The *Protected Area Governance and Management* Book
(An E-Book and a Printed Book)

Edited by

Graeme L. Worboys
Michael Lockwood
Ashish Kothari

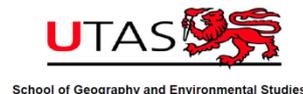# E Book Plan, Table of Contents And Chapter Authors

EDITION 4

26 July 2013

[Contact: Project Manager Dr Graeme Worboys email address: g.worboys@bigpond.com]

FOREWORD: THE E BOOK PLAN, EDITION 4 (26 JULY 2013)

The purpose of the E Book Plan is to help co-ordinate and integrate the quite complex E Book Project and to help ensure that there is neither duplication nor gaps in the E Book content. Edition 4 of the *Protected Area Governance and Management* E Book Plan reflects inputs from:

1. The April 2013 Montenegro meeting (See the E Book Newsletter No 3).
2. The Chairperson of the Book Steering Committee and some Principal Authors following the restructure of the Chapters.

Version 4 has changed the order of some Chapters, merged some and added a new Chapter. The E Book Chapter structure is now considered fixed and forms the endorsed IUCN WCPA E Book structure. The Chapter contents however are expected to be refined further as a natural evolutionary improvement of the E Book. As *Principal Authors* further refine the original bullet point suggestions and creatively improve and finalise their final *working* Chapter outline plans, I will update this E Book Plan. This also includes identifying the final *Supporting Author* team please.

I will create new E Book Plan Editions as I receive the final Chapter outlines, so please anticipate a number of Editions of this E Book Plan as we progress.

Principal Authors if you haven't done this already could you please send me your finalised Chapter Outlines and I will add it to the next E Book Plan Edition. It is timely for this to happen.

Many thanks
Dr Graeme Worboys,
Project Manager, 26th July 2013

CONTENTS

Chapter	Chapter Title	*Principal Author*	Contributors (Specialist Advisors, *Supporting Authors* and Peer Reviewers) as confirmed by the *Principal Author*	Page
12	**Leadership and Executive Management**	**Julia Miranda Londono**	*Supporting Authors* Jon Jarvis, Nik Lopoukhine; Moses Mapesa	17
13	**Planning**	**Penny Spoelder**		19
14	**Business Management**	**To be advised**		20
15	**Engaging with neighbours, citizens, stakeholders, users, partners and philanthropists**	**Stephen Dovers**		21
16	**Communicating your message**	**Stuart Cohen**		22
17	**Managing threats**	**Vinod Mathur**		23
18	**Managing for climate change (Terrestrial and Marine)**	**Angas Hopkins**		23
19	**Managing geoheritage**	**Roger Crofts**		24
20	**Managing fresh water, river, wetland and coastal estuary based protected areas**	**Jamie Pittock**	**Supporting Authors** Robin Abell, Angella Arthington, Harry Biggs, Catia Nunes de Cunha, Will Darwell, Max Finlayson, Wolfgang Junk, Richard Kingsford, Ritesh Kumas, Gernant Magnin, John Mathews, Jeanne Nel, Dirk Roux, Toine Smits, Rebecca Tharme, Michelle Thieme, Josh Viers, Barry Warner	26
21	**Managing marine protected areas**	**Dan Laffoley**	**Supporting Authors** Jon Day, Fanny Douvre, Bud Ehler, Pail Gilliland, Kristina Gjerde, Erich Hoyt, Peter Jones, John Knott, Paul Marshall, Lawrence McCook, Amy Milham, Pete Mumby, David Obura, Reg Parsons, John Roff, Rod Salm, Giuseppe Notarbartolo di Sciara, Aulani Wilhelm	27

Chapter	Chapter Title	*Principal Author*	Contributors (Specialist Advisors, *Supporting Authors* and Peer Reviewers) as confirmed by the *Principal Author*	Page
22	Managing for biodiversity, ecological processes and ecosystem services	Kathy MacKinnon and Stephen Woodley	*Supporting Authors* Stephen McCanny, Richard Pither, Kent Prior	27
23	Managing cultural uses and features	Fausto Sarmiento		29
24	Managing visitors	Anna Spenceley		29
25	Managing operations and assets	Patricia Rossi		30
26	Managing resource use and development	Ashish Kothari	*Supporting Authors* Rosie Cooney, Eduard Muller, Fred Nelson, Krishna Oli, Sanjeeva Pandey, Tahir Rasheed, Lubomira Vavrova	31
27	Managing incidents	Graeme Worboys		33
28	Managing World Heritage Properties	Cyril Kormos		34
29	Managing connectivity conservation corridors	Ian Pulsford	*Supporting authors* David Lindenmayer, Maja Vasilijevic, Graeme Worboys	34
30	Evaluating management effectiveness; The Green List	Marc Hockings		37
	Conclusion	Graeme Worboys, Michael Lockwood, Ashish Kothari	Participation of the Book Steering Committee	38

PROTECTED AREA GOVERNANCE AND MANAGEMENT

Foreword

(Principal Author) Graeme Worboys,
(Supporting Authors) Ashish Kothari, Michael Lockwood

- This text will be prepared by the Editors on behalf of a distinguished protected area champion and leader (to be advised)

1. Introduction

(Principal Author) Trevor Sandwith
(Supporting Authors) Ernesto Enkerlin Hoeflich, Kathy MacKinnon

- To be signed off by Ernesto as Chairperson
- Introducing the E Book
- The E Book as part of IUCN's Capacity Building Programme
- The E Book as a contribution to global protected area capacity building curricula, the accreditation of curricula and the establishment of a minimum professional standard for protected area managers…..written by the best authors in this field….a truly global contribution
- Why this standard is critical for protected areas, their effective management and biodiversity conservation
- Why this is important for achieving the Aichi Targets (and beyond)
- Providing, from the IUCN GPAP and WCPA executive a reflective statement about the task at hand for protected areas….including the scope and challenges of contemporary protected area governance and management
- The accessibility and approach of this book…deliberate easy read text
- Text for three levels of management presented….spanning from field officer – ranger through protected area manager to chief executive
- The types of audiences the E Book is designed for
- How the E Book is organised (structured) and presented

2. Concept, purpose and challenges

(Principal Author) Graeme Worboys
(Supporting authors)

- The critical role of protected areas
    - The concept of values (background theory)
    - The concept of protection of values (an introduction)
    - Purpose of protected areas and key objectives
    - Significance of protected areas and benefits (an introduction)
    - Impact of protected areas for biodiversity conservation and life support services of Earth
    - Healthy parks, healthy people
    - 21st Century strategic targets
- History and concepts of protected areas
    - The earliest protected areas including ICCA's
    - Yellowstone and the national parks concept

- o Expansion, diversification, and the expansion of governance types
- o Contested ideas and places
- o Terrestrial and marine protected areas
- IUCN and protected areas
  - o IUCN the organisation
  - o CNNPA
  - o WCPA
  - o World Park Congress's: Milestones in protected area management
- Non-conventional protected areas
  - o Indigenous and community conservation areas
  - o Private protected areas
  - o Share governance and co-managed protected areas
- Protected area governance
  - o Respect for situational arrangements
  - o Governance function (Introduction)
- Management
  - o Active management versus paper parks
  - o Four functions of management (Introduction)
  - o Effective management and the Green List (Introduction)
- Challenges: Threats
  - o 21st Century threats (Introduction)
  - o The rapidity of change
  - o Ineffective management
- Types of protected areas
  - o Definition of protected areas (IUCN and CBD)
  - o IUCN protected area management categories
    - ▪ Definition and purpose of Categories I-VI
  - o IUCN protected area governance types
    - ▪ Definition and purpose of types I-IV
  - o World Heritage Properties
    - ▪ Definition
    - ▪ Buffer Zone
  - o Ramsar Wetlands
  - o Man and the Biosphere Reserves
    - ▪ Definition
    - ▪ Core Zones
    - ▪ Buffer Zone
    - ▪ Transition area
  - o UNESCO Geoparks
    - ▪ Definition
    - ▪ Conservation status
- Areas with conservation outcomes that do not meet the IUCN and CBD definitions
  - o The value of "the matrix" for biodiversity conservation
  - o Indigenous people's territories
  - o Community managed territories and areas
  - o Connectivity conservation corridors
  - o Conventional urban parks and public gardens
  - o Private estates and gardens
  - o Greenways
  - o Forest areas
  - o Wildlife areas
  - o Riparian areas
  - o Tourist areas
  - o Private ecotourism destinations

- o Agricultural restoration areas
- Protected areas context to international conventions and strategies
  - o Biodiversity Convention
    - CBD 2012-2020 Strategic Plan, Aichi targets and PowPA
  - o Climate Change Convention
  - o Desertification Convention

3. Earth's natural heritage

(Principal Author) Graeme Worboys

(Supporting authors)

- Earth's natural processes
- Geodiversity
  - o Types of geoheritage sites
  - o Significance of geoheritage
- Biodiversity
  - o Biodiversity defined
  - o Terrestrial biota
    - Animals
    - Plants
  - o Freshwater biota
    - Animals
    - Plants
  - o Marine biota
    - Animals
    - Plants
- Global biogeography
  - o Biogeographical Realms
  - o Some Major Biomes
    - Mountains
    - Marine
    - Grasslands
  - o WWF Terrestrial Ecoregions
  - o WWF Marine Ecoregions
  - o WWF Global 200
  - o Conservation International Hotspots
  - o IUCN Key Biodiversity Areas (Terrestrial and Freshwater)
  - o Important Bird Areas: Birdlife International
  - o Alliance for Zero Extinction Sites
- Ecological processes (Introduction)
  - o Migrations
    - Insects
    - Birds-flyways (CN)
    - Terrestrial mammals
    - Marine mammals
    - Marine reptiles
  - o Terrestrial ecosystem processes
  - o Marine ecosystem processes
- Ecological conservation principles
  - o Ecological principles for managing for protected areas
  - o Managing for ecological integrity
  - o Canada's Ecological Integrity System

4. Earth's cultural heritage

(Principal Author) Sue Feary

(*Supporting Authors*) Steve Brown, Ian Lilley, Duncan Marshall, Rob McKinnon, Bas Verschuuren, Rob Wild

- Introduction
- A brief history of humans on Earth
    - o The long view of cultural change and diversity and environmental modification
- Defining and understanding cultural heritage
    - o A short history of ideas on cultural heritage – a slippery concept
- Cultural heritage and protected areas –
    - o The evolving and changing role of protected areas in protecting cultural heritage
- A diversity of cultural heritage
    - Nature as cultural heritage
        - o Protected areas/wilderness
        - o Natural places that are sacred [Knowing about these needs knowledge holder input]
        - o Natural places with social value [Knowing about these needs knowledge holder input]
        - o Genetic stock
        - o Sacred animals and plants [Knowing about these needs knowledge holder input]
        - o Beautiful places [Scenic and aesthetic values]
    - Tangible heritage
        - o Archaeological sites/landscapes
        - o Built environment (historic sites)
        - o Movable heritage
        - o Underwater heritage
    - Intangible heritage
        - o Customs, beliefs, laws, language, knowledge.   [knowing about these requires consultation and participation by knowledge holders - need community participation]
        - o Entangled landscapes of nature and culture (Bio-cultural/cultural landscapes)
- Principles of cultural heritage management (ICOMOS)
    - o Knowing
    - o Documenting
    - o Assessing
    - o Managing
    - o Distinguishing between values and significance
- The good and the bad of cultural heritage
    - o The loss and re-invention of cultural heritage
    - o Contested heritage
    - o Heritage as identity
    - o Freezing the past
    - o Politics of heritage
    - o Heritage as a barrier to an imagined past or an economic future?
- Conclusion
- Recommended reading
- References

5. Societal influences and global change

(Principal Author) Nigel Crawhall

(Supporting authors)

- Cultural diversity and identity
- World views and attitudes
- Social context
  - o Protected area establishment: past impacts on peoples and livelihoods
  - o Introducing critical new protected areas: working with people
    - Case studies from India's Great Himalayan National Park
- Population and demand for resources
- Poverty
- Community development
- Politics
  - o Human rights and justice
  - o Conflict and armed struggle
  - o Forms of government
  - o Neoliberalism
  - o Devolution and engagement
- Economics
  - o Globalisation
  - o Sustainable development
  - o Market-based instruments
- International aid and development
  - o International aid: How it works
  - o Aid, development organisations and protected areas
    - The World Bank
    - Aid agencies
    - The Global Environment Fund
    - CBD programs
    - UN Organisations
    - PoWPA
    - BIOPARMA
- Introduction: Integrated conservation and development
  - o Concept, purpose and definition
    - Linking biodiversity conservation in protected areas with local social and economic development
  - o Overseas Development Aid funding
    - Donors and donor expectations
  - o Types of conservation and development projects
    - Participation of local communities
    - Poverty alleviation projects
    - Rural development objectives
    - Conservation projects
    - Landscape scale conservation
  - o How they work
  - o How they relate to protected areas
- Knowledge and science
- Climate change
  - o Causes
  - o Trends and forecasts
  - o Societal impacts
    - Extreme events and disasters

- ▪ Coastal communities
- ▪ Agriculture
- ▪ Fisheries
- ▪ Forestry
- ▪ Social-economic-political implications
  - o Environmental impacts
    - ▪ Changing oceans
    - ▪ Marine ecosystems and species
    - ▪ Freshwater ecosystems and species
    - ▪ Terrestrial ecosystems and species
- • Scenarios
  - o Drivers and their interactions
  - o Potential futures
- • New ways of looking at protected areas
  - o Anticipating inevitable changes
  - o Changing planet, creative management
  - o Functional landscapes
  - o Species conservation in a very different world

6. Benefits

(Principal Author) Sue Stolton

(Reviewers and Contributors) Başak Avciğlu Cokcaliskan, Nigel Dudley, Danny Hunter, Marianne Kettunen, Yoshitaka Kumagai, Nigel Maxted, Dan Mulrooney, John Senior, Andrea Stephan, Mike Wong

- • Introduction: protected area values and benefits

  (These issues are introduced in chapter 2 so this section will be short and focussed on the two issues below)

  - • The structure, functioning and processes in protected areas and the associated values that protected areas bring
  - • Turning values into benefits – a matter of perspective

- • Protected area benefits: Life support services

  (Note the sections below will introduce the benefits and provide examples from around the world)

  - • Biodiversity conservation…protecting the intrinsic values of the planet

  - • Supporting Services: necessary for the production of all other ecosystem services
    - • Ecosystem process maintenance: soil formation, nutrient cycling, primary production etc
    - • Lifecycle maintenance: nursery habitats, seed dispersal, species interactions etc
    - • Biodiversity maintenance and protection: genetic, species and habitat diversity
  - • Provisioning Services: ecosystems' ability to provide resources
    - • Food provisioning
    - • *Box*: Fisheries (will discuss best option with Dan to check we do not overlap)
    - • Water provisioning (overlap with chapter 20)
    - • Provisioning of raw material (e.g. timber, fuel, fibre)
    - • Provisioning of medicinal resources / biochemicals (e.g. natural medicines, pharmaceuticals)
    - • Provisioning of ornamental resources
    - • Provisioning of genetic resources

- Regulating Services: ecosystem' beneficial regulatory process
    - Climate regulation
    - Natural hazards regulation
    - *Box*: Disaster risk reduction (case study developed with Akita International University, Japan)
    - Purification and detoxification of water, air and soil (overlap with chapter 20)
    - Water / water flow regulation (overlap with chapter 20)
    - Erosion and soil fertility regulation
    - Pollination
    - *Box:* The importance of maintaining pollination processes, risks to pollinators and incorporation into conservation planning
    - Pest and disease regulation
    - Noise regulation
- Cultural Services: ecosystems' non-material benefits
    - Opportunities for recreation and tourism, related benefits to mental and physical wellbeing (tourism covered by Chapter 24)
    - Aesthetic values
    - Inspiration for arts, science and technology
    - *Box:* possibly from UK
    - Information for education and research
    - Spiritual and religious experience (mainly covered in chapter 4 and 23)
    - Cultural identity and heritage (covered in chapter 4 and 23)

- Understanding and managing benefits
    - Categorising values
        - Understanding the difference between direct use, indirect use and non use (bequest, existence and option) values
    - Assessing benefits
        - Assessing multiple benefits and multiple stakeholders
        - Assessing economic benefits (co-authored by IEEP)
        - *Case study*: using the PA-BAT to understand different stakeholder benefits (co-authored by WWF in Balkans and Turkey)
    - Managing benefits
        - Understanding conflicts between values and use
        - *Case study*: Managing for CWRs (authored by Danny Hunter and Nigel Maxted)
        - Access and benefit sharing (links with chapter 26)
        - Communicating benefits to a range of audiences
        - *Case study*: Healthy Parks, Healthy People (co-authored by John Senior and Mike Wong et al)

- Recommended reading
- References

7. Governing protected areas

(Principal Author) Grazia Borrini-Feyerabend

(Supporting authors)

- Concept of protected area governance
- Governance quality
  - Elements of good governance
- Types of protected area governance
  - Government managed protected areas
  - Marine protected areas
  - Private protected areas
  - Indigenous peoples and community conserved territories and areas (ICCA's)
    - Range and significance
    - Legal and policy context
    - Limitations and problems
  - Co-managed protected areas
  - Aichi targets
- Governance roles of different actors
  - Good governance
- Transboundary protected area governance
  - Intra-nation transboundary governance
  - International transboundary governance
- Science and management governance
  - Introducing research governance
  - Scientists and managers working together
    - The Kruger model
- Governance considerations in a rapidly changing world
  - Managing governance in regime changes
  - Managing international treaty and convention governance
- Adaptive governance
- Governance assessment for individual protected areas
- Governance assessment for protected areas systems

8. Managing protected areas

(Principal Author) Graeme Worboys

(Supporting authors)

- Process of management
  - Planning
  - Organising
  - Leading
  - Control
- Strategic management
  - Strategic planning
    - Corporate Plan
    - Vision Statement
    - Mission Statement
    - Business Plan
    - Protected Area Plan of Management
- Protected area systems management context
  - Systems of protected areas

- - - Protected area systems guidelines
  - Government agency systems
  - Private company systems
  - NGO systems
  - Community conserved areas
  - Context to international conservation initiatives
    - International agreements and treaties
    - Transboundary initiatives
    - Connectivity conservation initiatives
    - Sharing of data (The WDPA)
- Working with government processes and institutions
  - Legislative requirements: Legal considerations
  - Requirements of Parliament
  - Requirements of Government
  - Ministerial requirements
  - Chief Executive requirements
  - Requirements of the Courts
  - Requirements of other authorities
- Working with customary processes
  - Requirements of the community and elders
  - Customary law
- Organisation management systems
  - Management framework
    - IUCN's Management Framework
    - Application in Finland, South Korea, Victoria, NSW
    - Link to Management Effectiveness Evaluation
  - Financial management systems
  - Staff management systems
    - Staff competencies
    - Staff training
    - Staff counselling
  - Visitor use information system
  - GIS and natural and cultural heritage inventory and management systems
  - Media management systems
  - Computer software systems
  - Legal compliance systems
  - Occupational Health and Safety System
  - Insurance system
  - Asset management systems
  - Sustainable management systems
  - Risk management systems
  - Environmental management systems
  - Performance management systems
  - Ecological integrity system
  - State of the Parks Reporting System
  - Management Effectiveness Evaluation
  - Green List
- Integrated management systems
  - Integration of information
  - Integrated assets, finance, human resource and output system
  - Integrated assets and risk management systems
  - Management scenario planning
- Open standards
  - The concept of Open Standards
  - Open Standards described

- o Application for protected areas
- Organisational change management
  - o Change as the norm in organisations
  - o Organisational change theory
  - o Processes of organisational change
  - o Managing organisational change
- Managing Categories I to IV
  - o Managing wilderness
  - o Quarantine
- Managing Categories V and VI
- Managing urban protected areas
- People living and working in protected areas
  - o Category I to IV protected areas
    - ▪ Authorised use in protected areas
    - ▪ Accommodation and infrastructure services
    - ▪ Quarantine services, policing and regulatory services
    - ▪ Access services
    - ▪ Utility services
  - o Category V and VI protected areas
    - ▪ Sustainable use practice and management
    - ▪ Biodiversity conservation management
- Sustainable finance for people
  - o Micro-credit schemes
  - o Trust funds (Conservation Finance Alliance)
- Development activities in protected areas
  - o Conflicts and complementarity
  - o Activities of resident/user communities
  - o Activities of wider society
- Reconciling development pressures on protected areas

9. Capacity Building

(Principal Author) **Eduard Muller**

(Supporting author) **David Reynolds**

- Concepts: Capacity Development
  - o Skills
  - o Competencies
  - o Levels of capacity development for protected areas
    - ▪ Ranger, field officer
    - ▪ Protected area manager
    - ▪ Executive level
  - o Capacity development methods
- Types of capacity development needs
  - o Establishing induction training needs: (There are a diversity of protected area operating environments where induction training is needed to help deal with geographic, topographic, vegetation cover, water, caves, wild animal presence, climate extremes, incidents, social environments, political environments, conflict zones and other environmental and managerial considerations)

- o Establishing operational safety training standards needs
  - Defining minimum standards of competencies for operations
  - Defining air, ground, underground, water and marine operational training standards
- o Training to deal with situational governance settings
- o Knowledge and information needs
  - Establishing priority situational information needs
    - Protected area values information
  - Establishing information needs for different staff levels
- Developing capacities
  - o IUCN International benchmark capacity development guidance
    - Tertiary protected area curricula
    - Certification
  - o Completing a situational capacity needs assessment
  - o Tools and methods
    - Formal education
    - Professional training
    - Short courses
    - On-line training
      - IUCN best practice guidelines
      - Professional journals (Parks)
    - In-service training
    - Apprenticeships, internships, mentoring, coaching
    - Exchanges
    - Study visits, workshops, conferences, guest speakers
    - Operational debriefing
    - Preparing publications
- Formal recognition of capacities
  - o Experience as learning
  - o Recognition of qualifications
  - o Transferability of qualifications
  - o Certification

10. Managing complexity
(Principal Author) Steve McCool
(Supporting authors)

- Resilience thinking and social-ecological systems
- Respecting and using diverse knowledge systems
- Adaptive co-management
- Protected area applications
- Creative management

11. Knowledge generation, acquisition and management

(Principal Author) Charles Besancon

(Supporting authors)

- Information needs
  - Organisational
  - Greater government
  - International
    - Protected Planet
  - Community
  - Neighbours and stakeholders
- Information and knowledge sources
  - Traditional knowledge and information
  - Community knowledge
  - Management sourced information
  - Science sourced information
  - Science and local knowledge working together
  - Google style accessible information
- Social and institutional learning processes
- Interfaces between knowledge systems
  - Budget system
  - Assets management system
  - Maintenance system
- Information systems and databases
  - Stand alone and integrated systems
- Knowledge deployment
  - Accessibility of information
  - Protected area outlook reporting
- Research management
  - Science-Management working together
  - Research plan
  - Looking after researchers
- Monitoring
  - Monitoring work
    - Types of monitoring
    - Long term monitoring sites
    - Use of monitoring information
    - Monitoring and evaluation
    - Monitoring for managers
  - Priority evaluation subjects for protected areas
  - Baseline condition and change in condition evaluation
    - Ecological Integrity

12. Leadership and Executive Management

(Principal Author) Julia Miranda Londono

(Supporting Authors) Jon Jarvis, Nik Lopoukhine, Moses Mapesa

- Introduction
- Leadership
  - Concept
  - Attributes of the leader

    *Leadership and ethical values

    *The ability to promote enthusiasm

    *Excellence in communication

    *Team work

- Strategic decision making
- Dealing with change
    - *Creative solutions for change; perseverance
    - *Building supportive networks
    - *Managing organisational change
- Innovation
    - *Investing in new ideas and new systems
- Communication and advocacy:
    - *PA: For life's sake messages
    - *Dealing with community protests against key conservation decisions
    - *Defining the issue
    - *Defining the consequences of no action
    - *Describing with clarity the response needed
    - *Securing support of politicians
    - *Anticipating and planning for media interest
    - *Securing action to achieve conservation outcomes

- Executive Management
    - Concept
    - Attributes of an Executive Manager
        - *Inspirational leadership: managers with leadership abilities.
        - *Communicating with people
        - *Listening
        - *Negotiation skills
        - *Conflict resolution
    - Strategic decision making
        - *Dealing with decisions which mean the conservation of the species
        - *Beyond an experience based decision making
        - *Facilitating an optimum analysis of data
        - *Assessing risk
        - *Applying judgement in decision making
        - *Scenarios and complexity
    - Planning, defining and building the adequate Agency structure and control of goals and objectives
        - *Defining the goals
        - *Defining, financing, revising and controlling budgets
        - *Measuring the accomplishment and successes of the plans
        - *Efficiency and effectiveness

    - Working with people: the Executive Manager has to represent the Agency before third parties:
        - *In the PA Agency
        - *In the community
        - *In the tourism industry

   *With political leaders

   *With traditional leaders

   *With other Government Agencies

   *Industrial relations: the importance of engaging other sectors

- Staff management

   *Team work in Protected Areas

   *Staff relations and well being

   *Capacity building

   *Training programmes, professional development

   *Establishing competencies and skills

   *Mentoring and acting opportunities

   *Understanding different types of people

   *Understanding cultures

- Case Studies
- Recommended reading
- References

13. Planning

(Principal Author) Penny Spoelder

(Supporting authors)

- The nature and purposes of planning
  - A key function of management
  - Pervasive application to all aspects of protected area management
- Planning approaches and types
  - Theories of planning
  - Planning approaches most suitable for protected areas
- Planning and establishing reserve systems
  - Reaching conservation goals
  - Gap analysis: strategic assessment of areas needing protection
    - Aichi Targets and the percentage Marine and Terrestrial Ecoregions conserved
    - Key Biodiversity Areas covered by Protected Areas
    - Alliance for Zero Extinction Sites covered by Protected Areas
  - Systematic conservation planning
    - Decision support software for conservation decisions
  - Ecosystem approach in planning and designing reserve systems
    - Landscape planning
    - Implementation approach
  - Land and sea-use planning: selecting and establishing protected areas
  - Landscape, seascape connectivity conservation planning
- Levels of planning
  - Strategic planning
  - Tactical planning
  - Operational planning
- Common types of protected area planning
  - Budget planning
  - Staff planning
  - Project planning
  - Operational planning

- o Incident planning
- Mainstreaming protected areas with other planning
  - o High level strategic plans
  - o Land use plans
  - o Development assessment planning
- Adaptive management
  - o Adaptive management theory
  - o Application in protected areas
  - o Planning for adaptive management
- Creative management
  - o Concept of creative management in a climate change world

14. Business Management

(Principal Author) To be Advised

(Supporting author) Andy Thompson

- Implementing business systems
  - o Business planning
  - o Budget management
  - o Cost effectiveness
  - o Best practice management
  - o Staff management reporting
  - o Assets management
  - o Performance reporting
  - o Partnership management
- Sustainable finance
  - o Revenue sources
  - o Pricing services
- Financial management and audits
- Managing commercial (profit based) businesses in parks
  - o Agency managed visitor centre operations
  - o Not for profit operations in parks
    - ▪ The US NPS model
  - o A tourism operator paradigm in parks
    - ▪ Eco-tourism operation
    - ▪ Routine tourism operation
    - ▪ Development oriented tourism operation
  - o Managing tourism operations
    - ▪ Positive working partnerships
    - ▪ Incrementalism
    - ▪ Third party involvement in decisions
    - ▪ Accountability for environmental performance
    - ▪ Concept of "quiet enjoyment"
- Contracts, leases and licenses (Andy Thompson, Jim Barborak)
  - o Legal documents
    - ▪ Characteristics of these documents
  - o Management rights, responsibilities and accountabilities
  - o Entitlements and punitive consequences
  - o Lease-licence servicing responsibilities
  - o Revenue return and real costs
  - o Environmental impact of leasing and licensing
  - o Transferability
  - o Unintended consequences

o Effective negotiation of leases/licences

15. Engaging with neighbours, citizens, stakeholders, users, partners and philanthropists

(Principal Author) Stephen Dovers

(Supporting Authors)

- Engaging with the citizens and the community
  - Protected areas: Naturally part of the community
    - Working routinely with organisations and groups such as:
      - local government
      - Local tourism groups
      - local schools and education groups
      - police, fire, ambulance and other emergency services
      - community groups including clubs, societies, and senior citizens
      - the local media
    - Working with a local protected area advisory body
    - Providing a range of outdoor recreation opportunities
    - Managing a range of local protected area tourist destinations
  - Healthy parks, healthy people
    - Concept of healthy parks, healthy people
    - Parks and the health system
    - Health and financial benefits
  - Protected areas and youth: Managing opportunities for:
    - Open space and fun
    - Observing and learning about nature
    - Sport and recreation
    - Participation and adventure
    - Participation and improving futures
  - Community education in support of protected areas
    - Accessible, relevant and current information
    - Working with the education system and schools
    - Education in urban environments
    - Technology that supports education
    - Citizen science supporting protected areas
  - Engaging urban communities
- Working with a diversity of new and old stakeholders and partners
  - The business community
  - The health industry
  - The water industry
  - Agriculture
  - Tourism (and others)
- Engagement, approaches and methods
  - Mutual benefit
  - Combined resources dealing with shared issues
- Partnerships and collaboration
  - Working with neighbours
  - Multi-sectoral partnerships
  - Collaboration with religious groups
  - Collaboration with recreation groups
  - Collaboration with key international conservation partners
  - Working with IUCN
- Working with philanthropists

- o A history of philanthropy to protected areas
- o Types of philanthropic support provided and future opportunities
- o Working with philanthropists

16. Communicating your message

(Principal Author) Stuart Cohen

(Supporting author) **Wendy Goldstein**

- Communicating your protected area message: An introduction
  - o Types of messages
  - o Types of communication mechanisms
  - o Types of communication approaches
  - o Selecting a preferred or a mixed approach
- The media and protected areas
  - o Types of media
    - Social media
  - o How the media works
  - o Working with the media
    - Supportive media
    - Adversarial media
    - Social media
  - o Strategic use of the media
- Media planning
  - o Preparation of a Media Plan
  - o Types of media event
    - Opening
    - Launch
    - Event
    - Press conference
    - Contingency advice for the public
  - o Type of media targeted
    - Radio
    - Television
    - Video – internet release
    - Print
  - o Media support material
    - Press release
    - High profile talent/spokesperson
    - Concise facts sheets
    - Pre-prepared video footage, photographs or other props
  - o Timing of the release
    - Avoiding other newsworthy events
    - Evening news considerations
    - Using low news activity
- Media management in an environment of conflict
- Media management skills
  - o Media training
- Media at major incidents
  - o Press conference timing to suit incident needs and news needs

17. Managing threats

(Principal Author) Vinod Mathur

(Supporting Authors)

- Threats to protected areas and biodiversity
- Classifying threats
    - Underlying causes
    - Managing indirect threats
    - Managing direct threats
- Managing human caused threats
    - Habitat destruction
    - Global trafficking in wildlife
    - Poaching
    - Conflict and impacts to wildlife
    - (others)
- Threats: Trends
- Pest animals
- Weeds
- Fire
    - Fire as a threat
    - Fire behaviour
    - Responses to fire
- Pathogens
- (others)

18. Managing for climate change (Terrestrial and Marine)

(Principal Author) Angas Hopkins,

(Supporting Authors)

- Setting an example: Low emission management
    - Protected area management: Minimising carbon emissions
    - Managing carbon offsets
- Assessing the context of the reserve system in a climate change environment
    - Forecasting marine flooding of coastal lands
    - Forecast biome shifts
- Managing carbon in the landscape
    - Retention of forests and vegetation cover
    - Protection of peat bogs
    - Restoration of disturbed areas and carbon sequestration
- Anticipating the inevitable – risk management planning
    - Incident management: Preparing for more frequent extreme events
        - severe storm events
        - intense rainfall and rapid runoff
        - hail storms and flooding
        - severe dust storms
        - very strong winds

- ▪ catastrophic fire behaviour
  - o Dealing with the rapidity of these extreme events
- • Dealing with wildlife issues
  - o Dealing with big changes: the great wildlife migrations of Earth
  - o Displacement and human and wildlife conflict
  - o Saving some species: Working with Zoos
  - o Management of genetic information resources
  - o Facilitating seed banks for flora species
  - o Dealing with the extinction of some species
- • Managing climate change in marine environments
- • Working with researchers: tracking climate change effects and forecasting climate futures
  - o Research as an integral part of protected area management
  - o Facilitating the research effort needed

19. Managing geoheritage
(Principal Author) Roger Crofts,
(Supporting Authors)

- • The need for protected areas for geoheritage conservation
  - • The concepts of geodiversity, geoheritage and geoconservation
  - • Why is geoheritage site conservation needed?
  - • Relevance of IUCN definition of protected area for geo sites at different scales
  - • Links to biodiversity, ecosystem functions and services
  - • The need for a systematic approach to identifying protected areas (Cross-referenced with systematic conservation planning text)
  - • Summary of main site assessment systems/criteria in use in different parts of the world (e.g. World Heritage, Geoparks, GB Geological Conservation Review, Europe, etc).
  - • Principles of site selection, to include
    - o Global Boundary Stratotype Section and Point (GSSP)
    - o Exceptional sites ref WHS criterion vii
    - o Representative sites for features, major events or processes (including evolution of life)
    - o Earth science research sites
    - o Environmental trends and forecasting sites
    - o Education and training sites
    - o Cultural and ecological link sites
    - o Sites of historical significance in the development of geoscience

- • Principles of site level geoheritage conservation and management
  - • Geoheritage sites and geoheritage as component of other nature sites
  - • Role of IUCN Management Categories
  - • Core and buffer concepts in practice
  - • Boundary flexibility
  - • Clear reasons for designation
  - • Specification of management objectives
  - • Earth systems level context: plates, mountains, rivers, coasts, and soils

- Condition assessments cycle
- Active management
- Generic geological considerations in protected area management
  - Earth Science Conservation Classification as a management tool
  - Creating and maintaining exposures
  - Import of non-local materials roads etc
  - Ethics of official excavations and sample collection Jonathan Larwood
  - Risk management for visitors: cliff collapse, active volcanoes, sulphurous fumes etc
  - Risk management: seismic activity, tsunamis
  - Geological phenomena in relation to global climate change – implications for geoheritage site management and wider implications for biodiversity site management
    - Sea Level rise
    - Melting glaciers
    - Glacial lake outbursts
    - Melting permafrost
- Dealing with interactions and conflicts
  - Interaction with biodiversity conservation
  - Interaction with mineral exploitation (including frakking) + new exposures and possibility of new knowledge –ethics, removal of the whole source
  - Legal mining under protected areas
  - Illegal mining in protected areas
- Geoheritage education
  - Field training sites type sites
- Geological interpretation
  - In situ and ex situ approaches
  - Accessible language and making it exciting
  - Links to biodiversity and culture
- Measuring and monitoring condition of geoheritage sites: establishing condition and state, and monitoring
- Geoheritage protected area site management for specific terranes and features
  - What are the geoheritage values of the terrane, feature or phenomena?
    - This includes the interface with ecological values, biodiversity and ecosystem processes
    - This includes a range of geological and geomorphological phenomena as identified here
    - Tectonic and structural features
    - Volcanoes/volcanic systems-and including geothermal?
    - Stratigraphic sites
    - Fossil sites
    - Mineral sites
    - Fluvial, lacustrine and deltaic systems
    - Caves and karst systems
    - Coastal systems
    - Reefs, atolls and oceanic islands
    - Glacial and periglacial features and processes (including ice caps, glaciers and Ice Age features)
    - Arid and semi-arid desert systems (Australia or Namibia?)
    - Mass movements
    - Meteorite impacts/astrobleme phenomena
    - Marine geology and geomorphology
    - Soils and peatlands
    - Palaeoenvironmental sites
  - What are the threats to these values?

- • What are the active management responses to these threats?
  - • What are examples of good protected areas practice?
- • Recommended reading
- • References

20. Managing fresh water, river, wetland and coastal estuary based protected areas

(Principal Author) Jamie Pittock
(Supporting Authors) Robin Abell, Angella Arthington, Harry Biggs, Catia Nunes de Cunha, Will Darwell, Max Finlayson, Wolfgang Junk, Richard Kingsford, Ritesh Kumas, Gernant Magnin, John Mathews, Jeanne Nel, Dirk Roux, Toine Smits, Rebecca Tharme, Michelle Thieme, Josh Viers, Barry Warner

- • Introduction
- • Fresh water ecosystems
  - o Diversity and distribution of freshwater ecosystems
  - o Ecological principles
  - o Threats to freshwater systems and responses
  - o Conserving freshwater species in reserves
  - o Freshwater conservation reserve design
- • Unique considerations
  - o Why different from terrestrial
  - o Freshwater protected area types
  - o Conflicts between terrestrial and freshwater conservation in reserves
  - o Dodgy borders: managing freshwater systems divided by reserve boundaries
- • Managing specific freshwater ecosystems in reserves
  - o Freshwater protected area management
  - o Rivers
  - o Lakes
  - o Swamps and marshes
  - o Ground water dependent ecosystems
  - o Estuaries
- • Managing freshwater reserves in the landscape
  - o Ramsar convention on wetlands
  - o Freshwater reserve corridors
  - o Catchment management plans
  - o Climate change
- • Case Studies
  - o Australia: Murray-Darling Basin
  - o Australia: Kakadu
  - o Africa: Kruger National Park
  - o Africa: Chilwa Lagoon, Malawi or Lukanga wetlands Zambia
  - o Asia: Chilika Lagoon, India
  - o Europe: Room for the rivers, Rhine River floodplain, The Netherlands
  - o North America: California Central Valley
  - o South America: Pantanal
  - o Peatlands: Canada
- • Conclusion
- • Recommended reading
- • References

21. Managing marine protected areas

(Principal Author) Dan Laffoley

(Supporting Authors) Jon Day, Fanny Douvre, Bud Ehler, Paul Gilliland, Kristina Gjerde, Erich Hoyt, Peter Jones, John Knott, Paul Marshall, Lawrence McCook, Amy Milham, Pete Mumby, David Obura, Reg Parsons, John Roff, Rod Salm, Giuseppe Notarbartolo di Sciara, Mark Spalding, Aulani Wilhelm

- Introduction
- Delivering ecosystem based management
    - Components of effective marine ecosystem based management
    - Practice: Enabling frameworks – Marine Ecoregions
    - Estuarine and coastal environments
    - The High Seas
    - Research
- Handling threats to the marine environment
    - Types of threats – point and diffuse impacts
    - Wider issues – ocean acidification and climate change
    - Management of threats
    - Cumulative impacts
- Progress so far: Marine protected areas of the world
    - Global distribution of marine protected areas
    - Types of marine protected areas
    - Major marine protected areas of the world
- Marine protected area governance
    - Governance models and approaches
- Marine protected area management principles and practice
    - Community managed marine protected areas
- Marine protected areas: delivering connectivity and increased resilience
    - Connectivity case studies
    - Resilience tool kit
- Recommended reading
- References

22. Managing for biodiversity, ecological processes and ecosystem services

(Principal Authors) Kathy MacKinnon and Stephen Woodley

(Supporting Authors) Stephen McCanny, Richard Pither, Kent Prior

- Flora species management
    - Monitoring natural condition and any change in condition
    - Pollination processes
    - Pathogens
    - Fire effects
    - Restoration
- Fauna species management

- o Monitoring natural condition and any change in condition
- o Red List and species trends
- o Population management
- o Injured animals
- o Disease management
- o Poaching
- o Translocation of species
- Protected areas and the conservation of genetic diversity
  - o The role of refugia sites
  - o Conserving wild food genetic resources
  - o Facilitating gene bank seed collections
- Biosecurity practice
  - o Quarantine measures
  - o Managing quarantine
- Invasive species management
  - o Identification any new invasives and remove
  - o Control measures for existing invasive species
    - Remove
    - Contain any expansion
    - Protect essential heritage phenomena
- Restoration management
  - o Establishment of new protected areas (quarries to wetlands)
- Ecosystem management
  - o The economic benefits of ecosystem services
  - o The concept of healthy ecosystems
  - o Boom and bust ecosystems
  - o Restoration of ecosystems
- Ecological integrity
  - o Parks Canada systems
  - o Legislation
  - o Management systems
  - o Management reporting
- Key ecological process: Fire
  - o Natural fire phenomena
  - o Fire behaviour
  - o Managing for fire
  - o Fire behaviour in a climate change environment
  - o Fire incident management
  - o Fire fuel management
- Key ecosystem service: Water and water catchments
  - o Natural condition of catchments
  - o Water quality
  - o Water yield
  - o Water flow regime
  - o Subsurface water
  - o Monitoring catchment condition
  - o Restoration of catchments and carbon sequestration
  - o Climate change effects: loss of snow and melting of glaciers
  - o Severe weather in catchments
  - o Hydro-ecological considerations

23. Managing cultural uses and features

(Principal Author) Fausto Sarmiento

(Supporting authors)

- Managing for contemporary cultural practices
  - Appreciating and working (or facilitating) with a diversity of cultures
  - Management by or working with indigenous peoples and local communities
- Cultural landscape management
  - Managing sacred natural sites
    - Management by indigenous peoples and local communities
  - Managing cultural sites and landscapes
    - Managing biocultural sites with indigenous peoples and local communities
  - Conserving indigenous heritage by and with indigenous peoples and local communities
- Managing heritage sites, heritage buildings and artefacts
  - Conserving historic sites
  - Conserving historic buildings and heritage structures
  - Conserving artefacts

24. Managing visitors

(Principal Author) Anna Spenceley

(Supporting authors)

- Visitor management
  - Volunteers
  - Official visitors
    - Police
    - Fire
    - Emergency services
  - Road and access
  - Business and trade
- Tourism management
  - The tourism industry
  - Types of tourism
  - Marketing
  - Managing market segments
  - Working with the local tourism industry
  - Leadership: Protected area managers guiding the management of tourism
  - Working with community based and community run tourism
  - Revenue management
    - Benefits
    - Dependency issues
- Recreation opportunities management
  - Recreation Opportunity Spectrum (ROS)
  - Integrated ROS, Assets Management and Risk Management systems
    - Tasmania Parks and Wildlife work
  - Supply and demand management
  - Visitor impact site hardening
    - An intuitive (but often incorrect) response
    - Maintaining a diversity of recreation opportunities
- Visitor services and facilities
  - Levels of service
  - Risk management
  - Visitor safety

- o Types of visitor facilities
- o Information for visitors
  - ▪ E-information
  - ▪ Signs
  - ▪ Printed information
  - ▪ Videos-films
- o Interpretation programs
- o Education programs
- o Monitoring visitors
- o Visitor surveys
- Visitor impact management
  - o Visitor impact management frameworks
    - ▪ Limits of acceptable change
    - ▪ VIM
    - ▪ VERP
    - ▪ VAMP
    - ▪ TOMM
  - o Visitor impacts
  - o Managing social and community impacts of tourism
    - ▪ Establishing frameworks where local communities benefit from tourism
  - o Responding to visitor impacts

25. Managing operations and assets

(Principal Author) Patricia Rossi

(Supporting Author) Graeme Worboys

- Planning operations
  - o Establishing a project vision and key objectives
  - o Describing the project method
  - o Risk management assessment
  - o Occupational health and safety considerations
    - ▪ Site safety
    - ▪ Weather conditions
    - ▪ Equipment needed
    - ▪ Emergency first aid and evacuation
  - o Competencies needed
  - o Project training-capacity building
  - o Budgeting-costings
  - o Project milestones
  - o Performance management
  - o Cost-effectiveness appraisal
  - o Minimising operational impacts to the environment
  - o The project approval process
  - o Recruitment targets
  - o Contracting tasks
- Project management planning and evaluation
- Working with contractors
- Environmental impact appraisal
  - o Project design: Compatibility with the site
    - ▪ Visual impacts

- ▪ Aesthetic – colour impacts
- ▪ Noise impacts
- ▪ Dark sky impacts
- ▪ Disturbance to aquatic or terrestrial fauna
  - o Materials to be used
    - ▪ Sustainable use considerations
    - ▪ Appropriateness of materials for a particular setting
    - ▪ Quarantine considerations: Weed and pathogen free materials
  - o Pollution
- Sustainable use
  - o Energy consumption
  - o Materials used
- Operations communication plan and media management
- Infrastructure assets management
  - o Types of protected area infrastructure assets
  - o Safety standards
  - o Assets register
  - o Assets maintenance
  - o Budgeting for assets maintenance

26. Managing resource use and development

(Principal Author) Ashish Kothari
(Supporting Authors) Rosie Cooney, Eduard Müller, Fred Nelson, Krishna Oli, Sanjeeva Pandey, Tahir Rasheed, Lubomira Vavrova

- Resource use within protected areas
  - ▪ History
  - ▪ Issues related protected areas and resource use by local communities
  - ▪ (residents and mobile, terrestrial and aquatic/marine)
  - o Resource use
    - ▪ Kinds of resource use
    - ▪ Intensity and extent
    - ▪ Ecological and socio-cultural importance
    - ▪ Discussion: sustainability and unsustainability
  - o The Yellowstone model used by many countries
    - ▪ Brief introduction and cross-reference to the Governance chapter
    - ▪ The governance model used included
      - • Expulsion of communities
      - • Resource use restrictions or stoppage
      - • Regulatory impacts to traditional and customary rights
  - o A resource use protected area model used by many countries
    - ▪ Brief introduction and cross-reference to the Governance chapter
    - ▪ The governance model included
      - • Tolerance of resource use activities in government protected areas
      - • Legitimacy of resource use
  - o A 21st Century approach
    - ▪ Changes to restrictive and exclusionary approaches
    - ▪ Global paradigm shifts

- National policies and laws
- Recognition of resource use and respect for traditional and customary rights
- Recognition of biodiversity conservation needs and compensation rights
- Integration of governance types and IUCN Categories

- Managing different kinds of resource use
  - Subsistence uses
    - Grazing, fodder collection
    - Forest produce
    - Fishing, aquatic produce
    - Hunting
    - Subsistence agriculture
  - Commercial uses
    - Sale of ecosystem produce
    - Trophy hunting
    - Commercial agriculture
    - Ecotourism, tourism (cross-reference)

- Development (infrastructure) activities in protected areas
  - Types (and extent) of development activities
    - Housing and urbanisation
    - Roads
    - Dams
    - Industries
    - Mining
    - Ports
    - Energy plants
    - Utilities (eg powerlines)
    - Community structures (eg schools, hospitals)
  - Conflicts and complementarity
    - Decision making processes
    - Legal and policy provisions
    - Environmental Impact processes (Cross-reference to Chapter 9)
  - Residents and user communities development activities
    - Access
    - Sustainability
  - Protected area management development activities
    - Appropriateness
    - Sustainability
  - Wider society development activities
    - Sustainability

- Integrated conservation and development
  - Concept, purpose and definition
    - Linking biodiversity conservation in protected areas with local social and economic development
  - Overseas Development Aid funding
    - Donors and donor expectations
  - Types of conservation and development projects
    - Participation of local communities
    - Poverty alleviation projects
    - Rural development objectives
    - Conservation projects

- ▪ Landscape scale conservation
  - o How they work
  - o How they relate to protected areas
  - o ICDP's in areas surrounding protected areas
  - o Poverty alleviation
  - o Empowering local communities
  - o Rural development incentives to reduce pressures on local habitats and resources
  - o Major programs that integrate development with regional and national development
- ICDP's in protected areas
  - o Strengthening park protection and management
  - o Assessed benefits
  - o Pressures on protected areas
  - o Assessed weaknesses
- Protected areas as drivers of social and economic change (This may be relocated to Nigel Crawhall's Chapter)
  - o The protected area and its surrounding area
  - o Working beyond the boundary
  - o Land tenure and resource allocation
  - o Social injustice
  - o Economic injustice
  - o Market failure
- Key lessons and recommendations
  - o Building on history
  - o Clear assessment of situation
  - o Clear conservation goals and objectives vis-à-vis resource use and development
  - o Ensuring empowerment, participation and partnerships in the whole process
  - o Incentives and linkage between conservation, resource use and development (including sustainable use)
  - o Appropriate laws and policies
  - o Education, awareness and capacity building
  - o Monitoring and feedback
- Recommended reading
- References

27. Managing incidents

(Principal Author) Graeme Worboys

(Supporting authors)

- Types of incidents affecting protected areas
  - o Anticipating the inevitable
  - o Natural disasters
  - o Human caused events
  - o Conflict
- Incident management systems
  - o Response scales
  - o Multi organisation approach
  - o System designs
  - o Incident control functions and responsibilities
    - ▪ Incident Controller
    - ▪ Planner
    - ▪ Operations Officer

- ▪ Logistics Officer
  - o Shift changes
  - o Application to non-incident events
- Emergency service responses
- Managing incidents
  - o Fire events
  - o Wildlife events
  - o Natural events
  - o Humanitarian disasters
  - o Terrorist events

28. Managing World Heritage Properties

(Principal Author) Cyril Kormos

(Supporting authors)

- World Heritage Convention
  - o Concept
  - o History
  - o Natural World Heritage Properties
  - o Cultural World Heritage Properties
- Protected areas and World Heritage
- Implementation of the World Heritage Convention
  - o Operational Guidelines
    - ▪ Resource manual
  - o World Heritage Committee
  - o IUCN Advisory role
    - ▪ Reporting process
    - ▪ Technical guidance documentation
    - ▪ Outlook Reports
    - ▪ Inscription evaluations and expert reports
  - o ICOMOS Advisory role
- Statement of Outstanding Universal Value
  - o World Heritage OUV management
  - o State Party periodic reporting
- Management of Outstanding Universal Value
  - o Reactive monitoring
  - o World Heritage in Danger
- Management of World Heritage Properties
  - o Working with UNESCO
  - o Working with communities
  - o Working with stakeholders
    - ▪ The mining industry

29. Managing connectivity conservation corridors

(Principal Author) Ian Pulsford

(Supporting authors) David Lindenmayer, Maja Vasilijevic, Graeme Worboys

- Introduction
- Science of connectivity conservation
- Concept and terminology

- Underpinning science basis for connectivity conservation for:
  o conservation of ecosystems
  o structure - landscape connectivity at multiple scales
  o habitat connectivity and permeability
  o function- maintenance of ecological processes at multiple scales
    - populations, biological and genetic processes
    - hydro-ecological flows
    - dispersal of species and species interactions
  o evolutionary process connectivity
  o interconnecting protected areas and the role of buffer areas and the landscape matrix
  o as an adaptive response to threats including climate change
- Examples of species that use corridors
  o Terrestrial species migratory routes
    - eg large carnivores and herbivores
    - elephants
    - international flyways
  o Terrestrial species: local movements
    - seasonal migrations
    - altitudinal migrations
    - breeding migrations
    - nomadic migrations
  o Marine migratory routes

- Connectivity conservation requirements for selection, design and delineation of corridors
  o Four pillars of connectivity conservation corridors
    - Criteria (including ecological conservation principals)
    - Integrity
    - Community engagement and support
    - Conservation and management
  o Dynamic nature of corridors
    - Climate change
    - Human changes
    - Fire
  o Delineating corridors
- Global network of connectivity corridors
  o Outline of the wide range of corridors and a very brief history of the global spread of corridors
    - Global map of corridors
  - Functions of corridors (for those identified)
  - Management of corridors (for those identified)
- Case study: Australia – a whole of continent approach – National Wildlife Corridors

- Governance of Corridors
  o Governance considerations
    - Multiple ownership
    - Multiple tenure
    - Multiple landuse functions
    - Dynamic cultural and social environment
    - Low HDI country environments
    - Scale
    - Site

- Landscape area
- Whole of Corridor
  - o Governance theory, principles and requirements
    - Types of corridor governance
    - Dealing with scale
    - Situational arrangements
    - The concept of an agreed vision
  - o Types of governance arrangements
    - Secretariat,
    - Partnerships,
    - Central top down versus bottom up
    - Intra-corridor governance dynamics
  - o Transboundary corridor governance
    - Intra-nation governance
    - International governance
    - Lessons
- Managing corridors
  - o Establishing corridor management
  - o Principles of management
  - o IUCN Connectivity Conservation Management Framework
  - o Vision
  - o Context (nature, people, management)
  - o Scale
    - Site scale
    - Landscape scale
    - Whole of corridor scale
  - o Functions
    - Leadership
    - Planning
    - Implementation
    - Evaluation
  - o Foundational actions
- Corridor values and vision
  - o Intrinsic values
  - o Interconnection of protected areas values
  - o Community values
  - o Political values
  - o Spiritual and cultural values
  - o Spatial delineation of values
- Corridor benefits to the community
  - o Ecosystem services
  - o Productivity benefits
  - o Recreation benefits
  - o Amenity value
- Corridor establishment and boundaries
  - o Fuzzy boundaries
  - o Spatial delineation
- Governance and administration
  - o Working with the community
  - o Working at different scales and between scales

- Delivery actions
  - Protected area managers working beyond boundaries in corridors
  - Partnerships for pest animal management
  - Partnerships for weed control
  - Partnerships for anti-poaching management
  - Corridors and wildlife management
  - Restoration and corridors
  - Fire management
- Monitoring
  - Ecological changes in condition
  - Social information
  - Economic information
- Cross-cutting tasks
  - Communication
    - Intra-corridor management
  - Partnership management
- Evaluation of corridor management effectiveness
  - Evaluation plan developed
    - Establishment criteria (intrinsic corridor values)
    - Integrity
    - Community Benefits

- Managing corridors PART 2 - Legal considerations
  - Legal considerations for implementing corridors –
    - International frameworks – Multilateral treaties and supranational legal obligations CBD, etc National policy
    - Governance approaches
  - Other legal tools supporting voluntary conservation
  - Special considerations for voluntarily conserved areas
    - Special financial tools – voluntary instruments
    - Financial management
    - Philanthropy
    - Sustainable financial management
    - Task management - governance
  - Strategic planning
    - Identification of corridor values
    - Threat analysis and prioritization of threats responses
    - Identification of management responses and governance mechanisms
- Legal issues case study on the Great Eastern Ranges Initiative
- Recommended reading
- References

30. Evaluating management effectiveness;The Green List

(Principal Author) Marc Hockings

(Supporting authors)

- Management effectiveness evaluation
  - Effectively managed protected areas
  - Purpose of evaluation
  - Developing evaluation systems
  - IUCN management effectiveness evaluation framework

- o Guidelines for MEE
  - o Core management effectiveness evaluation subjects (GW)
- 'State of the Parks' reporting
  - o MEE and State of the Parks Reporting
    - ▪ Finland
    - ▪ South Korea
    - ▪ NSW Australia
    - ▪ Victoria Australia
- Agency reporting
  - o Use of evaluation information
  - o Annual report
  - o Outlook report
  - o Auditor requirements
- The Green List
  - o Concept
  - o Method
  - o Case studies

Conclusion

(Principal Authors) Graeme Worboys, Michael Lockwood, Ashish Kothari

- The E Book Steering Committee will be asked to be quite involved with the development of the content for this concluding statement.