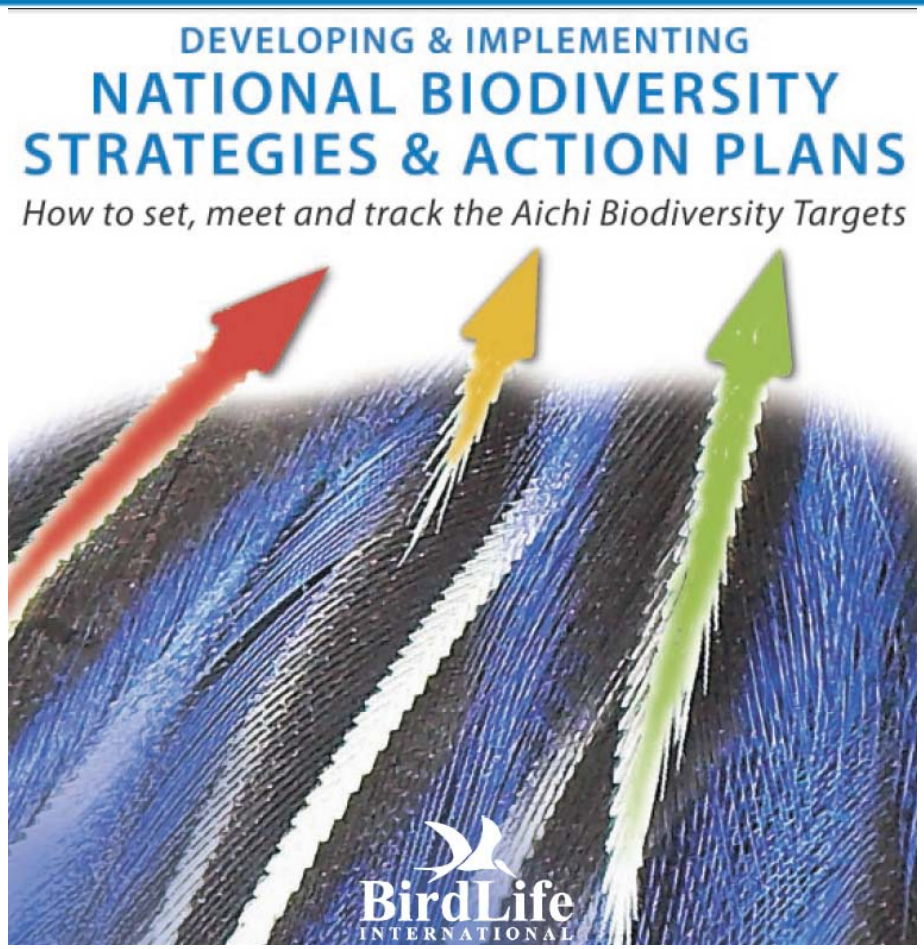
BirdLife Resources to Support National Biodiversity Strategies and Action Plans and Implement Synergies With National Implementation of UNFCCC



Capacity Building for Pilot Countries on the Implementation of Synergies Among the Rio Conventions:

Presentation of Existing Tools to Promote Synergies

29 October 2012, Hanoi, Vietnam

Robert Munroe, Climate Change Officer

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Premise

Achieve CBD Strategic Plan through collective national implementation

→

Achieve synergies with other Rio Conventions decisions/national implementation efforts

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CBD Strategic Plan 2011-2020

- Agreed in Oct 2010, COP10, Nagoya
- Comprehensive global framework for achieving vision:

'Living in Harmony with Nature'

- 20 headline Aichi Targets for 2015 or 2020

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Life in harmony, into the future
COP10/MOP5 AICHI-NAGOYA, JAPAN 2010

The ‘Aichi’ Biodiversity Targets

Address causes

- **Target 1** Awareness
- **Target 2** Mainstreaming
- **Target 3** Harmful incentives
- **Target 4** Sustainability plans

Reduce pressures

- **Target 5** Loss of natural habitats
- **Target 6** Overfishing
- **Target 7** Sustainable management
- **Target 8** Pollution
- **Target 9** Invasive alien species
- **Target 10** Climate change

Improve status

- **Target 11** Protected areas
- **Target 12** Threatened species
- **Target 13** Genetic diversity

Enhance benefits

- **Target 14** Ecosystems Services
- **Target 15** Restoration,resilience,carbon
- **Target 16** Nagoya Protocol

Improve implementation

- **Target 17** NBSAPs
- **Target 18** Traditional knowledge
- **Target 19** Science base
- **Target 20** Financial resources

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Icons courtesy of IUCN committee of Japan

Implementation at the national level

- Translation of Strategic Plan to national level – new or revised NBSAPs
- CBD Parties invited to set own targets
- Bearing in mind national contributions to achievement of global targets

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Mainstreaming biodiversity into national policies and plans

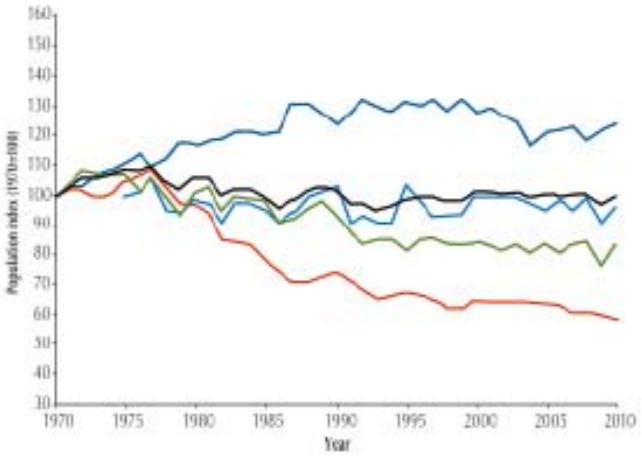
Biodiversity concerns need to be incorporated into land-use planning at all levels and integrated into production sectors, sustainable development and poverty reduction plans. Data from birds can be used to ensure this is done effectively, and to monitor the degree to which development is sustainable.

Aichi Target 2

Biodiversity is integrated into national and local planning processes, and incorporated into national reporting systems

Using birds to track progress

The UK government uses the population trends of common countryside birds to monitor the state of the environment and as a measure of sustainable development. It has adopted these 'Sustainable Development Indicators', alongside others monitoring, for example, levels of poverty and healthy lifespans.



The UK Sustainable Development Indicator for wild bird population trends
Source: Data on 121 species from RSPB/BTO/JNCC/DEFRA.

- All birds (121)
- Farmland birds (19)
- Woodland birds (38)
- Water and wetland birds (26)
- Seabirds (19)

Achieving the target: examples of success

BirdLife Partners are working to mainstream soaring bird conservation along the Rift Valley/Red Sea flyway

Important Bird Areas are being used to integrate biodiversity and development planning in Mongolia

BirdLife's Rwandan Partner (ACNR) is helping a community to manage wetland resources sustainably

Image: Carefully planning industrial and energy developments to minimise further impacts on the wetland habitats of the Critically Endangered Siberian Crane will be essential to ensure its survival. Oliver Scott/www.oliverscottphotography.com

For these and other case studies, see *State of the world's birds* online at **www.birdlife.org/datazone/sowb**

Opportunities for synergies (1)

Many Aichi Targets are supportive of UNFCCC decisions and national implementation:

NAPs – 'coordinated with national SD objectives, plans, policies, programmes', 'recognise the need to address adaptation planning in the broader context of SD planning'

Cancun Adaptation Framework (CAF) – integration of adaptation in relevant environmental policies and actions

CAF – enhanced action on adaptation should take into consideration vulnerable groups, communities and ecosystems, and may include building resilience of ecological systems including through sustainable management of natural resources → NAPs or equivalent

Icons from CBD Aichi Targets webpage

Opportunities for synergies (2)

NAPA Annotated Guidance:

LEG 2002, table 1, page 16

Table 1: Possible adaptation strategies and the benefits they bring to each MEA

	UNCCD	CBD	UNFCCC
Disaster planning framework: early warning systems; emergency measures to respond to floods, droughts, etc.	Help ensure protection of vulnerable communities (e.g., creating food and water reserves, cattle protection schemes).	Identification of fragile ecosystems and species prior to a crisis, to maximize protection during and following a disaster.	Determine priority measures to minimize loss of life and damage to livelihoods as a result of extreme weather events.
Integrated watershed management: agroforestry (firewood, fodder, annual crops), run-off harvesting for trees and range.	No over-exploitation of local water hence low salinization risk; run-off harvesting, terraces and trees conserve soil.	Conserves much of the watershed's biological diversity, utilizes parts of it thus contributing to overall sustainability.	Increases water retention and hence its availability in times of drought. Slows water movement, reducing the risk of flash floods. Maintains vegetation as carbon sink and reservoir.
Intensive greenhouse agriculture and aquaculture (cash crops, fish, industrial materials from algae).	High income per unit soil and water used, thus economizing on land and water resources.	Reduced pressure on land leaves habitats for in-situ biodiversity conservation, thus promoting its utilization.	Reduced pressure on land (a) allows conservation of biodiversity resistant to climate change; (b) maintains carbon sink and reservoir.
In-situ conservation of biological resources, wildlife conservation.	Potential for economic exploitation as an alternative livelihood; promotion of ecotourism.	Global benefits from dryland biodiversity assets.	Conservation of genetic diversity instrumental in restoring climate change damaged ecosystems.

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Opportunities for synergies (3)

Relates to target 10 – connectivity, corridors, restoration, non-climate pressures → maintains ecosystem services important for adaptation and mitigation

Natural Solutions and CBD X/31

Maintains provision and resilience of ecosystem services for use in helping people adapt to climate change (ecosystem-based approaches for adaptation) → NAPs

Ecosystem-based approaches for adaptation can support ecosystem services

REDD+ safeguards – activities to 'incentivise the protection and conservation of natural forests and their ecosystem services' incorporate in national REDD+ strategies

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Opportunities for synergies (4)

Links between biodiversity and carbon

National REDD+ strategies

REDD+ safeguards – activities (including restoration) 'consistent with the conservation of natural forests and biological diversity'

CBD COP11 invites Parties to build synergies between NBSAPs and national REDD+ strategies and gives advice on application of biodiversity-related REDD+ safeguards

System for providing information on how safeguards are addressed

Restoration EbA activity → NAPs

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Why BL – how can we help? (1)

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Why BL – how can we help? (2)

- BL works for a world rich in biodiversity, with people and nature living equitably, sustainably and in harmony
- BL acts for nature and people, sharing perspectives and solutions that are founded on local experience but connect across borders and barriers
- BL Strategy (2013-20) fully supportive of CBD Strategic Plan
- Working with national governments supporting efforts to improve management of natural resources, conservation policy and action

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Why BL – how can we help? (3)

- BL Partners are ideally placed to involve and engage local communities and the wider public, promoting awareness of the importance of sustainable natural resource management
- BL is CBD International Thematic Focal Point for birds for CHM
  - Hold detailed information on birds and make this widely accessible to help national governments, businesses and others implement and monitor CBD and its programmes of work
- Actively involved in UNFCCC negotiations on adaptation and REDD+ and national implementation

CHM

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BirdLife can help in

1. Planning NBSAPs/synergies and setting targets
2. Implementation and meeting targets
3. Monitoring and evaluation and reporting again targets

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What resources does BL have to support this?

BirdLife as a CBD CHM

BirdLife International is the CBD's International Thematic Focal Point for birds for the Clearing House Mechanism (CHM), an information service for promoting technical cooperation and knowledge exchange. We manage a wealth of data that can help Parties to set priorities and track success in meeting biodiversity targets—including developing and revising NBSAPs (see opposite).

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An overview of BirdLife's online resources

Section	URL	QR code
CBD support 	**http://www.birdlife.org/datazone/info/CBDsupport** A dedicated section of BirdLife's website, that Parties to the CBD can draw upon when setting priorities, tracking success, developing NBSAPs, preventing extinctions, and designing protected area networks.	
Country profiles 	**http://www.birdlife.org/datazone/country** Biodiversity statistics, graphs and maps for every country of the world, including information on numbers of bird species and their IUCN Red List status, numbers of terrestrial and marine Important Bird Areas and their protection status, and environmental treaties.	
State of the World's Birds 	**http://www.birdlife.org/datazone/sowb** An online tool providing access to over 300 Case Studies analysing data from BirdLife and others to help inform decisions, detailed spotlights on BirdLife's key areas of engagement, and a wide range of publications, including national 'State of the birds' reports.	
Species factsheets 	**http://www.birdlife.org/datazone/species** Detailed factsheets for all the world's birds (>10,000), containing information on IUCN Red List status, distribution, population, ecology, threats, and actions underway and needed.	
Site factsheets 	**http://www.birdlife.org/datazone/site** Detailed factsheets for >11,000 Important Bird Areas (IBAs) in nearly 200 countries, containing information on location and boundaries, key species and habitats, threats, protection status, conservation actions, local communities, and ecosystem services.	
Marine e-Atlas 	**http://www.birdlife.org/datazone/marine** A dynamic and interactive map providing information on all the world's seabirds, breeding colonies, important marine sites, their protection status and relationship to EBSAs.	

1. Planning and setting targets: Protected areas

- BirdLife Partners identify terrestrial and marine Important Bird Areas (IBAs) nationally
- Involves all stakeholders and uses globally standardised criteria

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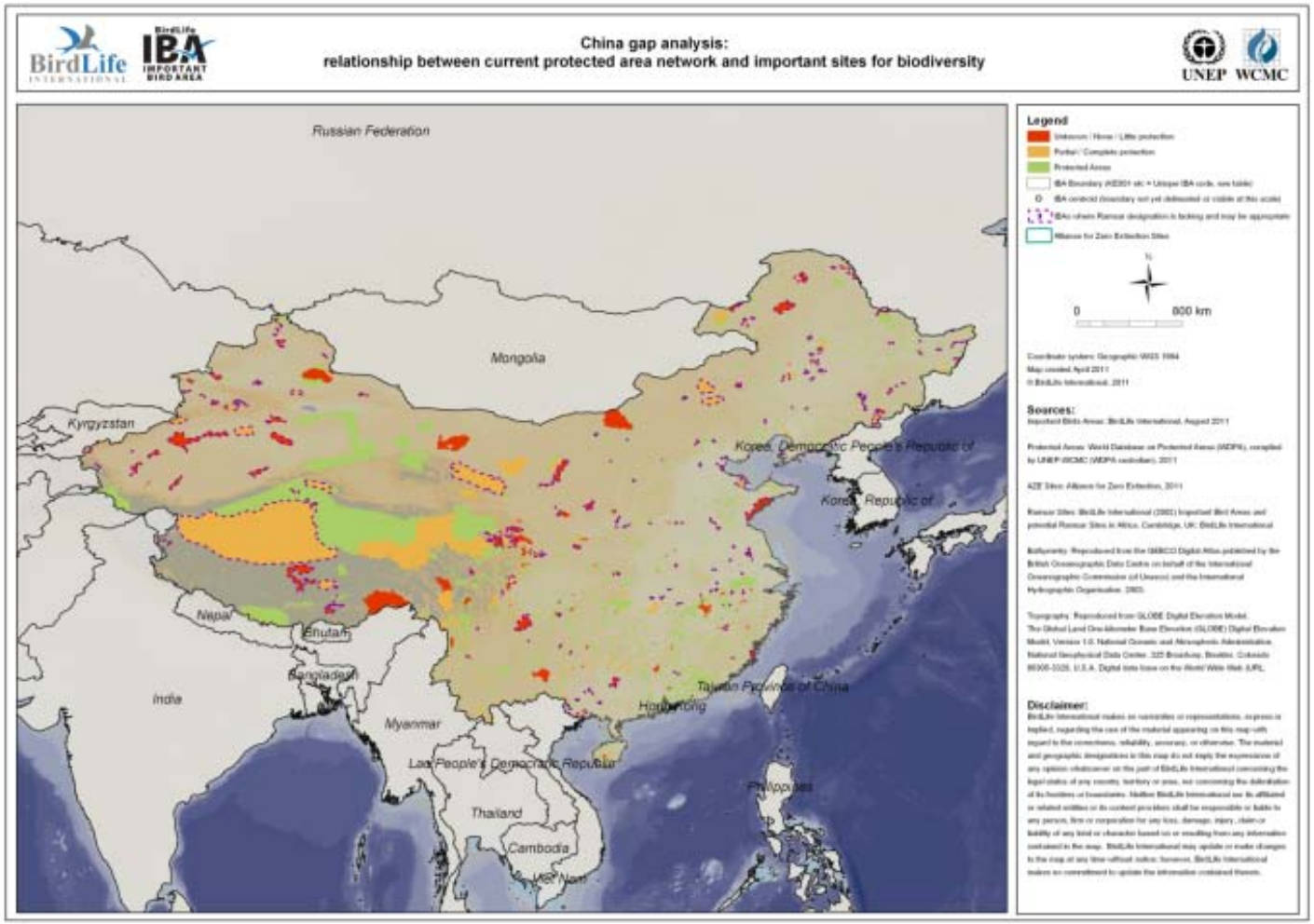
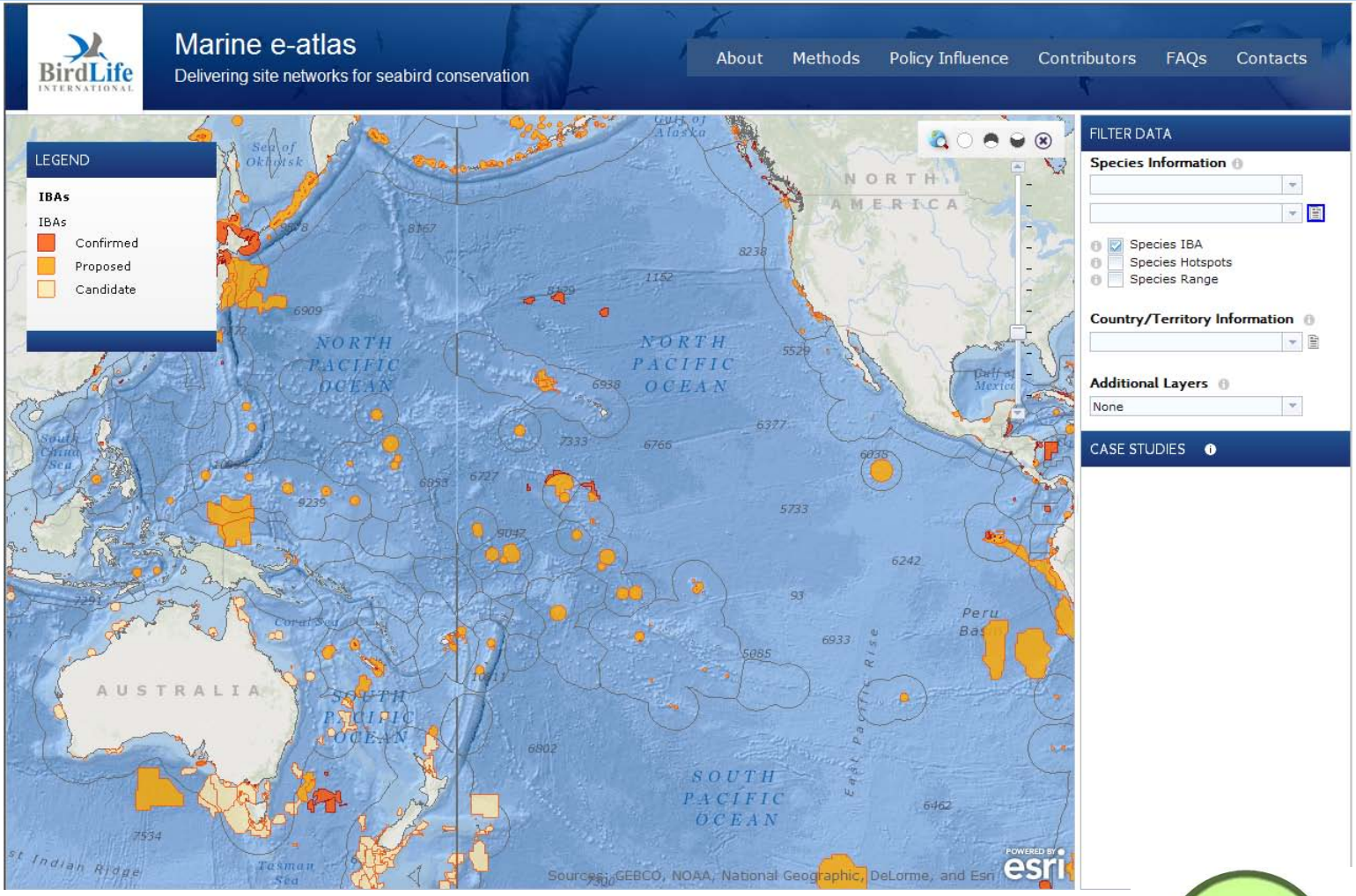
Target 11

IBAs are important for...identifying gaps



Target 11

...including marine (and High Seas)



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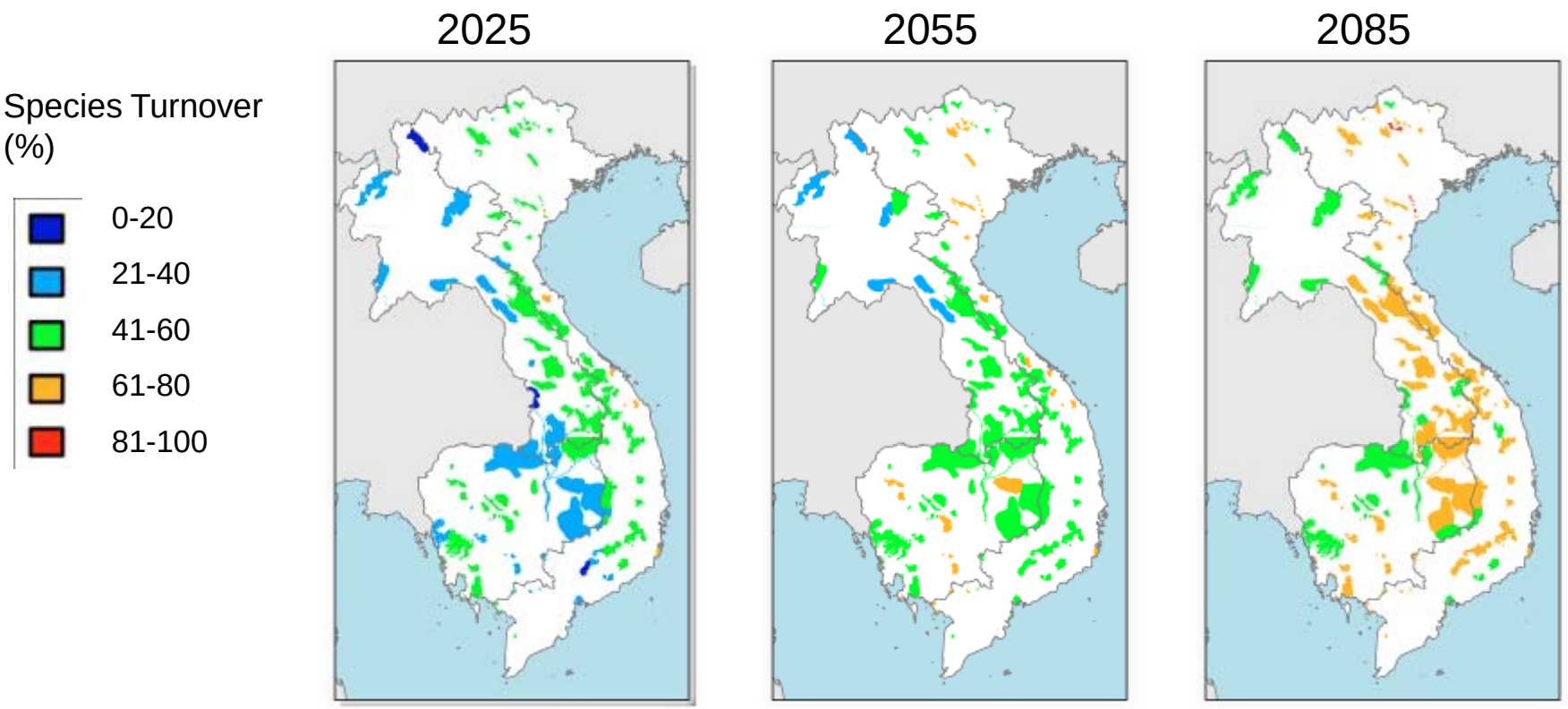
Target 11

...important for adaptation



This preliminary analysis projects that the IBA networks in the Lower Mekong region will experience a large turnover of their priority species due to climate change

Maps courtesy of Ian Willis, University of Durham, UK

Target 11 Target 10 Target 14 Target 15

...making the most of REDD+ (1)

- Demonstrating the potential for biodiversity and carbon co-benefits
- Forested IBAs – inform areas to be incorporated into REDD+ national strategies for best biodiversity results from REDD investment

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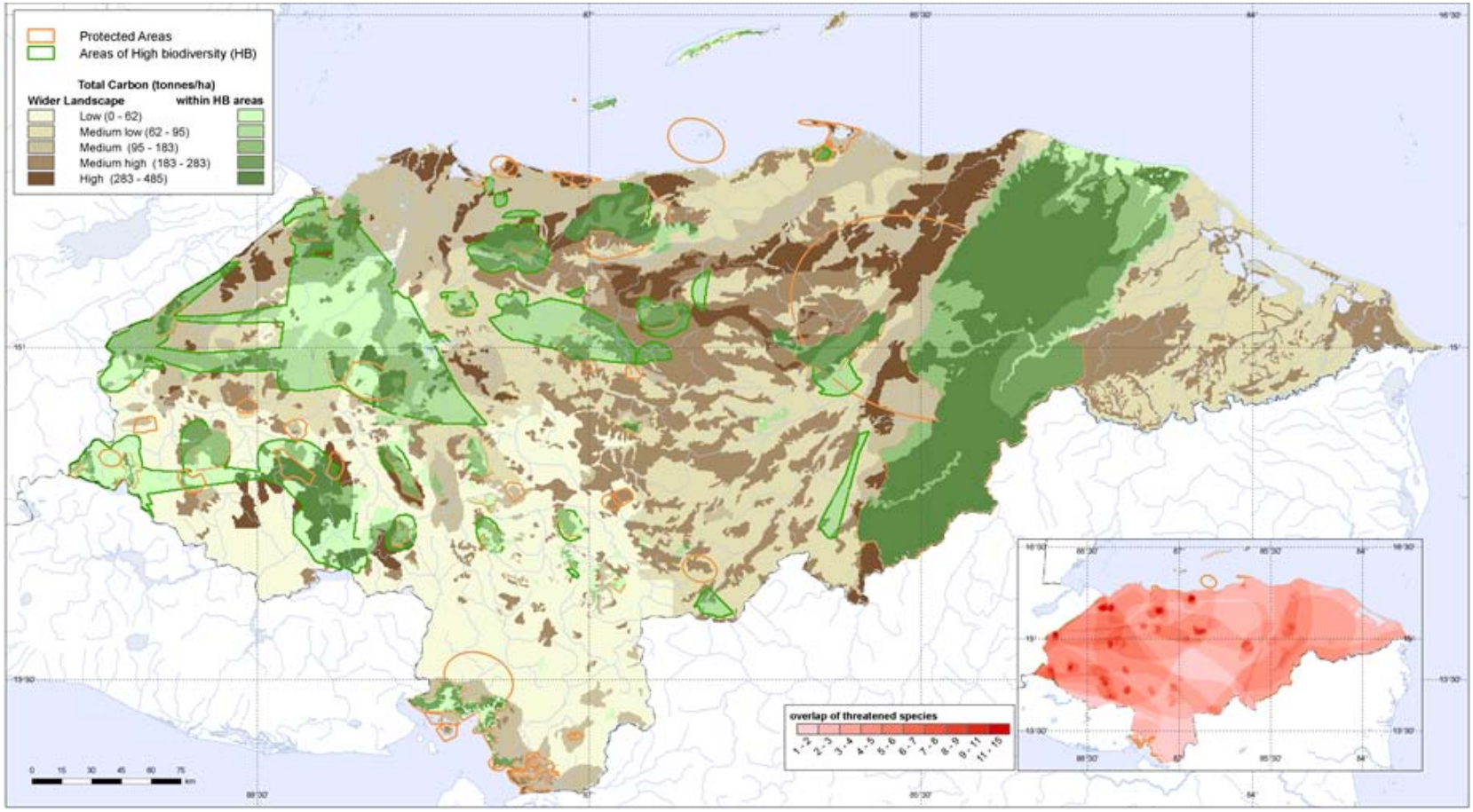
...making the most of REDD+ (2)

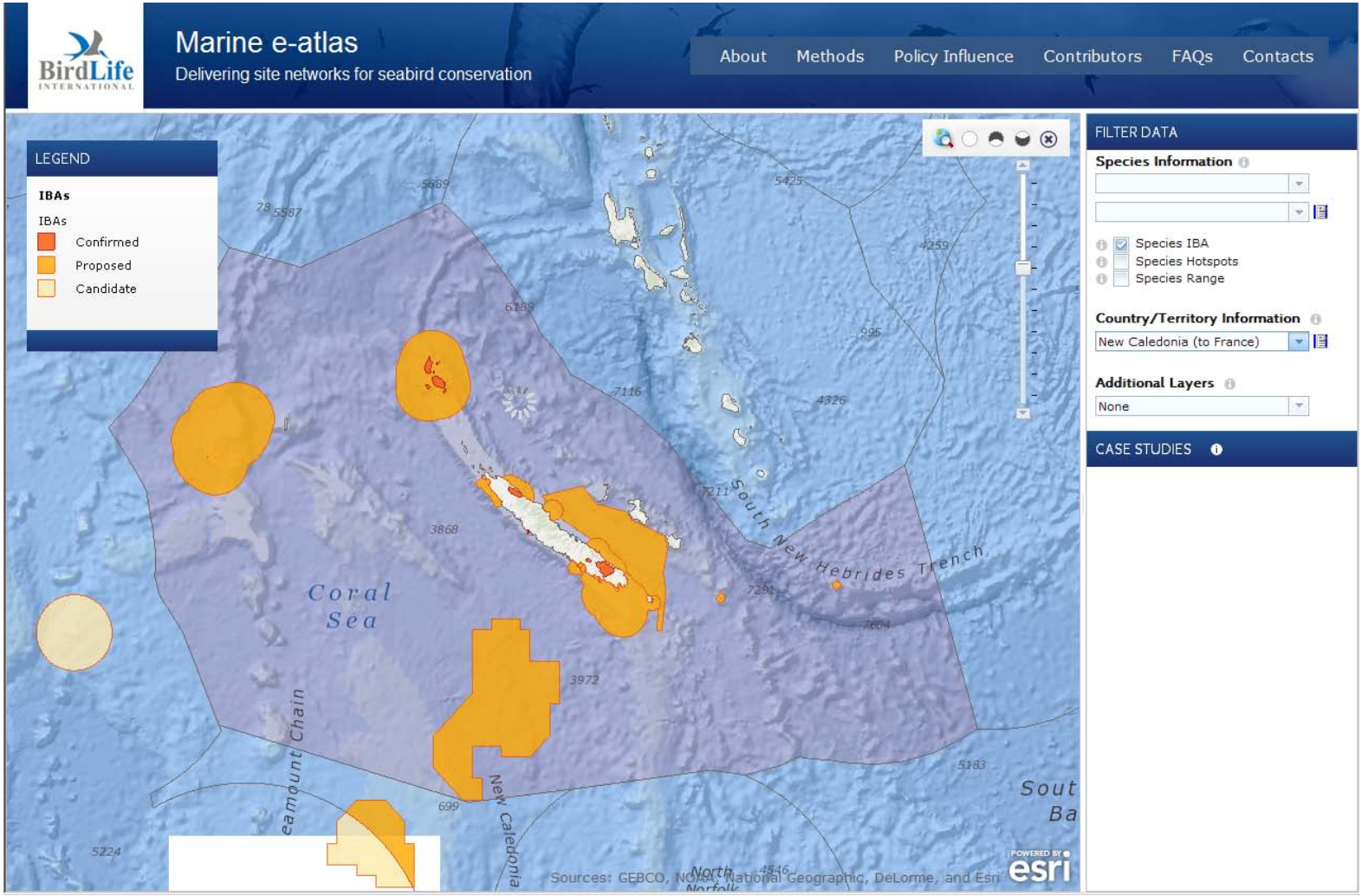
Map from UNEP-WCMC, http://www.carbon-biodiversity.net/Interactive/CarbonCalculatorNotes

...making the most of REDD+ (3)



Map from UNEP-WCMC, http://www.carbon-biodiversity.net/OtherScales/Honduras

Information on IBAs available at... (1)



Information on IBAs available at... (2)

BirdLife INTERNATIONAL

Search Go

Home
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- BirdLife Data Zone

Country search

Go To
- Species
- Sites (IBAs)
- Endemic Bird Areas
- Case studies
- Marine e-Atlas
- Citizen science
- CBD support
- BirdLife Forums
- Seabird Tracking
- How to help BirdLife

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Guatemala

Species | IBAs | EBAs | Marine | Policy | Resources

Total number of IBAs	21	Total IBA Area (ha)	5,188,427
Number triggered by individual criteria			
Globally threatened species (A1)	16	Biome-restricted species (A3)	18
Restricted-range species (A2)	9	Congregatory species (A4)	2
Number of AZE sites identified for birds	4		

Guatemala at a glance

Capital
Guatemala City

Area
108,889km²

BirdLife Partner
IBA Collaborators

Species

Total number of birds	706
Globally threatened birds	14
Country endemics	0

Important Bird Areas

Number of IBAs	21
Total IBA area	5,188,427 ha

Endemic Bird Areas

Number of EBAs	3

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Information on IBAs available at... (3)

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- Seabird Tracking
- How to help BirdLife

Bermuda (to UK)

Species | IBAs | EBAs | Marine | Policy | Resources

State of the world's birds case studies

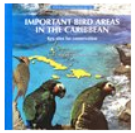
Response: What can be done to improve the status of birds

- Bermuda Petrel is being conserved through translocation and provision of artificial nest-sites

Key publications

Devenish, C., Diaz, D. F., Clay, R. P., Davidson, I. J. and Zabala, I. Y. (2009) Important Bird Areas of the Americas: Priority Sites for Biodiversity Conservation. BirdLife International

Download



Wege, D. C. and Anadon-Irizarry, V. (2008) Important Bird Areas in the Caribbean: Key Sites for Conservation. BirdLife International.

Download

References

- Sanders, S.M. (ed) (2006) Important Bird Areas in the United Kingdom Overseas Territories. Sandy, UK: Royal Society for the Protection of Birds.

Recommended Citation:
BirdLife International (2012) Country profile: Bermuda (to UK). Available from: http://www.birdlife.org/datazone/country/bermuda. Checked: 2012-10-24

Bermuda (to UK) at a glance

Capital
Hamilton

Area
54km²

BirdLife Partner
None

Species

Total number of birds	146
Globally threatened birds	1
Country endemics	1

Important Bird Areas

Number of IBAs	1
Total IBA area	760 ha

Endemic Bird Areas

Number of EBAs	0

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Information on IBAs available at... (4)

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Sites - Important Bird Areas (IBAs)

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- BirdLife Data Zone
- Sites (IBAs)
- Search Sites (IBAs)
- View maps

About
- Global summary
- IBA criteria
- Monitoring
- Publications

Go to
- Species
- Endemic Bird Areas
- Case Studies
- Country profiles
- Marine e-Atlas
- Citizen Science
- CBD support
- BirdLife forums
- How to help BirdLife
- Seabird Tracking

Search terms
Country/Territory = Bonaire, Sint Eustatius and Saba (to Netherlands);
Ordered by Country

Download these Sites as a CSV file

Number of results 9

Country/Territory	Site Name	IBA Criteria	Final Code
Bonaire, Sint Eustatius and Saba (to Netherlands)	Boven, Sint Eustatius	A2, A4ii	AN007
Bonaire, Sint Eustatius and Saba (to Netherlands)	Dos Pos, Bonaire	A1, A2, A3	AN010
Bonaire, Sint Eustatius and Saba (to Netherlands)	Klein Bonaire, Bonaire	A2, A3, B4i	AN012
Bonaire, Sint Eustatius and Saba (to Netherlands)	Lac Bay, Bonaire	A1, A2, A3	AN013
Bonaire, Sint Eustatius and Saba (to Netherlands)	Pelkermeer Saltworks, Bonaire	A4i, B4i	AN014
Bonaire, Sint Eustatius and Saba (to Netherlands)	Saba	A2, A4ii, B4ii	AN006
Bonaire, Sint Eustatius and Saba (to Netherlands)	The Quill, Sint Eustatius	A2	AN008
Bonaire, Sint Eustatius and Saba (to Netherlands)	Washikemba-Fontein-Onima, Bonaire	A1, A2, A3, B4i	AN011
Bonaire, Sint Eustatius and Saba (to Netherlands)	Washington-Slagbaai National Park, Bonaire	A1, A2, A3, A4i, B4i	AN009

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Information on IBAs available at... (5)

BirdLife INTERNATIONAL | State of the world's birds | Search | Go

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- Case studies

Search case studies

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- How to use this site

Overview
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- State
- Pressure
- Response

Resources
- Spotlights
- National reports
- Publications

Go to
- Species
- Sites (IBAs)
- Endemic Bird Areas
- Country profiles
- Marine e-Atlas
- Citizen science
- CBD support
- BirdLife forums
- Seabird Tracking
- How to help BirdLife

Understanding local needs: the role of Important Bird Areas in peoples livelihoods

© Alain Compost

Understanding how people experience poverty locally is essential in identifying how biodiversity conservation can help improve their livelihoods. BirdLife Partners have worked with communities at Important Bird Areas (IBAs) to develop site-specific solutions to the problems they have identified.

Human wellbeing is dependent on biodiversity and ecosystem services. Damage to ecosystems like forests, wetlands, coral reefs, grasslands or others, due to habitat fragmentation or loss, poses a grave danger to biodiversity and human existence. Whilst all of us depend on the environment, this dependence is most direct and immediate for the poor. Very often the place where they live is their source of food, fuel, medicines, shelter and income, and when habitats become degraded they have no alternatives. Poverty has many other dimensions to it other than low income, and experiences of poverty vary from place to place (BirdLife International, 2006). The Organisation for Economic Co-operation and Development (2001) defines five core dimensions of poverty: economic, human, political, social-cultural and protective.

The range of benefits that communities obtain from IBAs

BirdLife International (2006)

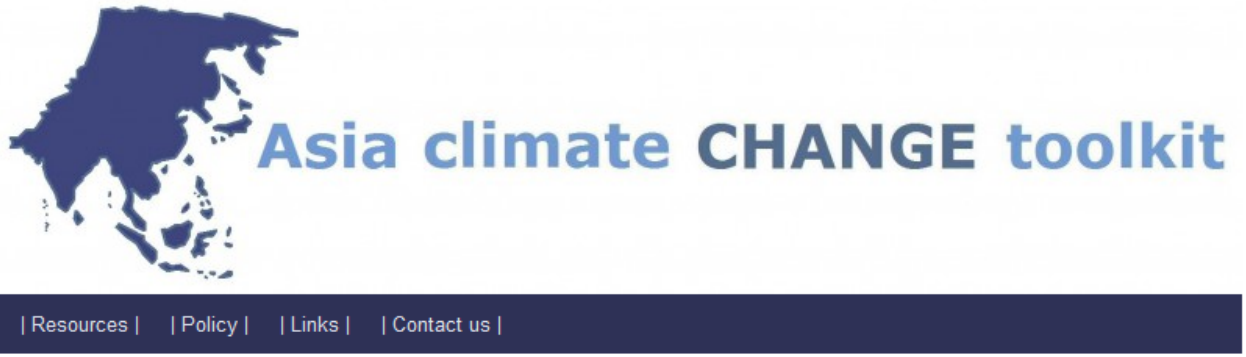
The BirdLife Partnership endeavours to understand and address poverty, where it affects people living at Important Bird Areas (IBAs), through "Participatory Poverty Assessment" with local communities. This provides a forum for people to explain how they experience poverty, and in particular to describe their relationship with their environment (the IBA) and its resources. Through this process, BirdLife Partners in Africa, the Americas and Asia have worked with communities to develop site-specific solutions to the problems that have been identified (BirdLife International 2006). Examples include supporting agricultural development around Kabira National Park, Burundi, to help reduce pressure on the park's land and resources, developing ecotourism to generate income at San Marcos, Bolivia, and improving management and marketing of non-timber forest products in Palas Valley, Pakistan. The process has also confirmed the multi-dimensional nature of poverty, which is recorded through experiences as diverse as an inability to send children to school (at Rukoma IBA in Ghana), feelings of isolation and lack of attention from government (communities in the Bay of Panama IBA) and poor housing (Truong Son, Vietnam).

Conversations with communities also revealed the strong links between people's livelihoods and the environment and, in many cases, the importance of the IBA in helping to reduce vulnerability and assist with coping in times of stress. These 'voices of the poor' at IBAs demonstrate that it is important to ensure that the opportunities and risks associated with environmental issues are included in Poverty Reduction Strategies, and indicate that national and global policy measures are needed to support sustainable local livelihoods.

Key message: Biodiversity conservation is essential to the livelihoods of local communities

Case studies
- The sustainable use of wetland resources can benefit both wildlife and local communities
- In Nigeria, the BirdLife partner is assisting wetland restoration to safeguard ecosystem services
- **Understanding local needs: the role of Important Bird Areas in peoples livelihoods**
- Asity Madagascar is using direct payments to local communities as an incentive for IBA conservation
- Improved livelihoods at Arabuko-Sokoke Forest in Kenya
- BirdLife's Rwandan Partner (ACNR) is helping a community to manage wetland resources sustainably
- Nature Uganda is empowering communities to manage natural resources and restore ecosystem services

Information on IBAs available at... (6)



Additional information:

Hole et al. 2011 *Conservation Biology*

Hole et al. 2009 *Ecology Letters*

Information on IBAs available at... (7)

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Africa Climate exChange

Home About Library News Maps Links

Maps

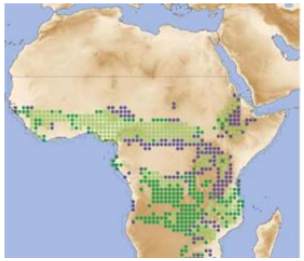
A suite of maps, showing how the ranges of the majority of bird species breeding in sub-Saharan Africa could be impacted by climate change, is made available here online.

- Search by Common Name
- Search by Scientific Name
- Search by Family

These maps, depict modeled present-day and modeled projections of future species ranges approximating to four discrete time periods: present-day (based on the mean climate between 1970–2000), 2025 (a mean of climate projections for the period 2010 –2039), 2055 (mean for 2040–2069) and 2085 (mean for 2070–2099).

The maps have been developed collaboratively by BirdLife International and Durham University with data provided by the Zoological Museum of the University of Copenhagen (see here) for 'observed' distributional data for all terrestrial bird species breeding in sub-Saharan Africa. These were supplemented by additional point count data for species of the Albertine Rift, generously provided by the *Wildlife Conservation Society*

These ranges have been prepared for 1608 species, the entire breeding avifauna of sub-Saharan Africa, minus 71 species recorded from fewer than five grid cells, for which modeling was impractical.



The "climate envelope" of a species represents the association between its present-day distribution and current climatic variables. Future distributions are then estimated by projecting this relationship onto scenarios of climate change, making the assumption that current relationships between climate and distribution are retained (see e.g. Pearson & Dawson, 2003). As such, these maps represent the distribution of areas of potential climatic suitability for a species, rather than an explicit

Sear

Spe

Searc
Searc
Searc

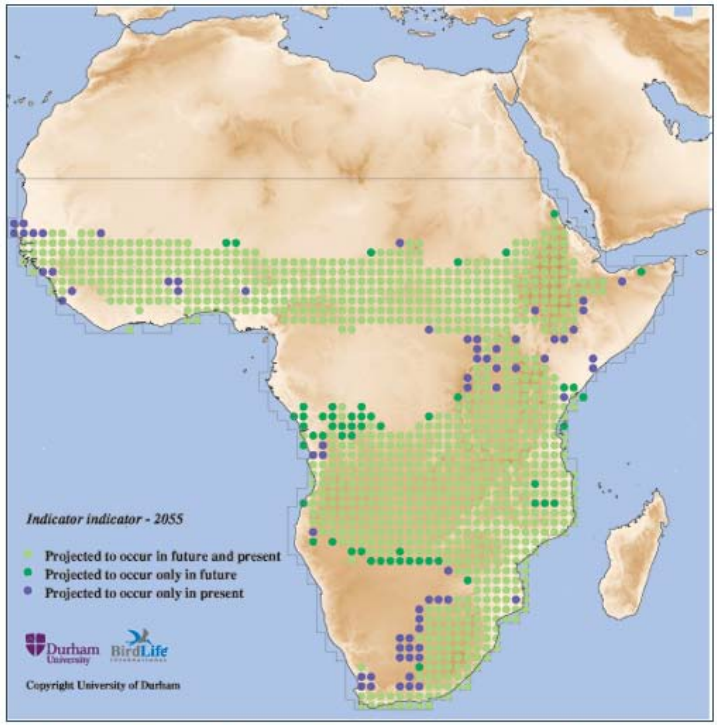
Africa

Focus

LC **Greater Honeyguide *Indicator indicator***

BirdLife INTERNATIONAL

Durham University



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1. Planning and setting targets: EbA (1)

Draft Principles and Guidelines for Integrating
Ecosystem-based Approaches to Adaptation in Project and Policy Design

A Discussion Document

IDB BirdLife INTERNATIONAL care IUCN CEM CIFOR CONSERVATION INTERNATIONAL ELAN WCS WWF CATIE

ISSN 1659-3480

Note de synthèse
Policy Brief

Le CATIE combine la science, l'enseignement supérieur et la coopération technique pour améliorer le bien-être humain et réduire la pauvreté dans les zones rurales à travers d'une gestion intégrée de l'agriculture et des ressources naturelles en Amérique Latine et dans les Caraïbes.

PB 6 Novembre 2011

Projet de principes et lignes directrices intégrant des approches d'adaptations écosystémiques à des projets et à la conception de politiques. A Discussion[1]

Angela Andrade[2], Rocío Córdoba[3], Radhika Dave[4], Pascal Girot[5], Bernal Herrera-F.[6], Robert Munroe[7], Judy Oglethorpe[8], Emilia Pramova[9], James Watson[10] and Walter Vergara[11]

Les approches écosystémiques pour réduire la vulnérabilité sociale sont une option prometteuse pour l'adaptation durable et efficace au changement climatique. L'adaptation écosystémique (abréviation «EbA» an anglais) correspond à une part de l'adaptation globale, et prend en compte les co-bénéfices sociaux, économiques et culturels des communautés locales. L'EbA englobe les politiques et les mesures d'adaptation qui tiennent compte du rôle des services écosystémiques dans la réduction de la vulnérabilité sociétale, à travers des approches multi-sectorielles et multi-échelles.

1 Citation: Andrade, A, Córdoba,R, Dave,R, Girot, P, Herrera-F, B, Munroe, R, Oglethorpe, J, Pramova, E, Watson, J, Vergara, W. 2011. Draft Principles and Guidelines for Integrating Ecosystem-Based Approaches to Adaptation in Project and Policy Design: A Discussion Document. CEM/IUCN, CATIE. Kenya.
2 Commission on Ecosystem Management, IUCN, Conservación Internacional Colombia. a.andrade@conservation.org
3 IUCN-Mesoamerica and Caribbean Initiative, rocio.cordoba@iucn.org
4 Conservation International, r.dave@conservation.org
5 Care, mailto: pgirot@careclimatechange.org
6 CATIE, bernalhf@catie.ac.cr
7 BirdLife International, robert.munroe@birdlife.org
8 World Wildlife Fund - United States, judy.OGLETHORpe@wwfus.org
9 Center for International Forestry Research, E.PRAMOVA@cgiar.org
10 Wildlife Conservation Society, jwatson@wcs.org
11 ADB, wvergara@iadb.org

BID BirdLife INTERNATIONAL care UICN CEM CIFOR CONSERVATION INTERNATIONAL ELAN WCS WWF CATIE

BirdLife INTERNATIONAL

Target 14 Target 15 Target 10

1. Planning and setting targets: EbA (2)

UK Government Funded Darwin Initiative Project: Ecosystem conservation for climate change adaptation in East Africa (Burundi, Kenya, Rwanda, Uganda)

1. Awareness of EbA raised and implementation capacity built within government and civil society
2. National partnerships built for effective implementation of EbA
3. Improved information and quantitative evidence of the benefits to be derived from ecosystem-based approaches for adaptation
4. Experience and best practice examples and guidance on the successful application of EbA widely disseminated and contributed to regional and international climate change processes

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1. Planning and setting targets: EbA (3)

What to look for – good practice EbA

The following points should be considered when reviewing good practice ecosystem-based approaches for adaptation to climate change (EbA) in each country (project activity 1.4) in order to: note case studies for presentation at national training workshop; inform location of national training workshop; note possible members of national stakeholder group; note issues for discussion at national stakeholder group meetings; learn lessons on implementation of EbA in each country.

- Use of ecosystem service(s) for human adaptation – is it truly EbA? – see Q&A document. An ecosystem is defined as the living community of animals and plants sharing an environment with non-living elements such as climate and soil. Ecosystem services are defined as: the benefits that people receive from nature.
- Detailed, participatory vulnerability assessment (analysis of factors that determine exposure, sensitivity and adaptive capacity of vulnerable groups, communities and ecosystems) that examines social, economic and environmental factors and understands that vulnerability is socially differentiated (the poor, women, indigenous groups, elderly and children are potentially marginalised and therefore particularly vulnerable).
- Adaptation intervention chosen is defined by using vulnerability assessment information.
- Understanding social resilience in relation to what makes a resilient ecosystem:
    - What makes social resilience (more information from the Africa Climate Change Resilience Alliance, http://community.eldis.org/.59d669a8/research.html):
        - access to assets: natural capital (forest resources, access to water resources), physical capital (flood defence schemes, boreholes), financial capital (household

Frequently asked questions on ecosystem-based approaches for adaptation to climate change

1. **What is climate change adaptation?** Questions in **BOLD,** answers in *italics*.

The Intergovernmental Panel on Climate Change, the leading international body for the assessment of climate change, defines adaptation as: 'The adjustment in natural or human systems in response to actual or expected climatic stimuli [changes in average annual conditions, climatic variability and associated extremes] or their effects, which moderates harm or exploits beneficial opportunities.'

2. **What is vulnerability?**

Vulnerability is defined by the United Nations Office for Disaster Risk Reduction as 'The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards'.

3. **Why would a BirdLife Partner want to work on human adaptation?**

(i) To help the local communities that BirdLife Partners work with realise (in some cases in terms of understanding, in others in terms of capacity and resources) the solutions that nature provides for us.

(ii) As environmental degradation is a fundamental driver of risk (as recognised by the World Conference on Disaster Reduction in the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters) and BirdLife Partners are well-suited to tackling degradation.

When species die out or are depleted or genetic diversity declines, ecosystems become less stable and are less able to withstand shocks and pressures, and their delivery of key ecosystem services (the

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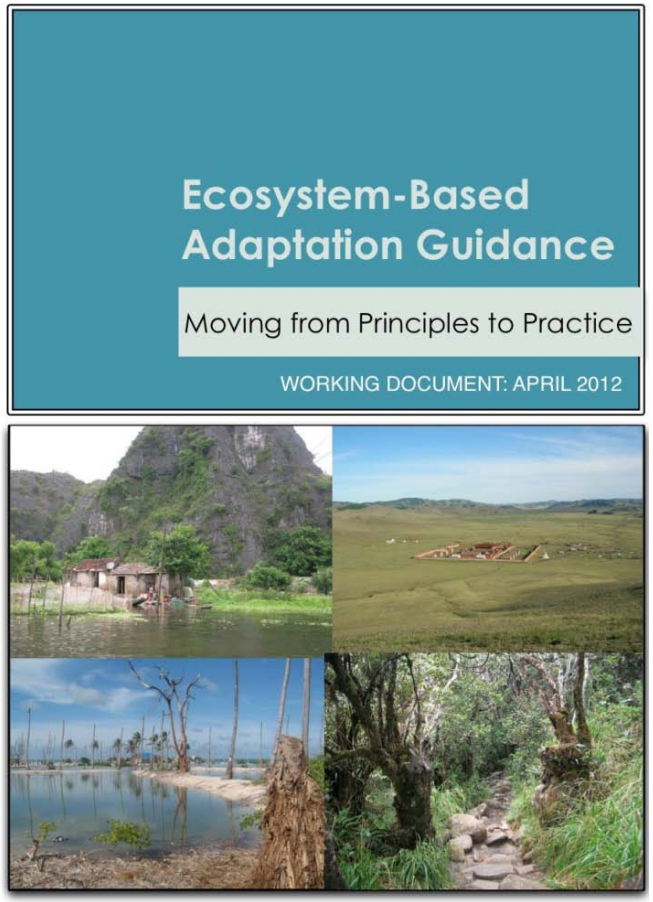
1. Planning and setting targets: EbA (4)



Component	A: Setting the Adaptive Context	B: Selecting Appropriate Adaptation Options	C: Design for Change	D: Adaptive implementation
Description	Supports selection of the most appropriate options for adaptation in a given context. Component A explores this context with a view to establishing where information gaps exist.	Identification of appropriate intervention measures and associated, context specific, adaptive actions.	Supports the transition from a list of selected intervention measures, to develop a program that will guide implementation and define a plan to evaluate and reflect on performance.	Provides users with guidance to be confident in implementing change if and when required.
Outcome	Clear adaptation decision making context defined with a particular understanding of the role of ecosystem services.	Appropriate adaptation options prioritised in project context.	Plan for implementation and evaluation.	An adaptive approach to EBA implementation.
Resources	A range of resources to assist in completing Component A is presented in Annex A1-A5. This includes tools, toolkits, reports and papers on ecosystem service valuation and climate risk screening.	A selection of resources for considering adaptation options is presented in Annex B1-B3. Key tools and methods for adaptation option analysis as well as a thorough overview of adaptation technologies is provided.	A range of resources to assist in initiative design and monitoring and evaluation are provided in Annex C1-C3. Example indicators are aligned to ecosystem services and guide for selecting indicators are presented.	In text boxes outlining an adaptive approach to initiative implementation and links to adaptive management resources are presented in Annex D1.
EBA Focus	Users are asked to consider their ecosystems and the associated services they provide to inform a problem statement and goal definition. By defining the problem that an adaptation intervention may wish to address with an ecosystem lens, EBA options are placed on a 'level playing field' with respect to traditional adaptation technologies.	Example adaptation technologies are grouped by ecosystem service with their associated benefits and limitations provided to guide the selection of intervention measures with a view to maintain and/or enhance ecosystems resilience.	Users are guided in project design and evaluation to facilitate long-term adaptive management and deliver 'evidence for persuasion'. This sets the foundation for continued support for EBA initiatives whilst ensuring transparency and accountability in implementation.	EBA requires a long-term view. An adaptive, flexible and sustainable approach is advocated to meet this challenge.

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Travers et al. 2012

1. Planning and setting targets: EbA (5)

United Nations
Framework Convention on
Climate Change

UNFCCC Google Search

Home | CDM | JI | CC:INet | TT:Clear

Your location: Home > Adaptation > Nairobi Work Programme > Knowledge Resources and Publications

NEGOTIATIONS

- Meetings
- Documents & Decisions
- Bodies

PROCESS

- Essential Background
- Kyoto Protocol
- Cooperation & Support
- Adaptation
  - Cancun Adaptation Framework
  - Nairobi Work Programme
    - Negotiations and Decisions
    - Programme Activities and Work Areas
    - Joining the NWP
    - Private Sector Initiative
    - Partners and Action Pledges
    - Calls for Action
    - Workshops and Meetings
    - Knowledge Resources and Publications
  - Implementing Adaptation
  - National Adaptation Programmes of Action
  - Local Coping Strategies Database
- National Reports
- GHG Data
- Methods & Science
- Parties & Observers
- Press

Database on ecosystem-based approaches to adaptation

There is a growing recognition of the role that healthy ecosystems can play in increasing resilience and helping people adapt to climate change through the ongoing delivery of a range of ecosystem services. The examples below capture some of the ways in which various types of ecosystem based measures have contributed to several sectors, including livelihood sustenance and food security, sustainable water management, disaster risk reduction and biodiversity conservation.

This database on ecosystem-based approaches to adaptation intends to provide supplemental information to FCCC/SBSTA/2011/INF.8, that was mandated by the SBSTA at its thirty-fourth session in the context of the Nairobi work programme.

To ensure that new, relevant and useful examples are included in this knowledge product, and the current entries up to date, please send your suggestions for new entries and updates to adaptation@unfccc.int.

Relevant documents

Ecosystem-based approaches to adaptation: compilation of information. Note by the secretariat. *Prepared in response to mandate from the SBSTA at its 34th session in the context of the Nairobi work programme)*

Type to search the database:

Examples of Ecosystem-based approaches to adaptation

Name	Region	Country	Ecosystem	Nature of Approach	Name of implementing institution
Responding to shoreline				Improvement in	

http://unfccc.int/adaptation/nairobi_work_programme/knowledge_resources_and_publications/items/6227.php

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2. Meeting the targets

- Achieving the Aichi Targets is a huge challenge
- Requires concerted efforts by all – government, business and civil society – and joint work with the development sectors
- 117 national BirdLife Partners around the work can assist through their conservation programmes and action on the ground

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3. Tracking targets

- Monitoring targets is essential to check that progress is being made
- The BirdLife Partnership monitors birds and Important Bird Area locally following a standardised framework
- The data generated can be used to track the Aichi targets nationally, regionally and globally

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2. Meeting the targets: Eradicating invasive alien species

BirdLife INTERNATIONAL — State of the world's birds

Home
- BirdLife
- BirdLife Data Zone
- Case studies
- Search case studies

About
- How to use this site

Overview
- Introduction
- State
- Pressure
- Response

Resources
- Spotlights
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BirdLife Partners are helping to restore island ecosystems by eradicating invasive alien species

Rat eradication in Fiji © Steve Cranwell

Invasive alien species have been the most important driver of documented bird extinctions—implicated in the disappearance of more than 70 species since 1500. The problem is especially acute on islands, where endemic landbirds and breeding seabirds often lack adequate defences against introduced predators such as rats and cats. Over the last two decades, however, there have been considerable advances in eradication techniques, and a number of recent and current island restoration projects attest to the dramatic success that can be achieved given sufficient resources and political will.

One of the first large-scale, island-wide eradication projects took place on Campbell Island, 700 km south of the New Zealand mainland. Here, introduced brown rats *Rattus norvegicus* had devastated native wildlife and pushed the endemic Campbell Islands Teal *Anas nesiotis* to the brink of extinction. The size (c.113 km^2), topography and remoteness of the island presented a considerable challenge to effective eradication. However, in 2001, a team from the New Zealand Department of Conservation, equipped with four helicopters, successfully transported and spread 120 tonnes of rodenticide-laced bait across the island. With rats eliminated, native bird species have recolonised and the Campbell Islands Teal has been reintroduced. The success of the project established a model for rodent eradication that has since been replicated around the world.

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ISLAND CONSERVATION

Preventing Extinctions

Target 09

2. Meeting the targets: Conserving Forests of Hope

BirdLife INTERNATIONAL community
Talking together for birds and people

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Paraguayan project gets gold

Tue, Jan 25, 2011 — Americas, News, Top Stories

Black-fronted Piping-Guan (Martin

A pioneering project in Paraguay aims to show that REDD (Reducing Emissions from Deforestation and Forest Degradation in Developing Countries) can deliver significant and lasting benefits to forest communities and biodiversity, while meeting corporate social responsibility commitments, and contributing to climate change mitigation by sequestering carbon.

The work has been independently validated and verified under procedures laid down by the Climate, Community and Biodiversity Alliance (CCBA), being awarded the Gold level

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Target 05 | Target 11 | Target 14 | Target 15

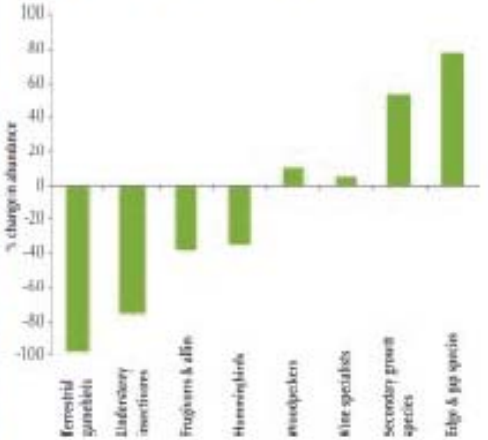
Restoring degraded forest

Large areas of tropical forest have been degraded by logging and resource extraction, but remain important for biodiversity conservation. Restoring such forests can increase their value for birds and other biodiversity, enhance resilience, and increase their contribution to climate change adaptation and local livelihoods. Bird populations can be used as sensitive indicators to monitor the degree of habitat degradation and to track progress in restoration.

Using birds to track progress

Birds can be useful indicators of forest quality, with some groups of species being particularly sensitive to forest structure and more practical to census than many other animal or plant groups. The population trends of these forest-dependent bird species can be used to monitor the extent of habitat degradation and the degree of recovery of forests being restored.

Change in abundance of different bird species groups ten years after selective logging compared with similar undisturbed primary forest in northern French Guiana
Source: Thiollay (1997) *Biodiv. Conserv.* 6: 1,155–1,173.



Aichi Target 15

Ecosystem resilience and the contribution of biodiversity to carbon stocks is enhanced, including through restoration of 15% of degraded ecosystems

Achieving the target: examples of success

BirdLife Partners in Indonesia and Sierra Leone are developing innovative approaches to save forests

BirdLife Partners are restoring forests that will help buffer communities against climate change

Community management of forest on Mount Oku, Cameroon, has led to significant habitat regeneration

Image top: Birds such as Ferruginous-backed Antbird are sensitive to forest condition, so monitoring their trends can help to track the success of efforts to restore degraded forest. (Nick Athanas)

Image bottom: Restoring forest sites identified for their bird conservation value often enhances the provision of ecosystem services as well as benefiting other biodiversity, such as Sumatran Tiger. (Dave Watts/nhpa-images.com)

For these and other case studies, see *State of the world's birds* online at **www.birdlife.org/datazone/sowb**

2. Meeting the targets: Biodiversity conservation adaptation (1)

Table 1. Climate-change adaptation strategy (CCAS) categories and example category contingent management actions aimed at increasing a site's adaptive capacity.

	Proportion of priority species				*Example category-contingent management actions*[b]				
CCAS category	*emigrating*	*colonizing*	*persisting*	*Site-management goal*[a]	*habitat restoration and creation*	*disturbance-regime management (e.g., fire, flood, grazing)*	*translocation*	*increase site extent*	*matrix management for landscape permeability*
High persistence	low	low	high	resilience: maintain viable populations of persistent species	desirable: focus on restoration from current and/or historical perspective to maximize habitats for persistent species; consider using genotypes better adapted to projected future climate	desirable: manage disturbance regimes within natural range of variability; allow passive shifts where unavoidable	low priority: (because change in climatic suitability is neither driving much emigration nor encouraging much colonization)	desirable: identify and incorporate refugial areas (e.g., highland valleys), areas of physiographic diversity and/or abiotic gradients to maximize resilience of persistent species	low priority: (because change in climatic suitability is neither driving much emigration nor encouraging much colonization)
Increasing specialization	high	low	low	resistance: maximize populations of projected emigrants to maximize likelihood of successful establishment in newly suitable sites	high priority: focus on restoration to maximize proportion of key habitats for emigrants	high priority: optimize disturbance-regime conditions for emigrants (e.g., inhibit habitat succession driven by climate change)	high priority: consider targeted translocations from the site and preparation of ex situ conservation plans (contingent on networkwide representation targets for emigrants)	low priority: (unless able to include additional suitable area directly to support persistence or productivity of populations of emigrants)	high priority: use conservation easements, community management agreements and/or agri-environment options in surrounding landscape to provide corridors and/or stepping stones to facilitate dispersal of emigrants
High turnover	high	high	low	resistance and facilitation: maximize populations of projected emigrants; facilitate transformation of habitats to support projected colonists	high priority: balance focus on restoration of key habitats for emigrants with habitat creation to suit colonists	high priority: balance optimizing conditions for emigrants with facilitating disturbance-regime shifts in direction of change to suit colonists	high priority: consider targeted translocations to and from the site and preparation of ex situ conservation plans (contingent on networkwide representation targets for emigrants and colonists)	high priority: accommodate potentially conflicting habitat management needs of maximizing source populations of emigrants and providing suitable habitat for colonists	high priority: use conservation easements, community management agreements and/or agri-environment options in surrounding landscape to provide corridors and/or stepping stones to facilitate dispersal of emigrants and arrival of colonists
Increasing value	low	high	high	resilience and facilitation: maintain viable populations of persistent species; facilitate transformation of habitats to support projected colonists	high priority: balance focus on restoration from current and/or historical perspective for persistent species with habitat creation to suit colonists	high priority: balance management within natural range of variability (allowing passive shifts where unavoidable) with facilitation of disturbance-regime shifts in direction of change to suit colonists	high priority: consider targeted translocations to the site (contingent on networkwide representation targets for colonists)	high priority: accommodate potentially conflicting habitat management needs of maintaining viable populations of persistent species and providing habitat for colonists	high priority: use conservation easements, community-management agreements and/or agri-environment options in surrounding landscape to provide corridors and/or stepping stones to facilitate arrival of colonists

continued

Target 10

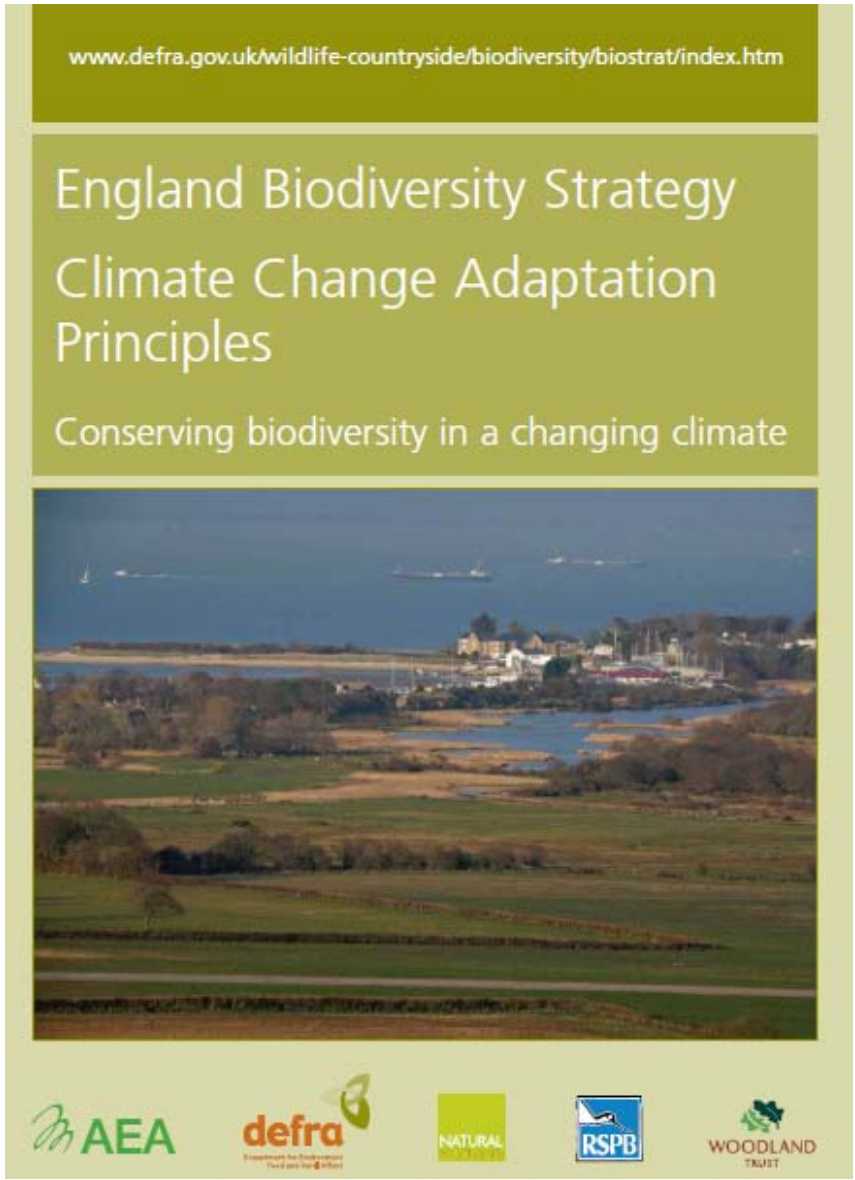
Target 11

Target 14

Target 15

Hole et al. 2011

2. Meeting the targets: Biodiversity conservation adaptation (2)



Smithers et al. 2008

Minimising climate change impacts

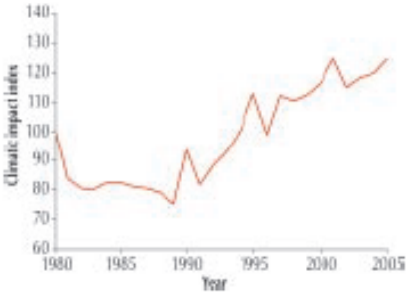
Helping biodiversity to cope with climate change will require robust measures to reduce greenhouse gas emissions coupled with efforts to maximise the resilience and adaptation of ecosystems. The latter will require effective management of protected area networks. Information from projected and documented effects on birds can help to frame adaptive management of sites and monitor impacts on species. Helping ecosystems adapt will also benefit human adaptation efforts.

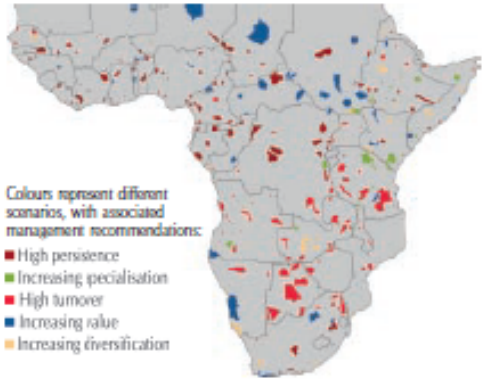
Aichi Target 10
Pressures on vulnerable ecosystems impacted by climate change are minimised

Using birds to track progress

Combining systematic bird population monitoring with independent projections of climate change effects on bird distributions allows calculation of indicators to illustrate the impact of climate change on biodiversity. In Europe since about 1990, species expected to gain range in response to climatic change have shown positive population trends, and those expected to lose range have shown negative trends. The Climatic Impact Indicator combines these results and demonstrates an increasing impact of climate change on European birds in the last two decades.

Trends in climatic impacts on population trends: the Climatic Impact Index for European birds, showing the degree to which population trends of 122 species have responded in the direction expected from climate change.
Source: Data for 122 species from Gregory *et al.* (2009) *Public Libr. Sci. ONE* **4**: e4678.





Management scenarios for African IBAs, based on the turnover of species projected under climate change
Source: Hole *et al.* (2011) *Conserv. Biol.* 25: 305–315.

Achieving the target: examples of success

BirdLife Partners are safeguarding IBAs in order to mitigate climate change impacts on birds

BirdLife Partners are working with local communities to protect and restore mangrove ecosystems

Managed realignment for coastal wetlands in the UK is helping people and nature adapt

Image: Protecting and restoring mangroves not only benefits wildlife, but also helps defend coastal communities against the impacts of climate change. (Jan Kotalik)

For these and other case studies, see *State of the world's birds* online at **www.birdlife.org/datazone/sowb**

2. Meeting the targets: measuring ecosystem services to improve decision-making (1)

Different types of ecosystem services

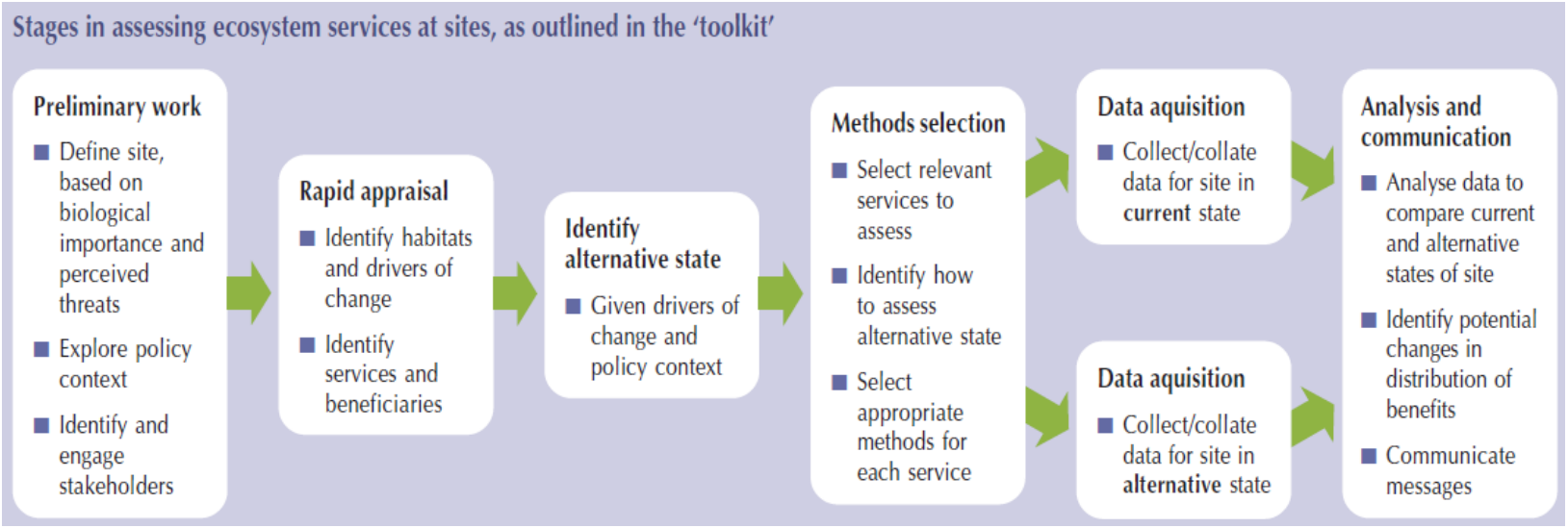
Supporting	Maintenance of genetic diversity	**Ecosystems are the source of genetic diversity from which a variety of commercial species can be developed.** In Nepal, genetic diversity of crops increases production and decreases susceptability to pests and climate variation.
Provisioning	Cultivated food Harvested wild food	**In Nepal, the basic cereal crop on which almost all of the population relies is rice, a cultivated food.** There are also over 440 species harvested as wild foods, including mushrooms and edible ferns.
Provisioning	Raw materials	**Timber (a fibre) and fuelwood (an energy source) are hugely important for the Nepali rural population.** The Himalayan Giant Nettle is widely used throughout the mountainous regions of Nepal as a source of fibre (puwa) for weaving ropes, thread, porter's tumplines, mats, sacks, and bhangra (traditional Gurung clothing).
Provisioning	Natural medicines	**Many communities use natural medicines to treat ailments.** Tibetan natural medicine practitioners called 'amchis' and their medical system is commonly practiced in the mountainous regions of Nepal.
Provisioning	Water flows	**Water is vital to sustain life, and is needed for domestic use, drinking and irrigation.** Due to its position in the Himalayas, the mountains of Nepal produce important water flows for the country and beyond.
Regulating	Local climate and air quality regulation	**Ecosystems can contribute to regulating local climatic conditions.** Nepal's forests provide shade and influence rainfall patterns. The wetlands at Koshi Tappu Wildlife Reserve moderate the local climate by absorbing heat by day and releasing heat at night, as well as by removing pollutants.
Regulating	Global climate regulation	**Forests contribute to regulating the global climate through sequestration of greenhouse gases** (CO_2, NO_2, CH_4) **and storage of carbon.** In Nepal, over 40% of the area is forested and so the country makes a major contribution to this important service.
Regulating	Water purification and waste treatment	**Good water quality as a result of natural water purification processes provides safe drinking water and waste treatment.** This is important in maintaining healthy ecosystems, protecting species and human health.
Regulating	Erosion control	**Forests can help to prevent or control movement of materials from a surface to another location as a result of wind or water.** Although erosion is often a natural process and can also have benefits, there is evidence across many hill slopes in Nepal that erosion is leading to water pollution and soil loss.
Regulating	Reducing the impact of weather events	**Ecosystems can help to buffer against negative impacts from weather events and can help people adapt to the impacts of climate variability and change,** e.g. by providing protection from storms and flooding. The forested Churia hills help to protect the lowland areas from flooding.
Regulating	Biological control	**Regulation of pests and vector-borne diseases is an important benefit that we take for granted.** In Nepal, waste disposal by vultures helps to reduce populations of pests and reduces the risk of diseases spreading.
Cultural	Nature-based recreation/tourism	**Nepal is a popular tourism destination for birdwatching, wildlife safaris, rafting and trekking, and this tourism is an important source of national and local income.** Koshi Tappu Wildlife Reserve is a popular destination for birdwatchers while Chitwan and Bardia National Parks are more famous for large mammals like the Indian Rhinoceros and Tiger.
Cultural	Aesthetic benefits / inspiration / mental health	**Ecosystems can provide aesthetic beauty and mental / intellectual stimulation that lift the human spirit.** The beauty of Phoksundo Lake in Shey Phoksundo National Park and Rara Lake in Rara National Park appeal to Nepali people regardless of whether they are able to visit these remote sites.
Cultural	Spiritual / religious experience	**Ecosystems play an important role in cultural and spiritual traditions and in providing religious and spiritual solace for people.** The Goshainkunda Lake in Langtang National Park is visited by many pilgrims from various parts of the country in the Janai purnima festival.

Target 14

Target 15

BirdLife INTERNATIONAL

2. Meeting the targets: measuring ecosystem services to improve decision-making (2)



2. Meeting the targets: measuring ecosystem services to improve decision-making (3)

Climate regulation services

Above-ground and below-ground carbon stocks are estimated using one of three methods: (1) reference to IPCC standard tables; (2) 'transfer' of values from similar sites; (3) simple field surveys to quantify the volume of living vegetation in different habitats. Loss of carbon through disturbances is estimated using standardised methods. Carbon dioxide, methane and nitrous oxide emissions are estimated using IPCC methods for appropriate habitat types. Data are extrapolated based on values per hectare.

Water services

Water provision can be calculated using data from water companies in many places and can be estimated from questionnaire surveys in others. However, in many situations water services for the alternative state are difficult to measure and so two online tools ('Costing Nature', 'WaterWorld') are recommended. These provide information on changes in water provision, seasonality, peak flows and sedimentation.

Harvested wild goods

The most important harvested wild goods are identified through a stakeholder workshop. For each of these, surveys of random selected households are undertaken to quantify the annual amount harvested, the unit value and related costs (including opportunity costs). The selected goods are then matched to land cover types and extrapolated according to average per hectare values.

Cultivated goods

The key cultivated goods are identified through a stakeholder meeting with informed individuals. For each of these goods, random household surveys are undertaken to quantify the annual amount cultivated, the unit value and related costs (including opportunity costs). Average values per hectare are applied to the area under cultivation.

Nature-based tourism and recreation

Data on the number of visitors to a site can be gathered through: (1) published reports on visits to sites e.g. protected areas; (2) a census of visitors over a random selection of days, extrapolated to an annual estimate. Economic contribution from tourism at the site is deduced from interviews with visitors—to estimate average expenditure (travel, food, other goods, entrance fees) per visit. The proportion of that value coming from nature-based tourism is estimated through simple questions about the alternative state.

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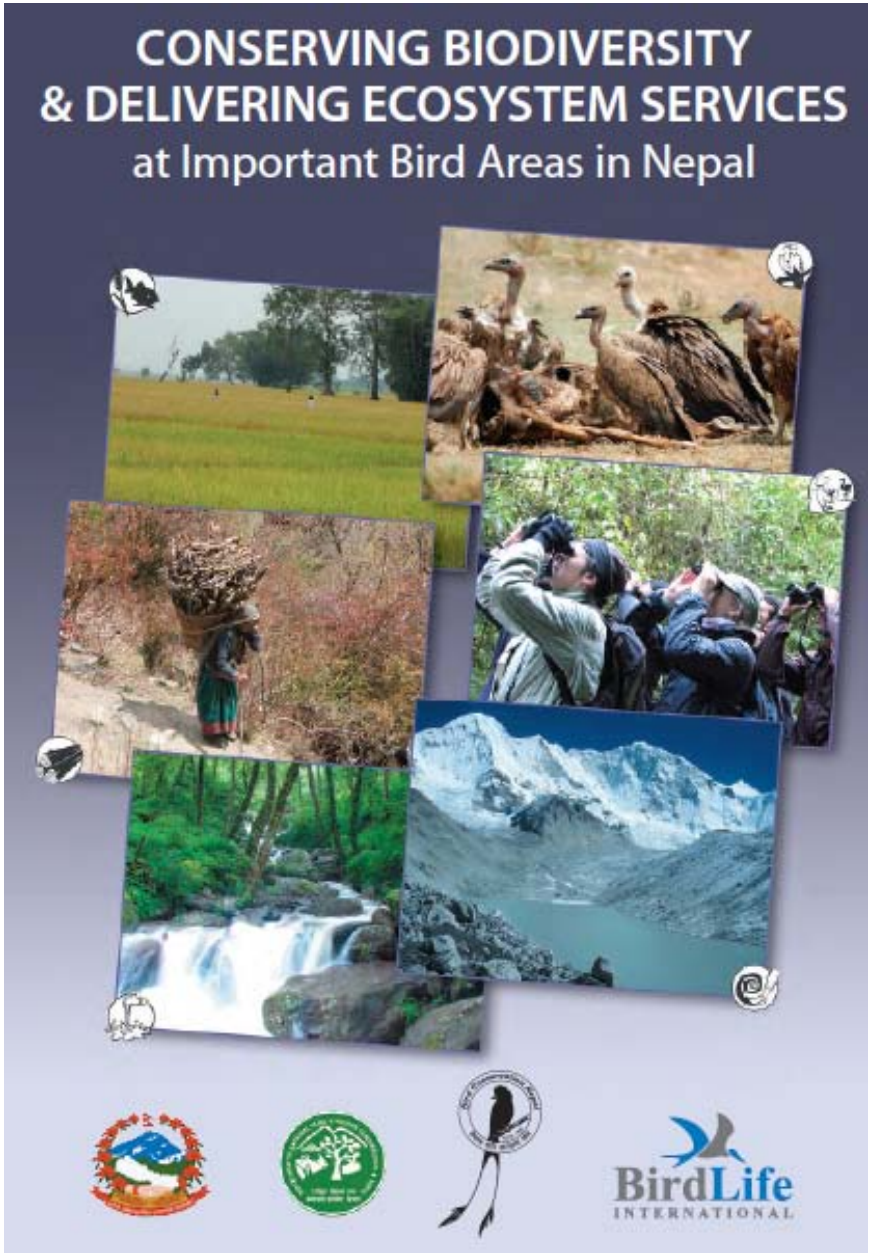
2. Meeting the targets: measuring ecosystem services to improve decision-making (4)



Safeguarding ecosystem services

Important Bird Areas (IBAs) are critical sites for biodiversity conservation but also deliver ecosystem services such as carbon sequestration and storage, water supply, food, timber, medicines, crop pollination and pest control. Furthermore, many communities are dependent on IBAs for their livelihoods. Effectively conserving the global IBA network would undoubtedly safeguard substantial provision of ecosystem services and local livelihoods.

Aichi Target 14

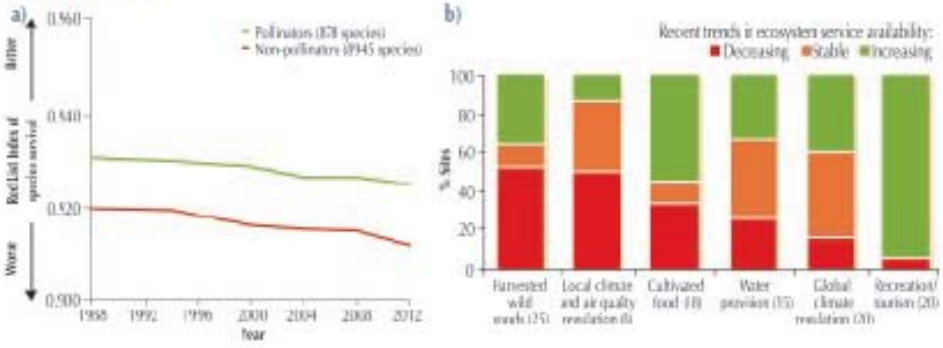
Ecosystems that provide essential services and livelihoods are safeguarded and/or restored, with equitable access

Using birds to track progress

Birds themselves are important providers of ecosystem services, through their role as pollinators (for which at least 50 crop and medicinal plant species reply on birds), pest control (e.g. rodent-hunting birds of prey), seed dispersal (e.g. frugivores such as hornbills) and scavengers (e.g. vultures). Tracking trends in the status of such species can help to monitor the provision of ecosystem services. In addition, monitoring ecosystem service delivery at IBAs can help to demonstrate the benefits of IBA conservation beyond species, and to monitor progress in safeguarding ecosystem services.

(a) Trends in the extinction risk for species that provide ecosystem services: the Red List Index for pollinating birds.
(b) Trends in the delivery of multiple ecosystem services: proportion of Important Bird Areas in Nepal delivering ecosystem services with increasing, decreasing or stable trends

Source: (a) Analysis of data held in BirdLife's World Bird Database (2012). (b) Data from 27 sites from Bird Conservation Nepal and BirdLife International (2012).



Achieving the target: examples of success

Bird Conservation Nepal is assessing ecosystem services at Important Bird Areas

The Nigerian Conservation Foundation is assisting wetland restoration to safeguard vital ecosystem services

Nature Uganda is empowering local communities to manage natural resources better and to restore ecosystem services

Image: Healthy, bio-diverse wetlands provide numerous ecosystem services upon which local communities depend. (Lera Miles)

For these and other case studies, see *State of the world's birds* online at **www.birdlife.org/datazone/sowb**

3. Tracking targets: EbA

Ecosystem conservation for climate change adaptation in East Africa project:

Developing indicators for Target 11, e.g.

Trend in proportion of protected areas in which EbA activities are being implemented

Target 14, e.g.

Trends (through repeated application of BirdLife's ecosystem service rapid assessment tool at a suite of sites) in proportion of sites in which delivery of flood control services is increasing/decreasing

Target 15, e.g.

Trends in welfare and economic losses associated with climatic variability and change

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