Convention on Biological Diversity

Monitoring Implementation and Indicators

Regional Workshop for the Caribbean Countries on the Preparation of the Fifth National Report

Gros Islet, Saint Lucia
16-20 September 2013

United Nations Decade on Biodiversity

What is an indicator?

Indicators refer to measures which tell us what is happening to biodiversity

Indicators are useful for:

- Tracking and monitoring progress
- Highlighting where action is needed
- Guiding policy development or implementation
- Communicating with stakeholders

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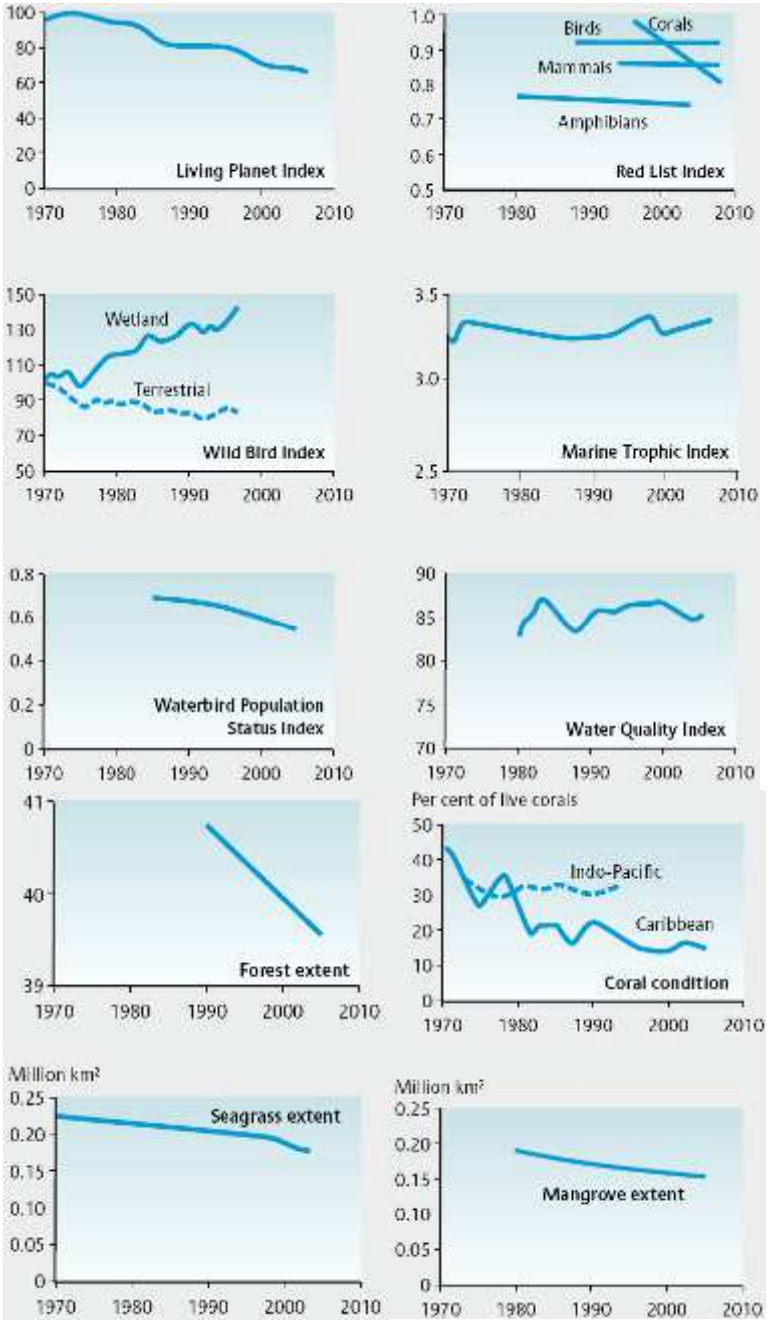
What is an indicator?

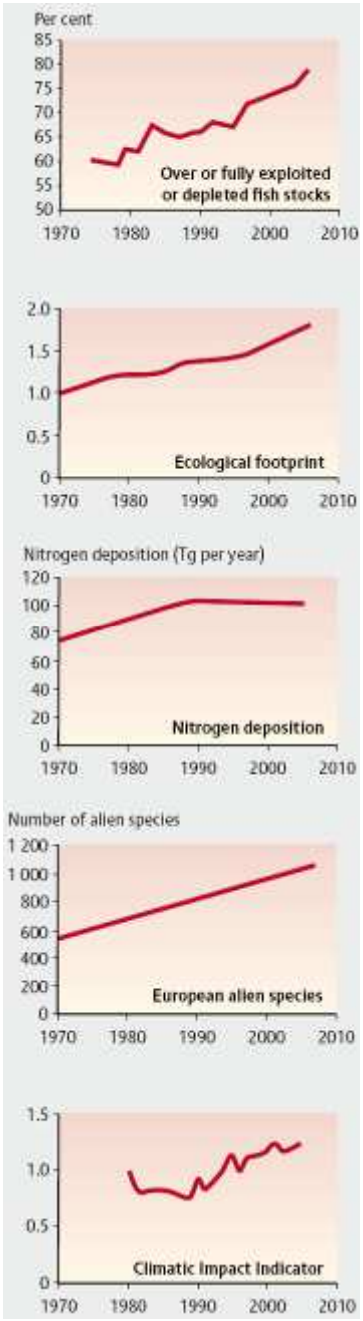
An indicator may provide information on many issues or targets but…

- A single indicator will never give you the complete picture
- Interpretation is important (what are the implications)

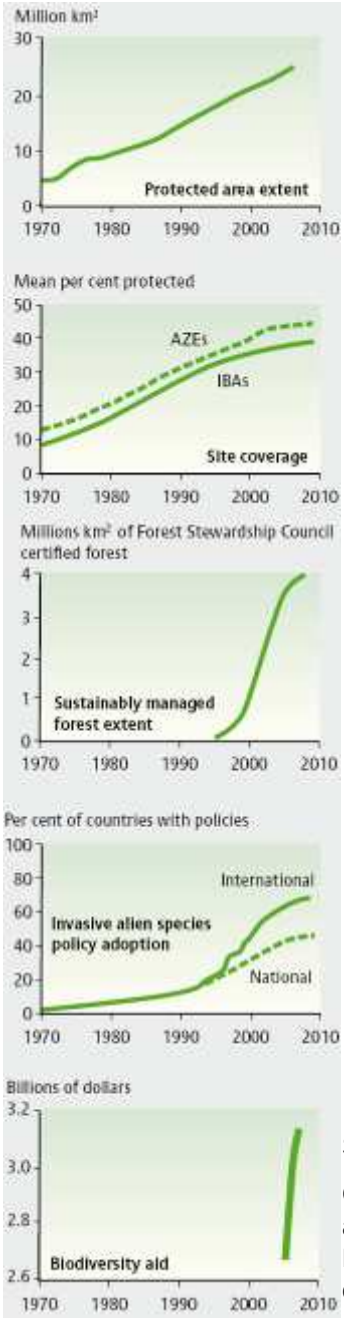
State



Pressure



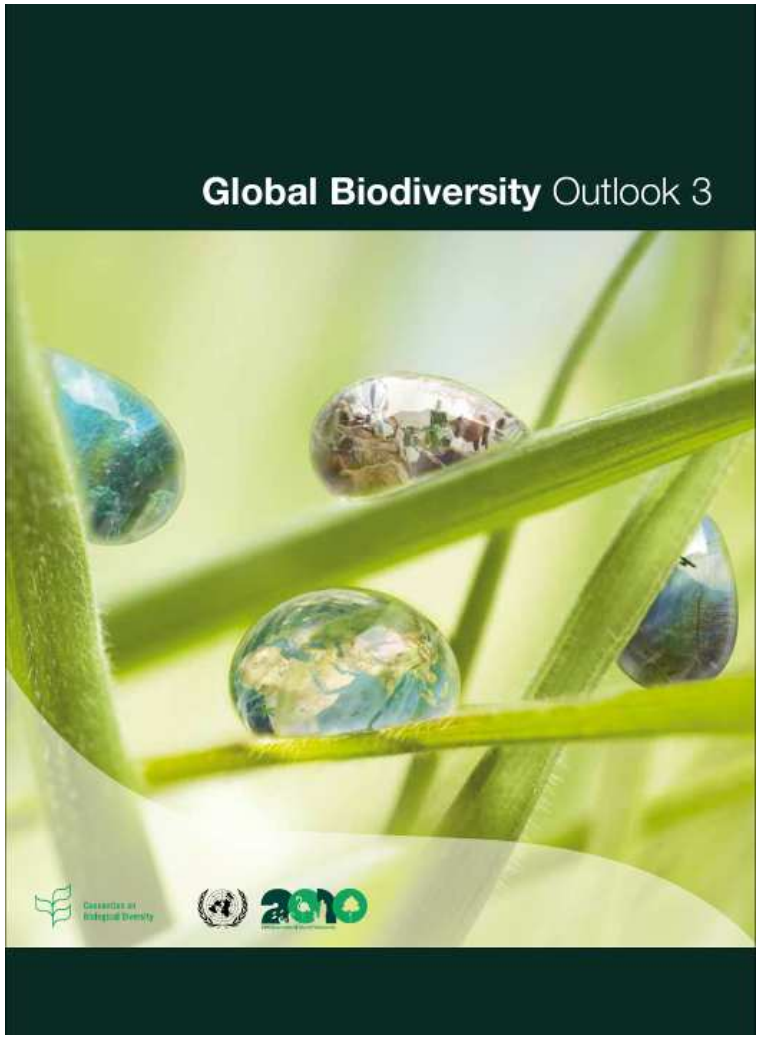
Response



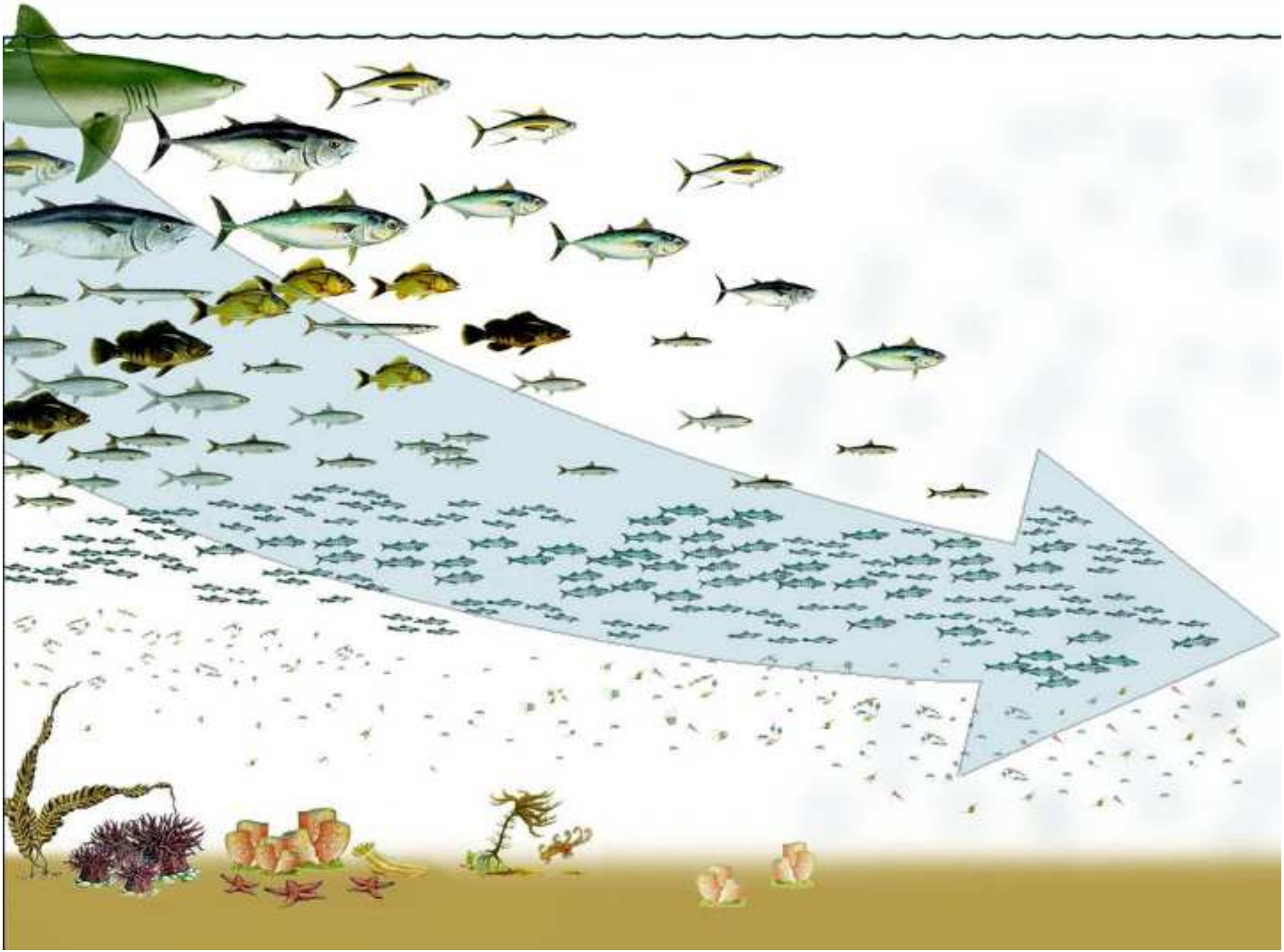
Source:

GBO-3, after Butchart etal 2010

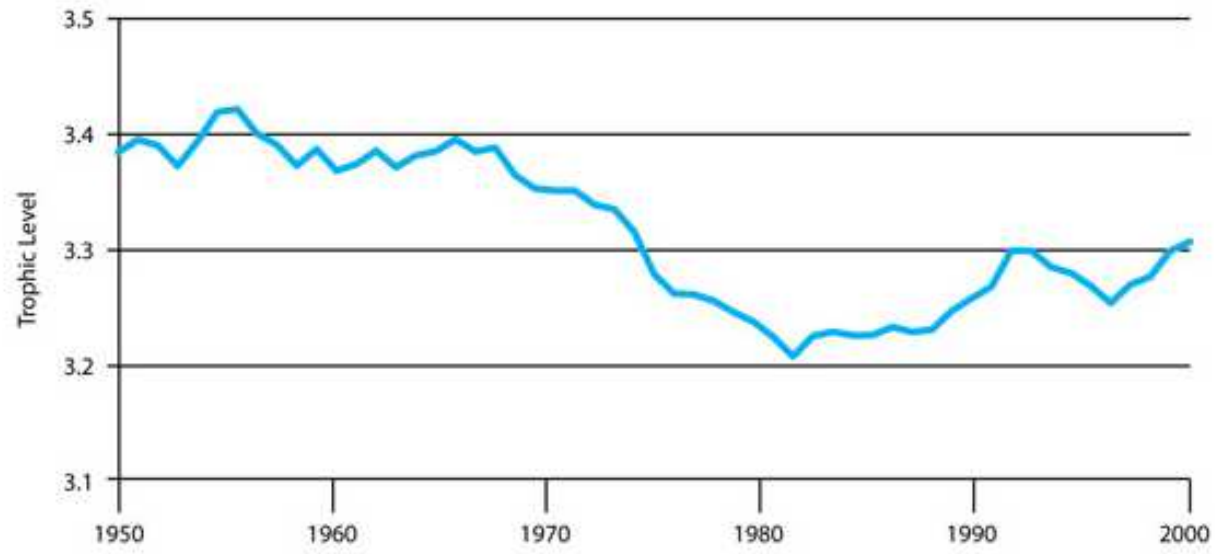
What is an indicator?



"The target agreed by the world's Governments in 2002, "to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth", has not been met."



The Indicator



Global Marine Trophic Index

The global index excludes data for Peruvian anchoveta. The very localized fishery for Peruvian anchoveta, a low trophic level species, is the largest single-species fishery in the world, and it exhibits extreme fluctuations in landings which would mask the comparatively more subtle patterns in trophic level changes by the rest of the world's fisheries.

How to Interpret the Indicator

....An increase in MTI does not necessarily mean that abundances of higher tropic level species have increased. Instead an increase may be the result of geographical expansion of fisheries within the area being examined (see Swartz et al. 2010. PLoS ONE 5(12): e15143).

What makes a good indicator?

- Based on a clear measure of biodiversity (scientifically valid)
- Has a clear baseline or starting year and a clearly defined scale (habitat, biome, country, eco-region, etc.)
- Based on available data
- Responsive to change in issue of interest
- Easily understandable
- Relevant to user's needs
- Used

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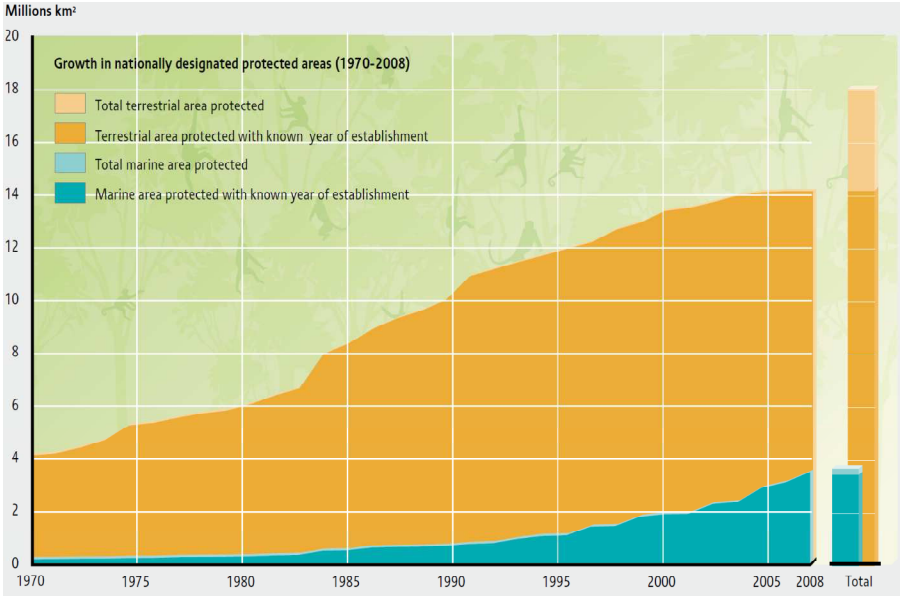
Types of indicators

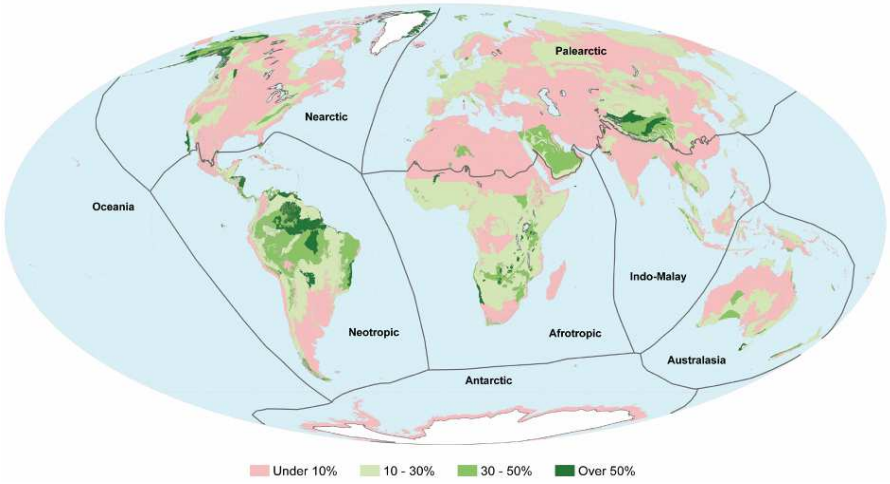
There are different types of indicators:

Quantitative

Temporal

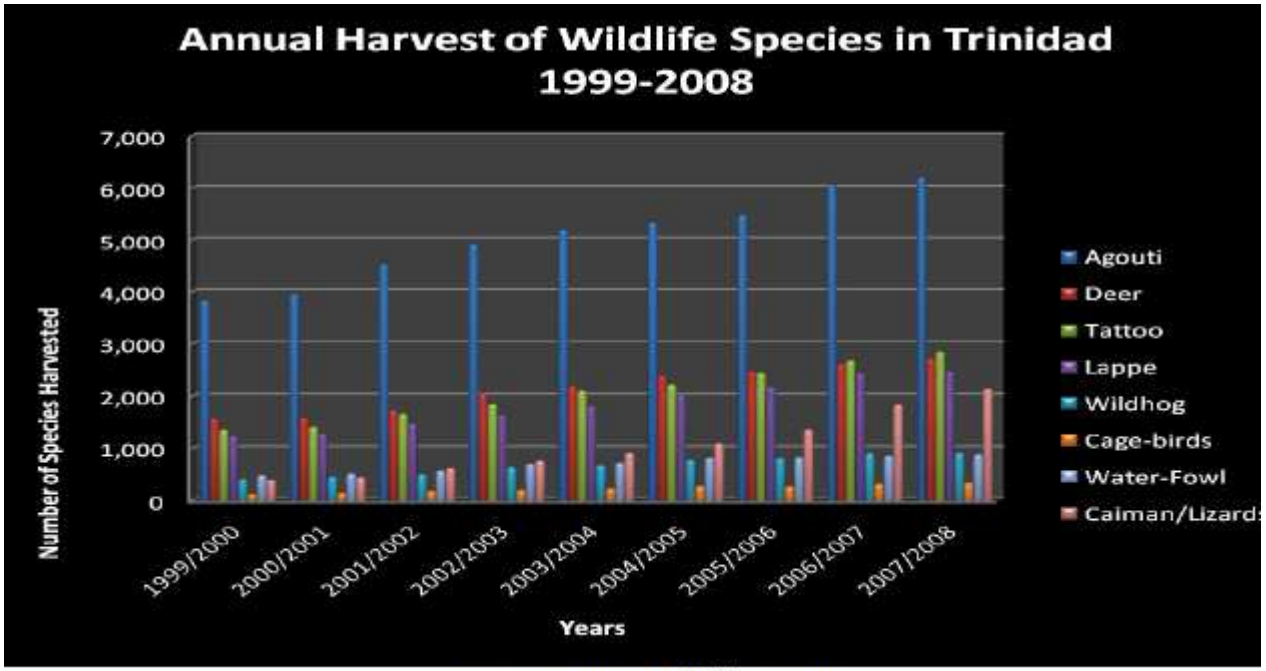


Spatial



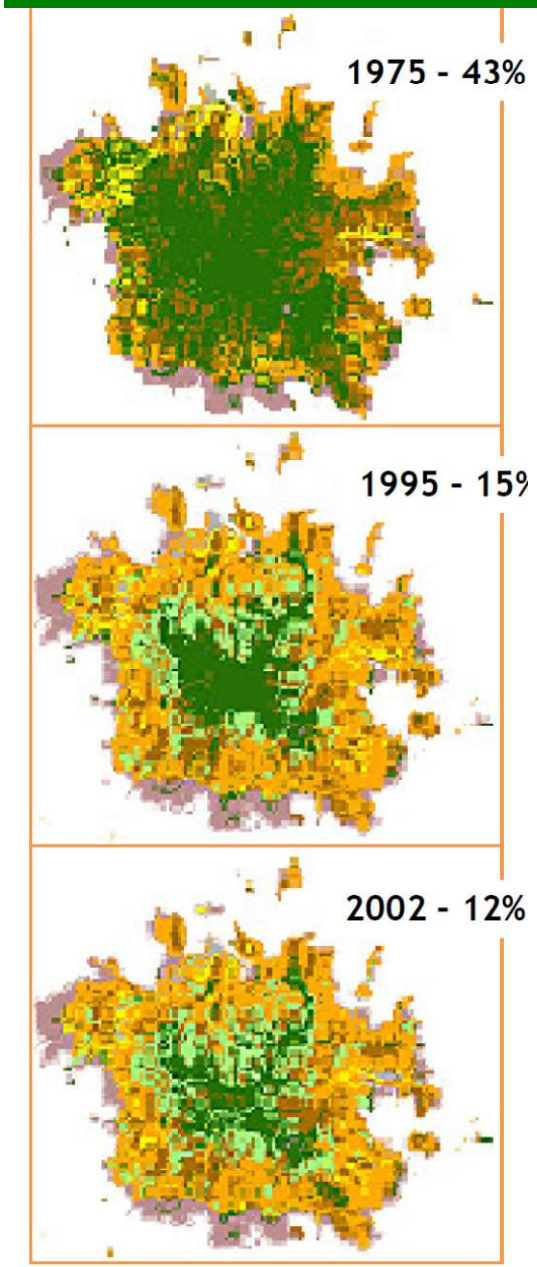
Types of indicators

Trinidad and Tobago: Annual Harvest of Wildlife Species



Source: Forestry Division 2009

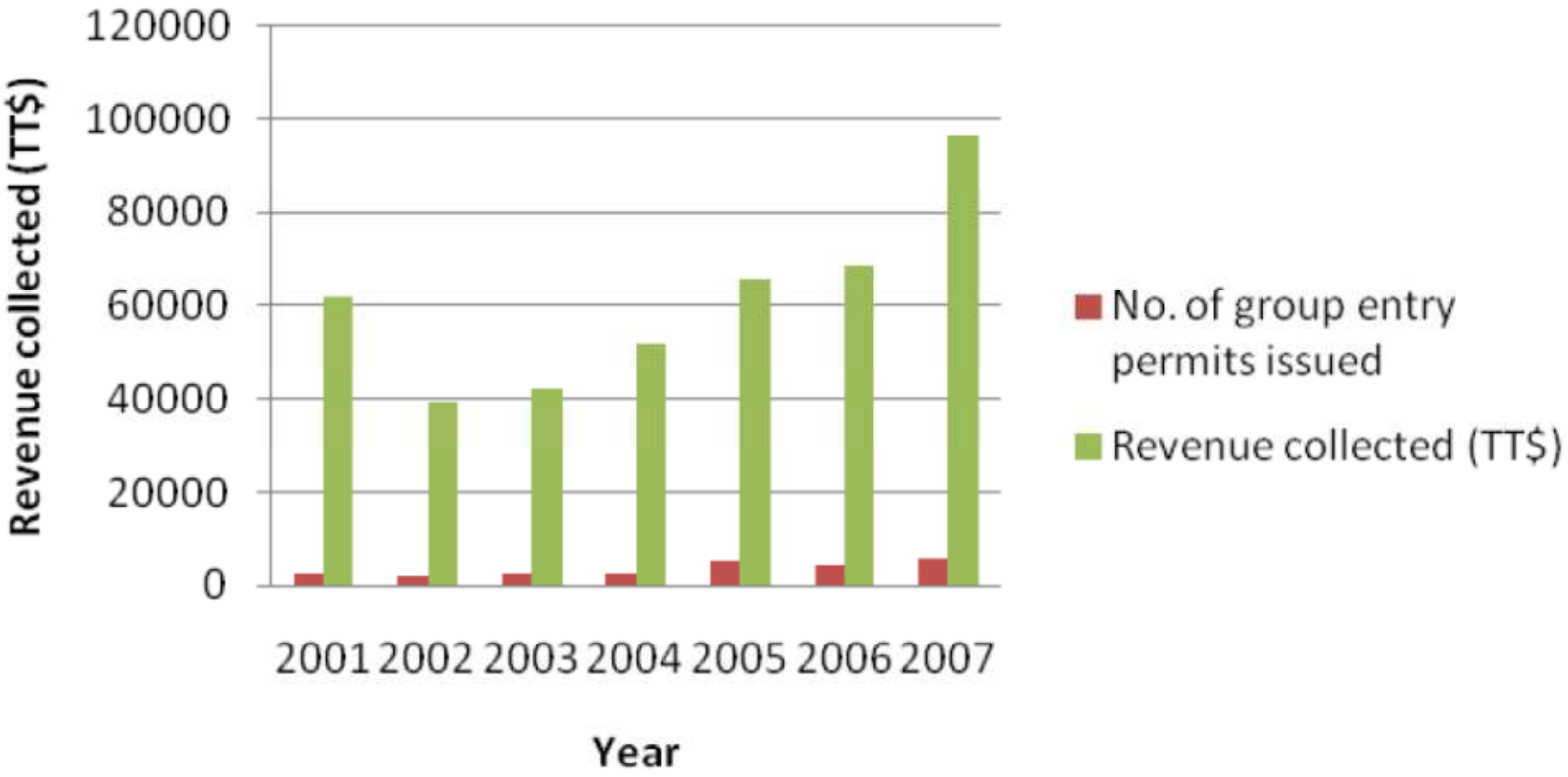
Types of indicators



Federated States of Micronesia – Change in Native Forest Cover on Pohnpei by year

Types of indicators

Trinidad and Tobago: Permits issued and revenue collected for turtle viewing (2001-2007)



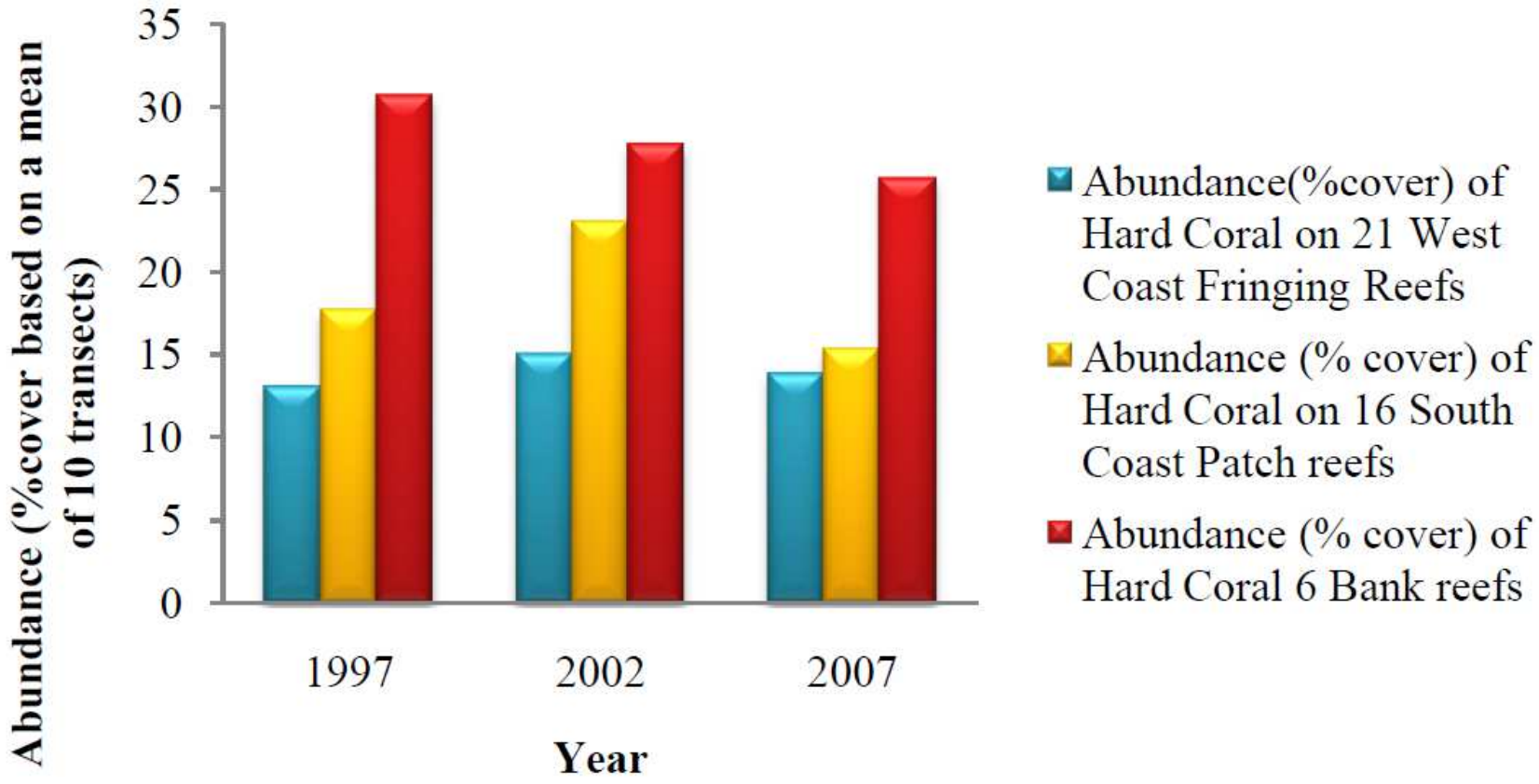
Types of indicators

Antigua and Barbuda: Coral coverage at three studied sites on Antigua

Surveyed area	Year	% Live hard coral	% live soft coral
Nonsuch Bay	1983	35%	10%
	1996	7%	2%
Goat Head	1979	20%	15%
	1996	5%	1%
Bishop's Reef	1983	15%	10%
	1996	2%	2%

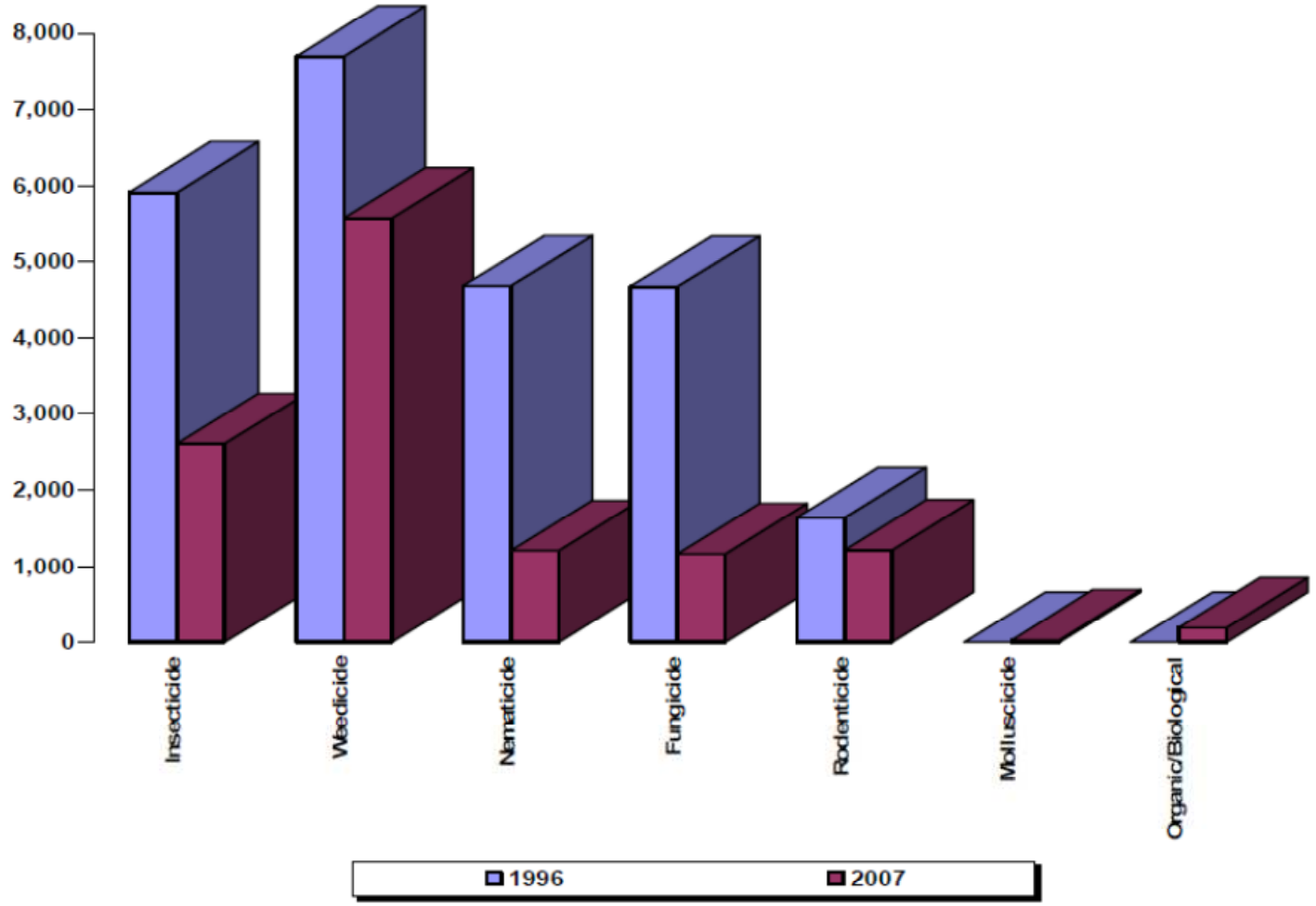
Types of indicators

Barbados: Hard coral abundance (1997-2007)



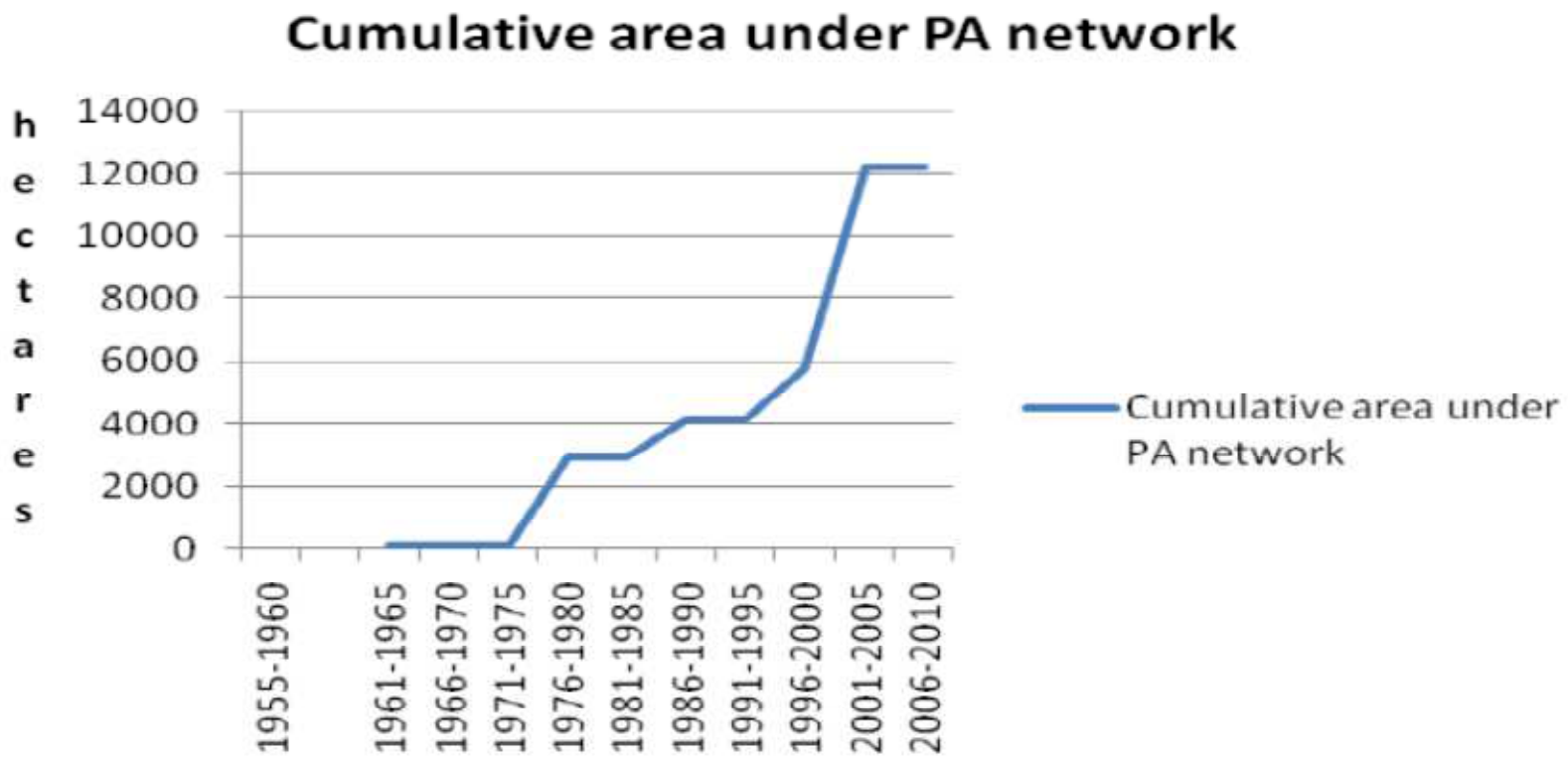
Types of indicators

Saint Lucia: Trends in agrochemical use (1996-2007)



Types of indicators

Samoa: Growth in Samoa's Terrestrial Protected Area Network 1958-2010

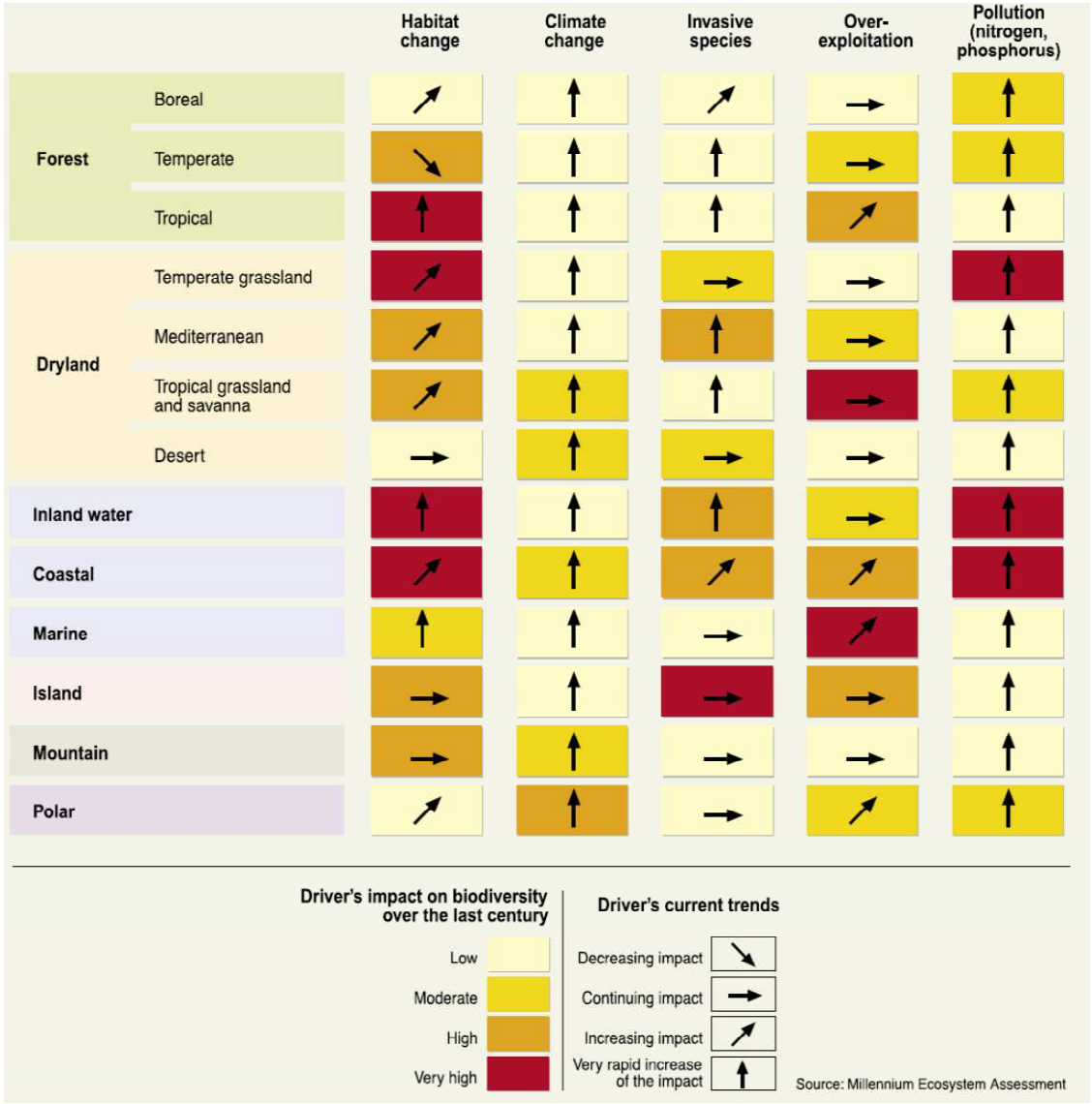


Types of indicators

Obstacles to successful indicators:

- Lack of resources (funding, expertise, data)
- Insufficient stakeholder/audience consultation
- Project-based data collection and/or management
- Data utilised not sensitive to change
- An after-thought to a wider process of strategy development and target setting

Types of indicators



Qualitative

Based on expert opinion, judgment consultation and anecdotal information

Ideal in situations were quantitative indicators do not exist or are incomplete

Types of indicators

Bahamas

Ecosystems / Biodiversity Component	Threat/Menaces				
	Climate Change	Habitat Loss	Invasive Species	Pollution	Over-exploitation
Agricultural	↗	↗	↗	→	↘
Coppice Forest	↗	↗	↗	↗	↗
Pine Forest	↗	↑	↗	↗	↗
Inland Waters	↗	↗	↗	↑	↗
Islands	↗	↗	↗	↗	↗
Coastal	↑	↑	↑	↑	↑
Coral Reefs	↑	↗	↗	↗	↑
Mangroves	↗	↗	↗	↗	↗
Deep Water	↗	→	↗	↗	↗
Seagrass Beds	↗	→	↗	↗	↑

Driver's Impact on Biodiversity

- Very High
- High
- Moderate
- Low

Driver's Trends

↘	Decreasing Impact
→	Stabilizing Impact
↗	Increasing Impact
↑	Very Rapidly Increasing Impact

Types of indicators

TABLE 1 Status of agreed subsidiary targets to 2010 biodiversity target

Goal 1. Promote the conservation of the biological diversity of ecosystems, habitats and biomes

	**1.1: At least 10% of each of the world's ecological regions effectively conserved.**	Not achieved globally, but more than half of terrestrial eco-regions meet the 10% target. However, management effectiveness is low for some protected areas. Marine and inland water systems lack protection, though this is increasing.
	**1.2: Areas of particular importance to biodiversity protected.**	Not achieved globally, but an increasing proportion of the sites of importance for conserving birds, and those holding the last remaining populations of threatened species, are being protected.

Goal 2. Promote the conservation of species diversity

	**2.1: Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups.**	Not achieved globally as many species continue to decline in abundance and distribution. However, some efforts have resulted in the recovery of targeted species.
	**2.2: Status of threatened species improved.**	Not achieved globally, as species are on average at increasing risk of extinction. However some species have moved to lower risk categories as a result of actions taken.

Goal 3. Promote the conservation of genetic diversity

	**3.1: Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained.**	Not achieved globally. Information on genetic diversity is fragmentary. Progress has been made towards conserving genetic diversity of crops through ex situ actions, however agricultural systems continue to be simplified. While the genetic diversity of wild species is more difficult to ascertain, the overall decline of biodiversity presented in this report strongly suggests that genetic diversity is not being maintained. Genetic resources in situ and traditional knowledge are protected through some projects, but continue to decline overall.

Types of indicators

TABLE 2 Trends shown by agreed indicators of progress towards the 2010 biodiversity target

Status and trends of the components of biological diversity	
↙	**Trends in extent of selected biomes, ecosystems, and habitats** — Most habitats in most parts of the world are declining in extent, although forest area expands in some regions, and the loss of mangroves has slowed significantly, except in Asia. ❁❁
↙	**Trends in abundance and distribution of selected species** — Most species with limited population size and distribution are being further reduced, while some common and invasive species become more common. ❁❁❁ (but limited number of taxa assessed)
↙	**Change in status of threatened species** — The risk of extinction increases for many threatened species, although some species recovery programmes have been very successful. ❁❁❁ (for those species assessed)
↙	**Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance** — It is likely that the genetic variety of cultivated species is declining, but the extent of such decline and its overall impacts are not well understood. ❁ (although many case studies with a high degree of certainty are available)
↗	**Coverage of protected areas** — There has been a significant increase in coverage of protected areas, both terrestrial and marine, over the past decade. However, many ecological regions, particularly in marine ecosystems, remain underprotected, and the management effectiveness of protected areas remains variable. ❁❁❁

Relevant Decisions

Decision XI/3:

- **Takes note of the indicative list of indicators** … and recognizes that these provide a starting point for assessing progress…
- Recognizes that the indicator framework… **provides a flexible basis** (to monitor progress) for Parties which can be adapted…
- Invites Parties to **prioritize the application at national level of those indicators that are ready for use at global level**… and invites Parties to **use the flexible framework** and the indicative list of indicators, inter alia in their updated NBSAPs and in reporting, including in the fifth national reports, as far as possible…

Indicator Framework

- **12 Headline** indicators addressing the issues of the 20 Aichi targets (broad themes)
- **22 Operational** indicators that are ready for use globally (Category **A**)
- **Additional** indicators that should be developed at global level as a priority (Category **B**)
- A **larger number** of indicators for consideration at subglobal level (i.e. national, state, province, sub-regional) (Category **C**)

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Indicator Framework

Target 5 Habitat loss is reduced	**Trends in extent, condition and vulnerability of ecosystems, biomes and habitats** •Extinction risk trends of habitat dependent species in each major habitat type (A) •Trends in extent of selected biomes, ecosystems and habitats (A) (decision VII/30 and VIII/15) •Trends in proportion of degraded/threatened habitats (B) •Trends in fragmentation of natural habitats (B) (decision VII/30 and VIII/15) •Trends in condition and vulnerability of ecosystems (C) •Trends in the proportion of natural habitats converted (C)
	Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture •Trends in primary productivity (C) •Trends in proportion of land affected by desertification (C) (also used by UNCCD)
	Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers •Population trends of habitat dependent species in each major habitat type (A)

Indicator Framework

Strategic Plan Indicators Database - https://www.cbd.int/sp/indicators/

- Global Workshop (Brasilia, March 2012)
- Key Elements
- Aichi Biodiversity Targets
- Implementation
- Indicators
- Quick Guides for Aichi Targets
- Other useful resources
- Meetings and Documents
- Briefing Sessions
- Notifications
- Inputs for revising and updating the Strategic Plan 2002-2010
- **UN Decade on Biodiversity**

> Convention > Strategic Plan 2011-2020 > Indicators

Strategic Plan Indicators

In recommendation XV/1 the Subsidiary Body on Scientific, Technical and Technological Advice took note of an indicative list of indicators identified by the Ad Hoc Technical Expert Group (AHTEG) on Indicators for the Strategic Plan for Biodiversity 2011 - 2020. The indicators identified by the AHTEG have been compiled in the database below to facilitate their use. Indicators for the Strategic Plan for Biodiversity 2011-2020 will be further discussed during the eleventh meeting of the Conference of the Parties.

SBSTTA welcomed this database in recommendation XV/1 and requests that it be further developed, maintained, and periodically updated, with a view to maximizing its usefulness to Parties and other stakeholders, in collaboration with the Biodiversity Indicators Partnership and other relevant partners.

Please note that the wordings of the Strategic Goals and of the Aichi Biodiversity Targets have been shortened for reasons of readability. The official wording can be found in decision X/2.

We would be grateful to receive any comments or ideas for how the database could be improved. Please send any comments to secretariat@cbd.int.

Strategic Goal
<All>
Aichi Biodiversity Targets
<All>
Keyword

Advanced Search | Search

Indicator Framework

35 record(s) found

Headline Indicator(s)	Operational Indicator(s)
Most relevant indicators	
Trends in abundance, distribution and extinction risk of species	Trends in abundance of selected species
Trends in abundance, distribution and extinction risk of species	Trends in distribution of selected species
Trends in abundance, distribution and extinction risk of species	Trends in extinction risk of species
Other relevant indicators	
Trends in accessibility of scientific/technical/traditional knowledge and its application	Number of maintained species inventories being used to implement the Convention
Trends in coverage, condition, representativeness and effectiveness of protected areas	Trends in coverage of protected areas
Trends in coverage, condition, representativeness and effectiveness of protected areas	Trends in protected area condition and/or management effectiveness including more equitable management
Trends in coverage, condition, representativeness and effectiveness of protected areas	Trends in representative coverage of protected areas and other area based approaches, including sites of particular importance for biodiversity, and of terrestrial, marine and inland water systems
Trends in coverage, condition, representativeness and effectiveness of protected areas	Trends in the connectivity of protected and other area based approaches integrated into land and sea scapes

Indicator Framework

Strategic Plan Indicator Factsheet

Operational Indicator	Trends in extinction risk of species
Communication Question	State – How is the state of biodiversity changing?
Strategic Goal	C
Headline Indicator	Trends in abundance, distribution and extinction risk of species
Indicator Sub-topics	Trends in abundance, distribution and extinction risk of species
Most Relevant Aichi Target	12
Other Relevant Aichi Targets	5, 6, 7, 10, 13, 14, 15
Operational Classification	Priority and ready for use globally
Status of development	Available for birds, mammals, amphibians and corals globally. Further taxonomic groups being added over the next decade (e.g., sharks, groupers and wrasses, cycads, conifers, etc). Available globally, regionally and, over the next decade, nationally (many countries have produced national Red Lists (some using the IUCN methodology and others not) which when repeated could produce national RLIs). Extinction risk indicators and population trend indicators are complementary because they measure different levels of biodiversity (species vs. populations), have different levels of sensitivity (high for population trends, moderate for extinction risk) and different levels of geographic & species coverage (comprehensive for extinction risk for a number of taxonomic groups; much lower for population trends, which are based on better studied species).
Sensitivity (can it be used to make assessment by 2015?)	High
Scale (global, regional, national, sub-national)	G, R, N
Scientific Validity	High
How easy can it be communicated?	High
Data Sources	Global IUCN Red List. National red lists (either those that apply IUCN criteria and guidelines at the sub-global level, or from other risk-ranking protocols)
Data Requirements	IUCN Red List categories for complete sets of species from two or more time-points. Requires genuine recategorisations to be distinguished from non-genuine changes following standard protocols.
Who's responsible for measuring?	IUCN and its Partners (BirdLife InteR, National, NatureServe, Conservation InteR, National, Kew etc) at the global level. National agencies developing or updating national red lists.
Other conventions/processes using indicator	UN MDGs, CMS
Related Links	BIP Indicator: Red List Index

Indicator Framework

Biodiversity Indicators Partnership

Translate: Select Language — Powered by Google Translate

Shared Document Area
Friday, July 12, 2013

National Indicators Portal

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Red List Index

Indicator facts

CBD Strategic Goal: B. Reduce the direct pressures on biodiversity and promote sustainable use

Main Aichi Biodiversity Target: Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained

Secondary Aichi Biodiversity Targets: Targets 5, 6, 7, 8, 10, 14

CBD AHTEG Headline Indicator: Trends in abundance, distribution and extinction risk of species; Trends in extent, condition and vulnerability of ecosystems, biomes and habitats; Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture; Trends in pressure from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers; Trends in distribution, condition and sustainability of ecosystem services for equitable human well-being

CBD Operational Indicator: Extinction risk trends of habitat dependent species in each habitat type

Key Indicator Partners:

IUCN | BirdLife International | ZSL

Associate Indicator Partner:

Conservation International | Kew Plants People Possibilities | NatureServe | Sapienza Università di Roma

Other conventions or processes using the indicator: RLIs have been widely adopted at the policy level, being used to report against the CBD 2010 Biodiversity target, the UN Millennium Development Goals, by CITES, CMS (and its agreements: AEWA, ACAP Raptor MOU), and for regional policy fora (e.g., SEBI in Europe). It has been well profiled in global assessments such as the Global Biodiversity Outlook-3 and Global Environment Outlook 5.

Development Status: Ready for global use; ready for national use for those countries with sufficient baseline data

Reason

Background: Species and the ecosystems of which they are part provide a range of goods and services which support everyday life. This biodiversity is essential for livelihoods and the cultural integrity of people. Yet biodiversity is currently being lost at an alarming rate due to human activities. At present, species extinction rates exceed background rates by two to four orders of magnitude.

Species are the most intuitive unit of biodiversity, and one which resonates with the public and about which we have a relatively good understanding. The IUCN Red List is a well-established and respected system for classifying species by their relative risk of extinction.

The IUCN Red List Index (RLI) shows changes in the overall extinction risk of sets of species over time, with RLI values relating to the proportion of species expected to remain extant in the near future without additional conservation action. The RLI measures the overall rate at which species move through IUCN Red List categories towards or away from extinction. It is calculated from the number of species in each category (Least Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered, Extinct), and the number changing categories between assessments as a result of genuine improvement or deterioration in status (category changes owing to improved knowledge or revised taxonomy are excluded). Tracking the net movement of species through the Red List categories provides a useful metric of changing biodiversity status.

Download the Red List Index Calculator!

Download the Red List Index calculator – an excel template for entering RLI data and automatically calculating and presenting the RLI

Versions:

- **Microsoft Office 2003 or earlier**
- **Microsoft Office 2007**

Indicator Links

- The IUCN Red List Index
- The IUCN Red List Index (Sampled Approach)
- Plants for the IUCN Sampled Red List Index
- Millenium Development Goal 7

Other Useful Links

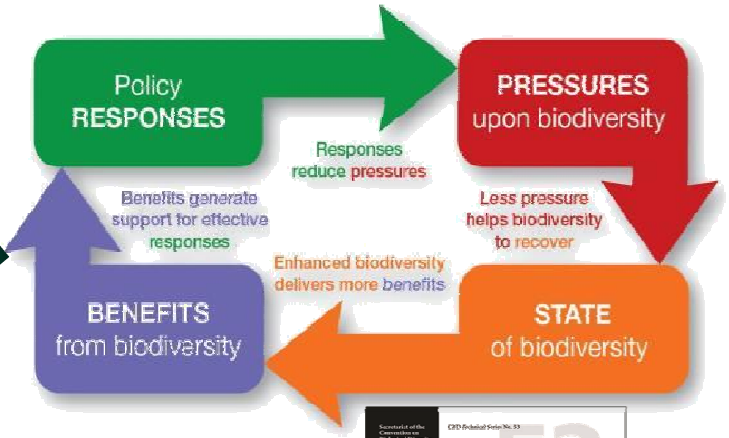
- IUCN Red List
- BirdLife International
- Indicators and Assessment Unit, ZSL
- IUCN
- National Red Lists

Biodiversity Indicators Partnership

- CBD-mandated collaboration
- Over 40 organizations working globally
- Secretariat based at UNEP-WCMC
- Promoting the development and delivery of indicators at the global, regional and national levels

Global Indicator Work

United Nations Decade on Biodiversity



Global Biodiversity: Indicators of Recent Declines

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In 2002, world leaders committed, through the Convention on Biological Diversity, to achieve a significant reduction in the rate of biodiversity loss by 2010. We compiled 31 indicators to report

Butchart et al (2010) *Science* 328: 1164-8

CBD Technical Series No. 53

National and Regional Work

To date the BIP has worked with over **60 countries** in **7 regions**

- **Workshops 2012-13:** Series of Capacity Building Workshops: in Francophone Africa, South/South East Asia, Eastern Europe and South America
- **"Training of Facilitators'** Programme Launched: ~20 'Biodiversity Indicator Development Facilitators' will be trained to facilitate effective indicator development workshops in their country/region.
- BIP Participation in **CBD Regional NBSAP capacity-building workshops**

Biodiversity Indicators Partnership

National and Regional Work

Find an Indicator Facilitator in your region

http://www.bipnational.net/GetInvolved/FindaFacilitator#Lat_Am

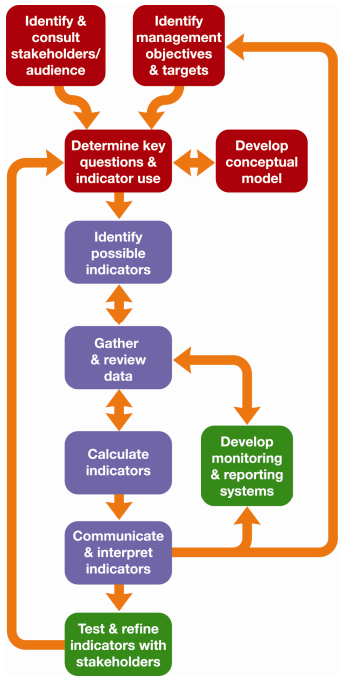
Name: Jose Manuel Mora
Country: Honduras
Organisation: Zamorano - Escuela Agricola Panamericana
Position: Full Professor
Telephone number: +504 9465 1897

Email:

Biodiversity Indicators Partnership

BIP Resources for National Indicator Development

- Framework to assist indicator developers
- Series of guidance materials and indicator factsheets
- Forthcoming e-learning module
- Technical support provided to practitioners involved in indicator use/development and NBSAP updating
- **info@bipindicators.net**



Biodiversity Indicators Partnership

BIP Resources for National Indicator Development

BIP National Website:

- 'Toolkit for indicator developers' containing all guidance materials, e-learning, national publications, FAQ, factsheets...
- Profiles of national and regional initiatives
- Online 'Community of Practice' to share lessons learnt and experiences, to offer and seek support
- Forthcoming portal for connecting with other practitioners
- Forthcoming e-learning module

www.bipnational.net

Biodiversity Indicators Partnership

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