2009). 'Social Science, Conservation, and Protected Areas Theory'. In: P. Dearden and R. Rollins (eds.), Parks and Protected Areas in Canada: Planning and Management (3rd ed.), pp. 135–167. Don Mills, ON: Oxford University Press.

Newsome, D., Moore, S.A. and Dowling, R.K. (2013). Natural Area Tourism: Ecology, Impacts and Management (2nd ed.). Bristol, UK: Channel View.

Ng, Y.C.Y. (2011). 'Geoparks and Geotourism: A Management Approach to Conserve Valuable Geological Heritage in China and the Hong Kong Special Administrative Region'. PhD thesis. Sydney: University of Sydney.

Nielsen, H. and Spenceley, A. (2011). 'The Success of Tourism in Rwanda: Gorillas and More'. In: P. Chunhjan-Pole and M. Angwafo (eds.), Yes Africa Can: Success Stories from a Dynamic Continent, pp. 231–249. Washington, DC: World Bank.

Nilsen, P. and Tayler, G. (1997). 'A Comparative Analysis of Protected Area Planning and Management Frameworks'. In: S.F. McCool and D.N. Cole (comps.), Proceedings—Limits of Acceptable Change and Related Planning Processes: Progress and Future Directions, pp. 49–57. Ogden, Utah: USDA Forest Service, Rocky Mountain Research Station. https://www.fs.usda.gov/treesearch/pubs/23910. Accessed 28 March 2018.

NTCA (National Tiger Conservation Authority) (2012). 'NTCA Comprehensive Guidelines for Tiger Conservation and Tourism'. http://www.moef.nic.in/assets/Comprehensive_Guidelines_NTCA.pdf. Accessed 15 February 2017.

O'Sullivan, E.L. and Spangler, K.J. (1998). Experience Marketing: Strategies for the New Millennium. State College, PA:Venture Publishing.

Pam Wight and Associates (2001). Best Practices in Natural Heritage Collaborations: Parks and Outdoor Tourism Operators. Ottawa: Canadian Tourism Commission.

Park, L.O., Manning, R.E., Marion, J.L., Lawson, S.R. and Jacobi, C. (2008). 'Managing Visitor Impacts in Parks: A Multi-Method Study of the Effectiveness of Alternative Management Practices'. Journal of Park and Recreation Administration 26(1):97–121.

Parks Canada (2013). 'Parks Canada Guiding Principles and Operational Policies' http://www.pc.gc.ca/eng/docs/pc/poli/princip/index.aspx. Accessed 15 February 2017.

Parks Forum (2012). Exploring Revenue Models for Parks Agencies. Report of the Proceedings of the Parks Forum Innovative Revenue Models Workshop. Melbourne: Parks Forum.

Parks Victoria (2017). 'Sea Search'. http://parkweb.vic.gov.au/get-involved/volunteer/sea-search. Accessed 15 February 2017.

Pedersen, A. (2002). Managing Tourism at World Heritage Sites: A Practical Manual for World Heritage Site Managers. World Heritage Manuals Series No. 1. Paris: UNESCO World Heritage Centre. http://whc.unesco.org/uploads/activities/documents/activity-113-2.pdf. Accessed 28 March 2018.

Pegas, F.D.V. and Stronza, A. (2008). 'Ecotourism Equations: Do Economic Benefits Equal Conservation?' In: A. Stronza and W.H. Durham (eds.), Ecotourism and Conservation in the Americas, pp. 163–176. Wallingford, UK: CABI. https://doi.org/10.1079/9781845934002.0163

Pergams, O.R. and Zaradic, P.A. (2006). 'Is Love of Nature in the U.S. Becoming Love of Electronic Media? 16-Year Downtrend in National Park Visits Explained by Watching Movies, Playing Video Games, Internet Use and Oil Prices'. Journal of Environmental Management 80:387–393. https://doi.org/10.1016/j.jenvman.2006.02.001

Pine, J. and Gillmore, J.H. (1999). The Experience Economy: Work is Theatre & Every Business a Stage. Cambridge, MA:Harvard Business School Press.

Planeterra Foundation (2015). 'Multilateral Investment Fund Projects'. http://www.planeterra.org/multilateral-investment-fund-projects-pages-75.php. Accessed 7 October 2015.

Plumptre, A.J., Kayitare, A., Ranier, H., Gray, M., Munanura, I., Barakabuye, N., Asuma, S., Sivha, M. and Namara, A. (2004). 'The Socio-Economic Status of People Living Near Protected Areas in the Central Albertine Rift'. Albertine Rift Technical Reports 4. New York: Wildlife Conservation Society.

Powell, R.B. and Ham, S.H. (2008). 'Can Ecotourism Interpretation Really Lead to Pro-Conservation Knowledge, Attitudes and Behaviour? Evidence from the Galapagos Islands'. Journal of Sustainable Tourism 16(4):467–489. https://doi.org/10.2167/jost797.0 https://doi.org/10.1080/09669580802154223

Powell, R., Kellert, S. and Ham, S. (2009). 'Interactional Theory and the Sustainable Nature-based Tourism Experience'. Society and Natural Resources 22(8):761–776. https://doi.org/10.1080/08941920802017560

Pretty, J. (2005). The Earthscan Reader in Sustainable Agriculture. London: Earthscan.

Price, K. and Daust, D. (2009). 'Making Monitoring Manageable: A framework to Guide Learning'. Canadian Journal of Forest Research 39(10):1881-1892. https://doi.org/10.1139/X09-101

Průhonice Park (2017). 'Průhonice Park and Castle'. http://www.parkpruhonice.cz/. Accessed 15 February 2017.

Ramsar Convention (Ramsar Convention on Wetlands) and UNWTO (World Tourism Organization) (2012). Destination Wetlands: Supporting Sustainable Tourism. Gland, Switzerland and Madrid, Spain: Secretariat of the Ramsar Convention and UNWTO. http://sdt.unwto.org/publication/destination-wetlands-supporting-sustainable-tourism. Accessed 15 February 2017.

Reck, G.K., Cajiao, D., Coloma, A., Cardenas, S. and Celi, J.T. (2015). Visitor Management in Protected Areas: Developing an Adaptive Methodology to Ensure the Conservation of both Natural and Social Capital. Quito: ECOLAP–USFQ.

Reid, S.E. and Marion, J.L. (2004). 'Effectiveness of a Confinement Strategy for Reducing Campsite Impacts in Shenandoah National Park'. Environmental Conservation 31(4):274–282. https://doi.org/10.1017/S0376892904001602

Rodrigues, A. (2012). 'Concessions Contract Management and Monitoring in Niassa Reserve, Mozambique'. In: A. Spenceley, R. Casimirio and J. Barborak (eds.), Concessioning Tourism Opportunities in Conservation Areas and Maximizing Rural Development: Lessons and the Way Forward for Mozambique and Other Southern African Countries, Maputo, Mozambique, 19–22 March 2012. Minutes of meeting, Report to the USAID SPEED program.

Roman, G., Dearden, P. and Rollins, R. (2007). 'Application of Zoning and "Limits of Acceptable Change" to Manage Snorkelling Tourism'. Environmental Management 39(6):819–830. https://doi.org/10.1007/s00267-006-0145-6

Romagosa, F., Eagles, P.F.J. and Lemieux, C.J. (2015). 'From the Inside Out to the Outside In: Exploring the Role of Parks and Protected Areas as Providers of Human Health and Well-being'. Journal of Outdoor Recreation and Tourism 10:70-77. https://doi.org/10.1016/j.jort.2015.06.009

RSCN (Royal Society for the Conservation of Nature) (2017). 'The Royal Society for the Conservation of Nature'. http://www. rscn.org.jo/. Accessed 15 February 2017.

Rylance, A. and Barois, H. (2016). National Level Sustainable Financing Plan for Protected Areas in Seychelles. Victoria: Government of Seychelles, UN Development Programme, and Global Environment Facility Programme Coordination Unit.

Rylance, A. and Spenceley, A. (2014). 'Creating Luxury Ecotourism with the Local Community, Case Study'. Endeva: GIZ.

SANParks (South African National Parks) (2012). 'Annual Report.' http://www.sanparks.org/assets/docs/general/annual-report-2012.pdf. Accessed 15 February 2017.

SANParks (n.d.). 'Concessions Operations Manual'. Revision 1.

Sassa, K., Fukuoka, H., Wang, F. and Wang, G. (eds.) (2005). Landslides: Risk Analysis and Sustainable Disaster Management. Berlin: Springer. https://doi.org/10.1007/3-540-28680-2

Seekamp, E. and Cerveny, L.K. (2010). 'Examining U.S. Forest Service Recreation Partnerships: Institutional and Relational Interactions'. Journal of Park and Recreation Administration 28(4):1–15.

Seekamp, E., Cerveny, L.K. and McCreary, A. (2011). 'Institutional, Individual and Socio-cultural Dimensions of Partnerships: A Cultural Domain Analysis of USDA Forest Service Recreation Partners'. Environmental Management 48(3):615–630. https://doi.org/10.1007/s00267-011-9695-3

Seekamp, E., Barrow, L.A. and Cerveny, L.K. (2013). 'The Growing Phenomenon of Partnerships: A Survey of Personnel Perceptions'. Journal of Forestry 111(6):412–419.

Sekhar, N. (2003). 'Local People's Attitudes towards Conservation and Wildlife Tourism around Sariska Tiger Reserve, India'. Journal of Environmental Management 69:339–347. https://doi.org/10.1016/j.jenvman.2003.09.002

Sewell, W.R.D., Dearden, P. and Dumbrell, J. (1989). 'Wilderness Decision Making and the Role of Environmental Interest Groups: A Comparison of the Franklin Dam, Tasmania and South Moresby, British Columbia'. Natural Resources Journal 29(1):147–169.

Sheail, J. (2010). Nature's Spectacle: The World's First National Parks and Protected Areas. London: Earthscan.

Shelby, B. and Heberlein, T.A. (1986). Carrying Capacity in Recreation Settings. Corvallis: Oregon State University Press.

Shih, J.F. (2011). 'The Government Sector Development of Knowledge Structure of Community-based Ecotourism; Take Shirding Community in Kending National Park as an Example'. Master's thesis. Kaohsiung, Taiwan, Province of China: National Kaohsiung Normal University.

SHSD (School of Health and Social Development) (2008). Healthy Parks, Healthy People: The Health Benefits of Contact with Nature in a Park Context. Melbourne: Deakin University. http://dro.deakin.edu.au/view/DU:30010146?print_friendly=true. Accessed 15 February 2017.

Shultis, J. and More, T. (2011). 'American and Canadian National Park Agency Responses to Declining Visitation'. Journal of Leisure Research 43:110–132. https://doi.org/10.1080/00222216.2011.11950228

Sindiyo, D.M. and Pertet, F.N. (1984). 'Tourism and Its Impact on Wildlife Conservation in Kenya'. UNEP Industry and Environment 7(1):14–19.

Snyman, S. (2013). 'High-end Ecotourism and Rural Communities in Southern Africa: A Socio-Economic Analysis'. PhD dissertation. Cape Town: University of Cape Town, School of Economics.

Snyman, S. (2014). 'Partnerships between Private Sector Ecotourism Operators and Local Communities in the Okavango Delta, Botswana: A Case Study of the Okavango Community Trust and Wilderness Safaris Partnership'. Journal of Ecotourism 13(2–3):110–127. https://doi.org/10.1080/14724049.2014.980744

South African National Parks (2016). 'SANParks Annual Report, 2015/16'. Pretoria:South African National Parks.

Sparkes, C. and Woods, C. (2009). Linking People to Landscape: The Benefit of Sustainable Travel in Countryside Recreation and Tourism. N.p.: East of England Development Agency.

Spenceley, A. (2004). 'Responsible Nature-based Tourism Planning in South Africa and the Commercialisation of Kruger National Park.' In: D. Diamantis (ed.), Ecotourism: Management and Assessment. London: Thomson Learning.

Spenceley, A. (ed.) (2008). Responsible Tourism: Critical Issues for Conservation and Development. London: Earthscan.

Spenceley, A. (2014a). 'Benefit Sharing from Natural Heritage: Examples and Challenges from Africa'. Presentation at the Inkasa Symposium, Cape Town, South Africa, April.

Spenceley, A. (2014b). 'Tourism Concession Guidelines for Transfrontier Conservation Areas in SADC'. Report to GIZ, 28 November.

Spenceley, A. (2016). 'Evaluation of Tourism Development within Protected Areas Managed by the Seychelles National Park Authority'. Final report to UNDP.

Spenceley, A. (2017). 'Tourism and Protected Areas: Comparing the 2003 and 2014 IUCN World Parks Congress'. Tourism and Hospitality Research 17(1):8–23. https://doi.org/10.1177/1467358415612515

Spenceley, A. and Bien, A. (2013). 'Ecotourism Standards: International Accreditation and Local Certification and Indicators'. In: R. Ballantyne and J. Packer (eds.), International Handbook on Ecotourism, p. 404. Cheltenham, UK: Edward Elgar. https://doi.org/10.4337/9780857939975.00038

Spenceley, A. and Casimiro, R. (2012) 'Tourism Concessions in Protected Areas in Mozambique: Manual for Operators and Concessionaires'. Report to the USAID SPEED Program.

Spenceley, A. and Snyman, S. (2017). 'Can a Wildlife Tourism Company Influence Conservation and the Development of Tourism in a Specific Destination?' Tourism and Hospitality Research 17(1):52–67. https://doi.org/10.1177/1467358416634158

Spenceley, A., Habyalimana, S., Tusabe, R. and Mariza, D. (2010). 'Benefits to the Poor from Gorilla Tourism in Rwanda'. Development Southern Africa 27(5):647–662. https://doi.org/10.1080/0376835X.2010.522828

Spenceley, A., Kohl, J., McArthur, S., Myles, P. Notarianni, M., Paleczny, D., Pickering, C., Turner, K., Bhutia, P. and Worboys, G. L. (2015). 'Visitor management'. In: G. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds.), Protected Area Governance and Management, pp. 715–750. Canberra: Australian National University Press. https://doi.org/10.22459/PAGM.04.2015 https://doi.org/10.26530/OAPEN_569111

Spenceley, A., Nevill, H., Coelho, C.F. and Souto, M. (2016). An Introduction to Tourism Concessioning: 14 Characteristics of Successful Programs. World Bank Group.

Spenceley, A,. Rylance, A. and Laiser, S. (2017a). 'Protected area entrance fees in Tanzania: The search for competitiveness and value for money'. Koedoe 59(1) a 1442. https://doi.org/10.4102/koedoe. v59i1.1442.

Spenceley, A., Snyman, S. and Eagles, P. (2017b). Guidelines for Tourism Partnerships and Concessions for Protected Areas: Generating Sustainable Revenues for Conservation and Development. Report to the Secretariat of the Convention on Biological Diversity and IUCN. https://www.cbd.int/tourism/doc/tourism-partnerships-protected-areas-print.pdf.

Stankey, G.H. and Baden, J. (1977). Rationing Wilderness Use: Methods, Problems, and Guidelines. Research Paper INT-192. Ogden, Utah: USDA Forest Service, Intermountain Forest and Range Experiment Station. https://doi.org/10.5962/bhl.title.69016

Stankey, G.H., Cole, D.N., Lucas, R.C., Petersen, M.E. and Frissell, S.S. (1985). The Limit of Acceptable Change (LAC) System for Wilderness Planning. General Technical Report INT-176. Ogden, Utah: USDA Forest Service, Intermountain Research Station. https://doi.org/10.5962/bhl.title.109310

Steven, R., Castley, J.G. and Buckley, R. (2013). 'Tourism Revenue as a Conservation Tool for Threatened Birds in Protected Areas'. PLOS One 8(5): e62598: 1–7.

Stolton, S., Redford, K.H. and Dudley, N. (2014). The Futures of Privately Protected Areas. Gland, Switzerland: IUCN.

Stuart-Hill, G. (2011). 'Event Book—A Tool for Everyone'. Conservation and the Environment in Namibia, 14–15.

Stuart-Hill, G., Diggle, R., Munali, B., Tagg, J. and Ward, D. (2005). 'The Event Book System: A Community-based Natural Resource Monitoring System from Namibia'. Biodiversity and Conservation 14(11):2611–2631. https://doi.org/10.1007/s10531-005-8391-0

Sun, D. and Walsh, D. (1998). 'Review of Studies on Environmental Impacts of Recreation and Tourism in Australia'. Journal of Environmental Management 53:323-338. https://doi.org/10.1006/jema.1998.0200

Swearingen, T.C. and Johnson, D.R. (1995). 'Visitors' Responses to Uniformed Park Employees'. Journal of Park and Recreation Administration 13(1):73–85.

Sweeting, J.E.N., Bruner, A.G. and Rosenfield, A.B. (1999). The Green Host Effect—An Integrated Approach to Sustainable Tourism and Resort Development. CI Policy Papers. Washington, DC: Conservation International.

Telfer, D.J. and Sharpley, R. (2008). Tourism and Development in the Developing World. New York: Routledge.

Thakadu, O.T. (2005). 'Success Factors in Community based Natural Resources Management in Northern Botswana: Lessons from Practice'. Natural Resources Forum 29(3):199–212. https://doi.org/10.1111/j.1477-8947.2005.00130.x

Therivel, R. and Thompson, S. (1996). 'Strategic Environmental Assessment and Nature Conservation'. Report to English Nature.

Therivel, R., Wilson, E., Thompson, S., Heaney, D. and Pritchard, D. (1992). Strategic Environmental Assessment. London: Earthscan.

Thompson, A. (2009). Scan of Concessions Systems and Best Practice: The United States, Canada, Australia, Namibia and New Zealand's Fisheries Management System. Wellington, New Zealand: Department of Conservation.

Thompson, A., Massyn, P.J., Pendry, J. and Pastoreli, J. (2014). Tourism Concessions in Protected Natural Areas: Guidelines for Managers. New York: UN Development Programme.

Thresher, P. (1981). 'The Economics of a Lion'. Unasylva 33(134):34–35.

Thur, S.M. (2010). 'User Fees as Sustainable Financing Mechanisms for Marine PAs: An Application to the Bonaire National Marine Park'. Marine Policy 34(1):63–69. https://doi.org/10.1016/j.marpol.2009.04.008

TIES (The International Ecotourism Society) (2013). 'Botswana Committed to Sustainability: Fifteen Camps and Lodges Now Ecotourism Certified'. https://www.ecotourism.org/news/botswana-sustainability-camps-and-lodges-ecotourism-certified. Accessed 15 February 2017.

TNC (The Nature Conservancy) (2013). Practitioner's Quick Guide for Marine Conservation Agreements. Narragansett, Rhode Island: The Nature Conservancy, Global Marine Team.

Trzyna, T. (2014). Urban Protected Areas: Profiles and Best Practice Guidelines. Best Practice Protected Area Guideline Series No. 22. Gland, Switzerland: IUCN. https://portals.iucn.org/library/node/44644. Accessed 28 March 2018.

Tserendeleg, D. (2013). 'Tourism Development of Hustai National Park of Mongolia'. Paper presented at the First Asia Parks Congress, Sendai, Japan,13–17 November.

UNDP/GEF Small Grants Program (United Nations Development Programme/Global Environment Facility) (2012). 'Community action. Global impact'. https://sgp.undp.org/index.php?option=com_content&view=article&id=103&Itemid=165#.UvjT2vZkL0P. Accessed 15 February 2017.

UNEP (United Nations Environment Programme) and CMS (Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals) (2006). 'Wildlife Watching and Tourism: A Study on the Benefits and Risks of a Fast Growing Tourism Activity and Its Impacts on Species'. Bonn, Germany: UNEP/CMS Secretariat. http://www.cms.int/sites/default/files/document/ScC14_Inf_08_Wildlife_Watching_E_0.pdf. Accessed 15 February 2017.

UNEP-WCMC (UNEP-World Conservation Monitoring Centre) and IUCN (2016). Protected Planet Report 2016. Cambridge UK, and Gland, Switzerland: UNEP-WCMC and IUCN. https://www.protectedplanet.net/c/protected-planet-report-2016. Accessed 15 February 2017.

UNEP-WCMC (2017). 'UNEP-World Conservation Monitoring Centre'. https://www.unep-wcmc.org/. Accessed 15 February 2017.

UNESCO (United Nations Educational, Scientific and Cultural Organization) (2017a). 'Gunung Mulu National Park'. http://whc. unesco.org/en/list/1013. Accessed 15 February 2017.

UNESCO (2017b). 'Malaysia'. http://whc.unesco.org/en/statesparties/my. Accessed 6 October 2015.

UN Foundation (2017). 'What We Do: Global Sustainable Tourism Council'. http://www.unfoundation.org/what-we-do/campaigns-and-initiatives/global-sustainable-tourism-council. Accessed 15 February 2017.

University of York (2012). 'Stepping Stones to the North: "Citizen Science" Reveals that Protected Areas Allow Wildlife to Spread in Response to Climate Change'. http://www.york.ac.uk/news-and-events/news/2012/research/stepping-stones/. Accessed 15 February 2017.

UNWTO (UN World Tourism Organization) (2004). Indicators of Sustainable Development for Tourism Destinations: A Guidebook. Madrid: UNWTO.

UNWTO (2010). Tourism and Biodiversity—Achieving Common Goals towards Sustainability. Madrid: UNWTO.

UNWTO (2017). Tourism Highlights: 2017 Edition. Madrid: UNWTO.

UNWTO and UNEP (2005). Making Tourism More Sustainable: A Guide for Policy-Makers. Madrid and Paris: UNWTO and UNEP.

UNWTO and UNESCO (2017). Muscat Declaration on Tourism and Culture: Fostering Sustainable Development. http://cf.cdn.unwto.org/sites/all/files/pdf/muscat_declaration_0.pdf. Accessed 22 January 2018.

USNPS (United States National Park Service) (1997). VERP: The Visitor Experience and Resource Protection (VERP) Framework—A Handbook for Planners and Managers. Denver, Colorado: USNPS Denver Service Center. https://www. fs.fed.us/cdt/carrying_capacity/verphandbook_1997.pdf. Accessed 15 February 2017.

USNPS (2017a). 'NPS Commercial Services'. http://www.concessions.nps.gov/. Accessed 15 February 2017.

USNPS (2017b). 'NPS Transportation Program—Best Practices'. http://www.nps.gov/transportation/best_practices.html. Accessed 15 February 2017.

Uwingeli, P. (2009). Personal communication, chief park warden, Volcanoes National Park, 3 November.

van Sickel, K. and Eagles, P. (1998). 'Budgets, Pricing Policies and User Fees in Canadian parks' Tourism'. Tourism Management 19(3):225–235. https://doi.org/10.1016/S0261-5177(98)00017-X

Varghese, G. (2008). 'Public–private Partnerships in South African National Parks'. In: Spenceley, A. (ed.), Responsible Tourism: Critical issues for Conservation and Development, pp. 69–83. London: Earthscan.

Vasilijević, M., Zunckel, K., McKinney, M., Erg, B., Schoon, M. and Rosen Michel, T. (2015). Transboundary Conservation: A Systematic and Integrated Approach. Best Practice Protected Area Guidelines Series No. 23. Gland, Switzerland: IUCN. https://doi.org/10.2305/IUCN.CH.2015.PAG.23.en

VCTS (Vista Company and Travel Services Pvt. Ltd.) (2017) 'Baa Atoll, Maldives: UNESCO World Biosphere Reserve'. http://vistamaldives.com/baa_atoll.aspx. Accessed 15 February 2017.

Virunga National Park (2018). 'About Virunga'. http://visitvirunga.org/about-virunga/. Accessed 8 April 2018.

Wagar, J.A. (1964). The Carrying Capacity of Wild Lands for Recreation. Forest Science Monograph 7. Washington, DC: Society of American Foresters.

Waithaka, J., Wong, M., Ranger, J. and Halpenny, E.A. (2012). 'Conserving Biodiversity through Parks Canada's Volunteer Program'. Parks 18(2):64–77. https://doi.org/10.2305/IUCN.CH.2012.PARKS-18-2.JW.en

Walker, G.J. and Chapman, R. (2003). 'Thinking Like a Park: The Effects of Sense of Place, Perspective-taking, and Empathy on Pro-environmental Intentions'. Journal of Park and Recreation Administration 21(4):71–86.

Walmsley, S.F. and White, A.T. (2003). 'Influence of Social, Management and Enforcement Factors on the Long-term Ecological Effects of Marine Sanctuaries'. Environmental Conservation 30:388–407. https://doi.org/10.1017/S0376892903000407

Walpole, M., Goodwin, H.J. and Ward, K.G.R. (2001). 'Pricing Policy for Tourism in PAs: Lessons from Komodo National Park, Indonesia'. Conservation Biology 15(1):218–227. https://doi.org/10.1111/j.1523-1739.2001.99231.x

Watson, J., Dudley, N., Segan, D. and Hockings, M. (2014). 'The Performance and Potential of Protected Areas'. Nature 515:67–73. https://doi.org/10.1038/nature13947

Wearing, S., Archer, D. and Beeton, S. (2007). The Sustainable Marketing of Tourism in Protected Areas: Moving Forward. Queensland, Australia: Sustainable Tourism CRC.

Weaver, D.B. (2013). 'Protected Area Visitor Willingness to Participate in Site Enhancement Activities'. Journal of Travel Research 52(3):377–391. https://doi.org/10.1177/0047287512467704

Weaver, D. and Lawton, L. (2017). 'A New Visitation Paradigm for Protected Areas'. Tourism Management 60:140–146. https://doi.org/10.1016/j.tourman.2016.11.018

Weber, W. (1987). Ruhengeri and its Resources: An Environmental Profile of the Ruhengeri Prefecture, Rwanda. Kigali, Rwanda: Ruhengeri Resource Analysis and Management Project.

Wegner, A., Lee, D. and Weiler, B. (2010). 'Important "Ingredients" for Successful Tourism/Protected Area Partnerships: Partners' Policy Recommendations'. Service Industries Journal 30:1643–1650. https://doi.org/10.1080/02642060903580672

Whakatane Mechanism (2017). 'Whakatane Mechanism'. http://whakatane-mechanism.org/about-whakatane. Accessed 15 February 2017.

Whittaker, D. and Shelby, B. (2008). Allocating River Use: A Review of Approaches and Existing Systems for River Professionals. Missoula, Montana: River Management Society. http://www.river-management.org/river-allocation. Accessed 15 February 2017.

Whittaker, D., Shelby, B., Manning, R., Cole, D. and Haas, G. (2011). 'Capacity Reconsidered: Finding Consensus and Clarifying Differences'. Journal of Park and Recreation Administration 29(1):1–20.

Wigboldus, S., Nell, A., Brouwer, H. and van der Lee, J. (2010). Making Sense of Capacity Development. Wageningen, Netherlands: Wageningen UR Centre for Development Innovation.

Wilderness Holdings (2013). 'Integrated Annual Report for the Year Ended 28 February 2013'. http://www.wilderness-group.com/system/assets/142/ original/Wilderness%20IR%202013%20-%20Web.pdf?1375184197. Accessed 15 February 2017.

Wilderness Holdings (2014). 'Integrated Annual Report for the Year Ended 28 February 2014'. http://www.wilderness-group.com/investor_centre/presentations/annual_reports. Accessed 8 April 2018.

Wisansing, J. (2008). 'Towards Community Driven Tourism Planning: A Critical Review of Theoretical Demands and Practical Issues'. AU-GSB e-Journal 1(1):47–59.

Worboys, G., Lockwood, M., Kothari, A., Feary, S. and Pulsford, I. (eds.) (2015). Protected Area Governance and Management. Canberra: Australian National University Press. https://doi.org/10.22459/PAGM.04.2015; https://doi.org/10.26530/OAPEN_569111

Wyman, M., Barborak, J.R., Inamdar, N. and Stein, T. (2011). 'Best Practices for Tourism Concessions in Protected Areas: A Review of the Field'. Forests 2:913–928. https://doi.org/10.3390/f2040913

Wynveen, C., Bixler, R. and Hammitt, W.E. (2007). 'Law Enforcement Perception and Changes in the United States Park Service: Urban Proximity and Level of Enforcement Practices'. Annals of Leisure Research 10:532–549. https://doi.org/10.1080/11745398.2007.9686780

Yosemite National Park (2015). 'Visitor Use and Impact Monitoring'. http://www.nps.gov/yose/naturescience/visitor-use-monitoring.htm. Accessed 15 February 2017.

Zeppel, H. and Muloin, S. (2008). 'Conservation Benefits of Interpretation on Marine Wildlife Tours'. Human Dimensions of Wildlife 13:280–294. https://doi.org/10.1080/10871200802187105

Dr. Yu-Fai Leung is Professor and Director of Graduate Programs in the Department of Parks, Recreation and Tourism Management, College of Natural Resources at North Carolina State University, USA. He is also an adjunct professor in the Department of Geography and Resource Management at the Chinese University of Hong Kong, Hong Kong SAR, China. His research addresses the sustainable planning and management of recreation, tourism and other visitor use in protected areas, with a special focus on recreation ecology and visitor use/impact monitoring. He also applies geospatial technology and monitoring as public engagement and capacity building tools. He is active in research, education and training programs in the Americas, Asia, Australia and Europe. He is a member of the IUCN's World Commission on Protected Areas and its Tourism and Protected Areas and Urban Protected Areas Specialist Groups. See go.ncsu.edu/leung.

Dr. Anna Spenceley is a tourism consultant focusing on sustainable tourism, and mainly working in areas of high biodiversity in developing countries. Anna is Chair of the IUCN's World Commission on Protected Areas (WCPA) Tourism and Protected Areas Specialist Group, a Board Member of the Global Sustainable Tourism Council, Honorary Fellow of the University of Brighton, and a Senior Research Fellow with the University of Johannesburg. She sits on the editorial teams of the Journal of Sustainable Tourism and the journal Koedoe. She edited the books "Responsible Tourism: Critical issues for Conservation and Development" and is co-editor of "Evolution and Innovation in Wildlife Conservation" and "Tourism and Poverty Reduction". See www.anna.spenceley.co.uk, annaspenceley.wordpress.com and www.slideshare.net/AnnaSpenceley.

Dr. Glen Hvenegaard is Professor of Environmental Science and Geography at the University of Alberta, Canada. His research focuses on the conservation dynamics of ecotourism (e.g. wildlife festivals, birding, whale watching, protected area tourism), biogeography (e.g. birds in agricultural environments, green spaces, shorebirds, ecological indicators), and environmental education (e.g. fieldwork, park interpretation, independent studies courses, expedition courses). He is a member of the IUCN's World Commission on Protected Areas and its Tourism and Protected Areas Specialist Group, and a fellow with LEAD International (Leadership for Environment and Development). Glen was raised in rural southern Alberta and is developing a sense of place with his family in the Buffalo Lake Moraine south of Camrose.

Dr. Ralf Buckley holds the International Chair in Ecotourism Research at Griffith University, Australia (www.griffith.edu.au/centre/icer). He is an ecologist and environmental scientist, focussing on the role of ecotourism in conservation. 750 publications including 12 books and >200 refereed articles; H index 57, >11,500 citations. Ralf serves as current or former chair, or as a member of national and international advisory bodies, parliamentary inquiries, audit and award committees, on biodiversity, tourism, World Heritage, and conservation. He is a former Senior Fulbright Fellow, and a senior International Scientist and Distinguished Visiting Professor, Chinese Academy of Sciences. Ralf is a member of IUCN's World Commission on Protected Areas and a former member of the Tourism and Protected Areas Specialist Group ExCo.

INTERNATIONAL UNION
FOR CONSERVATION OF NATURE

WORLD HEADQUARTERS
Rue Mauverney 28
1196 Gland, Switzerland
Tel: +41 22 999 0000
Fax: +41 22 999 0002
www.iucn.org