

ANNEX E: 2010 Biodiversity Indicators Partnership Project Phase 1 Budget

Table 1. Component Financing in US\$

Outcomes & Outputs	Total Component Budget	Co-Funding			Requested from GEF
		Cash	In kind	Total co-funding	
Outcome 1: 2010 biodiversity indicators partnership generating information useful to decision makers	2,072,000	626,000	0	626,000	1,446,000
Output 1.1. Working partnership on 2010 indicators established and maintained	1,222,000	226,000	0	226,000	996,000
Output 1.2 Communication strategy meeting user needs prepared and implemented	850,000	400,000	0	400,000	450,000
Outcome 2: Improved global indicators implemented and available	11,479,801	5,011,248	4,398,553	9,409,801	2,070,000
Output 2.1: Standards, guidelines and methods for indicator development, peer review and information sharing	135,000	0	0	0	135,000
Output 2.2: Individual indicators strengthened and delivered	11,344,801	5,011,248	4,398,553	9,409,801	1,935,000
Outcome 3: National governments and regional organizations using and contributing to improved delivery of global indicators	198,000	75,000	0	75,000	123,000
Output 3.1: Enhanced capacity of national governments and regional organizations to contribute to global indicator delivery	104,000	75,000	0	75,000	29,000
Output 3.2: Guidelines and other tools available to governments and regional organizations for the use of global indicators and their methodologies.	94,000	0	0	0	94,000
TOTAL	13,749,801	5,712,248	4,398,553	10,110,801	3,639,000

Table 2: GEF Funding Allocation

Budget Line per Output	2006	2007	2008	2009	TOTAL
Outcome 1: 2010 biodiversity indicators partnership generating information useful to decision makers	175,000	352,000	413,000	506,000	1,446,000
Output 1.1. Working partnership on 2010 indicators established and maintained	141,000	260,000	285,000	310,000	996,000
Personnel (2 full time equivalent staff)	35,000	120,000	125,000	90,000	370,000
Reporting and dissemination	1,000	3,000	3,000	3,000	10,000
Travel	2,000	12,000	12,000	12,000	38,000
Steering Committee meetings	10,000	10,000	10,000	10,000	40,000
Partnership meetings	50,000	50,000	50,000	50,000	200,000
Enabling broader stakeholder involvement	3,000	5,000	5,000	5,000	18,000
Monitoring and Evaluation	5,000	10,000	10,000	70,000	95,000
Project support costs (equipment, premises, financial management, admin support, sundry)	30,000	40,000	50,000	50,000	170,000
Develop and implement strategy for follow up to the 1st phase	5,000	10,000	20,000	20,000	55,000
Output 1.2 Communication strategy meeting user needs prepared and implemented	34,000	92,000	128,000	196,000	450,000
Review needs of full range of users	5,000	10,000	8,000	6,000	29,000
Develop and implement communications and outreach programmes	10,000	20,000	20,000	30,000	80,000
Further relate 2010 indicators to targets and indicators across international initiatives.	5,000	12,000	0	0	17,000
Partnership internet presence and communication	4,000	10,000	10,000	10,000	34,000
Indicator analysis and development of partnership products	5,000	30,000	50,000	70,000	155,000
Translation, publication and dissemination of partnership products.	5,000	10,000	40,000	80,000	135,000
Outcome 2: Improved global indicators implemented and available	220,000	790,000	240,000	820,000	2,070,000
Output 2.1: Standards, guidelines and methods for indicator development, peer review and information sharing	20,000	40,000	30,000	45,000	135,000
Establish and maintain standards, and assist partners with activities in data improvement, management and use.	20,000	30,000	20,000	30,000	100,000
Peer review and quality assurance of outputs and products of the Partnership	0	10,000	10,000	15,000	35,000
Output 2.2: Individual indicators strengthened and delivered	200,000	750,000	210,000	775,000	1,935,000
Indicator development and implementation	200,000	670,000	160,000	715,000	1,745,000
Seed funding for additional indicator exploration and engagement	0	80,000	50,000	60,000	190,000
Outcome 3: National governments and regional organizations using and contributing to improved delivery of global indicators	8,000	65,000	41,000	9,000	123,000
Output 3.1: Enhanced capacity of national governments and regional organizations to contribute to global indicator delivery	8,000	15,000	6,000	0	29,000
Develop tools and guidelines on enhancing the use of local and national data and methodologies in regional and global indicator processes.	8,000	15,000	6,000	0	29,000
Output 3.2: Guidelines and other tools available to governments and regional organizations for the use of global indicators and their methodologies.	0	50,000	35,000	9,000	94,000
Develop tools and guidelines on the appropriate application of global indicator development methodologies and lessons learned at regional and national level.	0	20,000	25,000	9,000	54,000
Develop tools and guidelines on use of the global indicators in national and regional policy	0	30,000	10,000	0	40,000
TOTAL GEF FUNDING BUDGET	403,000	1,207,000	694,000	1,335,000	3,639,000

Table 3. Indicator development budget

Focal Area and Indicators	Total funding	Funds secured or anticipated	GEF funding allocation	Indicator Lead Organisation(s)
Status and trends of the components of biodiversity	7,648,329	6,754,329	930,000	
Trends in extent of selected biomes, ecosystems and habitats	4,732,400	4,462,400	270,000	Tbd: possible ILOs include: CI, FAO, UNEP WCMC, WI
Extent of selected biomes, ecosystems and habitats	4,732,400	4,462,400	270,000	
Trends in abundance and distribution of selected species	1,123,429	1,023,429	100,000	
Living Planet Index and associated population indices	520,200	460,200	60,000	IoZ & WWF International
Global Wild Bird indicator	603,229	563,229	40,000	Birdlife International
Coverage of protected areas	785,500	505,500	280,000	UNEP-WCMC and WCPA
Coverage of protected areas	190,000	150,000	40,000	
Overlays with biodiversity	178,000	138,000	40,000	
Management Effectiveness	417,500	217,500	200,000	
Change in status of threatened species	633,000	523,000	110,000	
Red List Index (and Sampled RLI)	633,000	523,000	110,000	IUCN
Trends in Genetic Diversity	410,000	240,000	170,000	FAO
Ex situ crop collections	255,000	165,000	90,000	FAO
Genetic diversity of terrestrial domesticated animals	155,000	75,000	80,000	FAO
Sustainable Use	1,231,122	931,122	300,000	
Areas under sustainable management	330,000	190,000	140,000	
Area of Forest under sustainable management	170,000	110,000	60,000	UNEP-WCMC and FAO
Area of agricultural ecosystems under sustainable management	160,000	80,000	80,000	FAO
Proportion of products derived from sustainable sources	480,000	340,000	140,000	
Proportion of fish stocks in safe biological limits	150,000	130,000	20,000	FAO
Status of species in trade	125,000	85,000	40,000	CITES
Other indicator of sustainable use	205,000	125,000	80,000	IUCN SUSG
Ecological Footprint and related concepts	421,122	401,122	20,000	
Ecological Footprint	421,122	401,122	20,000	Global Footprint Network
Threats to biodiversity	445,000	225,000	220,000	
Nitrogen Deposition	70,000	50,000	20,000	INI
Invasive Alien Species	375,000	175,000	200,000	GISP
Ecosystem Integrity and ecosystem goods and services	671,400	456,400	215,000	
Marine Trophic Index	45,000	25,000	20,000	Fisheries Centre, UBC
Water Quality	130,000	110,000	20,000	UNEP/GEMS water
Connectivity/ fragmentation of ecosystems	316,400	256,400	60,000	
Forest fragmentation	145,000	105,000	40,000	UNEP-WCMC and FAO
River Fragmentation	171,400	151,400	20,000	TNC
Health and well being of communities	0	0	0	WHO
Biodiversity for food and medicine	180,000	65,000	115,000	
Nutritional status	140,000	65,000	75,000	FAO
Biodiversity in diets and healthcare	40,000	0	40,000	IUCN

Status of traditional knowledge, innovations and practices	210,000	130,000	80,000	
Status and trends of linguistic diversity and numbers of speakers of indigenous languages	210,000	130,000	80,000	UNESCO
Status of Access and Benefit Sharing	0	0	0	
Indicator tbd	0	0	0	tbd
Status of resource transfers	0	0	0	
ODA in support of the Convention	0	0	0	OECD
TOTAL	10,241,851	8,496,851	1,745,000	

Table 4: Cofinancing by Component and Source

Title of project:	2010 Biodiversity Indicators Partnership		
Project Number:	2796 GEF/SEC		
Name of Implementing Agency:	UNEP-WCMC		
Project Duration:	From: Q4 2006 To: Q3 2009		
Project Component/ Cofinancing Source	Cash Contributions	In-Kind Contributions	Total Cofinancing
PROJECT TOTAL	5,712,248	4,398,553	10,110,801
TOTAL SECURED	1,830,622	3,208,553	5,039,175
<i>TOTAL ANTICIPATED</i>	<i>3,881,626</i>	<i>1,190,000</i>	<i>5,071,626</i>
Outcome 1: 2010 biodiversity indicators partnership generating information useful to decision makers	626,000	0	626,000
Output 1.1. Working partnership on 2010 indicators established and maintained	226,000	0	226,000
Total Secured	226,000	0	226,000
UNEP-WCMC	226,000	0	226,000
<i>Total Anticipated</i>	<i>0</i>	<i>0</i>	<i>0</i>
Output 1.2 Communication strategy meeting user needs prepared and implemented	400,000	0	400,000
Total Secured	0	0	0
<i>Total Anticipated</i>	<i>400,000</i>	<i>0</i>	<i>400,000</i>
<i>UK Government</i>	<i>100,000</i>	<i>0</i>	<i>100,000</i>
<i>CBD Secretariat</i>	<i>300,000</i>	<i>0</i>	<i>300,000</i>
Outcome 2: Improved global indicators implemented and available	5,011,248	4,398,553	9,409,801
Total secured	1,604,622	3,208,553	4,813,175
Ramsar Secretariat	0	53,150	53,150
Others: See table 5	1,604,622	3,155,403	4,760,025
<i>Total Anticipated</i>	<i>3,406,626</i>	<i>1,190,000</i>	<i>4,596,626</i>
<i>CBD Secretariat</i>	<i>30,000</i>		<i>30,000</i>
<i>Others: See table 5</i>	<i>3,376,626</i>	<i>1,190,000</i>	<i>4,566,626</i>
Outcome 3: National governments and regional organizations using and contributing to improved delivery of global indicators	75,000	0	75,000
Total Secured	0	0	0
<i>Total Anticipated</i>	<i>75,000</i>	<i>0</i>	<i>75,000</i>
<i>CBD Secretariat</i>	<i>75,000</i>		<i>75,000</i>

Table 5: Cofinancing Detail for Indicator Development (figures in Italics are anticipated funds)

Focal Area and Indicator	Cofinancing Source	Cash Contributions	In-Kind Contributions	Total Cofinancing
	Total for all indicators	5,107,248	3,389,603	8,496,851
	Secured	1,730,622	2,274,603	4,005,225
	<i>Anticipated</i>	<i>3,376,626</i>	<i>1,115,000</i>	<i>4,491,626</i>
Status and trends of the components of biodiversity	Total	4,554,726	2,199,603	6,754,329
	Secured	1,082,100	1,990,403	3,072,503
	<i>Anticipated</i>	<i>3,346,626</i>	<i>1,090,000</i>	<i>4,436,626</i>
Trends in extent of selected biomes, ecosystems and habitats		3,195,600	1,266,800	4,462,400
Extent of other habitat types	CI (source: NASA, anticipated)	<i>0</i>	<i>1,000,000</i>	<i>1,000,000</i>
	Wetlands International	195,600	91,800	287,400
	Wetlands International (anticipated)	<i>0</i>	<i>75,000</i>	<i>75,000</i>
Extent of Forest and Forest types	FAO	<i>3,000,000</i>	100,000	3,100,000
Trends in abundance and distribution of selected species		422,626	600,803	1,023,429
Living Planet Index (2006-2008)	Institute of Zoology	50,000	50,000	100,000
	WWF International	100,000	0	100,000
Global Wild Bird Index	BirdLife International	<i>146,626</i>	416,603	563,229
Abundance of selected forest tree species	FAO		100,000	100,000
Coverage of protected areas		490,500	15,000	505,500
Overlays with areas of key importance & Coverage according to world database	Swiss Govt	53,000	0	53,000
	EC	35,000	0	35,000
	Rio Tinto and IHSE licenses	<i>200,000</i>	0	<i>200,000</i>
Management effectiveness	University of Queensland	202,500	<i>15,000</i>	217,500
Change in status of threatened species		436,000	87,000	523,000
Red List Index	Institute of Zoology	436,000	87,000	523,000
Trends in Genetic Diversity		10,000	230,000	240,000
Ex situ crop collections	FAO		125,000	125,000
	IPGRI		40,000	40,000
Genetic diversity of terrestrial domesticated animals	FAO	10,000	55,000	65,000
	ILRI	0	5,000	5,000
	CGN, the Netherlands	0	5,000	5,000
Sustainable Use	Total	401,122	530,000	931,122
	Secured	351,122	240,000	591,122
	<i>Anticipated</i>	<i>50,000</i>	<i>0</i>	<i>50,000</i>
Areas under sustainable management		0	190,000	190,000
Area of Forest under sustainable management: certification	UNEP-WCMC	0	10,000	10,000
Area of Forestry under sustainable management: degradation and deforestation	FAO	0	100,000	100,000
Area of agricultural ecosystems under sustainable management	FAO	0	80,000	80,000
Proportion of products derived from sustainable sources		0	340,000	340,000
Proportion of fish stocks in safe biological limits	FAO	0	130,000	130,000

Focal Area and Indicator	Cofinancing Source	Cash Contributions	In-Kind Contributions	Total Cofinancing
Other indicators of sustainable use	UNEP WCMC	0	160,000	160,000
	IUCN	0	50,000	50,000
Ecological Footprint and related concepts		401,122	0	401,122
Ecological Footprint	Global Footprint Network	351122	0	351,122
	Global Footprint Network (anticipated)	50000	0	50,000
Threats to biodiversity	Total	55,000	170,000	225,000
	Secured	25,000	145,000	170,000
	Anticipated	30,000	25,000	55,000
Nitrogen Deposition		25,000	25,000	50,000
	INI	25,000	0	25,000
	WMO & NOAA	0	25,000	25,000
Invasive Alien Species		30,000	145,000	175,000
	GISP	30,000	145,000	175,000
Ecosystem Integrity and ecosystem goods and services	Total	56,400	400,000	456,400
	Secured	56,400	400,000	456,400
	Anticipated	0	0	0
Marine Trophic		5,000	20,000	25,000
	SAUP UBC	5,000	20,000	25,000
Water Quality		0	110,000	110,000
	UNEP/GEMS water	0	110,000	110,000
Connectivity/ fragmentation of ecosystems		51,400	205,000	256,400
Forest fragmentation	UNEP-WCMC	5,000	0	5,000
	FAO	0	100,000	100,000
River Fragmentation and flow regulation	WWF International & WWF US	24,400	0	24,400
	TNC	22,000	105,000	127,000
Health and well being of communities	None	0	0	0
Biodiversity for food and medicine		0	65,000	65,000
Nutritional status	FAO	0	65,000	65,000
Other indicator of biodiversity in medicine	None	0	0	0
Status of traditional knowledge, innovations and practices	Total	40,000	90,000	130,000
	Secured	10,000	90,000	100,000
	Anticipated	30,000	0	30,000
Status of traditional knowledge, innovations and practices		10,000	90,000	100,000
Status and trends in linguistic diversity and numbers of speakers of indigenous languages	UNESCO	10,000	90,000	100,000
	UNESCO (anticipated)	30,000	0	30,000
Status of Access and Benefit Sharing		0	0	0
Indicator tbd		0	0	0
Status of resource transfers		0	0	0
ODA in support of the Convention		0	0	0

Currencies were converted at a fixed rate of US\$1.2 = €1

ANNEX F: 2010 Biodiversity Indicators Partnership

Indicator Development Summaries

1	Focal Area: status and trends of the components of biodiversity	3
1.1	Headline Indicator: Trends in extent of selected biomes, ecosystems and habitats	3
1.1.1	<i>Extent of forests and forest types</i>	3
1.1.2	<i>Extent of grassland and dryland ecosystems</i>	3
1.1.3	<i>Extent of agriculture ecosystems</i>	3
1.1.4	<i>Extent of urban habitat</i>	4
1.1.5	<i>Extent of snow/ice biomes.....</i>	4
1.1.6	<i>Extent of wetland ecosystems.....</i>	4
1.2	Headline Indicator: Trends in abundance and distribution of selected species	4
1.2.1	<i>Living Planet Index.....</i>	4
1.2.2	<i>Global Wild Bird Index.....</i>	5
1.2.3	<i>Abundance of selected forest tree species.....</i>	5
1.3	Headline Indicator: Coverage of protected areas.....	5
1.3.1	<i>Coverage according to World Database on Protected Areas</i>	5
1.3.2	<i>Management effectiveness of protected areas</i>	5
1.3.3	<i>Overlays with areas of key importance to biodiversity.....</i>	6
1.3.4	<i>Other indicators of coverage of protected areas</i>	6
1.4	Headline Indicator: Change in status of threatened species.....	7
1.4.1	<i>Red List Index (and Sampled RLI).....</i>	7
1.5	Headline Indicator: Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance	7
1.5.1	<i>Genetic diversity in ex situ crop collections.....</i>	7
1.5.2	<i>Genetic diversity of terrestrial domesticated animals</i>	8
1.5.3	<i>Genetic diversity of domesticated aquatic species</i>	8
1.5.4	<i>Tree genetic resources.....</i>	8
2	Focal area: sustainable use	9
2.1	Headline Indicator: Area of forest, agricultural and aquacultural ecosystems under sustainable management.....	9
2.1.1	<i>Area of forestry under sustainable management: Forest certification.....</i>	9
2.1.2	<i>Area of forestry under sustainable management: Degradation and deforestation</i>	9
2.1.3	<i>Area of agricultural ecosystems under sustainable management.....</i>	10
2.2	Headline Indicator: Proportion of products derived from sustainable sources.....	10
2.2.1	<i>Proportion of fish stocks in safe biological limits</i>	10
2.2.2	<i>Status of species in trade</i>	10
2.2.3	<i>Other sustainable use indicators</i>	11
2.3	Headline Indicator: Ecological footprint and related concepts.....	11
2.3.1	<i>Ecological Footprint.....</i>	11

3	Focal area: Threats to biodiversity	12
3.1	Headline Indicator: Nitrogen deposition.....	12
3.2	Headline Indicator: Trends in invasive alien species.....	12
4	Focal Area: ecosystem integrity and ecosystem goods and services.....	13
4.1	Headline Indicator: Marine Trophic Index	13
4.2	Headline Indicator: Water quality	13
4.3	Headline Indicator: Connectivity/ fragmentation of ecosystems.....	13
4.3.1	<i>Fragmentation of forest systems.....</i>	<i>13</i>
4.3.2	<i>Fragmentation of river systems</i>	<i>14</i>
4.4	Headline Indicator: Biodiversity for food and medicine	14
4.4.1	<i>Floristic biodiversity for nutrition, food and medicine.....</i>	<i>14</i>
4.4.2	<i>Contribution of wild fauna and flora to human diet and healthcare.....</i>	<i>15</i>
5	Focal area status of traditional knowledge, innovations and practices	15
5.1	Headline Indicator: Status of traditional knowledge, innovations and practices.....	15
5.1.1	<i>Status and trends in linguistic diversity and numbers of speakers of indigenous languages</i>	<i>15</i>
6	Focal area: status of resource transfers.....	16
6.1	Headline Indicator: Official development assistance provided in support of the Convention	16

Below is a summary of the current status and development needs for each of the indicators identified by the CBD that were considered by the 2010 Biodiversity Indicator Partnership project during the PDF-B phase. A selection of these indicators will be taken into the FSP phase for implementation and delivery. This summary includes those indicators for which there is a recognised direction for development. There are a few indicators for which significant consideration is still required to identify the direction for development of a suitable global indicator for biodiversity. These include indicators for the Incidence of human-induced ecosystem failure, Health and well-being of communities, Indicator of technology transfer, Status of access and benefit sharing, and Trophic integrity of ecosystems. These will be identified at a later stage and are not included here.

1 FOCAL AREA: STATUS AND TRENDS OF THE COMPONENTS OF BIODIVERSITY

1.1 Headline Indicator: Trends in extent of selected biomes, ecosystems and habitats

1.1.1 *Extent of forests and forest types*

Two approaches to monitoring extent in forest types currently exist, namely remote sensing data, and forest assessments using data from the FAO forest resource assessments (FRA). Forests have had the most extensive remote sensing work conducted on them and it is technically possible to conduct global, wall-to-wall monitoring of forest (and other habitat) trends at coarse- to medium scale (1km to 250m) resolutions. However, data at these resolutions will not detect small-scale change, such as many tropical deforestation events. Use of fine-resolution data over large areas requires more processing time but produces the results of greatest accuracy utility for analysis with other geographical data. Yearly monitoring with coarse data and 5-yearly monitoring with fine data would provide suitable trend information, given adequate financial resources. The fine resolution monitoring could be sample-based in general, and comprehensive in areas of greatest importance to forest biodiversity, or areas of rapid change.

Information on extent of forests from the FRA is available for most countries in the form of forestry inventories, remote sensing and expert estimates. However, there is considerable variation among the three methodologies, their sampling intervals and quality of data. The indicator needs further development to harmonise assessment on a global scale. Assessments are done every 5-10 years so trends can be detected for 2000-2010.

Development plans include classifying forest areas into ecological forest types by updating the ecological zones map with new information from remote sensing data and national inventories of ground plots. The proposal is to develop technical guidelines to standardise and improve existing methodologies for collection and analysis of ground survey and sampled remote sensing data at a national level, which can later be aggregated to the global scale.

The above-proposed sampling approach of the FAO will be complemented with comprehensive monitoring, both medium-scale global assessments and fine-scale assessments for much of the tropics and other highly diverse areas. Forests do not cover too large an area and could be thoroughly monitored with fine data. Peatlands and mangroves can be sampled as subsets of these three types of assessments.

1.1.2 *Extent of grassland and dryland ecosystems*

No global assessment of grassland conversion or degradation has been conducted, but this habitat is the most appropriate for monitoring globally at coarse-resolution (8km). There are some methodological issues with distinguishing between changes due to natural variation in condition (fire, drought etc), and change in cover and extent, but trends should be possible to detect by 2010 (with calibration using field data). Tropical alpine systems require high resolution data which exist for approximately 50% of the areas.

Dry and sub-humid lands can be assessed with coarse-scale monitoring globally as part of the same efforts that contribute to forest and grassland assessments.

1.1.3 *Extent of agriculture ecosystems*

Agricultural expansion can be assessed as part of the forest and grassland monitoring, on the assumption that most increase in agricultural land is in these areas. These estimates could complement FAO statistics, which are very thorough for agriculture. Alternatively, about 5% of agricultural habitat might be assessed by FAO, who have sampled based forest change data that estimates conversion to agricultural types.

1.1.4 *Extent of urban habitat*

A global map of population and change in population has been produced at a 1km resolution using 'lights-at-night' data for nighttime visible observations of NOAA satellites. Using this approach, urban habitat extent can be mapped at a coarse resolution (1km) with global coverage, and urban expansion trends are available for the past 10 years. Other options to use unmapped national census statistics, or spatial modelling are possible but need further consideration.

1.1.5 *Extent of snow/ice biomes*

NASA glaciers studies are underway and NASA MODIS provides complete coverage at a coarse resolution (1km) on a yearly basis producing good trends information for 2000-2010.

1.1.6 *Extent of wetland ecosystems*

All major wetlands could be monitored globally using remote sensing. Smaller ones are very numerous and would require sampling. Monitoring of a sample of 50 large and small RAMSAR sites has begun via collaboration between Wetlands International and the European Space Agency. Large wetlands could be monitored with complete coverage on a fine resolution (30m). The possibility of using the 50 RAMSAR sites as a representative sample would allow a reduction in cost for this habitat. Small wetlands and rivers are very difficult to monitor.

National maps inventorying soil and vegetation cover could be combined with remote sensing data for peatlands to provide baseline data sets in some regions. Peatlands under trees cannot be reliably detected by remote sensing so ground survey to measure change in area would be required. As mentioned earlier, peatlands could be assessed as a subset of forest types using the FRA data.

There is a coarse resolution map of coral reef locations that could be used as a baseline but currently no trend data are available. A new map based on fine-scale data, showing reef geomorphology types is near complete. This product, produced by the University of South Florida, provides the best starting point for monitoring coral reefs. This group has confirmed that it would be possible to distinguish live coral from rock within these reefs, and it is planned to include them as key partners for both coral reefs and seagrasses. A baseline map is available for Seagrasses but further data are required to obtain trends information.

1.2 *Headline Indicator: Trends in abundance and distribution of selected species*

1.2.1 *Living Planet Index*

This indicator monitors trends in populations of species. It is based on three sub-indices, covering species in the terrestrial, freshwater and marine biomes. It was developed for use at the global scale, and can be applied at any scale providing there are detailed enough data. Technical and methodological aspects of the LPI are well developed and have been published in peer-reviewed scientific journals. It has been used by WWF to create some national biodiversity indices. Data can be collected on a number of variables; total population estimates, density measures, biomass estimates (for fish stocks) or proxies for population size such as number of turtle nests on a beach. The current dataset covers 1970-2000 and the next update will include 2003/2004. The indicator is sensitive enough to show trends between 2000-2010.

The current limitation for this index is the lack of availability of species population data from outside Northern temperate regions. Data sharing will fill gaps in these other regions over the next three years. A coherent database will be developed and maintained by IoZ/ZSL that can contribute to other products such as index of wetland species. A variety of communication strategies exist including various publications, in particular, the biannual WWF Living Planet Report.

1.2.2 *Global Wild Bird Index*

The Wild Bird Index (WBI) measures average population trends of a suite of representative wild birds, as an indicator of the general health of the wider environment. The methodology is already well developed and has been peer-reviewed. The WBI is currently used in Europe to measure aspects of sustainable human development. It can be disaggregated geographically and by habitat for analysis, interpretation and communication. The indicator is sensitive to environmental change, statistically robust, uses existing data and is frequently updated.

The proposal is to extend this approach to the global scale by 2010 by: developing indices from existing national monitoring schemes and datasets (e.g. in North America and Australia); setting up the tools to implement similar data collation and synthesis across a representative set of countries in other regions; and developing indicators from such data sources. A key tool will be the web-based Worldbirds scheme, which will be refined to support the collation and analysis of data both from site-based surveys and from birdwatchers' daily records. With adequate funding it would be possible to develop globally representative indicators that would be capable of detecting changes in trends (i.e. at least three data points) by 2010.

1.2.3 *Abundance of selected forest tree species*

This is a new indicator proposed to monitor abundance of selected tree species. The FAO Forest Resource Assessment (FRA) collects data on the most abundant tree species at the national level. Many countries are represented and the data can be scaled up to regions but more information is still needed to aggregate at the global level. The FRA is carried out every five years, although not all the variables are monitored every time. The proposed indicator will have the capacity to detect trends and measure impact of intervention on forest biodiversity at the national level, which can then be scaled up to the global level.

Methodologies for reporting data by different countries need to be standardised. The proposal is to develop technical guidelines for documentations and later harmonisation of country information. Development plans include establishing a baseline for monitoring changes in relative abundance and distribution of forest tree species.

1.3 *Headline Indicator: Coverage of protected areas*

1.3.1 *Coverage according to World Database on Protected Areas*

This indicator is proposed to monitor the changes in extent of protected areas across time and geographical regions at national (sub-national for large countries), regional and global scales. Analysis will be based on data integrated into the World Database on Protected Areas (WDPA) maintained at the UNEP-WCMC. Data is currently available for over 110,000 protected areas worldwide. The proposed analysis would reveal latest changes at national and sub national levels by 2010 and will ensure continued monitoring of the indicator beyond that date.

The proposal includes the development of a standardised methodology for analysis of data, at national, regional, and global scales and other criteria (e.g. IUCN protected area management categories), and further standardisation of existing data residing in the database. Substantial effort to review and improve upon existing data and to obtain the best data available will be undertaken, and new tools for data exchange with data providers will be developed. Current limitations to this indicator primarily concern the lack of spatial data within the WDPA for many of the sites, the need for a more systematic approach to data collection to ensure full coverage, and the need for improved quality control processes.

1.3.2 *Management effectiveness of protected areas*

This indicator measures how well protected areas are being managed. Specifically, management effectiveness measures the extent to which protected areas protect the goals and values for which

these areas were protected and is concerned with three themes: protected area design, adequacy and appropriateness of management systems and processes, and delivery of protected area objectives. The Programme of Work on Protected Areas adopted by the CBD COP7 calls on States parties to the convention to implement management effectiveness evaluations on at least 30% of protected areas by 2010 and to develop a database to manage this information.

Currently, information about management effectiveness is held by many countries and by several NGOs. Several tools have been developed by NGOs including the WWF and World Bank's Tracking Tool, the WWF's Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) methodology and at least 27 other identified frameworks. The World Commission on Protected Areas (WCPA) framework for measuring management effectiveness generalizes across all of the other available tools and is the agreed upon system by the NGOs for collation of this global data. Linking this data to the World Database on Protected Areas (WDPA) and creating a synthesis tool will allow for periodic reporting for many indicator-based global monitoring processes.

Analysis of the indicator will be based upon assessments of individual protected areas as well as those conducted regionally. The work to be completed as part of this proposal will represent geographically and culturally diverse protected areas systems and will provide baseline data on management effectiveness during the period of reporting.

1.3.3 Overlays with areas of key importance to biodiversity

This composite indicator would monitor the changes in protection of areas of key importance for biodiversity worldwide. It will comprise a number of indicators related to 1) species/taxa diversity (e.g. endangered, endemic species, areas of high endemism, important bird areas, areas of high plant diversity, etc.), and 2) ecosystem/habitats protection (e.g. unique ecosystems/sensitive terrestrial and marine habitats, representative for particular biomes ecosystems). This composite indicator will rely upon a combination of numerous sources, including data on areas of key importance identified by a number of international programmes and initiatives, and methods developed within a range of gap analysis projects worldwide (e.g. Global Gap Analysis). This indicator will reveal trends in protection of biodiversity at the global, regional, national and sub-national levels, and will help to identify ecologically distinct priority areas for conservation actions by 2010.

Development of the indicator is required in order to establish a baseline for regular updates and to ensure comparability of indicators over time. Deliverables include standardised indicators in the form of statistics, graphics and maps, that would highlight the status of species and ecosystem protection and both in-country and cross-border areas of high priority for conservation. A major constraint for GGA indicator development is uneven quality of species distribution knowledge, which results in the inevitable substitution of detailed data with surrogate information (e.g. groups of species, expert judgement, modelled distributions, etc.) at initial stages of indicator development.

1.3.4 Other indicators of coverage of protected areas

SBSTTA Recommendation X/5 identified two other "potential measures" within the headline indicator, but it is currently recommended that these not be developed as independent indicators for the following reasons:

- ***Ecological networks and corridors:*** It is not currently clear what an indicator of ecological networks and corridors would look like, what it would show, and what policy interventions it was meant to reflect other than those already addressed by other protected areas indicators. Consideration will continue on this, but whatever the outcome, it is likely that data required would already be available through development of the other protected areas indicators.
- ***Inclusion of community and private protected areas:*** It is assumed that this is not a separate different indicator, but an instruction to (a) include data on these protected areas within the other protected area indicators and to (b) set these indicators up in such a manner that these data can be disaggregated. The key difficulty in doing this is that there are rarely any mechanisms by which data can be systematically collected on such areas.

1.4 Headline Indicator: Change in status of threatened species

1.4.1 Red List Index (and Sampled RLI)

The Red List Index (RLI) measures trends in the threat status of species, based on population and range size and trends, as quantified by categories on the IUCN Red List. It can be calculated for any representative set of species for which Red List assessments have been carried out at least twice. Technical and methodological aspects of the RLI are well developed and have been published in peer-reviewed scientific papers. The RLI can be disaggregated to explore trends in different biogeographic realms, ecosystems, habitats and taxonomic groups, and it can be applied at the global, regional, and in some cases, national scales.

By 2010, an RLI capable of showing changes in the rate of biodiversity loss will be available for all birds, amphibians, mammals, cycads and conifers. First data points should also be ready for reptiles, freshwater fish, dragonflies, legumes, and certain marine groups. However, to provide an indicator generally representative of all biodiversity, a Sampled RLI (SRLI) is being developed. This will combine data from the five completely assessed groups with data from assessments of a random sample of species from a broad spectrum of other taxonomic groups, including reptiles, fish, insects, spiders, crustaceans, molluscs, corals, plants, fungi and algae. The SRLI will be able to show changes in the rate of biodiversity loss for all vertebrates by 2010. Baseline data will also be available for a representative set of plant groups by 2010, and where feasible, retrospective assessment of the sampled species' status in 2005 will be carried out using satellite imagery and other sources of information to give trend information for 2005-2010.

Current limitations are that the Red List Index shows relatively coarse temporal resolution owing to the breadth of the Red List categories. The main areas of development required for the RLI are further exploration of possible disaggregations, and of the technical aspects of aggregating RLIs from multiple taxonomic groups. For the SRLI, the sample size and species selection procedure require further development. The main data requirements are continued reassessments of completely assessed groups, further taxonomic expansion, and assessment of species in the sampled groups. A communication strategy is well developed and already being implemented.

1.5 Headline Indicator: Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance

1.5.1 Genetic diversity in ex situ crop collections

This indicator describes trends in ex situ conservation of crop plants and their wild relatives. It will be an indicator of changes in the crop genetic diversity available for sustainable agricultural production and of the efforts to collect and conserve that diversity. The indicator will reflect changes in the number and identities of crop species conserved in collections and the numbers of accessions of those species. The approach and methodology for this indicator are developed and peer-reviewed. The proposed indicator will be an aggregation of three sub indicators relating to 1) the numbers of accessions of crops in ex situ collections, 2) the quality of ex situ collections, and 3) the capacity to conserve crop genetic diversity in ex situ collections in terms of facilities and human resources. Much of the data required for developing the sub indicators are available in the World Information and Early Warning System (WIEWS) database and are collected at the national level. Currently data are being collected and updated through the monitoring approach for the Global Plan of Action for the Conservation and sustainable use of Plant Genetic Resources for Food and Agriculture (GPA). The data can be applied to a range of scales from collection (by crop and facility) to global (by crop) level. Two data points are currently available and a third will be carried out in 2007. Trends for 1998-2007 will then be available before 2010. The International Plant Genetic Research Institute is working with accession level data sets covering European collections (Eurisco) and those of the Future Harvest Centres (SINGER). These will be used to test and find the best expression of sub-indicators and find ways of dealing with current limitations in the use of the WIEWS database for this purpose.

Areas needing development include ways of estimating accession duplication in the world's collections, the relationship of accession number to other measures of genetic diversity and the aggregation of accession and crop data so as to properly reflect changes in crop collections of different sizes with different numbers of accessions. Substantial effort is planned for developing methods for analysis at the sub-indicator level, followed by development of an aggregated global indicator that will accurately reflect genetic diversity of ex situ collections.

1.5.2 Genetic diversity of terrestrial domesticated animals

This indicator will be based on the global inventory of livestock genetic diversity, which contains information on number of breed populations, their characteristics and relatedness, risk assessment and changes in risk over time. Development of an indicator is required as well as further improvement of data quality, completeness and standardization of data entries. The data bank is being updated and further developed with information from 170 countries. National data can be aggregated to regional and global scales. Although data is being reported by officially nominated National Coordinators to FAO using the internet based Domestic Animal Diversity Information System (DAD-IS), so far only crude trends can be calculated based on analysis in 1993, 1995, and 2000. This has been published in the World Watch List for Domestic Animal Diversity. The newest trends will be presented in 2006.

The current limitations for this indicator are a lack of high quality, up-to-date, and standardized data on breeds, as well as paucity in knowledge of the genetic relationships between breeds. Threshold values for categories of risk of genetic erosion also require better definition. Development plans include standardized methodologies and classifications of animal genetic resources and risks, and a more continuous assessment of genetic diversity to prevent erosion of unique resources through routine monitoring and reporting at national and international levels. A well-developed communication strategy has been developed by FAO in the form of an email based discussion network, brochures, reports and bulletins. The World Watch List for Domestic Animal Diversity contributes further to this.

1.5.3 Genetic diversity of domesticated aquatic species

The indicator looks at use and abundance of important aquatic species in fisheries and aquaculture. In general genetic diversity is related to population size and abundance. Therefore, changes in abundance of particular species or groups of species would indicate corresponding change in diversity. Species are composed of stocks (in the wild) and varieties (in aquaculture systems). These stocks and varieties are often genetically distinct, may represent sub-species, may represent genetic improvement technologies, or have other unique characters. However, very rarely is information reported or recorded on these sub-specific taxa. In wild populations the indicator can help determine impacts of, *inter alia*, fishing, development, and habitat loss/degradation. Trends will be apparent for faster growing species and most farmed species.

Improved baseline data and information on fishing/farming methods is needed to evaluate changes over time. Genetic data is sparse in inland fisheries, especially in developing countries, but the FAO fisheries database can provide information on other important species in fisheries. Identification of key/indicative areas and the species within them would allow realistic representation of the global genetic diversity of aquatic species. Combining different measures of genetic and species diversity into an overall index, or deciding on a suite of descriptors that is comparable across scales requires further development.

1.5.4 Tree genetic resources

This indicator should be considered a proxy of forest tree genetic diversity and an indicator of documentation effort and knowledge. Methodologies for assessing the status of forest tree genetic diversity at country level have been developed and in most regions, country-based reports have been prepared. However analytical work is still needed to produce a single indicator, which will be an aggregation of indicators related to species and within-species level of diversity (species and

provenances). Datasets exist that could provide baseline information. Data is available to aggregate at the species, national, eco-regional and global scales. No true time series will be available by 2010 but it may often be possible to publish a reference baseline providing an indication of trends over a specific time period.

Tree genetic indicators in most countries are patchy and unrelated. Development of a world-wide terrestrial ecogeographic zonation (common for all domestic and utilized plant species) is planned which would allow distribution maps of important trees in these zones to be produced. Further work to evaluate the extent of species gene pools in zones remaining is also intended.

2 FOCAL AREA: SUSTAINABLE USE

2.1 Headline Indicator: Area of forest, agricultural and aquacultural ecosystems under sustainable management

2.1.1 Area of forestry under sustainable management: Forest certification

This indicator proposes to use forest certification schemes to monitor trends in sustainable use of forest ecosystems. This indicator is in the preliminary phases of development in the context of biodiversity, however certification schemes are already implemented as a management tool at the national, regional and global level. Currently some data is available on certified forests that have been endorsed by the Forest Stewardship Council. Given adequate data collection, trends should be detectable by 2010.

Current limitations are that data is only available on one certification scheme, and there is a lack of standardised methodology. Review of current certification practices and a standardisation of auditing and certification methods are needed. Further development of a database that includes other forest certification schemes will allow production of better threat analysis and country profiles. This data can then be upscaled for analysis at the regional and global scale using GIS, to ascertain the contribution of certification to conservation and sustainable management of biodiversity.

2.1.2 Area of forestry under sustainable management: Degradation and deforestation

An indicator has been proposed that looks at deforestation and fragmentation of managed forests and the potential impacts on biodiversity. It aims to capture any change in growing stock (volume of trees) in managed forests of selected forest species using remote sensing and national inventories. It is a new indicator that is in the first stages of development but some data already exist that can be included. Under sustainable management, the growing stock should ideally remain stable. Therefore, deviations away from the annual rates of change can be captured. Information on growing stock is available from many countries, however there is considerable variation in methodologies, sampling intervals and data quality that needs to be standardized. The data will be collected and aggregated to sub national and national levels, and later harmonised to the global level. There is inherent capacity to provide trend information of forest conservation/degradation and expansion/ deforestation. The global forest resource assessments (FRAs) are carried out by FAO every 5-10 years but not all variables are measured each time.

There is currently no international agreed framework to measure abundance of forest tree species. The proposal is to establish a baseline for monitoring temporal and spatial changes in forest degradation and deforestation, and develop technical guidelines for the collection of national information and later its global harmonisation. Standardised classifications of forest types (primary, modified, semi natural, plantation etc) are needed, as are methods to reduce potential errors and biases in previous and current data.

2.1.3 Area of agricultural ecosystems under sustainable management

Four core indicators have been identified for use in assessing the area of agriculture under sustainable management, along with a variety of sub-indicators, collectively forming a framework that enables an overview of assessment of status and trends of diverse agricultural ecosystems worldwide. These are 1) adoption of policies, strategies and plans that support and promote sustainable use of agriculture, 2) adoption of best practices, 3) status and trends of agriculture biological diversity and ecosystem services, and 4) status and trends in sustaining agricultural livelihoods. All core indicators require further development and testing. Some of the proposed core and sub-indicators are widely used and accepted concepts to assist in assessing sustainability of ecological systems. Others will need to be further developed and tested, and their application to agricultural areas, carefully considered. FAO is engaged in collection and standardization of statistics and maintains a World Agricultural Information Centre (WAICENT) database. The time frame and spatial scales vary among the indicators. The indicators are applicable at varying scales from farm, and agro-ecological system, up to the global level. Trends would be detectable for some measures by 2010, while others would only have a baseline data set available.

There is currently no international agreed definition/ framework to define what constitutes agricultural systems under sustainable management. Further development also requires improved data collection, particularly from developing countries, as well as better understanding of the changes in ecological functioning and services in agricultural areas under various uses and management practices. It may be possible to form a composite index reflecting interactions between human, biological and physical aspects of the agricultural system. A two phased approach is suggested for composite indicator; development of a scoring system, and testing using case studies and modelling.

2.2 Headline Indicator: Proportion of products derived from sustainable sources

The Sustainable Use Indicators Workshop held in January 2006 identified additional potential indicators for sustainable use of biodiversity. It was agreed that an ideal indicator for sustainable use of species would incorporate measures of changes in the quantity of use combined with that of changes in the status of species in use. Three indicators were recognised as being the most promising for the 2010 target but several other sustainable use indicators are being developed in parallel with the partnership process.

2.2.1 Proportion of fish stocks in safe biological limits

The indicator is based on 1) formal assessments carried out at national and regional levels, and 2) analysis of FAO fisheries statistics. The indicator has been peer-reviewed and methodologies for analysis and data collation are well developed although further improvements are still needed. The catch data proposed in this project include finfish, crustaceans and molluscs. Catch statistics should be available for all commercial fisheries in terms of spatial and species coverage. Time series since 1950 are available for most of these. Catch data are not a direct measure of the state of the resources, but can be used as a proxy measure for stock assessment information.

Further development of the indicator involves improving the coverage of fish stocks for which data are reported and assessed, and the development of methodologies to remove effects of natural fluctuations due to ocean/climate and so provide a more refined indicator of the effect of fisheries on fishery resources. Current development activities include improving the coverage and quality of the data set. The current assessment has only been applied to marine stocks; inland fisheries have not been assessed.

2.2.2 Status of species in trade

An indicator of sustainable use is proposed that monitors changes in those species included in the CITES Appendices. Changes in the CITES Appendices and other CITES processes, particularly CITES Significant Trade Review Process (STR), can denote a change in the perceived or actual threat

posed by international trade. This could be an indirect proxy for the changes in threats to survival of those species. Changes that can be monitored include transfer of species from one appendix to another, number of species subject to the STR process, and changes in CITES-reported trade. In the STR process, changes are observable at the national as well as global levels.

Trade data can be used to identify: trends in production rates of sustainable/non-sustainable commodities/species, the source and quantity of specimens from specific areas, trends in harvest rates of species of concern, and other aspects of sustainable use. Given the preliminary status of development, the main focus of development will be to produce a baseline data set by 2010 that would allow trends to be assessed in following years.

2.2.3 Other sustainable use indicators

A potential indicator approach uses trade data to identify various trends in biodiversity loss. This indicator is still in the preliminary phase and requires significant consideration and development to produce meaningful information by 2010. It is proposed that this indicator be based on existing indicators and data sets that are being developed for other areas of biodiversity, that can be applied to sustainable use as an additional benefit of their development. Important areas that have been identified for proposed development of a sustainable use indicator for all species are listed below;

- 1) Further development of the IUCN Red List to evaluate changes in the threat status of species in use and trade. This would include monitoring changes at the national or regional level in the number of threatened species, and changes in the threat status of species in use and trade, or harvested compared to un-harvested, over time.
- 2) Assessing the potential use of trade and associated data maintained by FAO, ITTO, INBAR, RFMOs, Customs and other domains in the development of further indicators of sustainable use including how they might relate to status information from other sources.
- 3) Developing a series of locally-sited case studies on commodity groups for which it is known that population status, offtake and trade data might exist, e.g. Medicinal plants, wild species for meat, timber, and marine fisheries among others.
- 4) Creating a Red List Index of utilised species using a list of all species known to be used/traded, and applying a random sampled approach.

It has been recognised that due to the paucity of current methodologies and data collation for these areas, the main focus of development will be to produce a baseline data set by 2010 that would allow trends to be assessed in following years.

2.3 Headline Indicator: Ecological footprint and related concepts

2.3.1 Ecological Footprint

Ecological Footprint accounts measure how much of the regenerative capacity of the planet is being used by human activities. The accounts show whether human demands for resources and waste absorption are within the biosphere's capacity to supply, or if human activity is overshooting ecological limits. A minimum condition for protecting ecosystems and reducing this threat therefore is that human consumption not only remains within the regenerative capacity of the planet, but also that it leaves some of this capacity for the use of non-human, non-domesticated species. Global Footprint Network calculates the Ecological Footprint of 150 countries for every year since 1961. The most recent data is published in the 2005 Edition of the National Footprint Accounts, which track these 150 countries through 2002. Annual results for each country are based on approximately 5000 data points. Humanity's global Footprint is calculated by summing national results or by using globally aggregated data. In 2002, global demand exceeded global regenerative capacity by over 20%.

The main development needs for this indicator are further expansion of the methodology and data sources behind current calculations, and improved transparency. Improvements to less developed sections of the Footprint accounts, such as fisheries and nuclear power, will be made in collaboration

with outside researchers and content experts. Aspects of human demand that are incompletely represented in or absent from the current accounts, such as freshwater use, persistent toxics, waste flows, and greenhouse gases, will be addressed in future iterations. All of these improvements will be supported by expanded documentation that will make the details of Footprint calculations and methods more transparent and accessible, and by expanded quality assurance and peer review processes. These methodological developments will increase the accuracy, resolution and comprehensiveness of the Ecological Footprint. Programs for communicating the concepts and results of the Ecological Footprint are already in place, and new applications are constantly being developed.

3 FOCAL AREA: THREATS TO BIODIVERSITY

3.1 Headline Indicator: Nitrogen deposition

The deposition of nitrogen and the subsequent response of ecosystems to this deposition can be used as an indicator of threats to biodiversity and ecosystem health. The concept of critical loads and their exceedance is well developed, and used as an indicator for quantifying the response of ecosystems, in Europe. However, global-scale data on both nitrogen deposition and the response of ecosystems to it is not yet available. Although four major, well-established wet deposition databases (USA, Canada, Europe and for parts of Asia) that provide region-specific information exist, there is currently no systematic data gathering on a global level. The Global Atmospheric Watch (GAW/WMO) program has some stations across the world that measure nitrogen wet deposition, but there are many regions in the world where relevant data on nitrogen wet deposition are either lacking or are not integrated into a global database. In addition, dry deposition measurements of nitrogen are very sparse, on both a global and more region-specific scale, and thus need to be addressed while developing the indicator. Where data exists on both nitrogen deposition and the subsequent response, the capacity for detecting trends at the local level can be scaled up to national and multi-national levels. Data are available on deposition trends in North America and Europe since 1980, and with the planned developments trends in N deposition, and the ecosystems' response to it, will be available on the global scale by 2010.

Development of the indicator includes the integration of existing data on wet and dry deposition on a global basis, the comparison of modelled estimates to measured estimates of deposition, identification of data gaps, and the filling of the data gaps with modelled estimates. Further effort is also needed on the understanding of the links between nitrogen deposition and the environmental response, and on the links to biodiversity loss and the thresholds levels at which deposition becomes a problem (i.e. critical loads). The regional structure of the International Nitrogen Initiative will be used to develop regional nodes of expertise that can be applied to the global level.

3.2 Headline Indicator: Trends in invasive alien species

This indicator will monitor trends in invasive species across the globe. The indicator is in the preliminary phase of development at the global scale and needs some conceptual development as well as significant data collation. Although there has been extensive research into specific species and some work on invasive alien species indicators, there is as yet no global indicator as such.

The major challenge is lack of appropriate data, for while there are a number of databases on invasive species, few of them contain time series information. At present several national and regional databases exist (e.g. BirdLife International, FAO, IUCN Red List) that can be drawn on to create a global indicator for some elements, to detect trends by 2010. These elements would then be expanded to include both status indicators and management indicators, taking into account the need to link to national and regional scales. Development plans involve working with a range of stakeholders to bring together the relevant data and information for a relevant biodiversity indicator by 2010. The Global Invasive Species Information Network (GISIN) is currently being developed and will provide a platform through which IAS information and data from participating databases can be accessed.

4 FOCAL AREA: ECOSYSTEM INTEGRITY AND ECOSYSTEM GOODS AND SERVICES

4.1 **Headline Indicator: Marine Trophic Index**

The Marine Trophic Index (MTI) assesses the complex interactions between fisheries and marine ecosystems over time. It is a well-developed concept and approach that has been published in peer-reviewed journals. Current data is available from the Sea Around Us Project for individual countries and can be readily applied at the global level. Information is based mainly of catch composition data collected by FAO. The data can also be analysed in various groupings, from broad taxa (fish/crustacean/ mollusc) down to habitat-based fish divisions, and species level. Time series data from commercial fisheries are available from 1950 and the indicator should be sensitive enough to detect trends from 2000-2010 provided data is collected and reported consistently.

Main areas in need of improvement include better catch information from developing countries and small-scale fisheries and improved knowledge of diet composition for species at the bottom of the food chain. University of British Columbia has been developing methods to estimate the volume of landings of fish by small fisheries. Review of fisheries related reports, including historical surveys, and other social studies in collaboration with local fisheries experts are also required for indicator development. Further work is proposed for indicator development including refining calculations and addressing potential biases in the estimates.

4.2 **Headline Indicator: Water quality**

This indicator is a direct and indirect measure of stresses to biodiversity in inland waters. There are five well established measures available for assessing water quality (WQ): Biochemical Oxygen Demand (BOD) reflects the level of organic pollution in the water; nitrates reflect the degree of eutrophication (the enrichment of water by nutrients resulting in algal growth); suspended sediments indicate the degree of erosion from the drainage basin and changes in the water flow regime; pH and temperature show the degree of acidification and thermal patterns of inland waters. These components are all routinely measured in water quality surveys. Temporal and spatial coverage are greatest in Europe and North America. The UNEP GEMS/Water database is continually updated with monthly survey data that should be able to provide good detection of trends over a ten-year period. Data collected at local stations is suitable for analysis at the national, regional and global scales.

There is no globally accepted index of water quality that is specifically focused towards assessing the link between water quality and aquatic biodiversity. The main constraints to this indicator are incomplete temporal and spatial coverage, and differences in monitoring techniques and therefore detection of trends among agencies. No methodological advances are required to improve the quality of data or to monitor trends on each component. Indicator development would focus on improved data collection from wetlands and inland water for some developing countries where data is lacking. Work on an index of drinking water quality is ongoing and would also facilitate the planned development of an aggregated index of WQ. Development of the statistical analysis is needed to identify the best way to quantify trends over time.

4.3 **Headline Indicator: Connectivity/ fragmentation of ecosystems**

4.3.1 *Fragmentation of forest systems*

This indicator is proposed to assess fragmentation of various habitats using geographic information systems. The availability of appropriate time series data on ecosystem cover at broad geographical scales is limited at present and this reduces the range of options for generating this indicator, especially at the global level. Data will hopefully be made available through the development of the 'Extent of habitat' indicators (Section 1.1). In the first instance, it will be most feasible to develop this indicator for forest ecosystems as this habitat has had the most remote sensing coverage. However, even for forest ecosystems, there is at present no agreed global data set on ecosystem cover that includes time-series data.

The main limitations include the lack of available data and various methodological and technical issues that need to be addressed. Development plans include addressing the technical needs of fragmentation analysis in parallel with the development of the ecosystem extent indicator. Further consideration is also needed to refine the key questions relating to this indicator and technical implementation of the agreed methods. Following development, trends should be detectable by 2010 for forest ecosystems in most regions, or on a global scale, given adequate data availability. Development plans for future monitoring of trends in other habitat types would be possible, using methods developed here.

4.3.2 *Fragmentation of river systems*

This indicator measures the degree to which freshwater systems have been altered by dams and reservoirs, channel fragmentation, and other stresses associated with water withdrawals and diversions. The indicator has two components: fragmentation (number and placement of dams), and flow regulation (how much water is stored behind dams). Three versions of the indicator have already been developed with extensive peer review, and the third version (ready for completion 2006) is being expanded and adapted to calculate trends by global freshwater ecoregion. The work is being developed by the WWF, TNC and Umeå University in Sweden. The indicator can be applied to large-medium sized rivers and at smaller scales as long as detailed information is available (e.g. reservoir location, volume, discharge). Trends can only be observed and measured from the current degree of fragmentation.

Limitations associated with this indicator are a general lack of available data sets (dam locations, discharge information, water diversions and transfers) for several regions/countries. These and other limitations can be realistically overcome through improved datasets (especially on current and planned dam locations) and inclusion of national databases. Although the indicator could be further improved through the incorporation of dams in small basins, the majority of surface area and discharge of freshwater are accounted for among larger basins currently included.

4.4 *Headline Indicator: Biodiversity for food and medicine*

4.4.1 *Floristic biodiversity for nutrition, food and medicine*

The purpose of this indicator is to measure the degree of biodiversity in the consumption and composition of food and medicinal plant and animal genetic resources. There are well-developed indicators for food and nutrition that could be adapted to the context of biodiversity. Peer-reviewed data and proposed methods have been published which can be used in the development of the nutrition indicator for biodiversity for food and medicine. Other sources of information on medicinal material may be available and should be included in indicator development. Extensive databases (FAOSTAT and FAOCOMP, INFOODS Network) are available on “consumption” and composition of diets that can be updated and developed within this context by 2010. Most datasets are at national scale, some are at regional and global level, and can be modified and then be used for a global assessment. The available data will allow trends in food and nutrient consumption to be detected. They can also be used in combination with other indicators or data (e.g. due to over fishing there is a global depletion of omega 3 fatty acids by x%; or increase in carotene ‘consumption’ by x% if x% of the white sweet potato consumption would be replaced by red flesh sweet potatoes; or due to pesticide use the rice ecosystem is losing x g protein per hectare). Most of the available data are on species level and almost no data on variety level.

It is proposed to increase the power of this indicator by widening the data availability from food species level to variety level, on the composition as well as on consumption side. For this, it is planned to modify and refine consumption methodologies and instruments and to field test them in selected countries. Although in recent years an increasing amount of compositional data on variety level in peer-reviewed papers is becoming available, there is the need to generate more compositional data on variety level. For this, it is necessary to develop guidelines on sampling at the variety level. With an increase in capacity to monitor the use and benefit of biodiversity, a baseline data set can be

collected at species and variety level allowing trends in consumption and composition of biodiversity for food and medicine to be evaluated and monitored. By 2010, a comprehensive trend analysis of the indicator will be possible at species level but not at variety level.

4.4.2 Contribution of biodiversity to human diet and healthcare

This is a new indicator proposed to monitor the contribution of wild biodiversity to human diets, and wild plants (and to a lesser extent, animals) to healthcare. The current development is in a preliminary phase although some components of the indicator already exist. Significant effort has already been made into considering indicators related to the use of medicinal plants. There are some good data sets available on medicinal plants that could be used to monitor trends, including global estimates based on national lists and regional surveys for some plants. Relatively good data are available for fisheries production, and so it should be possible to use these to assess the changing contribution over time. Information on the use of terrestrial fauna and flora is much more distributed, and so would require a literature review and case study approach.

Several sub-indicators have been proposed for development including: 1) Number of species used for food, livestock feed/fertiliser, or human and/or animal medicine, 2) Number of people consuming wild species directly, or using wild species for livestock feed/fertiliser, 3) number of people lacking regular access to 'western' medicine (which would be a potential proxy indicator of reliance on wild species for healthcare, 4) Economic contribution of biodiversity to income from sale, or overall health (e.g. calculated in terms of reduced loss of productive days). There are also several other potential measures that could be used and require further consideration. There are already several processes underway within IUCN to better capture some of the types of information that would usefully contribute to these indicators, including an increased focus on collating information on livelihoods and utilisation as part of the species assessments within the Species Information Service. An important aspect of the development of this indicator would be to ensure synergies in this regard between IUCN, FAO and IPGRI efforts. It would equally be important to look for potential synergies made possible by linking development of this indicator to the indicators being developed under the Focal Area on Sustainable Use.

5 FOCAL AREA STATUS OF TRADITIONAL KNOWLEDGE, INNOVATIONS AND PRACTICES

5.1 Headline Indicator: Status of traditional knowledge, innovations and practices

5.1.1 Status and trends in linguistic diversity and numbers of speakers of indigenous languages

This indicator proposes to assess the status and trends of linguistic diversity and numbers of speakers of indigenous languages as a proxy for measuring trends in the status of traditional knowledge, innovations and practices. The indicator is in the preliminary stages of development and both data collation and methodologies for measuring trends need further work. Data can be extracted from various published sources, linguistic institutions and census data. Data will be most appropriate at the national and possibly regional levels. It is unknown at present at what scale the final indicator would be applicable. Baseline data is available on an important number of indigenous languages, but as there are no time-series data yet, trends are currently not detectable. The basis for estimating trends by 2010 will most likely be regional case studies.

The development of this indicator requires (a) time-series data collation on a global scale, particularly data from developing countries, (b) a regular, thorough expert review to assess the validity of the data and (c) the establishment of a reliable methodology for measuring trends across different assessments and sources. Collaboration with various institutions and organisations is essential for adequate data collation and developing a methodology for measuring trends. The suitability of existing statistical methodologies (e.g. RLI, LPI, etc.) will be tested and peer-reviewed to identify their possible application in calculating this indicator. A communication strategy has been identified for implementation once the indicator is developed.

6 FOCAL AREA: STATUS OF RESOURCE TRANSFERS

6.1 Headline Indicator: Official development assistance provided in support of the Convention

The OECD/Development Assistance Committee (DAC) and the CBD secretariat have jointly developed a 'biodiversity marker' to monitor activities targeting the objectives of the Convention. The OECD DAC collects data on aid flows, *inter alia*, through its activity-specific Creditor Reporting System (CRS), which permits examination of the geography and purpose of aid simultaneously. The data collection techniques are well developed and are already implemented. Although the data assembled to date (1998-2000) are insufficient to identify clear trends over time, the biodiversity marker will continue to be in use for at least another three years. The indicator can be applied to national and regional levels.

Current limitations include the discretionary nature of information given by contributing nations, and the lack of a specific 'biodiversity entry' in the ODA data (data is usually gathered from other sectors). More explicit definitions of the contribution of specific activities to the CBD objectives, improved coordination and synergy between Governments and Parties, and increased collaboration between ODA statistics offices and expertise of national environment agencies are some areas that could be improved upon during continued development of this indicator.

ANNEX G: 2010 Biodiversity Indicators Partnership

Summary of Indicator Analysis

1 SBSTTA INDICATORS

This summary is produced as an analysis of the thirty-three indicator reports summarised in Annex F. All of the indicators identified by the CBD that were considered by the 2010BIP project during the PDF-B phase are included below. A selection of these indicators will be taken into the FSP phase for implementation and delivery. Table 1 explains the status of the indicators identified in SBSTTA X/5 in relation to the 2010BIP project. The thirty-three indicators assessed in the following report are those that have been 'included' below.

Table 1: Status of SBSTTA Indicators in the 2010BIP

Headline Indicator */	Status † / according to SBSTTA	Potential Measures from SBSTTA X/5	Status in 2010 Biodiversity Indicator Partnership	Trends Detectabl by 2010	Organizations to coordinate delivery of indicator	
Trends in extent of selected biomes, ecosystems, and habitats ‡/	B	Forests, and forest types	Included	Yes	To be determined. Potential leads include CI, FAO, UNEP-WCMC and WI	
		(Natural) grasslands		Yes		
		Dry and sub-humid lands		Some		
		Croplands		Some		
		Coral reefs		Some		
		Seagrasses		Some		
		Urban		Yes		
		Polar/ice		Yes		
		Inland wetlands		None		Wetlands International
		Tidal flats/estuaries		Some		
		Peatlands		Some		
Trends in abundance and distribution of selected species	B	Living Planet Index	Included	Yes	IoZ & WWF International	
		Various species assemblage- trends indices	Included – Wild Bird Index	Yes	BirdLife International	
			Included – Abundance of Selected Forest Tree Species	Yes	FAO	
Coverage of protected areas	B	Coverage according to World List of Protected areas.	Included	Yes	UNEP-WCMC & WCPA	
		Management Effectiveness	Included	Some	UNEP-WCMC & WCPA	
		Overlays with areas of key importance to biodiversity	Included	Yes	UNEP-WCMC & WCPA	
		Inclusion on community and private protected areas	Not included §			

*/ **Bold = Indicator considered ready for immediate testing and use (column B in decision VII/30); Bold italic = Indicator considered ready for immediate testing and use and therefore recommended for upgrading from column C to column B; Regular = Indicator confirmed as requiring more work (to remain in column C)**

†/ B = Indicator is considered ready for immediate testing and use; C = Indicator requires further work

‡/ Based on current and short-term future availability of trend information, the following major ecosystem types are recommended for immediate indicator implementation: (i) forests (including different forest types, notably mangroves), (ii) peatlands (probably for certain geographic areas only by 2010), (iii) coral reefs, (iv) croplands, (v) grasslands/savannahs, (vi) polar/ice. Efforts should also be made to apply the indicator to the following ecosystem types, for which suitable global datasets need to be gathered, to ensure coverage of all thematic areas recognized by the Convention: (i) inland wetlands, (ii) tidal flats/estuaries, (iii) seagrass beds, (iv) dry and sub-humid lands, and (v) urban.

§ It is assumed that this is not a separate different indicator, but an instruction to (a) include data on these protected areas within the other protected area indicators and to (b) set these indicators up in such a manner that these data can be disaggregated. The key difficulty in doing this is that there are rarely any mechanisms by which data can be systematically collected on such areas.

Headline Indicator */	Status † / according to SBSTTA	Potential Measures from SBSTTA X/5	Status in 2010 Biodiversity Indicator Partnership	Trends Detectabl by 2010	Organizations to coordinate delivery of indicator
		Ecological networks and corridors	Not included **.		
<i>Change in status of threatened species</i>	B	Red List Index (IUCN-SSC)	Included	Yes	IUCN
<i>Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance</i>	B	<i>Ex situ</i> crop collections	Included	Yes	FAO
		Livestock genetic resources	Included	Yes	FAO
		Fish genetic resources	Included	Yes	FAO
		Tree genetic resources	Included	None	FAO
		Varieties on-farm	<i>Affiliated††</i>	<i>None</i>	<i>FAO</i>
<i>Area of forest, agricultural and aquaculture ecosystems under sustainable management</i>	B	Existing data sets for measuring sustainability of agriculture, aquaculture and forestry, including FAO reports, Certification, and Ecological corridors and community-based management areas, and wildlife sustainable management schemes	Included - Area of Forestry under sustainable management: Forest Certification	Yes	UNEP-WCMC
			Included - Area of Forestry under sustainable management: Deforestation and Degradation	Yes	FAO
			Included - Area of agricultural ecosystems under sustainable management	None	FAO
			<i>Affiliated</i> - Area of aquaculture ecosystems under sustainable management	Some	<i>FAO</i>
Proportion of products derived from sustainable sources	C		Included - Proportion of fish stocks in safe biological limits	Yes	FAO
			Included - Status of species in trade	Yes	CITES
			Included - Other indicator of sustainable use to be determined	Some	IUCN SUSG
Ecological footprint and related concepts	C ††/	Ecological footprint	Included	Yes	Global Footprint network
		Other measures of the area of land and sea needed to support production of goods and deliver services	<i>Affiliated - Human Appropriation of Net Primary Production (HANNP)</i>	<i>Yes</i>	<i>Institute of Social Ecology, Vienna</i>

** It is not currently clear what an indicator of ecological networks and corridors would look like, what it would show, and what policy interventions it was meant to reflect other than those already addressed by other protected areas indicators. Consideration will continue on this, but whatever the outcome, it is likely that data required would already be available through development of the other protected areas indicators

†† *Affiliated indicator*-(in italics) needs development but not allocated core funding support from the 2010BIP

††/ New indicator recommended by SBSTTA at its tenth meeting.

Headline Indicator */	Status † / according to SBSTTA	Potential Measures from SBSTTA X/5	Status in 2010 Biodiversity Indicator Partnership	Trends Detectabl by 2010	Organizations to coordinate delivery of indicator
Nitrogen deposition	B		Included	Yes	International Nitrogen Initiative
<i>Trends in invasive alien species §§/</i>	B	Numbers and cost of alien invasive species	Included	Some	Global Invasive Species Programme
		Other measures to be identified and developed	To be determined		
Marine Trophic Index	B	Indicator of biological oxygen demand (BOD), nitrates and sediments/ turbidity	Included	Yes	Fisheries Centre, University of British Columbia
Water quality of freshwater ecosystems	C		Included	Yes	UNEP- GEMS/Water Programme
<i>Connectivity / fragmentation of ecosystems</i>	C	Patch size distribution of terrestrial habitats (forests and possibly other habitat types)	Included - Fragmentation of Forest Systems	Yes	UNEP-WCMC & FAO
		Fragmentation of river systems	Included	Yes	The Nature Conservancy
Trophic integrity of other ecosystems	B		Not included		
Incidence of human- induced ecosystem failure	C		Not included		
Health and well-being of communities who depend directly on local ecosystem goods and services ***/	C		<i>Indicator to be determined</i>	Some	WHO
Biodiversity for food and medicine	C		Included - Nutritional Status	Some	FAO
			<i>Indicator to be determined</i> -Other indicator of biodiversity in food and medicine	Some	IUCN
Status and trends of linguistic diversity and numbers of speakers of indigenous languages	B		Included - Status and trends of linguistic diversity and number of speakers of indigenous languages	Some	UNESCO
Other indicator of the status of indigenous and traditional knowledge	C		<i>Indicator to be determined</i>		<i>To be determined</i>
Indicator of access and benefit-sharing	C	Official development assistance as marked	<i>Indicator to be determined</i>		<i>To be determined</i>
Official development assistance provided in support of the Convention	B		Included	Yes	OECD
Indicator of technology transfer	C		<i>Indicator to be determined</i>		<i>To be determined</i>

§§ / SBSTTA recommends a rewording of the title of this indicator from that contained in decision VII/30 (Numbers and cost of alien invasions).

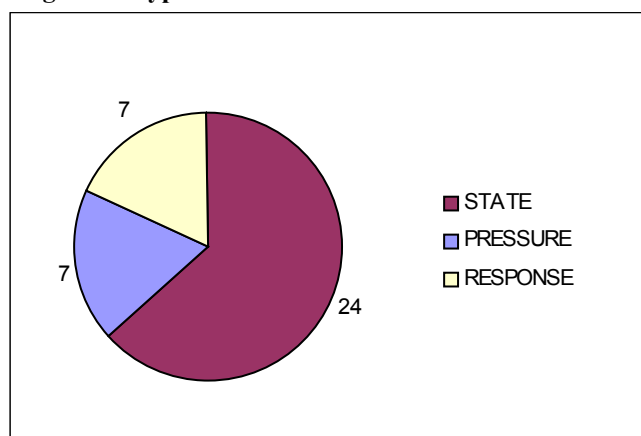
***/ The indicator from decision VII/30 (Health and well-being of people living in biodiversity-based-resource dependent communities) was reworded to clarify the focus on local dependency.

2 THE ANALYSIS

2.1 Types of Indicators

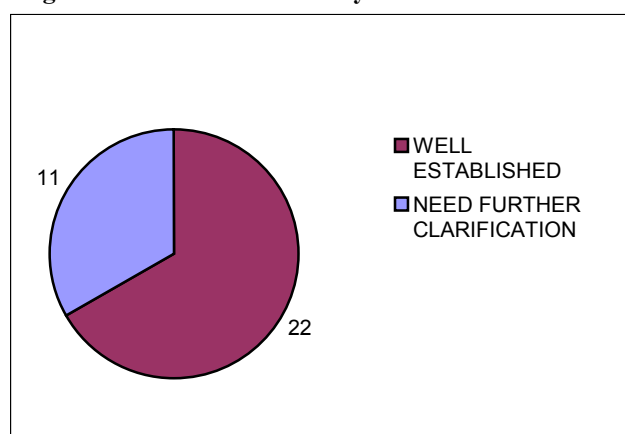
The analysis assessed the current and future development status of the various indicators in terms of the links with biodiversity, the quality and scale at which data could be applied, the improvements needed in methodologies for data collection and analysis and the ability to detect trends by 2010.

Figure 1: Type of indicators in the 2010BIP



Indicators were identified as being state, pressure or response indicators (figure 1) based on the Organisation for Economic Cooperation and Development (OECD) Pressure-State-Response (PSR) framework, which is also the basis of the United Nations Commission for Sustainable Development (UNCSD) framework of sustainable development indicators. The PSR framework is based on a concept of causality: human activities exert “pressures” on the environment and change its quality and the quantity of natural resources (the "state"). Society responds to these changes through environmental, general economic and sectoral policies (the "societal response"). The latter form a feedback loop to pressures through human activities. From Figure 1 it is clear that the majority of the indicators here are measuring the state of biodiversity (e.g. Extent of forests), while there are still some measuring the pressures on biodiversity (e.g. Invasive Alien Species) and the responses to the change in state of biodiversity (e.g. Ex Situ crop collections). Some indicators belonged in more than one category and were accredited as such. Thus the numbers shown in figure1 do not reflect the number of indicators being developed.

Figure 2: Links to biodiversity



The indicators were categorised in terms of the established links with biodiversity as shown in Figure 2. The well-established links were those that were peer reviewed, globally accepted and well

understood. Some of these only had proven links in certain regions but these could be extrapolated to some degree on a global scale. Those needing further development had not yet identified or established proven and confirmed links to biodiversity that could stand up to scientific scrutiny and therefore needed further research to establish these links (this is reflected somewhat in the methods sections below).

2.2 Data

Figure 3: Current Data Status

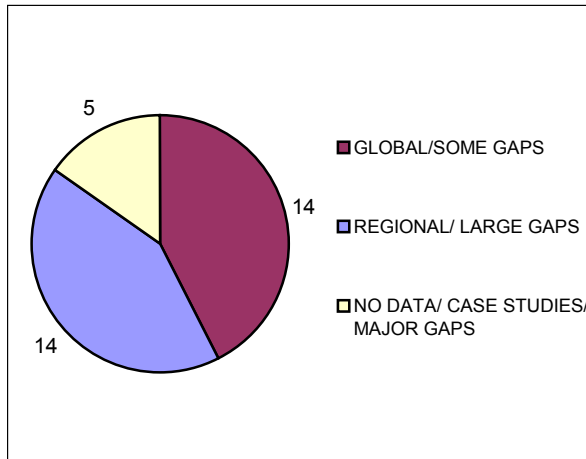
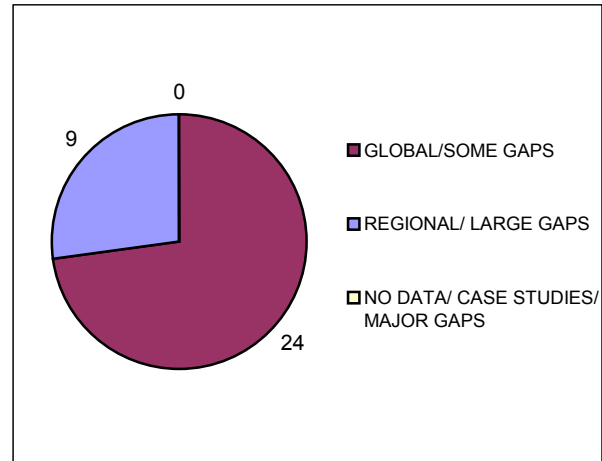


Figure 4: Data Status by 2010



The status of data for the indicators depicted in figure 3 reflects the scale at which data is currently available. Those that were placed in the ‘Global’ category were indicators for which there was already a global dataset available (e.g. Marine Trophic Index). Ongoing data collection is still needed for these indicators to expand the data set or improve the quality, but the tools for collecting, collating and managing the data are already in place. There may still be some national/habitat type/taxa data not available but analysis still possible at global scale.

The ‘Regional’ indicators were the majority of cases, where data has been collected and analysed for some regions, and could be used for a sampled analysis the global scale, but large gaps for certain regions/continents/habitat types are not currently represented, (e.g. the Global Wild Bird Indicator). Others may have data at the global scale but the data may be incomparable due to a lack of data management at the global scale and require further development in these areas (e.g. River fragmentation).

The final ‘Case Study/No data’ category is self-evident. These are indicators where there is either no data as the indicator is currently undeveloped or data has not been collected in the context of biodiversity (e.g. Biodiversity for Food and Medicine). Alternatively the data may be sparse and can only be compared as case studies or in national data sets (e.g. Linguistic Diversity Index).

Most of the reports mentioned the lack of data from developing countries and the lack of a standardised global data collection framework as the major impedances for a global indicator.

Figure 4 shows the potential availability of data by 2010 following development of the indicators within the Partnership. This helps to identify the ability for the indicators to deliver with and without GEF support. The categories remain fundamentally the same as for figure 3. It is clear that significant improvement of available data will be made by 2010, mainly in the form of efferent data collation and management.

While some indicators will not be implemented on a global level by 2010, with extensive data collection most indicators will produce a reasonable global indicator.

2.3 Methodologies

Figure 5: Current state of methodologies

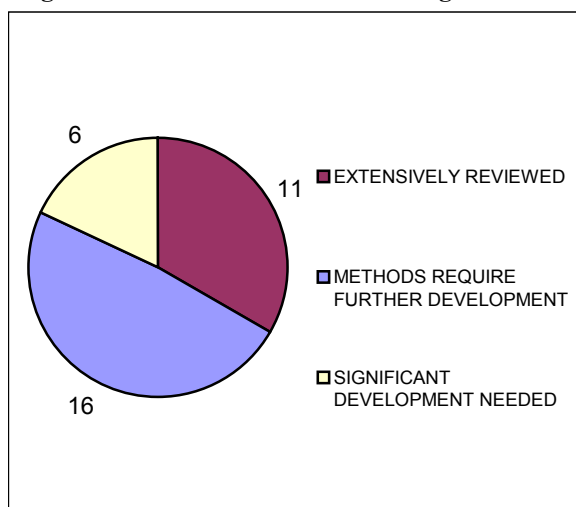
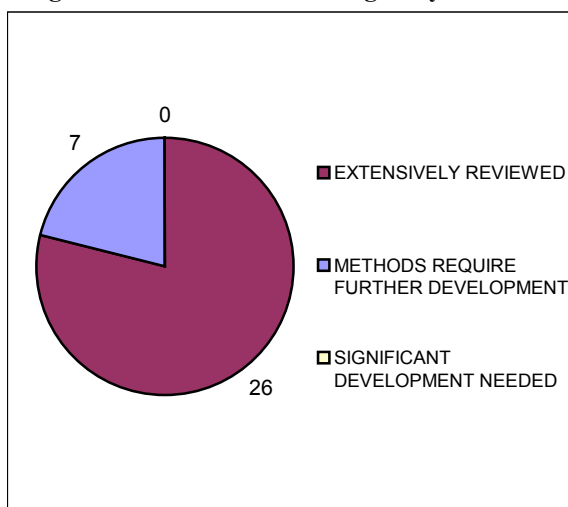


Figure 6: Status of methodologies by 2010



The indicators were categorised on current ability of indicator partners to collect and analyse the data, and to produce an accurate global indicator, presented in figure 5. Some indicators were identified as having sound methodologies in place, and although there may yet be some refinement needed to expand/improve the methods in the context of the 2010BIP, these issues could be resolved easily, (e.g. the Red List Index). These methodologies had all been extensively reviewed

The majority of indicators appeared to require some further development to expand the indicator from national or regional levels for global application (e.g. Nitrogen Deposition), to develop a single indicator from already know sub-indicators (e.g. Water Quality), or to develop an indicator where data was already used for other purposes, and apply it to an indicator for biodiversity (e.g. Ecological footprint).

The remaining indicators required substantial methodological improvement for application as global biodiversity indicators. These included new indicators where it was unclear what could/should be measured (e.g. Biodiversity for food and medicine), and indicators where there is extensive research still needed to produce a meaningful indicator or to understand the link between the measure and biodiversity trends (e.g. Status of Indigenous Languages)

All indicators identified the need to improve the accuracy of the indicator in relation to global biodiversity, and many sought to produce a single indicator by aggregating sub-indicators but the methodology for this was currently lacking in most instances and needed development. Some needed major improvement of methodologies for collecting data while others required better analytical understanding.

Figure 6 shows the potential improvements that could be made following development of the indicators in the BIP. It is encouraging to note that the expected development plans will allow significant improvements in methodologies by 2010, across all indicators, and only a few will still need further development.

2.4 Trends

Figure 7: Current detectable trends

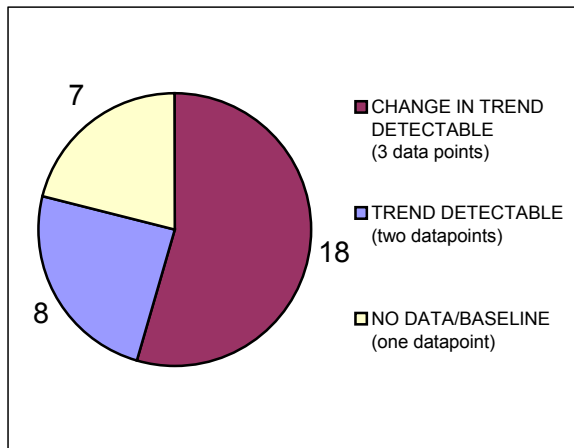
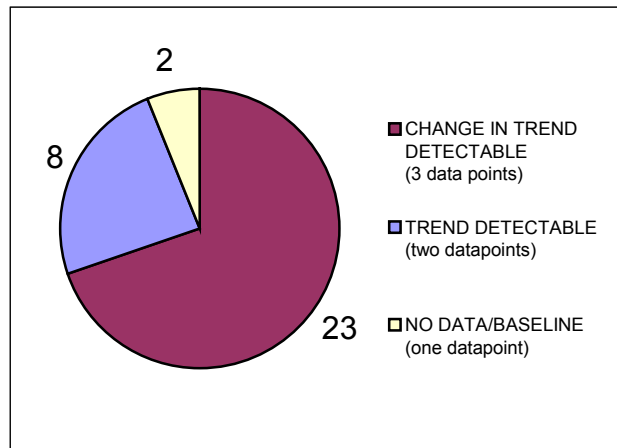


Figure 8: Detectable trends in 2010



The current and future capacities for indicators to detect trends are shown in figure 7 and figure 8 respectively. Despite the lack of current methodologies and a paucity in global data sets, the majority of indicators suggested that three datapoints are currently available, allowing a change in trend to be determined (the spatial scale of these data sets is accounted for in the data status section above). This is because despite gaps in the data from some regions/habitats/taxa etc, a sampled time-series dataset would provide some insight into changes at regional or global levels, and the potential effects these changes would have on biodiversity over time.

Of those that could not produce global trends by 2010, most indicators would be able to produce some trend information but only for some of the sub-indicators, or for some habitats/regions/ taxa etc while others would only have baseline information or no data at all,

There were only two indicators that were unable to achieve detectable trends by 2010. These were cases where only baseline data would be available due to the substantial development efforts required in either data collection or analysis (Linguistic Diversity) or the indicator was currently undeveloped so data, methods and therefore detectable trends are still unknown (Tree genetic resources).

3 OVERALL INDICATOR STATUS NEEDS

Figure 9: Current indicator status

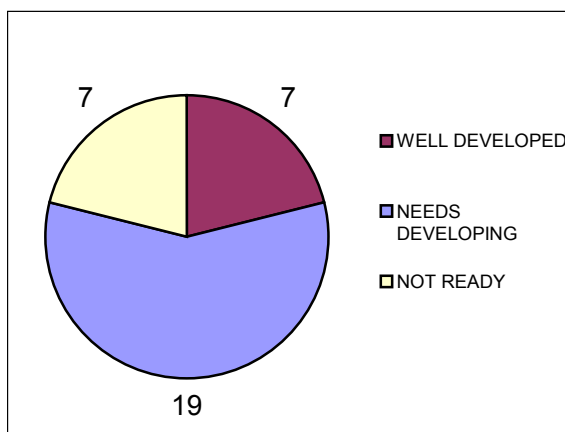
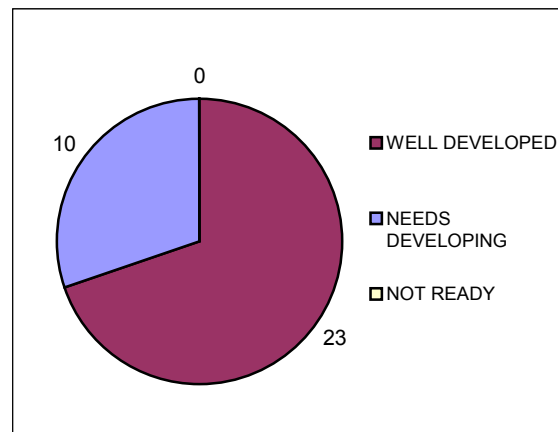


Figure 10: Indicator status in 2010



The numbers presented in figures 9 and 10 are a synthesis of the factors described above. The well-developed indicators are those that are ready, with minor development and refinement, for

implementation at the global level, and will be able to provide trend data with bearing on biodiversity by 2010.

Nearly half the indicators are identified as still requiring some amount of development in any aspect such as data quantity or quality, improvements in methodologies for data collection or analysis, production of a single indicator, application of the indicator to biodiversity, or to the global scale, or the ability to detect trends by 2010. Most of these are expected to provide three datapoints at a global scale by 2010, following their planned development.

The remaining indicators are those that needed substantial development in several aspects such as data collation, technical aspects of methodologies, or further research into the links with biodiversity, in order to produce a useful indicator. It also includes those indicators that are not be able to produce trends information, or those that are new ideas and are therefore completely undeveloped in all aspects. Currently, there are several un-developed indicators requiring substantial resources and development activities. However, while some development issues will still need resolving beyond 2010, it is expected that by the end of this phase of development the whole suite of indicators will be able to provide some, or complete relevant information on the rate of loss of biodiversity, and the state of biodiversity in line with the COP VII/30 objectives.

ANNEX H: 2010 Biodiversity Indicators Partnership

A review of the advice received on the indicators for measuring progress toward the 2010 biodiversity target.

1 INTRODUCTION

With decision CBD COP VII/30, the Conference of Parties (COP) to the Convention on Biological Diversity (CBD) agreed to a framework for assessing progress towards the 2010 target of significantly reducing the 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 (the mission of the Strategic Plan (COP decision VI/26)). Within the decision framework (COP VII/30), seven focal areas and 21 provisional indicators were listed; of these 21 provisional indicators, eight were considered ready for immediate testing and use, and the remainder for further development. The Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) has since recommended revision of this framework, by suggesting five indicators previously requiring further work be considered ready for immediate testing and adding a 22nd indicator (see Appendix I for current list of indicators grouped by focal area and status from SBSTTA X/5).

This annex presents a review and assessment of the advice received through governmental process and scientific meetings on this full suite of indicators. In addition to the various SBSTTA and COP meetings that have discussed the indicators, documents from the Biodiversity Indicators for National Use project, notes from the Royal Society Workshop “Beyond Extinction Rates: Monitoring Wild Nature for the 2010 Target” (July, 2004) and recent articles from the scientific press were reviewed. From this review, a number of recommendations are made on how to continue progress on the implementation of the suite of indicators.

2 REVIEW OF SCIENTIFIC AND GOVERNMENTAL ADVICE ON EXISTING AND PROPOSED INDICATORS

The use of indicators to monitor the status of, and trends in, biodiversity is outlined in the Articles to the CBD, which call upon each Contracting Party to identify and monitor components of biodiversity important for its conservation and sustainable use, paying particular attention to those components requiring urgent conservation measures and those which offer the greatest potential for sustainable use (Article 7). The Convention also called upon the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to provide scientific and technical assessments of both the status of biological diversity and the effects of measures taken in accordance with the Convention (Article 25, paragraph 2). In its first meeting, SBSTTA proposed, as part of its work programme a ‘review and promotion of indicators of biological diversity to be used for assessment of effectiveness of measures taken in accordance with the provisions of the Convention’ (SBSTTA/I/2). SBSTTA subsequently defined indicators as “quantitative surrogates for larger measures of biodiversity...that imply a metric against which some aspect of public policy performance can be measured” (SBSTTA/2/4), outlined the objectives for potential indicators, and described the criteria to be considered when selecting among potential indicators. Indicators for biodiversity for use within the Convention should therefore, *inter alia*, simplify a body of information, and be scientifically credible, policy relevant and responsive to changes in space and/or time, and be able to inform the public about whether the environment is getting better or worse, provide for the measurement of environmental progress against stated national and international objectives, assist in the development of environmental policies within the context of specific economic sectors, aid in the integration of environmental and natural-resource accounts, and support decision-makers in discussions of sustainability.

At the conclusion of its second meeting, SBSTTA advocated the use of a two-track approach toward indicator development, suggesting a short-term assessment of the components of biodiversity that were already reasonably well-known and understood, and a long-term programme which included

research and capacity-building in areas of biodiversity needing additional knowledge. SBSTTA also requested the Executive Secretary produce recommendations on a preliminary set of core biological diversity indicators (SBSTTA/II/1). After reviewing the note on core indicators provided by the Executive Secretary (SBSTTA/3/9 and SBSTTA/3/INF/13) at its subsequent meeting, the SBSTTA outlined its work programme on indicators (SBSTTA/III/5).

These initial meetings, discussions and agreements established the fundamental goals for the developing biodiversity indicators. COP decision VII/30 then outlined a framework to enhance the evaluation of achievements and progress towards its mission of significantly reducing the current rate of biodiversity loss, and established goals and sub-targets, and identified specific indicators for each of the focal areas (see Appendix 1 to this Annex). SBSTTA X confirmed the suitability of those indicators, and considered an additional five of the proposed indicators as 'ready for immediate testing', while also adding a new indicator, the Ecological Footprint to the suite of indicators (SBSTTA/X/5).

The following observations are consistently made in the documents arising from the various initiatives and meetings of the CBD:

- i) Quantifying trends in the status of global biodiversity will be an iterative process. Global biodiversity is a multi-faceted and constantly changing entity, the quantification of which will be challenging. The production of appropriate indicators that accurately measure the components of biodiversity will rely on the continued inputs and assessments from a variety of stakeholders, including natural and social scientists, government agents, and representatives from civil society organizations. Meetings, such as that convened by the Royal Society in July 2004, are instrumental in continuing progress towards the development of a full suite of indicators.
- ii) The purpose of the suite of indicators should not be to quantify all aspects of biodiversity. As noted in SBSTTA 2/4, it is not feasible to monitor all attributes of biodiversity. Therefore, in considering further steps on the suite of indicators, it is essential to balance the benefits provided by individual measures (accuracy and applicability of the data, ease of reproduction, and clarity to policy makers) with the resources required for their development. In addition, because of the significant correlation between many attributes of biodiversity, complementary indicators could be emphasized to provide a more complete assessment of status and trends with available resources.
- iii) Finally, it is consistently noted that the desired indicators would be: (a) able to simplify available data, (b) scientifically credible, (c) relevant to policy and/or management, (d) responsive to change, (e) able to show changes against a target or threshold, and (f) comprehensible to the intended audience. Therefore, any indicator should be evaluated on its ability to meet these criteria.

Based on these observations and previous recommendations, the following issues are recommended to consider when moving forward on the implementation and refining of the full set of 2010 indicators:

Recommendation 1: In parallel to encouraging work on new and improved indicators, in the short-term, and particularly in advance of 2010, emphasis should be placed on revising and updating data sets and methodologies for existing indicators, to allow the best information to be provided from the currently agreed indicators.

The agreed indicators are in various stages of implementation; methodologies are in various stages of development, and data availability is often patchy and not representative, either taxonomically or geographically. Short-term emphasis should be placed on improving the indicators that have already been agreed to, and relating them better to one another and to changes in biodiversity.

2.1 Current Gaps in Indicators:

Although several of the suite of agreed indicators have been presented in the second Global Biodiversity Outlook, gaps still exist for indicators in a number of focal areas. The most noticeable gap is the absence of indicators for focal areas five and six, regarding the status of traditional

knowledge, and access and benefit-sharing respectively, and for focal area seven, on resource transfers. Most unfortunate is the lack of indicators for the quantification of trends in access to and sharing of benefits derived from the use of genetic resources and for the status of resource transfer as both are related to a principal objective of the Convention (Article 1).

Recommendation 2: A primary area of focus in the near-term should be the design and testing of appropriate indicators for filling the gaps in focal areas 5, 6 and 7.

At its 3rd meeting in February 2005, the Ad-Hoc Open-ended Working Group on Access and Benefit-Sharing (UNEP/CBD/WG-ABS/3/7):

- (a) Invited parties, governments, and other relevant international organizations, indigenous and local communities and all relevant stakeholders to submit their views and information on the need and possible options for indicators to measure access to genetic resources and the fair and equitable sharing of benefits arising from the utilization of genetic resources, and associated knowledge, innovations, and practices of indigenous and local communities;
- (b) Invited Parties, Governments, relevant international organizations, indigenous and local communities and all relevant stakeholders to submit their views and information on the further consideration and review of targets under goal 10 of the provisional framework for goals and targets annexed to decision VII/30;
- (c) Requested the Executive Secretary to prepare a compilation of the submissions referred to in paragraphs a) and b) for the consideration of the Ad Hoc Open-ended Working Group on Access and Benefit-sharing at its fourth meeting.

These submissions were presented at the 4th meeting of the Ad Hoc Open-Ended Working Group (February 2006) although little progress was made towards identifying specific indicators. Likewise, the February 2006 meeting of the Working Group on Article 8(j) also made little progress on defining specific indicators relating to traditional knowledge.

2.2 Links between Biodiversity and Climate Change:

Significant interlinkages between the indicators for biodiversity and the impacts of global climate change already exist. Several of the projected impacts of global climate change on biodiversity were highlighted in SBSTTA/9/11, including that:

- (a) The range of many species will move poleward or upward in elevation from the current locations
- (b) Many currently vulnerable species are likely to become extinct.
- (c) Changes in climatically and non-climatically induced disturbances will affect how and at what rate the existing ecosystems will be replaced by new plant and animal assemblages.
- (d) Some vulnerable ecosystems will show signs of change.

Several of the indicators already agreed to directly measure these impacts, including the trends in the status of populations and threatened species and trends in the extent of selected biomes and ecosystems. In fact, in a recent information document for SBSTTA11, the Executive Secretary commented that ‘the suite of headline indicators contained in the framework for assessing progress towards the 2010 biodiversity target...is – at least in theory – suitable for capturing key impacts of climate change on biodiversity’ (SBSTTA/11/INF/7).

Recommendation 3: While indirect measures that allow for monitoring the affects of global climate change on biodiversity exist, more targeted indicators could be developed. Specifically, an indicator that would allow for the tracking of latitudinal or altitudinal changes in a population’s distribution would more directly link changes in biodiversity due to climate change.

Measuring the rate of change in species ranges and the rate that existing ecosystems will be replaced may be more difficult to directly measure, but correlative measures may be produced from the existing data. However, given the status of current indicators and in light of earlier recommendations

(see above), the development of this new indicator should be postponed in favor of finding more synergies between the currently agreed indicators and those for quantifying climate change.

3 OVERALL CONCLUSIONS

The process of indicator development has moved swiftly since the initial agreement at COP VII. Multiple data sets have been used to document the current status and recent trends in global biodiversity, including through presentation in the second Global Biodiversity Outlook.

However, the suite of 2010 indicators requires significant further development, and therefore additional investment. Based upon the various scientific and government advice received on the suite of 2010 indicators, it is appropriate to commit to continued assessment and, where needed, revision of, the existing suite of 22 headline indicators agreed to by the Conference of Parties. Despite calls to add to the number of measures for specific headline indicators, the limited resources available would most appropriately be used in updating and improving existing indicators. In addition, with a glaring lack of indicators to monitor the status of traditional knowledge, benefit sharing, and resource transfer, investments to incorporate additional data sets to develop certain headline indicators may allow progress towards tracking change in these key focal areas.

Appendix 1: Summary Of Indicators By Focal Area And Status

Table 1: Summary of Indicators by focal area and status

Focal Area	Indicators ready for immediate testing	Indicators requiring further work
A. Status and trends of the components of biological diversity	1. Trends in extent of selected biomes, ecosystems and habitats *	
	2. Trends in abundance and distribution of selected species	
	3. Coverage of protected areas	
	4. <i>Change in status of threatened species</i> †	
	5. <i>Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance</i>	
B. Sustainable use	6. <i>Area of forest, agricultural and aquaculture ecosystems under sustainable management</i>	7. Proportion of products derived from sustainable sources
		8. Ecological footprint and related concepts‡
C. Threats to biodiversity	9. Nitrogen deposition	
	10. <i>Trends in invasive alien species</i>	
D. Ecosystem integrity and ecosystem goods and services	11. Marine trophic index	12. Trophic integrity of other ecosystems
	13. Water quality of freshwater ecosystems	14. Incidence of human-induced ecosystem failure
	15. <i>Connectivity/fragmentation of ecosystems</i>	16. Health and well-being of communities who depend directly on local ecosystem goods and services
		17. Biodiversity used in food and medicine
E. Status of traditional knowledge, innovations and practices	18. Status and trends of linguistic diversity and numbers of speakers of indigenous languages	19. Further indicators to be identified by WG-8j
F. Status of access and benefit-sharing		20. Indicator to be identified by WG-ABS
G. Status of resource transfer	21. Official development assistance provided in support of the Convention	22. Indicator for technology transfer

* Items in bold are indicators listed as ready for immediate testing in COP VII/30.

† Items in italics are indicators suggested for consideration as ready for immediate testing by SBSTTA X/5

‡ The Ecological Footprint and related concepts was suggested for consideration by SBSTTA X/5

ANNEX I: 2010 Biodiversity Indicators Partnership

Partnership Working Arrangements

1 THE PARTNERSHIP

1.1 Purpose of the Partnership

The 2010 Biodiversity Indicators Partnership brings together the range of organisations developing the various indicators for measuring progress towards the 2010 target, together with other stakeholders, including organisations and individuals with expertise and experience in developing and using indicators at national, regional, and global levels. This collaboration strengthens individual indicators by providing support to all Partner organisations and facilitating discussion and collaboration in methodologies, data gathering and other aspects of indicator development amongst the indicator developing Partners. The Partnership enables a coordinated approach to the development and promotion of the full suite of indicators, thereby providing an authoritative and comprehensive means by which the various indicators are developed and communicated to the various user groups. The suite of indicators will show the most comprehensive assessment of progress towards the 2010 target.

1.2 2010BIP Partners and Affiliates

1.2.1 Partners

The 2010BIP Partners include UN agencies, non-governmental organisations, research and academic institutions, and government representatives. The majority of Partners are directly involved in development of the indicators, with others bringing expertise in communications and information strategy development, indicators for national or regional use, and other technical issues.

BIP Partners are considered in the following categories (also see figure 1)

- (a) *Indicator Partners* include those that are taking a lead in developing indicators, and those that are contributing to indicator development:
- (b) *Indicator Lead Organisations (ILOs)* are those Partners taking a lead in developing and implementing specific biodiversity indicators. They were largely assigned to these roles according to SBSTTA Recommendation X/5.
- (c) *Indicator Contributing Organisations (ICOs)* are those other organisations contributing to and involved closely with the development and implementation of the indicators. ICOs include those organisations involved in data collection and collation, and the development of methodology, for the various indicators.
- (d) *Collaborating Partners* include experts and organisations contributing to or collaborating with the 2010BIP project on aspects other than through indicator development, such as information management, communications, further technical advice etc.
- (e) *User Partners* includes government representatives, representatives from the Secretariats of MEAs, and representatives from other user groups. These Partners will be centrally involved in the development of 2010BIP to help clarify user needs and ensure that they are met, and to further develop linkages between 2010BIP and the user community.

The list of 2010BIP Partners, current at the end of the PDF-B phase, is as follows:

BirdLife International

CasaTierra

CBD Secretariat

CGIAR

CITES Secretariat

CMS Secretariat

Conservation International

Countdown 2010

Department of National Parks, Wildlife, and Plant Conservation, Government of Thailand

Division of Environment, Government of Tanzania

ESA

EU Joint Research Centre

European Environment Agency

FAO Forestry Department: Forest Resources Division

FAO Fishery Department: Fishery Resources Division

FAO Agriculture Department: Animal Production and Health Division, Plant Production and Protection Division, and Nutrition and Consumer Protection Division

GEF

GISP

Global Footprint Network

Institute of Social Ecology, IFF Vienna

International Nitrogen Initiative

IPGRI

IUCN Species Survival Commission

IUCN Sustainable Use Specialist Group

IUCN World Commission on Protected Areas

Ministry of Finance and Planning, Government of Grenada

Ministry of Science, Technology, and the Environment, Government of Cuba

NASA-NGO Conservation Working Group

NatureKenya

OECD

Orbis Institute

Ramsar Convention Secretariat

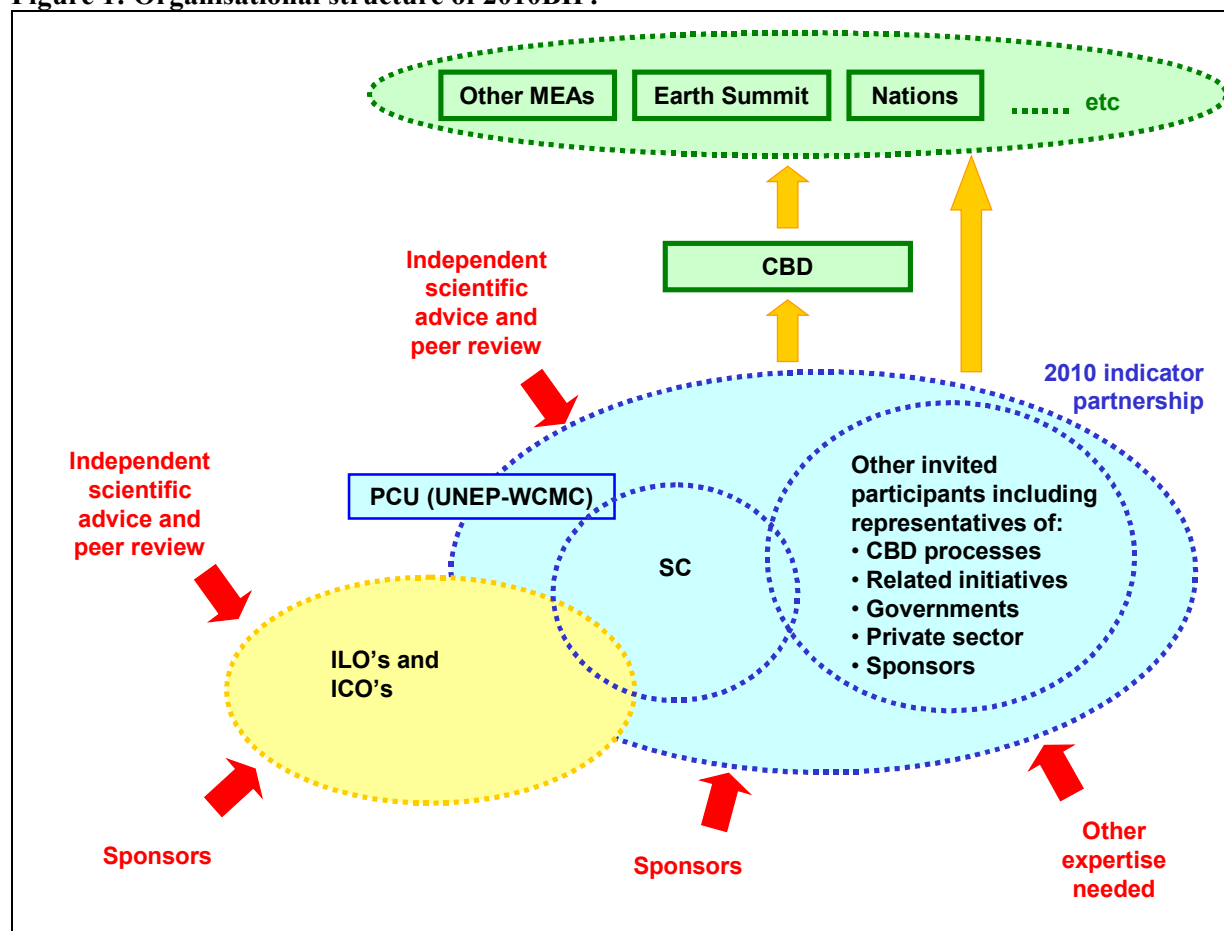
RSPB

Sea Around Us Project

Terralingua

The Nature Conservancy
UBC Fisheries Centre
UNEP DGEF
UNEP-GEMS Water Programme
UNEP-WCMC
UNESCO
University of Queensland
WDPA Consortium
Wetlands International
WHO
WWF
Zoological Society of London, Institute of Zoology

The organisational structure of the 2010BIP is depicted below in figure 1. The 2010 Biodiversity Indicators Partnership is shown in the blue sphere, User Partners in green, and Indicator Partners in the yellow sphere. The two blue circles represent the Steering Committee, providing oversight on the project, and the Collaborating and User Partners.

Figure 1: Organisational structure of 2010BIP.

1.2.2 Affiliates

2010BIP Affiliates include those individuals and organisations that have expressed an interest in the 2010BIP project and 2010 biodiversity indicators, and who have requested to be kept informed about progress and outputs of the 2010BIP project. Affiliates will receive regular email updates about progress in the BIP project and, through registration, will have access to information posted on the online forum.

1.3 Roles and Responsibilities

2010BIP Partners each play an important role in the project, and in the implementation of the indicators. Roles and responsibilities are as follows:

(a) Indicator Partners

Indicator Lead Organisations (ILOs) play a pivotal role in the 2010BIP project, and have responsibility for indicator development activities. Table 1 shows the ILOs dedicated to each of the indicators. All of the indicators that were considered by the 2010BIP project during the PDF-B phase are included. Of these, a selection will be taken through to the FSP phase for implementation and delivery. The ILOs are expected to work closely with Indicator Contributing Organisations (ICOs), supporting indicator development through data, methodology or other contributions. ILOs will be responsible for liaising with, and in some cases allocating and delegating work to, the ICOs and in many cases collating outputs from ICOs to develop, refine and implement the indicator. ILOs will work closely with the 2010BIP Secretariat to ensure open channels of communication within the Partnership. ILOs will be the focal point of contact for the 2010BIP Secretariat, and will nominate one individual to act as Indicator Focal Point. Agreements will be established between ILOs and the

project coordination unit (UNEP-WCMC) for engagement with the Partnership and, where relevant, the distribution of project funding. ICOs will work in collaboration with the relevant ILO(s) to support indicator development, and may be included in Agreements between ILOs and UNEP-WCMC, where appropriate.

Indicator Partners will also be responsible for information management, communication, and peer review of data and outputs relating to individual indicators.

(b) Collaborating Partners

Collaborating Partners and other technical experts will play diverse and important roles in the 2010BIP, leading and supporting the delivery of the project's objectives, including those related to indicator development, project management and oversight, communication, data and information management. Specific responsibilities will be delineated in agreements established between Collaborating Partners and the project coordination unit (UNEP-WCMC), to include, where relevant, the distribution of project funding.

(c) User Partners

Representatives from the various MEAs, national governments and other user groups will contribute to the 2010BIP project *inter alia* by advising on the use of biodiversity indicators, discussing future potential use of the indicators, and reviewing 2010BIP materials to ensure saliency of the work of the Partnership. Representatives from the Secretariats of the biodiversity Conventions will be involved in 2010BIP to ensure efficient and effective mechanisms for the delivery of the 2010 indicators to national governments through the MEAs, and ensuring linkage between the biodiversity indicators being used and considered in the various international processes.

1.4 Partner Reporting

Indicator Partners and Collaborating Partners are expected to report back to the BIP Secretariat on an annual basis, with information about progress in their relevant activities and to provide early warning of anticipated problems. Indicator Partners and Collaborating Partners should also report to the BIP Secretariat at any time if problems arise or if there are points of contention relating to their relevant activities.

User Partners are expected to report to the BIP Secretariat as appropriate, to provide updates on progress in their relevant activities.

1.5 Partnership Meetings

Meetings of the full 2010 Biodiversity Indicators Partnership and its Steering Committee will be convened at the start, and annually throughout the 2010BIP project, with a total of four meetings being held in the first full phase of the project. The meetings will be organised by the 2010BIP Secretariat, and will be held at hosting Partner organisations as agreed on a meeting-by-meeting basis. All Partners will be invited to, and expected to attend, all Partnership Meetings. 2010BIP Affiliates will on the whole not be invited to attend Partnership meetings due to resource constraints. Affiliates will, however, in many cases be able to access meeting reports and submit comments and discussion points to the BIP Secretariat for consideration at Partnership meetings.

1.6 Partnership Agreements

Letters of Agreement will be drafted between Partners and the Executing Agency (UNEP-WCMC) covering Partners' work during the first full phase of the project. Similar Letters of Agreement were drafted and used successfully during the PDF-B phase to cover Partners' work on indicator development templates, etc. A template for these Letters of Agreement is provided in Appendix 1 to this Annex.

Table 1: 2010 Indicators and ILOs (including all incorporated during PDF-B phase)

Focal Area and Indicators	Status	Indicator Lead Organization(s)
STATUS AND TRENDS OF THE COMPONENTS OF BIODIVERSITY		
Trends in extent of selected biomes, ecosystems and habitats	2010BIP Headline Indicator	
Extent of selected biomes, ecosystems and habitats	2010BIP indicator	tbd
Extent of Forest and Forest types	2010BIP indicator	FAO
Trends in abundance and distribution of selected species	2010BIP Headline Indicator	
Living Planet Index (2006-2008)	2010BIP indicator	IoZ & WWF International
Global Wild Bird indicator	2010BIP indicator	Birdlife International
Abundance of selected forest tree species	2010BIP indicator	FAO
Coverage of protected areas	2010BIP Headline Indicator	
Coverage of PAs	2010BIP indicator	UNEP-WCMC and WCPA
Overlays with biodiversity	2010BIP indicator	UNEP-WCMC and WCPA
Management Effectiveness	2010BIP indicator	UNEP-WCMC and WCPA
Change in status of threatened species	2010BIP Headline Indicator	
Red List Index (and Sampled RLI)	2010BIP indicator	IUCN
Trends in Genetic Diversity	2010BIP Headline Indicator	
Ex situ crop collections	2010BIP indicator	FAO
Genetic diversity of terrestrial domesticated animals	2010BIP indicator	FAO
Genetic diversity of domesticated aquatic species	2010BIP indicator	FAO
Tree genetic resources	2010BIP indicator	FAO
SUSTAINABLE USE		
Areas under sustainable management	2010BIP Headline Indicator	
Area of Forest under sustainable management: certification	2010BIP indicator	UNEP-WCMC
Area of Forestry under sustainable management: degradation and deforestation	2010BIP indicator	FAO
Area of agricultural ecosystems under sustainable management	2010BIP indicator	FAO
Proportion of products derived from sustainable sources	2010BIP Headline Indicator	
Proportion of fish stocks in safe biological limits	2010BIP indicator	FAO
Status of species in trade	2010BIP indicator	CITES
Other indicator of sustainable use	2010BIP indicator	IUCN
Ecological Footprint and related concepts	2010BIP Headline Indicator	
Ecological Footprint	2010BIP indicator	Global Footprint Network
THREATS TO BIODIVERSITY		
Nitrogen Deposition	2010BIP Headline Indicator	International Nitrogen Initiative
Invasive Alien Species	2010BIP Headline Indicator	Global Invasive Species Programme
ECOSYSTEM INTEGRITY AND ECOSYSTEM GOODS AND SERVICES		
Marine Trophic Index	2010BIP Headline Indicator	Fisheries Centre, University of British Columbia
Water Quality	2010BIP Headline Indicator	UNEP GEMS/Water
Connectivity/ fragmentation of ecosystems	2010BIP Headline Indicator	
Forest fragmentation	2010BIP indicator	UNEP-WCMC and FAO
River Fragmentation and flow regulation	2010BIP indicator	TNC
Health and well being of communities	2010BIP Headline Indicator	WHO
Biodiversity for food and medicine	2010BIP Headline Indicator	
Nutritional status	2010BIP indicator	FAO
Other indicator of biodiversity in medicine	2010BIP indicator	IUCN
STATUS OF TRADITIONAL KNOWLEDGE, INNOVATIONS AND PRACTICES		

Focal Area and Indicators	Status	Indicator Lead Organization(s)
Status and trends of linguistic diversity and numbers of speakers of indigenous languages	2010BIP Headline Indicator	
Status and trends of linguistic diversity and number of speakers of indigenous languages	2010BIP indicator	UNESCO
Other indicator of traditional knowledge	2010BIP indicator	tbd
STATUS OF ACCESS AND BENEFIT SHARING		
Indicator tbd	2010BIP Headline Indicator	tbd
STATUS OF RESOURCE TRANSFERS		
ODA in support of the Convention	2010BIP Headline Indicator	OECD

2 THE STEERING COMMITTEE

2.1 Roles and Responsibilities

The 2010BIP Steering Committee (SC) will steer the project and provide ongoing guidance and advice to the Executing Agency (UNEP-WCMC). The Steering Committee will also be responsible for overseeing the rationality of the 2010BIP project and ensuring that it continues to meet users' requirements.

2.2 Steering Committee Members

The members of the interim SC, established for the duration of the PDF-B Phase (October 2005 – March 2006), are as follows:

- UNEP World Conservation Monitoring Centre
- CBD Secretariat
- European Environment Agency
- Government of Cuba (Co-Chair of the Ad Hoc Technical Expert Group on Indicators for Assessing Progress Towards the 2010 Target)
- Government of Grenada (SBSTTA Bureau Regional Representative)
- Government of Thailand (SBSTTA Bureau Regional Representative)
- IUCN Species Survival Commission Indicators Sub Committee
- Nature Kenya
- United Nations Environment Programme Division of Global Environment Facility
- United Nations Food and Agriculture Organisation

It is proposed that these members continue to act as the 2010BIP Steering Committee into and throughout the full project phase, with alternates designated for meetings where usual representatives are unable to attend in person. Terms of Reference (ToR) for the Steering Committee are provided in Appendix 2 to this Annex

3 PROCEDURES

3.1 Indicator Selection Process

The 22 headline indicators which form the framework for the full suite of 2010 indicators were identified at the Tenth Meeting of the Subsidiary Body on Scientific, Technical, and Technological Advice (SBSTTA 10) in 2005. In SBSTTA Recommendation X/5, possible sources of data and organisations to coordinate the delivery of the indicator and each of its potential measures were identified. However, there remains considerable variation in the current capacity of indicators and

measures to report against these headline indicators. Decisions regarding the measures and indicators that will be included in the 2010BIP process as part of the full project are made by the 2010BIP Steering Committee according to assessments of the feasibility and relevance of individual indicators, considering the full suite of indicators, and the outcomes of the peer review processes.

3.2 Distribution of funds

All Indicator Partners are expected to make every effort to obtain co-financing to enable full indicator development activities to be implemented. Decisions regarding the allocation of available project funds between Indicator Partners were made by the 2010BIP Steering Committee during the PDF-B phase of the project. Once funding has been allocated, ILOs will be responsible for sub-contracting work and agreeing further allocation of funds to relevant ICOs.

3.3 Peer Review Process

A peer review process for the 2010BIP project will be implemented to ensure regular review of the full suite of 2010 indicators and BIP products, messages, and outputs. This will help to ensure that the indicators and products are valid and used appropriately. In addition, ILOs, and in some cases ICOs, will be responsible for the peer review of the individual indicators. Further details of the 2010BIP peer review process are given in the main project document.

4 INFORMATION OWNERSHIP

In principle, the Partnership encourages (as much as possible) the sharing of data in an unrestricted manner to encourage free flow of information between data providers, data processors, and data users. However, it is recognised that access to source datasets and detail level indicator data may sometimes be restricted. Authority to control access to the datasets lies with the identified responsible custodian. ILOs and ICOs and other organisations authorised by the custodians are free to publish the results of the indicators independently of the 2010BIP. The 2010BIP will include resulting approved 2010 indicators in its outputs, including, *inter alia*, publications, brochures, and on the website. Where appropriate, specific agreements relating to this will be determined on an individual basis with organisations. The 2010BIP will also perform crosscutting analyses using the results of the individual indicators, and to synthesise and publish these as appropriate. Further details on data and information management principles and practices are provided in the 2010BIP Information Management Strategy (Annex L).

5 COMMUNICATION

5.1 Communication within the Partnership

The primary mechanism for communication within the 2010BIP will be email and annual meetings of the Partnership. A listserv will be established, which the Secretariat, Partnership members, and the Steering Committee will use to communicate with the Partnership as a whole. The 2010BIP website, www.twentyten.net, will also be used to communicate news and progress to the Partnership and more widely. A password-protected Partners Area will be used to post relevant documents and information relating to the internal workings of the Partnership. The website will in due course host a forum for wider discussion relating to the 2010 biodiversity indicators where Partners can post and review documents and information relating to the BIP project as a whole and individual indicators.

5.2 Tools for Outreach

The 2010BIP website will be the focus for direct communication of the outputs of the project, including communicating 2010BIP news, information, and analysis. Other outputs, including brochures, graphics, and CD-ROMs, will also be produced, and made available through the website. Collaboration with other organisations, including Indicator and Collaborating Partners will form a central component of 2010BIP communication and outreach.

Details of the 2010BIP Communication Strategy are given in Annex K.

Annex I: Appendix 1
Template for Partnership Letters of Agreement

LETTER OF AGREEMENT

This Letter of Agreement (herein referred to as the LoA) is concluded between:

**UNEP World Conservation Monitoring Centre
(UNEP-WCMC)
219 Huntingdon Road
Cambridge
CB3 0DL
United Kingdom**

And

**XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
(XXXX)
XXXXXX
XXXXXXXXXX
XXXX
XXXX**

1 BACKGROUND

The 2010 target, “*to achieve a significant reduction of the current rate of biodiversity loss at global, regional, and national levels as a contribution to poverty alleviation and to the benefit of all life on earth*”, was adopted by the CBD Conference of Parties at its meeting in April 2002 (Decision VII/26), endorsed by Ministers responsible for CBD implementation during a Ministerial Roundtable discussion in April 2002 (Hague Ministerial Declaration), and endorsed by world leaders during the World Summit on Sustainable Development in September 2002.

The CBD Conference of Parties defined a suite of focal areas and indicators for assessing and reporting on progress towards this target in February 2004 (Decision VII/30). Advice on these indicators has subsequently been given by the CBD Subsidiary Body on Scientific, Technical, and Technological Advice (Recommendation X/5), based on the input of a wide range of experts and institutions. The ‘2010 indicators’ are at different stages of development and implementation, and are being developed and managed by a wide range of organizations and agencies.

2 OBJECTIVES

The aim of the full 2010 Biodiversity Indicators Partnership (2010BIP) GEF Project is to support regular delivery of a full suite of 2010 indicators at the global level that is meaningful for a range of audiences in supporting both policy intervention and communicating the degree of success in reducing the rate of loss of biodiversity. The indicators will be delivered through a partnership of the organizations and agencies working on the individual indicators. The indicators will be meaningful at a global level, but clearly linked to related indicators at national and regional levels, to targets and indicators relevant to other sectors (in particular the Millennium Development Goals), and to assessing the impact of climate change on biodiversity.

The objective of the FSP Phase of the 2010BIP Project is to track progress towards achieving the 2010 target at the global level through the delivery of a suite of indicators that has been identified by the CBD for addressing progress towards the development objective of this project (CBD COP Decision VI/30). The FSP is divided into two phases: Phase 1 (mid-2006 to mid-2009) for the development, testing, and refining of indicators, and the initial output of results and findings, and Phase 2 (mid-2009 to mid-2012), for further reporting of the indicators and establishing the longer-term use of the indicators in biodiversity monitoring and assessment.

UNEP-WCMC is the executing agency of the 2010BIP project, with overall responsibility of facilitating and administering the 2010BIP project in the PDF-B phase.

3 ACTIVITIES

3.1 Relevant activities

XXXXXX, as a 2010BIP Partner (“Partner”), will participate in the following activities:

[[xxxxxxxxxxxxxxxxxxxxxxxx]]

3.2 Attendance of 2010BIP Meetings

Partners should make every effort to attend all 2010BIP Partnership Meetings. Four such meetings are scheduled to take place during the first full phase of the project, and are expected to be held during December 2006, June 2007, June 2008, and June 2009.

3.3 Reporting Mechanisms

Under this LoA Partners are expected to report to the 2010BIP Secretariat (the Project Coordinating Unit) on an annual basis, to provide information regarding progress in their relevant activities and to provide early warning of anticipated problems.

3.3.1 *Outputs and Results*

The primary output from Partners under this LoA is *[[xxxxxxxxxxxxxxxxxxxxxxxxxxxx]]*.

Partners warrant to UNEP-WCMC that no documents or other material and data or other information and devices or processes that are provided as part of the outputs of this LoA will infringe any third party intellectual property rights.

3.3.2 *Timetable and Workplan*

This LoA will enter into force upon signature by the parties and have a total duration of *[[XX]]* months. If required, termination of the LoA can be given by either party, provided at least thirty (30) days written notice is given before the proposed date of termination.

3.3.3 *Disputes*

- (a) In any dispute between the parties regarding the interpretation or implementation of this agreement every effort will be made by each of the Partners to negotiate and settle differences within the spirit of collaboration.
- (b) Any controversy or claim arising out of or in accordance with this LoA or breach thereof shall, if it is not settled by direct negotiation, be settled by arbitration wherein each of the Partners shall have the right to appoint one arbitrator and the two arbitrators shall then jointly appoint a third who shall be chairperson of the arbitration team and the decision of the arbitration team shall be final and binding such that there shall be no recourse to litigation. The defaulting Partner as determined by the arbitration team shall meet all costs associated with such arbitration.

3.3.4 *Liability*

- (a) Partners agree to indemnify UNEP-WCMC and keep UNEP-WCMC indemnified, together with its officers, directors, employees and agents, against all actions, claims, proceedings and all damages, costs and expenses arising out of or in connection to this LoA except to the extent that the claim, loss, damage or other liability is due to the fault of UNEP-WCMC.
- (b) The Partner accepts liability for any claim, loss or damage, or other liability incurred in connection with this LoA incurred by the Partner or by a third party selected by the Partner.

3.3.5 *Budget*

- (a) UNEP-WCMC will provide *US\$XXX to XXXX* for undertaking the completion of the indicator development template and contributing to the overall development of the full project proposal.
- (b) Budget details:

Activity	US\$
3.3.6 Total Budget	x

- (c) US\$ XXXX will be remitted to XXXX upon completion of the task outlined in this memorandum under Activity 3.1.
- (d) Payment will be made into the following bank account:

Account name:

Account number:

Sort code:

Bank name and address:

Swift code / Routing number:

Costs incurred by UNEP-WCMC, as coordinating member of the 2010BIP, resulting from the termination of the LoA by XXX may be withheld from any amount otherwise due to XXX from UNEP-WCMC.

4 CORRESPONDENCE

All correspondence regarding this Memorandum between XXX and UNEP-WCMC should be addressed to:

at UNEP-WCMC:

at XXXXXX

Contact Name

Title

Organisation

Address

Address

Postcode

Telephone Number

Fax Number

e-mail address

5 SIGNATURES:

Name:

Title:

Date

Name:
For UNEP-WCMC

Date

Annex I: Appendix 2

Terms of Reference (ToR) for the Steering Committee

The SC will meet four times during project implementation, the purpose of each meeting being outlined below. Proposed dates for the meetings will be: December 2006, June 2007, June 2008, and June 2009. Informal meetings or consultations will take place as necessary in conjunction with other meetings.

The Steering Committee is responsible for providing guidance and advice to the BIP Secretariat regarding the progress and direction of the project and exerting proactive influence on policy processes. The Steering Committee is not in any way legally or otherwise responsible for the success of the project. Specifically the SC will:

1. Provide information to the project in view of major policy and other processes related to biodiversity and indicators;
2. Review project workplan and annual workplans against budget allocations, as well as annual progress reports;
3. Review project implementation process paying particular attention to:
 - The monitoring and evaluation of the project;
 - The extent and effectiveness of stakeholder involvement at the international and national level;
 - The quality of outputs produced;
 - The sustainability of project outcomes;
 - The replicability of actions recommended by the project taking into account that financing for promoting replicability is factored in by the project.
4. Review and approve the outline of, and subsequently the final, project synthesis report, including conclusions and recommendations particularly focussing on quality of outputs, and the information dissemination strategy, including its utility by potential users;
5. Review/monitor the implementation of the project's outreach and communication strategy;
6. Ensure linkages to international policy frameworks, networks, and organisations, including:
 - Convention on Biological Diversity (CBD) and SBSTTA
 - Ramsar Convention including STAP
 - Convention on International Trade in Endangered Species (CITES)
 - Convention on Migratory Species (CMS)
 - Millennium Development Goals (MDGs)
 - Convention on Climate Change (UNFCCC)
 - Convention to Combat Desertification (UNCCD)
 - World Heritage Convention
 - Commission on Sustainable Development
 - CBD Global Strategy for Plant Conservation
 - International Treaty on Plant Genetic Resources for Food and Agriculture

7. In order to enhance dissemination of project results and recommendations, the SC should review / monitor:
- Stakeholder buy-in to the project during implementation;
 - Whether results reach their intended targets;
 - The risks of failure
 - The scale at which stakeholders buy in, and any potential conflicts between stakeholders at different levels.

Purpose of Meetings

Meeting 1, December 2006: At project onset, the SC will review the following:

- The project management structures in place including composition and ToR of the Steering Committee;
- The detailed workplan for the project, and strategies to be developed by the project to promote buy-in at the international and national level;
- The sustainability of project results and the replicability of project results which will be ongoing features during implementation rather than the traditional end of project focus on these issues;
- The kinds of documentation that will be developed by the project for stakeholders depending on their interests and needs;
- The detailed monitoring and evaluation plan for the project discussing how baseline information will be measured at the onset of the project to measure its concrete impact at the time of project completion in terms of measuring progress towards the 2010 target.

Meetings 2 and 3, June 2007 and June 2008: Mid-project, the role of the Steering Committee will be to review progress in implementation, identify difficulties, and recommend corrective actions. Accordingly it will review progress on issues including the following:

- The extent of buy-in of stakeholders at the international and national level;
- The timeliness in project implementation as a result of project workplan reviews;
- The implementation of the monitoring and evaluation plan of the project;
- The quality of documents produced by the project;
- The sustainability of project results
- The replicability of actions recommended by the project taking into account that financing for promoting replicability is factored in by the project.

Meeting 4, June 2009: Near the end of the project the SC will:

- Review the quality of all project outputs submitted to the SC in draft form at least three weeks prior to the meeting;
- Review sustainability and replicability of project results;
- Participate in the independent evaluation of the project and feed into it the information gained through the project's own monitoring and evaluation work to concretely show impact of the project;

Review information dissemination and outputs, paying particular attention to the output being sent to the GEF Secretariat and Implementing Agency (UNEP), which will provide detailed recommendations to the GEF on how its programmes and policies would be affected by the research results.

ANNEX J: 2010 Biodiversity Indicators Partnership

Relationship Between the 2010 Indicators and Indicator Processes of other Mechanisms

1 INTRODUCTION

This analysis considers the development of indicators associated with major global and regional mechanisms related to biodiversity and how they relate to the 2010 indicator framework established by the Convention on Biological Diversity (CBD). It includes at the global level the biodiversity-related Conventions, including the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Migratory Species (CMS), the Ramsar Convention on Wetlands, and the World Heritage Convention (WHC), development mechanisms such as the Millennium Development Goals (MDGs) and the Commission on Sustainable Development (CSD), and processes including the CBD Global Strategy for Plant Conservation (GSPC) and the International Treaty on Plant Genetic Resources for Food and Agriculture. Although not analysed here, other relevant programmes and cross-cutting issues of the CBD include the thematic programmes of work on agricultural biodiversity, forest biological diversity, and inland water ecosystems, as well as the Guiding Principles on Invasive Alien Species, the Principles of the Ecosystem Approach, and the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity.

The United Nations Convention to Combat Desertification (UNCCD) is in the process of developing benchmarks and indicators for implementation of the Convention and for monitoring and assessing the socio-economic and bio-physical aspects of desertification for use at the regional and national level. Global indicators within the UNCCD are therefore not expected, but the regional and national level indicators could support the use of the 2010 indicators under the CBD for drylands at the regional and national level. Regionally, the Streamlining European Biodiversity Indicators 2010 project (SEBI) and the Circumpolar Biodiversity Monitoring Program (CBMP) are included in this analysis. Further links to the United Nations Framework Convention on Climate Change (UNFCCC), WHC, UNCCD, and the CBD programmes of work including the GSPC will be explored in the full project.

2 RELATIONSHIPS BETWEEN DIFFERENT INDICATOR PROCESSES AND THE CBD 2010 INDICATORS

Several mechanisms' indicator processes, including those of the MDGs, the CSD, and the World Heritage Convention, predate the development of global indicators of the CBD, while some of the more recent ones specifically aim to contribute to the 2010 target. These include the CITES, CMS (both mainly under development), and Ramsar Conventions. These Conventions support the global 2010 indicators through their own indicator processes, which focus on trade in endangered species, migratory species and wetlands, respectively, reflecting the respective focus of the conventions. The proposed indicators for the GSPC also aim to support the global indicators process. The two regional processes, SEBI and CBMP, have used the matrix of the CBD to develop regional indicators contributing to those of the CBD. Both these sets of indicators are under development

2.1 Biodiversity-Related Conventions

2.1.1 *Convention on International Trade in Endangered Species (CITES)*

CITES contributes to the 2010 target to reduce the rate of biodiversity loss through its own processes, and will consider relevant indicators focusing on international trade in wild fauna and flora. It also participates in the global framework to assess progress towards the 2010 target established by the CBD and the development of 2010 indicators. The contributions from CITES concern one of the key components of biodiversity conservation, namely the goal and focal area about the promotion of

sustainable use and consumption of biodiversity and its sub-target 4.3, 'No species of wild fauna or flora endangered by international trade'.

CITES envisages the delivery of indicators at the global level that are meaningful to CITES Parties, can support future policy interventions and communicate the degree of success in achieving the 2010 target and beyond. Partnerships with other biodiversity-related Conventions and a wide range of organizations and agencies, as envisaged by the Biodiversity Indicators Partnership Project, will greatly enhance and strengthen this effort. The following CITES Decisions and processes are to be recognized in this regard:

(a) Development of a new Strategic Vision:

- The Conference of the Parties to CITES adopted in 2000 a first Strategic Vision for 2000-07. The development of a new Strategic Vision and an associated Action Plan, covering the period 2007-2013, was decided by the 13th meeting of the Conference of the Parties in 2004. The Decision provides that the new Strategic Vision should in particular contribute to the achievement of the World Summit on Sustainable Development (WSSD) targets of significantly reducing the rate of biodiversity loss by 2010, implying the deployment of relevant indicators. A draft of the Strategic Vision and Action Plan through 2013 will be presented to the Standing Committee in October 2006, which will submit a final proposal for adoption at the 14th meeting of the Conference of the Parties in June 2007.
- The Standing Committee was instructed in this context to identify possible priority actions to improve synergies between CITES and CBD in areas of common concern in order to contribute to reaching the WSSD 2010 target, considering *inter alia* Sustainable Use, the Ecosystem Approach and Access and Benefit Sharing, and provide guidance on these items to be considered in the revision of the Strategic Vision and Action Plan. The 2010 indicators process is likely to form an integral part of this guidance.

(b) The evaluation of the Review of Significant Trade:

- The Review of Significant Trade is a mechanism whereby CITES-listed species are identified for which authorized levels of exports might be detrimental to wild populations in exporting range States, and corrective species- and country- specific recommendations are implemented. It is one of the foremost processes in the Convention to ensure that trade is non-detrimental to wild CITES-listed fauna and flora and remains sustainable. The Review of Significant Trade process, which has operated for over 15 years, will be evaluated between 2007 and 2010, *inter alia* to assess the impact over time of the process on the trade and conservation status of species selected for review and to formulate recommendations in view of the results and findings of the evaluation and the impact assessments. The indicators that will be developed and applied in the context of the evaluation, such as changes in the quantity and quality of trade combined with an index of changes in the population status of species in use, are of global importance.

(c) CITES and the Global Strategy for Plant Conservation:

- The Global Strategy for Plant Conservation requires the development of 2010 indicators at global level. The Plants Committee of CITES has been instructed to link its activities and collaborations with the CBD Global Strategy for Plant Conservation, especially regarding target XI 'No species of wild flora endangered by international trade', and with other CBD-related issues. The Plants Committee regularly reports to the Conference of the Parties on progress in this area.

2.1.2 Convention on Migratory Species (CMS)

Contribution of CMS to the 2010 indicator process has been considered within the different bodies of the Convention since 2003. The general approach followed in relation to the identification and development of indicators within the convention has been to link with other relevant conventions and processes, and to consider any development of a 2010 indicator (or indicators) within the context of a broader assessment of achievement of the CMS strategic objectives and targets.

In specific relation to 2010 indicators, the Living Planet Index (LPI) and the Red List Indices (RLIs and Sampled RLIs) are considered of particular relevance to CMS. In particular, the 8th Meeting of the Conference of the Parties in 2005 has requested that a Migratory Species Index within the context of the LPI be developed in collaboration with WWF, BirdLife International, IUCN, UNEP-WCMC and other relevant institutions (Resolution 8.7). While the RLIs and SRLI have not been explicitly mentioned in this resolution, they are still regarded as potentially useful indicators for CMS and some of its Agreements, and testing of its applicability to subsets of migratory species is at an advanced stage. In addition to the above-mentioned indices, evaluation is underway about the feasibility and sensitivity of an index on changes over time in the distribution and range of migratory species.

Several processes within CMS and its agreements have the potential to contribute to the 2010 Indicator process. The recently adopted Strategic Plan 2006-2011 makes explicit reference to the 2010 target, and is the primary framework through which the Convention intends to contribute to the target. Specific targets laid out in the Strategic Plan which are directly relevant to the development of indicators include 1.3 - *Indices for measuring the status and trends of migratory species at global, regional and national level developed* and 1.5 - *Criteria, indicators and guidelines for assessing the success of conservation actions for priority migratory species developed*. Convention processes that have the potential to generate data for Migratory Species Indicators include national reporting, the CMS Information Management System currently under development and the Global Register of Migratory Species (GROMS).

Several of the Agreements and MoUs concluded under CMS have their own data gathering and assessment systems and processes for certain groups of migratory species in given geographic areas. These provide potential for the assessment of progress in achieving the 2010 target for each Agreement/MoU separately – thus for specific taxonomic groups and regions – as well as for the Convention overall – thus global.

2.1.2.1 *Relevant processes within the individual CMS Agreements*

The particular nature of the CMS structure - a framework convention with regional Agreements concluded under its auspices - brings the advantage of there being institutional bodies and data gathering systems for certain groups of migratory species. However, this structure might also complicate the reporting process as the Agreements have very different information needs. While the RLIs and SRLI, for instance, might be suitable for the CMS Convention, these might be too insensitive to changes in the case of the Agreement on the Conservation of Albatrosses and Petrels (ACAP), as this may require an indicator that comprises data at the population level.

Details of the indicator processes within the CMS Agreements are as follows:

- Agreement on the Conservation of Albatrosses and Petrels (ACAP): It has been recommended that a specific and simple set of indicators for ACAP species, based on a subset of the *Favourable Conservation Status* components, be developed, with particular emphasis on population size and population trend.
- Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea, and Contiguous Atlantic Area (ACCOBAMS): A programme to identify indicators for the success of cetacean conservation in the Mediterranean and Black Sea has been adopted.
- African Eurasian Waterbird Agreement (AEWA): The 3rd Meeting of the Parties (MOP) in 2005 adopted Resolution 3.6 on *Developing an International Partnership for Support of Waterbird Population Assessments*. The wide geographic scale of the International Waterbird Census, its long history in some regions, and its annual basis, provide a highly responsive means of assessing fulfilment of the 2010 biodiversity target.
- Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS): It has been noted that the 2010 target places a major responsibility on all Parties to the Agreement (Statement on behalf of the UNEP Executive Director at MOP4 (Esbjerg, 19-22 August 2003)).

- Agreement on the Conservation of Populations of European Bats (EUROBATS): It has been noted that the work of EUROBATS and its results are an important basis for attempts to reach the 2010 target, and discussions on a possible contribution of EUROBATS to the 2010 target have been suggested.

2.1.3 Ramsar Convention on Wetlands

The interaction between the 2010 indicators and Ramsar indicators is three-fold. First, there are a few cases where both the 2010 process and the Ramsar effectiveness process aim to use the same measures, and are seeking to unify the approach taken to these (eg: Red List Index in respect of wetland-dependent birds and wetland-dependent amphibians; assessment of trends in selected biomes, ecosystems and habitats in respect of wetland habitat types such as mangroves, coral reefs, seagrasses, and inland wetlands (peatlands)). Second, there are other 2010 indicators which, with a wetland-related analysis and disaggregation as appropriate, will add supplementary perspectives to the picture of Ramsar effectiveness produced by the core set of Ramsar indicators (eg: Living Planet Index; Marine Trophic Index). Third, in turn some of the Ramsar indicators will offer additional perspectives to the 2010 assessment process (eg: qualitative assessment of trends in wetland conservation status may generate information on river fragmentation), and they may also contribute additional insights into the drivers of change to wetland ecosystems. This work is also related to the development of a joint reporting framework on the biological diversity of inland waters by Ramsar/CBD, for which CBD SBSTTA11 Recommendation XI/9 requested the CBD Executive Secretary to invite the Ramsar Convention to take the lead.

2.2 Other Mechanisms

2.2.1 Millennium Development Goals

Of the eight Millennium Development Goals (MDGs), the 2010 biodiversity target is most directly relevant to the achievement of MDG 7, which commits nations to “ensure environmental sustainability”. In general terms it has been recognized that the conservation of biodiversity and its sustainable and equitable use are key components of environmental management and sustainability. MDG 7 can be seen to underpin the achievement of all the other seven MDGs, especially MDG 1 on reducing hunger and extreme poverty.

MDG 7 has three Targets (9, 10 and 11) and eight indicators for reporting on progress to meet these Targets. For three of these indicators there are similar or relevant indicators for the 2010 biodiversity target:

- Proportion of land area covered by forests (Target 9, Indicator 25);
- Ratio of area protected to maintain biological diversity to surface area (Target 9, Indicator 26);
- Proportion of population with sustainable access to an improved water source, urban and rural (Target 10, Indicator 30).

These indicators are closely related to the 2010 indicators of trends in extent of selected biomes, ecosystems, and habitats; coverage of protected areas; and water quality in aquatic ecosystems, respectively.

Indeed, the linkages between the 2010 indicators and the MDGs may become considerably stronger if, as proposed by the Poverty-Environment Partnership, the CBD’s 2010 indicators are adopted as the indicators for the biodiversity component of MDG 7. Such integration would result in a strengthening of the linkages between biodiversity and environmental sustainability and development, and the biodiversity indicators would reach a much wider audience. Institutional and financial resources for calculating the 2010 biodiversity target indicators at the national level would also be increased.

2.2.2 Commission on Sustainable Development

The UN Commission on Sustainable Development (CSD) was established in 1992 to ensure effective follow-up of the United Nations Conference on Environment and Development. The Commission is responsible for reviewing progress in the implementation of Agenda 21, which calls on countries and the international community to develop indicators of sustainable development. A core set of 58 indicators has been developed, divided into social, environmental, economic, and institutional indicators. Of the CSD's environmental indicators, the following are most closely aligned with the 2010 indicators:

- Arable and permanent crop land area
- Forest area as a percentage of land area
- Wood harvesting intensity
- Land affected by desertification
- Area of urban formal and informal settlements
- Annual catch by major species
- BOD in water bodies
- Area of selected key ecosystems
- Protected area as a percentage of total area
- Abundance of selected key species.

2.2.3 International Treaty on Plant Genetic Resources for Food and Agriculture

The International Treaty is most relevant to the CBD 2010 Headline Indicator "Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance". Indicators have been developed to collect data on the conservation and sustainable utilization of plant genetic resources for food and agriculture as part of the monitoring process of the implementation of the Global Plan of Action (one of the supporting components of the International Treaty). This data and previously collected datasets are part of the global information system, which is containing the World Information and Early Warning System / Global Plan of Action database.

2.3 Other Regional Initiatives

2.3.1 SEBI2010

The SEBI2010 project aims to develop and streamline 2010 biodiversity indicators at the European level, as agreed by the European Union and the Council of the Pan-European Biological Diversity and Landscape Strategy (PEBLDS), to assess and inform about progress towards the European 2010 targets. This requires effective coordination within Europe to ensure consistency and avoid duplication of effort on achieving the 2010 target to halt biodiversity loss. The project is a collaborative effort, open to all interested governmental, intergovernmental, and non-governmental organizations and experts.

The objectives of the SEBI2010 project with respect to its contribution to achieving the 2010 target, are:

- to consolidate, test, refine, document and help produce streamlined sets of policy-relevant biodiversity indicators meaningful in the context of the 2010 target;

¹ A copy can be downloaded online at: <http://www.fao.org/ag/cgrfa/itpgr.htm>

- to help ensure adequate funding for the development and production of indicators and assessments, and related monitoring activities, to support implementation and achievement of the policy decisions and targets;
- to improve coordination, exchange of information, collaboration and international streamlining on biodiversity-related indicators and monitoring activities building on current activities and good practice;
- to consider the wider use of the indicators, and their applicability within other relevant indicator frameworks and assessment processes.

Since the SEBI2010 indicators are based on those agreed by the CBD Conference of the Parties, there are clear linkages between these indicators and those of the 2010 BIP project. Further evidence of this is shown in matrix in Appendix 1 to this Annex.

2.3.2 *Circumpolar Biodiversity Monitoring Program*

The CBMP has been developed by the Conservation of Arctic Flora and Fauna Working Group of the Arctic Council (CAFF), in response to directives by the Arctic Council Ministers, and numerous international agreements and conventions. Its aim is to develop effective policies that protect Arctic flora and fauna from extinction, but also allow for the sustainable use of the Arctic's living resources, socio-cultural stability, and successful regional and economic development.

The CBMP will serve as a coordinating entity for currently existing biodiversity monitoring programmes in the Arctic, and will implement indicators that reflect changes and shifts in the status, trends, abundance, and distribution of Arctic species, habitats, and ecosystems. The CBMP indicators will be consistent with the CBD 2010 global indicators.

2.3.3 *Ark 2010*

The Ark 2010 programme is aimed at developing a new generation of computational tools for discovering, integrating, analyzing and sharing biodiversity information. Ark 2010 seeks to provide new technologies for developing indicators, building scenarios and, in general, evaluating status and trends of global biodiversity.

Two regional pilots have been selected to guide the Ark 2010 development in its first phase, covering the Arctic and Neotropical regions. The first pilot is linked to the Circumpolar Biodiversity Monitoring Program. One of the main expected results from this initiative is a comprehensive biodiversity report to be delivered in the context of the 2010 Biodiversity Target. This report will be mostly based on the analysis of a set of indicators, including:

- Extent of terrestrial, coastal, freshwater and marine biomes;
- Extent and frequency of natural disturbances (i.e. fire, insects);
- Arctic Living Planet Index (trends in vertebrate populations);
- Red List Index (trends in species at risk);
- Extent of human footprint (roads, seismic lines, etc); and;
- Trends in Arctic phenology (i.e. timing of Arctic green-up).

The second pilot will evaluate status, trends and values of cloud forest biodiversity in Mexico, Costa Rica and Colombia. It will also test new technologies to better understand cloud forest services, threats and conservation opportunities. Results from this pilot will be primarily intended to support the reporting and decision making bodies of the 2010 Biodiversity Target at national level. Main regional partners in this pilot are CONABIO (Mexico), INBio (Costa Rica) and Humboldt Institute (Colombia).

2.4 How well do the different mechanisms address the issues of the global 2010 indicator framework

SEBI and CBMP are developing their indicators within the global 2010 framework, with the explicit aim to produce regional counterparts to the global 2010 indicators. Both are under consideration but are likely to come up with a coherent set of 2010 indicators for the use at the pan-European and circumpolar level, respectively.

Most of the mechanisms reviewed here contribute to some extent to the 2010 indicator framework while having other mechanism-specific indicators that are not relevant in our context. Of the seven focal areas of the global CBD framework, the coverage by those mechanisms looks as follows.

- *Status and trends of the components of biodiversity*: The headline indicators on trends in the extent of selected biomes, ecosystems and habitats, on trends in selected species, on the coverage of protected areas, and on threatened species are well covered, in particular by the CSD, Ramsar, the GSPC and the two regional processes (SEBI and CBMP). The World Heritage Convention is strong on the coverage of protected areas; CITES and CMS are likely to contribute in the future and the MDGs address land area covered by forests and protected areas coverage. The indicator on genetic diversity of domesticated animals, cultivated plants and fish species of socio-economic importance is addressed by the International Treaty on PGRFA, GSPC and SEBI2010.
- *Sustainable use*: The coverage is less comprehensive, with the indicator on the area of forest, agricultural and aquaculture ecosystems under sustainable management and/or the indicator on the proportion of products from sustainable sources receiving attention by the GSPC, SEBI and to a lesser extent by Ramsar, CITES and the CSD. The ecological footprint indicator is so far only addressed by CBMP, although not specified yet.
- *Threats to biodiversity*: Only SEBI covers both headline indicators (nitrogen deposition, invasive species), while CSD and Ramsar address nitrogen deposition and GSPC and CBMP address invasive species.
- *Ecosystem integrity and ecosystem goods and services*: Various aspects of the indicators of this focal area are taken up by several of the instruments, in particular the MDGs, CSD, Ramsar and SEBI. None of the indicators is currently comprehensively covered.
- *Status of traditional knowledge, innovations and practices*: This focal area has not been taken into account by most of the mechanisms. Only GSPC and CBMP have addressed the indicator on linguistic diversity.
- *Status of access and benefit-sharing*: No mechanism has so far contributed to this indicator on which more work is required.
- *Status of resource transfers*: On the official development assistance, the MDGs, World Heritage Convention and SEBI are contributing, but no mechanism does so on the indicator of technology transfer.

3 SUMMARY

The extent to which the global 2010 indicators have been taken on board or are reflected by indicators of other mechanisms varies. In particular the indicators on biomes/ecosystems/habitats, species (including threatened species), protected areas, area of forest *etc* under sustainable management, and water quality are rather well represented. The different mechanisms are in a good position to contribute information to the 2010 indicator and thus support measuring the progress towards achieving the 2010 target in these areas.

None or very little coverage has been given to the indicators on ecological footprint, the marine trophic index, biodiversity for food and medicine, traditional knowledge, access and benefit-sharing, and technology transfer. Some of these indicators are currently still under further consideration by the CBD, reflecting the fact that little experience on their use as indicators exists. These areas deserve

more attention. Resources should be provided to enable global and regional processes to provide information that helps to assess progress towards achieving the 2010 target.

This is also true for those indicators that have received some, but not extensive attention. These are the indicators on genetic diversity, products derived from sustainable sources, nitrogen deposition, invasive species, trophic integrity of non-freshwater ecosystems, connectivity of ecosystems, human-induced ecosystem failure, health and well-being of communities, linguistic diversity, and development assistance.

**ANNEX J (Appendix 1) – 2010 Biodiversity Indicators Partnership
Indicator Initiatives Matrix**

CBD and 2010BIP			OTHER GLOBAL INITIATIVES							REGIONAL INITIATIVES					
Focal Area	Headline Indicator	Status	Potential Measures	MDGs	CSD	CITES	CMS	RAMSAR	WHC	GSPC (proposed)	SEBI 2010 (proposed)	CBMP (proposed)			
Status and trends of the components of biodiversity	Trends in extent of selected biomes, ecosystems, and habitats [v/]	Ready (COP Decision VII/30)	Forests, and forest types (e.g. mangroves)	25. Proportion of land area covered by forests	Forest area as a percent of land area							Indicator is proposed on trends in extent of this habitat type	Extent of Arctic and Boreal terrestrial ecosystems (tundra/forest/glaciers/shrubs/lichens/snow cover)		
			Coral reefs												
			Seagrasses			ALSO: Area of selected key ecosystems								Extent of coastal ecosystems (estuaries, seagrasses, etc.)	
			Tidal flats/estuaries											Extent of inland wetlands (includes peatlands)	
			Peatlands												
			Inland wetlands			(Land affected by desertification)									
			Dry and sub-humid lands												
			Croplands			Arable and permanent crop land area									
			(Natural) grasslands											Indicator is proposed on trends in extent of this habitat type (and semi-natural grasslands)	
			Polar/ice											Indicator is proposed on trends in extent of this habitat type (and tundra)	-Extent of Arctic and Boreal terrestrial ecosystems (tundra/ forest/ glaciers/ shrubs/ lichens/ snow cover). -Extent of marine ecosystems (includes sea ice).
Urban					Area of urban formal and informal settlements										
Status and trends of the components of biodiversity	Trends in abundance and distribution of selected species	Ready (COP Decision VII/30)	Living Planet Index (LPI)					Migratory species index within the context of the LPI in preparation (in collaboration with WWF, IUCN, UNEP-WCMC, BirdLife, et al)					Arctic LPI		
			Various species assemblage-trends indices		Abundance of selected key species	Work underway to develop a CITES population trends index, and CITES species 2010 indicator	Cooperation with other biodiversity-related conventions on developing 2010 indicators		Fi. Trends in the status of waterbird biogeographic populations			(No. and proportion of threatened species included in recovery and restoration programmes)	-Pan-European Common Bird Index -European Butterfly Indicator -Data availability assessed for species groups including water birds, seabirds, fish (fv and marine), cetaceans and seals, large mammals, and bats. -In the long-term, plants and dragonflies may be added. Amphibians and reptiles still to be investigated.	Domestic reindeer, seabirds, tundra plants, shorebirds, waterbirds, freshwater fish, marine mammals, marine species (fish, crab, etc), terrestrial and freshwater invertebrates, landbirds, marine invertebrates, terrestrial predators, lemmings and other rodents, Lepus - key measures to be determined.	
Status and trends of the components of biodiversity	Coverage of protected areas	Ready (COP Decision VII/30)	Coverage according to World Database on Protected areas.	26. Ratio of area protected to maintain biological diversity to surface area	Protected area as a percentage of total area				Aii. Trends in conservation status of wetlands - qualitative assessment		-Proportion of each ecological region with effectively managed protected areas (results from national reviews). -Proportion of each habitat type within each ecological region occurring within PAs or other in situ managed areas (based on analysis using land-cover maps)	Based on global indicator being prepared by UNEP-WCMC, to be circulated for review and finalisation by end-2005.	Coverage according to IUCN categories		
			Management effectiveness					Bi. Trends in the status of Ramsar site ecological character - qualitative assessment; Ei. Wetland sites with successfully implemented conservation or wise use management plan.	2.2.3.1 Number of risk-preparedness plans developed by States parties with the support of the World Heritage Centre; 2.2.3.2 Number of effective risk-prevention measures taken by States Parties		-Proportion of each ecological region occurring in an area with effective in situ management. -Proportion of ecological areas not effectively conserved				
			Overlays with areas of key importance to biodiversity					Hi. Coverage of the wetland resource by designated Ramsar sites; Under consideration: I. Coverage of wetland-dependent bird populations by designated Ramsar sites	1.2.1.1 Number of Tentative Lists revised and submitted by State Parties; 1.2.1.2 Number of Tentative Lists submitted by States Parties possessing sites of potential Outstanding Universal Value according to review by Advisory Bodies; 1.2.2.1 Number of regional information meetings for less-represented States Parties concerning the preparation of nominations dossiers; 1.2.2.2 Number of completed nomination dossiers of less-represented States Parties at WHC quality level.		-No. of countries with Important Plant Areas (IPAs) identified. -No. of IPAs identified globally. -Number of IPAs occurring in PAs or other in situ managed areas		Overlays with areas of key importance (biodiversity hotspots, i.e. polynyas, arctic oases); marine protected areas; sacred sites		
			OTHER						1.2.2.2 Number of completed nomination dossiers of less-represented States Parties at WHC quality level		-No./proportion of threatened plant species known to have at least one population in a PA or other in situ managed area. -No./proportion of threatened plant species known to have at least one population in a conserved in situ area outside current PAs -No. of useful wild species populations found in protected areas				
Status and trends of the components of biodiversity	Change in status of threatened species	Ready (SBSTTA Rec X/5)	Red List Index (RLI)					Cooperation with other biodiversity-related conventions on developing 2010 indicators	Gi. Trends in the status of globally threatened wetland-dependent birds; Gii. Trends in the status of globally threatened wetland-dependent amphibians				RLI for Europe Threatened Bird Index for Europe	Red List Index (IUCN); Total listed species (at risk)	
			Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance	Ready (SBSTTA Rec X/5)	Ex situ crop collections								No. of crops with ex situ collections greater than no accessions (incl species involved)	-Available data and indicators on genetic resources have been reviewed. -Data are more advanced for domesticated animals than for other taxa (crops, trees, fish) as reporting is organized for the former by FAO through the DAD-IS database.	
					Livestock genetic resources										
					Fish genetic resources										
					Tree genetic resources									No. of forestry/agroforestry species in seed collections (incl species involved)	
Varieties on-farm									Countries with in-farm management programmes (standards/types of activities)						
Sustainable use	Area of forest, agricultural and aquaculture ecosystems under sustainable management	Ready (SBSTTA Rec X/5)	Existing data sets for measuring sustainability of agriculture, aquaculture and forestry		(Wood harvesting intensity)				Ei. Wetland sites with successfully implemented conservation or wise use management plan		-Area of independently certified forests / cultivated lands / pasture and rangelands. -Proportion of countries incorporating plant diversity criteria and indicators for sustainable forest management into their national policies for these habitats. -Number of countries with policy and legal frameworks in place for sust mgmt of threatened and non-thr'd plant resources	Proposals for specific indicators will be made in 2006. Clarification of some concepts and expectations for this indicator are needed.			
			Proportion of products derived from sustainable sources	More work required		(Annual catch by major species)	Looking at indicators of sustainability within the CBD process with reference to the sustainability of trade in threatened species					-No. of threatened socio-economically important agricultural plant / forest plant species with management and sustainable harvesting plans in place. -No. of threatened timber, fuel wood, and NTFP species available from independently certified production forests. -No. of countries with policy and legal frameworks in place for sust management of threatened and non-threatened plant resources.			

CBD and 2010BIP				OTHER GLOBAL INITIATIVES							REGIONAL INITIATIVES	
Focal Area	Headline Indicator	Status	Potential Measures	MDGs	CSD	CITES	CMS	RAMSAR	WHC	GSPC (proposed)	SEBI 2010 (proposed)	CBMP (proposed)
	Ecological footprint and related concepts [vii]/	More work required	Ecological footprint									Extent of human footprint
			Other measures of the area of land and sea needed to support production of goods and deliver services e.g HANNP									
Threats to biodiversity	Nitrogen deposition	Ready (COP Decision VII/30)	Nitrogen deposition		Use of fertilizers			Ci. Trends in dissolved nitrate (or nitrogen) concentration			-Available indicators on N deposition have been explored and it seems there is good availability of data for immediate use across Europe via UNECE and IASA. -Many European initiatives cover this headline indicator (e.g. ETNA, COST729, NitroEurope) and provide several options for specific indicators.	
	Trends in invasive alien species [viii]/	Ready (SBSITTA Rec X/5)	Numbers and cost of alien invasive species							-No. of IAS management plans developed and implemented at national and regional levels. -No. of CBD Parties with at least 1 IAS management plan under implementation. -No. of management plans addressing the global top 10 IAS	Data availability has been explored. Four areas for development have been identified: (i) cumulative list of alien species, (ii) worst invasive species of Europe, (iii) cost of invasive alien species, (iv) awareness of invasive alien species and management plans in place. IAS indicator is available for five Nordic countries for marine, terrestrial, and freshwater environments.	Invasive alien species - key measures to be determined
Ecosystem integrity and ecosystem goods and services	Marine Trophic Index	Ready (COP Decision VII/30)	Marine Trophic Index								Contact has been made with the Fisheries Centre at UBC regarding their assistance in developing this indicator for Europe. Proposals for specific indicators will be made in 2006.	
	Water quality of freshwater ecosystems	Ready (COP Decision VII/30)	Indicator of biological oxygen demand (BOD), nitrates and sediments/turbidity	30. Proportion of population with sustainable access to an improved water source, urban and rural; 31. Proportion of population with access to improved sanitation, urban and rural	BOD in water bodies; concentration of faecal coliform in freshwater			Bi. Trends in the status of Ramsar site ecological character - qualitative assessment; Ci. Trends in dissolved nitrate (or nitrogen) concentration, Cii. Trends in Biological Oxygen Demand (BOD)			EEA is considering how to use specific indicators from the EEA core set of indicators as well as e.g.s developed by the UNEP/GEMS Water Programme for this indicators at the European level. Proposals for specific indicators will be made in 2006.	
	Trophic integrity of other ecosystems	More work required	Freshwater fisheries		(Algae concentration in coastal waters)			Bi. Trends in the status of Ramsar site ecological character - qualitative assessment;				
	Connectivity / fragmentation of ecosystems	Ready (SBSITTA Rec X/5)	Patch size distribution of terrestrial habitats (forests and possibly other habitat types) Fragmentation of river systems					Bi. Trends in the status of Ramsar site ecological character - qualitative assessment			-Data availability has been explored as well as indicators on fragmentation and connectivity of ecosystems. -Specific focus was given to forests wetlands and rivers.	Patch size distribution of terrestrial habitats (forests and possibly other habitat types) Fragmentation of river systems
	Incidence of human-induced ecosystem failure	More work required	[See notes in AHTEG paper on possible measures]		Land affected by desertification			Bi. Trends in the status of Ramsar site ecological character - qualitative assessment; Under consideration: J. The economic costs of unwanted floods and droughts; Under consideration: K. Trends in water quantity.				
	Health and well-being of communities who depend directly on local ecosystem goods and services [ix]/	More work required		4. Prevalence of underweight children under 5 years of age; 5. Proportion of population below minimum level of dietary energy consumption; 13. Under-five mortality rate; 15. Proportion of 1-year-old children immunised against measles; 16. Maternal mortality ratio; 17. Proportion of births attended by skilled health personnel; 18. HIV prevalence among 15-24-year-old pregnant women; 21. Prevalence and death rates associated with malaria; 23. Prevalence and death rates associated with tuberculosis; 24. Proportion of tuberculosis cases detected and cured under DOTS; 46. Proportion of population with access to affordable essential drugs on a sustainable basis.	Nutritional status of children; Mortality rate under 5-years old; Life expectancy at birth; Percent of population with access to primary health care facilities; Immunization against infectious childhood diseases					No. of conservation and sustainable use initiatives addressing the link between indigenous and local knowledge and livelihoods, local food security, and health		
	Biodiversity for food and medicine	More work required										Availability of biodiversity for traditional food and medicine
Status of traditional knowledge, innovations and practices	Status and trends of linguistic diversity and numbers of speakers of indigenous languages	Ready (COP Decision VII/30)	Status and trends of linguistic diversity and numbers of speakers of indigenous languages									Number of languages in use or percentage of people using their language
	Other indicator of the status of indigenous and traditional knowledge	More work required								-No. of countries with appropriate policy and legal frameworks in place that address the decline of indigenous and local knowledge associated with plant resources. -No. of local, natl, regionl, and intl initiatives addressing the decline of indigenous and local knowledge associated with plant resources. -No. of conservation and sustainable initiatives addressing the link between indigenous and local knowledge and livelihoods, local food security, and health		
Status of access and benefits sharing	Indicator of access and benefit-sharing	More work required										
Status of resource transfers	Official development assistance provided in support of the Convention	Ready (COP Decision VII/30)	Official development assistance as marked	33. Net ODA, total and to LDCs, as percentage of OECD/DAC donors' GNI; 36. ODA received in landlocked countries as proportion of their GNIs; 37. ODA received in small island developing States as proportion of their GNIs					2.1.2.2 Number of World Heritage properties benefiting from International Assistance		-Funding to Biodiversity indicator. -This is being explored by the coordination team. -E.g.s include bilateral aid provided by European countries reported through OECD DAC, Bilateral and multilateral aid received by Pan-European countries, and funding to biodiversity in EU research, monitoring, and management. -Proposals for specific indicators will be made in 2006.	
	Indicator of technology transfer	More work required										

ANNEX K: 2010 Biodiversity Indicators Partnership

Communication Strategy

1 BACKGROUND

The international community has agreed to significantly reduce the rate of biodiversity loss at various scales by 2010, and called for the establishment of a mechanism to monitor progress towards achieving that target. Numerous organizations are working in the production of indicators relevant to the 2010 target. The landscape is populated and complex and the Biodiversity Indicators Partnership (BIP) was created to help organize these disperse efforts more efficiently and establish a mechanism to provide and update a set of indicators associated with the 2010 target.

The general purpose of the communication strategy is to support BIP's goal to regularly deliver "a full suite of 2010 indicators at the global level that is meaningful to a range of audiences in supporting both policy intervention and communicating the degree of success in achieving the 2010 target." These indicators will be broadly legitimate and credible.

The communication challenges that BIP faces are:

- Biodiversity information is complex.
- Biodiversity information is hard to understand.
- Biodiversity information is difficult to relate to concrete policy decisions and needs.
- The 2010 biodiversity commitments are unknown beyond certain narrow circles and therefore provide a weak communication framework.

Except for the last one, addressing these challenges exceed BIP's possibilities as a project. These are, however, challenges that many organizations, including some of BIP's partners, are already addressing, and BIP will build on that platform to focus on a more direct challenge: BIP needs to create a reputation as legitimate and credible source of information in the eyes of its target audience.

2 AUDIENCE

BIP Secretariat will focus on assisting communication by partners to end users rather than undertaking direct outreach, except in the cases noted below. The communication products generated by the BIP Secretariat will be designed to support partner outreach to:

- (a) International conventions, in particular their technical advisory bodies, National Focal Points and Conferences of the Parties. I.e. the Convention on Biological Diversity, Ramsar Convention on Wetlands, Convention on Migratory Species, Convention to Combat Desertification and UN Framework Convention on Climate Change.
- (b) UN agencies and other international organizations, in particular the governing bodies and specifically relevant offices of UNEP, UNDP, FAO, UNESCO, WHO, Commission on Sustainable Development, UN Permanent Forum on Indigenous Issues, GEF and World Bank.
- (c) Civil society organizations, in particular national and international environmental NGOs and indigenous peoples organizations.
- (d) Business and industry, especially natural resources based industries (agriculture, fishing, forestry, mining, hydro power, etc.) and financial institutions.
- (e) Mass media, including press, radio and TV in various regions/countries.

BIP Secretariat will reach out directly to end users only exceptionally, in particular in three cases:

- To international organizations when representation of the Partnership is needed to strengthen BIP's base of legitimacy – e.g. plenary presentations to Conferences of the Parties, submission of progress reports, direct interaction with country representatives;
- Generally to the public, providing access to the process for creating the indicators (as determined in BIP's information management plan) and to the final information produced;
- To the media on selected occasions to be determined jointly with partners.

3 GOALS AND EXPECTED RESULTS

The communication effort will be aimed at achieving a substantive goal and a process goal:

- (a) *Position BIP as the best source for global biodiversity indicator information.* By the end of the project, BIP partners will be regularly using information generated through the Partnership to reach out to end users, and end users will understand and seek this information from BIP to communicate biodiversity and monitor trends in biodiversity.
- (b) Catalyse the active engagement of entities that work on indicator development in BIP and in the process of communicating to the target audiences. By the end of the project, the Partnership will have grown larger and there will be interest among a broader circle of stakeholders in joining the process.

In the longer run, the communication strategy needs to result in changes in discourse, policy, behaviour and biophysical and development trends, that “significantly reduce biodiversity loss at global, regional and national levels as a contribution to poverty alleviation and to the benefit of all life on earth”. BIP's specific contribution to this goal is the facilitation of the flow of information needed to support decision-making. In the short run, over the duration of the project, the communication strategy is expected to result in:

- A demand from end users for the information generated by BIP;
- The use of BIP information in documents, publications and news reports;
- Formal recognition of the BIP process and products by international conventions and organizations;
- A growing number of entities actively engaged with BIP's work, both in the production of information and in its dissemination.

4 ACTIVITIES

4.1 Strategic approach

- (a) The BIP Secretariat is not well positioned to directly address final users, but it is extremely well positioned to organize, synthesize and package information coming from multiple sources, which in turn can be used by BIP members in their direct interactions with users. The basic approach will therefore be to rely on partners to reach out to users. BIP Secretariat will facilitate communication activities of partners around 2010 indicators, seeking to coordinate and minimize competition for the attention of the same audiences, making the flow of information to end users as clear and strategic as possible, and ensuring that BIP information is generally perceived as highly credible and legitimate.
- (b) Two moments will be distinguished in communication:
 - Initially, communication will focus on the process and the Partnership itself, with a clear indication to users of the rationale for the creation of BIP, its utility, the high quality of its products, the mechanisms for accessing BIP and its broad legitimacy as a process.

- In a second moment, and without prejudice of continuing to communicate the process, the focus of communication will shift to the indicators themselves. There are a large number of 2010 indicators, all at different stages of development. This information will be released at scheduled points in time, as sets of indicators are sufficiently developed to yield significant stories.
- (c) Communication activities will make a clear distinction between partners and the Partnership itself. Care will be taken to ensure that partners can freely use BIP products in their outreach activities (e.g. in official reports to governments to advocacy campaigns) without affecting the credibility and legitimacy of BIP as a source. This will require partners to agree on clear rules for the use of BIP information, including the branding of products.

4.2 Activities

(a) Coordination of Partnership communication

BIP information will reach users primarily through each BIP partner individually in accordance with their communication activities related to indicators, and as requested by BIP Secretariat with occasion of specific opportunities. This requires a significant level of coordination among members' communication officers. In particular:

- Throughout the period of the project, BIP Secretariat will convene one or more meetings of all partners' communication officers to request guidance for BIP message and communication product development, and coordinate joint activities, ranging from a minimum level of mass media outreach for the year to concerted campaigns.
- BIP Secretariat will also establish a regular communication channel (e.g. e-mail listserve, periodic teleconferences or videoconferences) to keep these officers informed of developments and engage in discussions when needed.

(b) Interactions with users

BIP needs to regularly receive input from users to ensure that its communication is successful and to broaden its audience. For this:

- BIP Secretariat will ensure that at each meeting of the Partnership and its Steering Committee, members review and discuss outreach plans and their specific communication commitments for any given period.
- BIP Secretariat will organize side events and plenary presentations at the main relevant meetings of international conventions and international organizations with the purpose of gaining visibility for the Partnership and ensuring the continuing formal recognition by these bodies.
- In partnership with IUCN's Countdown 2010, BIP Secretariat will seek input from national level stakeholders around the world organized through IUCN National Committees and Regional Offices. When they are established, BIP Secretariat will liaise with Countdown 2010 to interact with National Countdown 2010 Platforms and Thematic Working Groups.
- BIP Secretariat will follow CBD CEPA's plan to establish focal points and national implementation bodies for CEPA activities. These bodies, when established, will be tasked with engaging national media, educators, business, youth and the scientific community, and BIP Secretariat will seek to coordinate a flow of information to and from these instances.
- In accordance with BIP's information management plan, BIP Secretariat will design and issue open calls to interested organizations to engage in the process as either contributors of information or disseminators of BIP products. These calls will be issued jointly with interested BIP members and will ensure access as broad as possible to BIP by stakeholders from everywhere (e.g. including translation agreements).

- The BIP website will serve as the main instrument for periodic updates, including electronic alerts mailed out widely.

(c) Message development

- BIP Secretariat will develop and propose to partners a positioning for BIP as well as product branding arrangements.
- Specific messaging will vary depending on circumstances and on agreement by BIP members. See section 4.2.a) above and section 5. below.

(d) Communication product development

BIP Secretariat has produced a brochure, and will produce other materials that partners can use in their outreach activities, including products tailored for the four main audiences (international organizations, civil society organizations, business/industry and media). The products include:

- A simple brochure with basic information on BIP, updated as the project advances (See appendix 2).
- A collection of PowerPoint slides to be used by partners to explain BIP and the information generated.
- Highly designed, user friendly maps, graphics and tables that can be used in multiple media. This could include animated visualizations of the data that can be used in audiovisual presentations
- The BIP website will be the main platform for direct outreach by BIP, including periodic e-mailing to communicate updates as they become available.
- A periodic publication with a compilation of the information generated to date. The frequency of the publication needs to be determined in accordance with the schedule of production of indicators. The frequency will in turn determine its nature and size. For instance, a schedule that will yield new indicators quarterly may warrant an update, newsletter or leaflet format for the publication.
- Contacts for the press and press kits. BIP Secretariat will keep an updated list of experts in the various topics to facilitate access by the media to the sources of information, as well as a standard press pack that can be used and complemented by partners.
- BIP Secretariat will produce and periodically update a CD-Rom kit containing all outreach materials periodically available.
- Translations. BIP Secretariat will endeavour to translate all materials into the six UN languages

(e) Delivery

The information produced by BIP will be handed to BIP partners in formats that they can use to deliver to the final users, and partners will use their established channels to disseminate them, including their publications, newsletters, presentations at conferences, websites, etc. BIP Secretariat will undertake the following dissemination activities:

- Inclusion of BIP tables, maps and graphics in major periodic reports. Contact with the production teams of each of these will be established to explore the relevance of BIP information for each report and the formats in which it should be delivered to them. The list includes:
 - Global Biodiversity Outlook (CBD)
 - Global Environment Outlook (UNEP)
 - GEO Yearbook (UNEP)
 - World Development Report (World Bank)

- Human Development Report (UNDP)
- World Resources Report (WRI)
- State of the World (WorldWatch Institute)
- Living Planet Report (WWF)
- IPCC assessment reports (IPCC)
- Annual reports of FAO, WHO and UNESCO

In addition, BIP Secretariat will:

- Liaise with partners to explore the use of its products in partners' periodic publications;
- Explore contact with regional organizations (such as ECLAC, OECD, APEC, etc.) to promote the use of BIP information in their publications.
- Liaise with the Millennium Project to link BIP products with MDG reporting.
- Website and electronic alerts. BIP Secretariat will keep an updated website through which all its information can be accessed.
- Mailing of publications. Mailing will be done through BIP partners, and BIP Secretariat will only mail information directly to organizations of sectors not represented in the Partnership.
- Plenary presentations and side events at international meetings, especially those listed below:
 - **Convention on Biological Diversity**: Ad hoc groups, Subsidiary Body on Scientific, Technical and Technological Advice, Conference of the Parties;
 - **Ramsar Convention on Wetlands**: Scientific and Technical Review Panel, Standing Committee, Conference of the Parties;
 - **Convention to Combat Desertification**: Committee for the Review of the Implementation of the Convention, Committee on Science and Technology/Conference of the Parties;
 - **UN Framework Convention on Climate Change**: Subsidiary Body on Scientific and Technical Advice, Conference of the Parties;
 - **UN system**: Commission on Sustainable Development, UNEP Governing Council, UNESCO, FAO;
 - **IUCN** – The World Conservation Union Congress;
 - **Private sector**: World Business Council on Sustainable Development, World Economic Forum, UN Financial Institutions Initiative;
 - **Indigenous peoples**: UN Permanent Forum on Indigenous Issues;
 - **Scientific community**: Scientific Committee on the Problems of the Environment
 - Third World Academy of Sciences, American Association for the Advancement of Science;
 - **Media**: World Federation of Environmental Journalists, regional journalists associations.
- Press briefings and releases. Since BIP will not generate any specific media events (such as the release of findings), it will need to rely on predetermined junctures and opportunities.

Throughout the year there are celebrations of various days associated with biodiversity and BIP partners will coordinate messaging and press releases on those dates – e.g. World Environment Day, Biodiversity Day, Desertification Day, Wetlands Day, etc.

In addition, the BIP Secretariat will coordinate with partners' actions to seize specific opportunities to organize press briefings and provide useful material to the press when opportunities arise (such as natural disasters or major international meetings).

5 MESSAGE

To frame its messages, BIP will use existing material and efforts to make biodiversity as less complex and more understandable and easier to relate to concrete policy issues. The Millennium Ecosystem Assessment, Global Biodiversity Outlook, Global Environment Outlook, World Resources Report and Living Planet Report are examples of sources narratives to help communicate BIP indicators. See for example Appendix 2.

With a clear articulation of the general case for biodiversity, BIP will develop the content of its communication efforts around:

☛ BIP itself:

- A clear, compelling articulation of challenge/problem that BIP addresses, and its legitimacy. The use of partners' logos and quotes from senior officers with a good recognition will be important for this.
- What is BIP (goals, participants, timeline, resources).
- Why participate (attractiveness by association with the best).
- How to participate (procedures and resources).

☛ The indicators:

- What the indicators say about the importance of biodiversity.
- How they can be used for policy making by each intended user.
- BIP could decide to move the messages one step beyond and develop particular synthetic stories based on various sets of indicators. This will be decided jointly with partners, as such a move would likely involve passing stronger judgment or becoming more prescriptive.

A major messaging issue that BIP needs to address is its link with the year 2010. While monitoring progress towards achieving a target by 2010 is a key reason why the Partnership was created in the first place, its work clearly transcends that date. Moreover, as the Millennium Assessment reports, “projections and scenarios indicate that [rapid conversion of ecosystems] will continue, or accelerate, in the future” and “unprecedented additional efforts would be needed to achieve, by 2010, a significant reduction in the rate of biodiversity loss”. In other words, the 2010 target is very unlikely to be met. BIP needs to communicate in a way that does not build unrealistic expectations while capitalizing on the benefit of counting with an internationally agreed milestone in 2010. Partners should discuss this issue at their regular meetings to provide the communications team with guidance in this regard. The communications team, in turn, needs to discuss this with communication officers of partners, especially of the CBD Secretariat.

6 MONITORING

Because BIP will communication will rely heavily on outreach by partners it is important to establish early on a monitoring system that feeds back to BIP Secretariat in order to assess the effectiveness of communication activities and modify course accordingly.

BIP Secretariat will monitor both the internal and external flow of communication. The former, to ensure that partners are well informed, engaged and able to perform the communication activities agreed. The latter, to ensure that BIP information is well received by end users. BIP Secretariat will develop a monitoring tool (such as a web-based survey) that partners will formally commit to implement. The tool should assist BIP Secretariat gather standardized information from partners and end users.

For internal communication monitoring purposes, BIP will develop a tool to assess partners' levels of information about progress in the project, levels of participation in the implementation of project communication activities, and perception of benefits derived from BIP Secretariat communication activities.

For external communication monitoring, BIP Secretariat will develop together with partners a tool to assess progress towards achieving communication goals and results. Examples of indicators and means of verification that could be considered in this tool are presented in the table below.

	Result	Indicator	Means of verification
Goal 1: Positioning	<i>A demand from end users for the information generated by BIP</i>	<ul style="list-style-type: none"> - Number of downloads from website - Number of notes of request for material from users - Survey of users that receive materials directly from BIP and partners. 	<ul style="list-style-type: none"> - Download records/statistics - Written notes received - Survey forms received
	<i>The use of BIP information in documents, publications and news reports</i>	<ul style="list-style-type: none"> - Number of citations / graphics used in publications and official reports - Media hits 	<ul style="list-style-type: none"> - Publication / reports clippings - Press clippings
Goal 2: Engagement	<i>Formal recognition of the BIP process and products by international conventions and organizations</i>	<ul style="list-style-type: none"> - Number of decisions and resolutions adopted that make reference specifically to BIP - Number of information documents requested by organizations 	<ul style="list-style-type: none"> - Decisions and resolutions - Information documents
	<i>A growing number of entities actively engaged with BIP's work, both in the production of information and in its dissemination.</i>	<ul style="list-style-type: none"> - Number of requests to join the Partnership - Number of new members accepted 	<ul style="list-style-type: none"> - Letters from prospective members - Letters accepting inclusion in Partnership

7 BUDGET

Details of the budget for the communication and outreach component of the project can be found in Annex E

Appendix 1: Positioning And Branding Arrangements

Positioning

2010BIP needs to develop a positioning statement that describes very briefly its profile to be used with logo, letterhead, etc. The statement should highlight its target audience, its frame of reference and the features that set its products apart.

For instance, if BIP wants to focus on users that are already aware of the 2010 target and are interested in organizing action around it, a brief description might read:

“2010BIP is the international alliance to provide the scientific information needed to track progress towards reducing biodiversity loss and alleviating poverty by 2010.”

“The global partnership for the 2010 biodiversity target.”

Or, if the target is defined slightly more broadly:

“2010BIP gathers the leading organizations of the world that produce information needed to monitor the state of biological diversity and its contribution to poverty alleviation.”

“An international partnership to provide decision makers with information to save biodiversity and alleviate poverty.”

Branding

The nature of BIP makes branding arrangements especially delicate. Different partners have different reasons to join BIP. An important distinction to make is between partners who develop indicators and those who do not. The former may see a ‘BIP brand’ as competing with their own brands. The latter may see in a ‘BIP brand’ a useful indication of the quality of the information they use. So BIP branding needs to ensure that:

- The ‘BIP brand’ does not compete with partners’ brands but rather provides an opportunity for cooperation among partners.
- The ‘BIP brand’ signals ‘high quality’ to users. The main quality that we want attached to a ‘BIP brand’ is ‘credibility’. Eventually users should identify a BIP brand with reliable information rigorously produced. The main source of strength for a ‘BIP brand’ will come from its partners’ names and from the Partnership’s procedures to produce information.

Hence, BIP should brand its products more as a ‘quality seal’ than as a stand alone brand. The branding arrangement needs to gather all relevant partners to provide the ‘BIP brand’ with substance and make the Partnership more explicit to users. Initially, it would be preferable to list BIP partners as much as possible whenever the brand is used and have partners with established names promote the recognition of BIP by mentioning it in their relevant communication.

For example, a graphic developed by partner X in the context of BIP could be branded ‘*X – MEMBER OF 2010BIP*’, OR ‘*DEVELOPED BY X FOR 2010BIP*’ AND accompany the graphic with a small footnote describing 2010BIP.

It should be noted that the BIP name, logo and URL all feature the year 2010 more prominently than the Partnership itself. However, unless partners decide that a central goal of BIP is to build momentum and awareness about the 2010 target specifically (more than biodiversity indicators themselves), partners may want to consider highlighting ‘BIP’ and downplaying ‘2010’ in the branding of products for three reasons:

- Featuring ‘2010’ more prominently makes recognition of the Partnership subservient specifically to the 2010 target adopted by CBD and WSSD. Hence, to make sense of ‘2010’, the public needs

to at least be aware of this target and understand its significance. ‘BIP’, on the other hand, while still slightly esoteric, is more self-explanatory, does not require an understanding of the 2010 process and is more accessible to a larger audience.

- The Partnership has a projection beyond the year 2010.
- The name of the Partnership might end up associated with a political failure. According to the Millennium Ecosystem Assessment, “an unprecedented effort would be necessary to achieve” this target. A reduction in the rate of biodiversity loss is “unlikely to be achieved globally for various reasons”.

Appendix 2: Brochure

2010 Biodiversity Indicators Partnership

Members of the partnership include:

For more information
2010 Biodiversity Indicators Partnership Secretariat
2010IBIP@iisep-wcmc.org
UNEP World Conservation Monitoring Centre
219 Huntingdon Road,
Cambridge,
CB3 0ET, UK
Tel: +44 1223-271-314
Fax: +44 1223-271-136

www.twentyten.net

2010 Biodiversity Indicators Partnership

Tracking global biodiversity for people

The *2010 Biodiversity Indicators Partnership* is a global initiative to track progress towards achieving the "2010 biodiversity target" to significantly reduce the rate of loss of biodiversity by 2010.

It is a collaboration between the many organisations and agencies developing global biodiversity indicators, and is the leading source of information on trends in global biodiversity.

www.twentyten.net

2010 Biodiversity Indicators Partnership

Biodiversity contributes directly and indirectly to human well-being. It is essential for the functioning of ecosystems and the established flow of benefits from ecosystems to individuals and societies. The loss of biodiversity contributes to worsening health, lower food security, increasing vulnerability, lower material wealth and worsening social relations.

Human actions are fundamentally, and to a significant extent irreversibly, changing the diversity of life on Earth. Over the past few hundred years, humans have increased species extinction rates by as much as 1,000 times biological rates that were typical over Earth's history. Ecosystems are being transformed with a speed and magnitude, the distribution of species on Earth is becoming more similar and genetic diversity has declined globally (Millennium Ecosystem Assessment, 2005).

The international community has committed "to achieve a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty reduction and to the benefit of all life on earth by 2010". The 2010 target was formally adopted by governments at the 6th Conference of the Parties of the Convention on Biological Diversity in 2002, and endorsed later that year at the World Summit on Sustainable Development.

Subsequently, a number of indicators were proposed to measure progress towards the target (see table). These indicators are in the process of being developed by a wide range of organizations worldwide, and are at varying stages of development and availability.

The 2010 Biodiversity Indicators Partnership (2010IBIP) will monitor, develop and bring together these biodiversity indicators, allowing for a more comprehensive and consistent monitoring and assessment of global biodiversity. The Partnership will coordinate and support the regular delivery of biodiversity indicators into a range of decision-making processes, with a particular focus on the 2010 biodiversity target.

The Partnership tracks biodiversity indicators in habitats at national, regional and global scales and will contribute information to a number of international mechanisms and initiatives, including the Convention on Biological Diversity (and its various programmes of work), the Ramsar Convention on Wetlands, the Convention on Migratory Species, the Convention on International Trade in Endangered Species, and the Millennium Development Goals.

The 2010 Biodiversity Indicators Partnership will continue to meet the needs of users at national and international levels for the best available information on biodiversity trends, and to explore the various ways in which the global indicators can be applied and communicated through to 2010 and beyond.

Area of focus	Key indicators	Current Status
Status and trends of the components of biodiversity	Trends in extent of selected biomes, as ecosystems, and habitats	Indicator (X) in need of some development
	Trends in abundance and distribution of selected species	Indicator available
	Change in extinction rate	Indicator (X) in need of some development
	Change in status of threatened species	Indicator available
Sustainable use	Trends in genetic diversity/ domesticated animals, cultivated plants, and technologies of crop, animal and aquaculture	Indicator (X) in need of some development
	Award forest, agricultural and aquaculture sector environmental management	Indicator (X) in need of some development
	Proportion of protected areas from sustainable use	Indicator (X) in need of significant development
The state of biodiversity	Ecological integrity and related concepts	Indicator available
	Biological conservation	Indicator in need of some development
	Trends in invasive alien species	Indicator (X) in need of significant development
Ecosystem integrity and ecosystem goods and services	Marine trophic index	Indicator available
	Water quality of freshwater ecosystems	Indicator available
	Proportion of freshwater ecosystems	Indicator (X) in need of some development
Status of biological knowledge, institutions and practices	Connectivity/ fragmentation of ecosystems	Indicator (X) in need of some development
	Health and well-being of communities who depend on ecosystem goods and services	Indicator (X) in need of some development
	Reduction in food and feed loss	Indicator (X) in need of significant development
Status of access and benefit sharing	Status and trends of biological diversity numbers of agricultural/ fish/pastoralists	Indicator in need of significant development
	Other indicators of the status of indigenous and traditional knowledge	Indicator (X) in need of some development
Status of science knowledge	Indicators of science and innovation	Indicator (X) in need of some development
	Open development and access provided in support of the Convention	Indicator available
	Indicators of technology transfer	Indicator (X) in need of some development

1 FRONT COVER TEXT

The *2010 Biodiversity Indicators Partnership* is a global initiative to track progress towards achieving the "2010 biodiversity target" to significantly reduce the rate of loss of biodiversity by 2010.

It is a collaboration between the many organisations and agencies developing global biodiversity indicators, and is the leading source of information on trends in global biodiversity.

2 INSIDE PAGE TEXT

Biodiversity contributes directly and indirectly to human well-being. It is essential for the functioning of ecosystems and the sustained flow of benefits from ecosystems to individuals and societies. The loss of biodiversity contributes to worsening health, lower food security, increasing vulnerability, lower material wealth and worsening social relations.

Human actions are fundamentally, and to a significant extent irreversibly, changing the diversity of life on Earth. Over the past few hundred years, humans have increased species extinction rates by as much as 1,000 times background rates that were typical over Earth's history. Ecosystems are being transformed with unprecedented magnitude, the distribution of species on Earth is becoming more similar and genetic diversity has declined globally (Millennium Ecosystem Assessment, 2005).

The international community has committed "*to achieve 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 by 2010*". This 2010 Target was formally adopted by governments at the 6th Conference of the Parties of the Convention on Biological Diversity in 2002, and endorsed later that year at the World Summit on Sustainable Development.

Subsequently, a number of indicators were proposed to measure progress towards this target (see table). These indicators are in the process of being developed by a wide range of organisations worldwide, and are at varying stages of development and availability.

The **2010 Biodiversity Indicators Partnership** (2010BIP) will further develop and bring together these biodiversity indicators, allowing for a more comprehensive and consistent monitoring and assessment of global biodiversity. The Partnership will coordinate and support the regular delivery of biodiversity indicators into a range of decision-making processes, with a particular focus on the 2010 biodiversity target.

The Partnership links biodiversity indicators initiatives at national, regional and global scales and will contribute information to a number of international mechanisms and initiatives, including the Convention on Biological Diversity (and its various programmes of work), the Ramsar Convention on Wetlands, the Convention on Migratory Species, the Convention on International Trade in Endangered Species, and the Millennium Development Goals.

The 2010 Biodiversity Indicators Partnership will continue to meet the needs of users at national and international levels for the best available information on biodiversity trends, and to explore the various ways in which the global indicators can be applied and communicated through to 2010 and beyond.

Areas of focus	Main indicators	Current Status
Status and trends of the components of biodiversity	Trends in extent of selected biomes, ecosystems, and habitats	Indicator(s) in need of some development
	Trends in abundance and distribution of selected species	Indicator available
	Coverage of protected areas	Indicator(s) in need of some development
	Change in status of threatened species	Indicator available
	Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance	Indicator(s) in need of some development
Sustainable use	Area of forest, agricultural and aquaculture ecosystems under sustainable management	Indicator(s) in need of some development
	Proportion of products derived from sustainable sources	Indicator(s) in need of significant development
	Ecological footprint and related concepts	Indicator available
Threats to biodiversity	Nitrogen deposition	Indicator in need of some development
	Trends in invasive alien species	Indicator(s) in need of significant development
Ecosystem integrity and ecosystem goods and services	Marine Trophic Index	Indicator available
	Water quality of freshwater ecosystems	Indicator available
	Trophic integrity of other ecosystems	Indicator(s) to be determined
	Connectivity / fragmentation of ecosystems	Indicator(s) in need of some development
	Incidence of human-induced ecosystem failure	Indicator(s) to be determined
	Health and well-being of communities who depend directly on local ecosystem goods and services	Indicator(s) to be determined
	Biodiversity for food and medicine	Indicator(s) in need of significant development
Status of traditional knowledge, innovations and practices	Status and trends of linguistic diversity and numbers of speakers of indigenous languages	Indicator in need of significant development
	Other indicator of the status of indigenous and traditional knowledge	Indicator(s) to be determined
Status of access and benefits sharing	Indicator of access and benefit-sharing	Indicator(s) to be determined
Status of resource transfers	Official development assistance provided in support of the Convention	Indicator available
	Indicator of technology transfer	Indicator(s) to be determined

3 BACK COVER:

Members Include: (logos)

BirdLife International

CBD Secretariat

IPGRI

CITES Secretariat

CMS Secretariat

Conservation International

Countdown 2010

EU Joint Research Centre

FAO

GEF Secretariat

GISP

Global Footprint Network
International Nitrogen Initiative
IUCN Species Survival Commission
IUCN Sustainable Use Specialist Group
IUCN World Commission on Protected Areas
NatureKenya
OECD
Orbis Institute
Ramsar Convention Secretariat
RSPB
Sea Around Us Project
TNC
UNEP DGEF
UNEP-GEMS Water Programme
UNEP-WCMC
UNESCO
Wetlands International
WHO
WWF
Zoological Society of London

ANNEX L: 2010 Biodiversity Indicator Partnership Information Management Strategy

CONTENTS

1	INTRODUCTION.....	1
1.1	Background.....	1
1.2	Purpose of Information Management in the 2010 BIP.....	1
2	APPROACH.....	1
2.1	Considerations.....	1
2.2	A Co-ordinated Network Approach.....	2
3	INFORMATION MANAGEMENT PRINCIPLES.....	3
4	INFORMATION MANAGEMENT FRAMEWORK.....	3
4.1	Overview.....	3
4.2	Description of the Framework Components.....	4
5	RESPONSIBILITIES.....	5
5.1	Role of the Partners.....	5
5.2	Role of the Partnership.....	6
6	WORKPLAN.....	8
6.1	Partner Information Management Activities.....	8
6.2	Partnership Information Management Activities.....	8
6.3	Early Priorities for Project Activities.....	11
	APPENDIX 1: CURRENT INFORMATION MANAGEMENT STATUS.....	1
	APPENDIX 2: CONCEPTS OF INFORMATION MANAGEMENT.....	1
	Information Management For Decision Making.....	1
	End-to-end Information Management.....	2

1 INTRODUCTION

1.1 Background

The aim of the Biodiversity Indicators Partnership project is to support regular delivery of a full suite of 2010 indicators through a partnership of the organisations and agencies working on the individual indicators. Establishing and communicating robust and meaningful indicators of progress towards the 2010 Target requires science-based methodological development, statistical analysis and data collection as dealt with in other parts of this project proposal. To support these efforts it is necessary to have an information management structure that provides for maintenance, processing and sharing of the datasets used and the information products generated. This Annex outlines the requirements for an Information Management Strategy to guide the activities of the 2010 Biodiversity Indicator Partnership.

1.2 Purpose of Information Management in the 2010 BIP

Information management activities and processes are fundamental to the success of the project; they provide the means to connect the individual Partner indicator development efforts into an integrated whole that can be communicated effectively and credibly to a range of audiences, and usefully delivered to stakeholders. The purposes can be summarised as follows:

Quality assurance – ensuring that the source datasets and indicator development methodologies are the best possible and that data integrity is maintained throughout processing steps.

Enhancing consistency across indicators – by encouraging the use of common standards and consistent reference frames and base datasets.

Efficiency – reducing duplicate effort through sharing data, methodologies and experiences.

Sustainability – ensuring archiving and on-going indicator production through 2010 and beyond.

Enhanced communications – through integrated Internet services to produce (and distribute) information products, making indicator methodologies accessible, providing metadata on source datasets.

Linkages – ensuring complementarity with the CBD Clearing House Mechanisms, other indicator processes (national, regional and global), MEAs, and global assessment processes (such as GEO and the Millennium Ecosystem Assessment).

Enhanced credibility – by providing transparency in methodologies, datasets, and processes.

2 APPROACH

2.1 Considerations

By way of context it is useful to consider the qualities of a good “indicator”.

Environmental indicators have three basic functions: simplification, quantification and communication. Ideally they meet the following criteria:

- scientifically sound
- easily understood
- show trends over time
- sensitive to the change that they are intended to measure

- measurable and capable of being updated regularly
- the data and information are readily available.

(from the Environment Agency, UK)

These criteria, particularly the last two, have relevance to information management requirements.

Specific to this project, the 2010 Biodiversity Indicators are meant to be:

- **at the global scale** (although they may derive from aggregation or summarisation of national or regional data).
- **consistent with time** - that is, methods and definitions must remain constant (or be capable of being made comparable) over relatively long periods, and be able to detect trends over, say, 10 year intervals.
- **consistent with space** - that is, must use consistent geographic reference frames and classification systems and comparable methods and observations from place to place.

In addition, the Strategy must recognise that:

- the nature and quality of the available data varies greatly between indicators.
- the source datasets are held and managed by diverse agencies distributed internationally.
- the source datasets are often part of existing networks with established standards and working practices.
- the relative state of development of indicators (and their related information processing) varies from preliminary to well-established.

A further consideration is that a broad range of data types is involved, from qualitative rankings of simple variables, through mapped polygons to vast quantities of remotely sensed imagery, with concomitant variation in requirements for processing and access functionality.

These factors were evident in the templates prepared by Partners describing the current status of indicators and plans for further development. The templates included information on the required data and their sources, identified data gaps, the data management systems in place and planned, and so on. Appendix 1 of this Annex contains summaries of these aspects for each indicator.

2.2 A Co-ordinated Network Approach

Taking into account the general and practical considerations above, it is clear that no one prescription for data organisation or information technology for Partners is suitable. Rather, it is essential that the Partnership develops as a linked network based on agreed principles and good practices that enables efficient use, and promotes data sharing and synergies. In that way the information system(s) will support indicator development in the short term, and effective use in the long term.

The information management strategy has three elements:

- The establishment of **principles** to guide the information management practices of Partners.
- An **Information Management Framework** that identifies the components and how they will be **co-ordinated**.
- **Responsibilities** of each Partner and those of the Partnership as a whole, and hence the activities to be undertaken.

3 INFORMATION MANAGEMENT PRINCIPLES

The following principles are proposed to Partners to guide their information management activities.

- Use established Good Practices in information management

Partners are encouraged to apply an “end-to-end” information management regime with industry standard approaches to database and application development. Particular emphasis should be given to the elements of archiving, metadata and quality assurance to ensure the availability of good quality data to establish trends. (See Appendix 2 for expansion of the concepts of end-to-end information management.)
- Build on existing data and networks

As much as possible, Partners should work to use, extend and strengthen existing sources and means of information gathering and exchange, rather than initiating new programmes of data collection.
- Thorough Quality Assurance

Partners should ensure data quality is maintained and documented (including known gaps and limitations). The methods used for quality assurance of datasets should be subject to external review and verification in the same way as the methodologies for indicator development are subject to peer review.
- Ensure comparable data

The measurement of trends requires data values to be comparable over time. Partners should facilitate this by such things as using established international standards and classification schemes, applying consistent methodologies for data collection and compilation, and using harmonisation techniques.
- Established custodianship

There should be clear identification of the responsibilities for the on-going maintenance and security of indicator datasets and the contributing source datasets, as well as for the governance of data networks.
- Data is a shared resource

The Partnership aims to allow (as much as possible) the sharing of data in an unrestricted manner to encourage free flow of information between data providers, data processors, and data users, while respecting the rights of sovereign nations and institutional “owners” in this regard. This implies the need for clear metadata and other aids for data exploration and usage.

4 INFORMATION MANAGEMENT FRAMEWORK

4.1 Overview

For the 2010 Indicators to have credibility and resonance with the World’s decision-makers, their development, source data and associated processes must be transparent, well organised and defensible at every stage. At the same time, the information management framework must recognise the heterogeneous nature of the data, existing information systems and institutions, and the uneven level of development of the indicators.

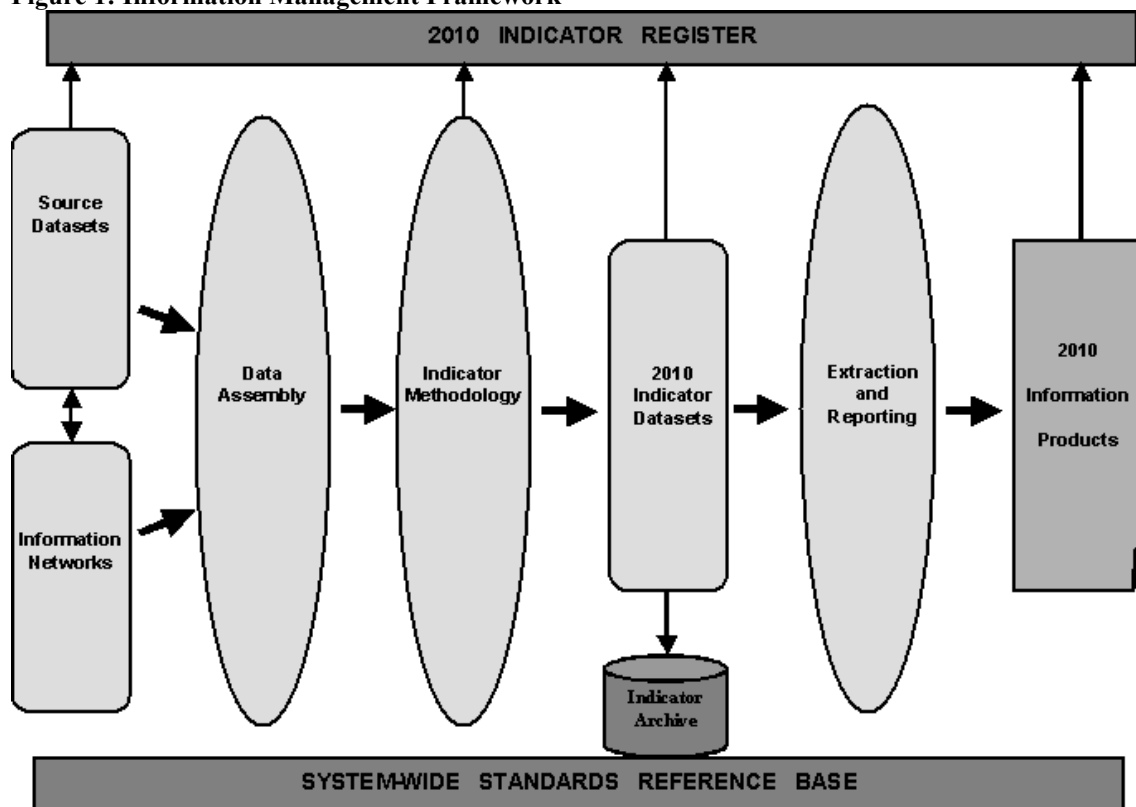
The practical implementation of the Information Management Principles (Chapter 3) requires an information systems framework that balances rigour and control with suitable flexibility and independence of participating Partners. The components of the Framework must therefore incorporate a sufficient level of formalism to ensure effective co-ordination, and an appropriate level of

standardisation that will facilitate synergies and co-operation while reducing duplication or counterproductive efforts, and recognizing the independence of Partners.

It is patently obvious that in these circumstances a strongly centralised information system is inappropriate, rather there is a need for co-ordinating elements in the form of registers of key information concerning the indicators, methodologies, partner institutions, source and indicator datasets, and applicable system-wide standards and guidelines.

The framework is represented diagrammatically in Figure 1.

Figure 1: Information Management Framework



The primary functions of information management leading to the availability of the indicators are necessarily the responsibility of the Partner organisations. These components occupy the central stream of the diagram (data elements in rectangles, processes in ovals). These are typical of the activities that will occur for each indicator (or sub-indicator) that is researched and developed by a Partner organisation. The Framework data flow follows the well-established “end-to-end process” (Appendix 2), although Partners will need to adapt this generic flow model to their own particular circumstances. Source datasets and co-ordinated information networks supply data that is assembled (and harmonised), and converted into indicator datasets through an established peer-reviewed indicator methodology. Processes to extract (and interpret) the indicator datasets result in information products for use by decision-makers for communication of issues. The identified Partners and data custodians are encouraged to bear in mind the Principles of Chapter 3, including quality assurance at each stage and appropriate archiving of source datasets and indicators under development.

4.2 Description of the Framework Components

Partner Components:

Figure 1 shows the following three data-related components of the information management framework.

- **Source datasets:** These are the base data used to formulate the indicator. It is anticipated that most will be time-series although there will also be reference bases. Many are likely to be held by, or extracted from the holdings of, major organisations such as FAO, UN Statistical Office, etc.
- **Information networks:** These assemble source data or link source datasets.
- **Indicator datasets:** These constitute the time series of the values of indicators (or sub-indicators) resulting from the application of the indicator methodology. They derive from combining and processing source datasets.

These components are linked by 3 major processes (ovals) performed by Partners (though in detail there may be many processing steps).

Co-ordinating Components:

The co-ordinating components (shaded) are managed by the Partnership Co-ordination Unit (PCU).

- **Indicator Register:** This holds key information on the source datasets, indicator methodologies, and resulting indicator datasets. It will be managed by the PCU and populated as information is received from Partners. It serves as a coordinating element enabling the Partnership to track progress towards the production of the indicators, and support communications.
- **Standards Reference Base:** This holds information on agreed standards for terminology, classification systems, multi-use geographic zonation, etc. Again it will be managed by the PCU.
- **Indicator Archive:** A permanently managed archive of the completed indicators available for use.

The co-ordinating components will be linked and made accessible through the 2010 Partnership Internet presence.

5 RESPONSIBILITIES

5.1 Role of the Partners

The principal responsibilities and authorities for information management lie with the Partner organisations. Partners that are researching, developing, testing and operating indicator initiatives are encouraged to implement good information management practices within the information systems under their control – following the Principles of Chapter 3. In particular this means:

- the application of quality assurance programs for datasets, particularly during processes such as data assembly and applying indicator methodology. The thoroughness and rigour of such QA practices might be less during experimental and testing stages, but must be unimpeachable and transparent for accepted and implemented indicators.
- holding metadata for all datasets and, as much as possible, maintaining the data in well documented database management systems.
- archiving indicator datasets and component measures in appropriate ways suitable for future use in the long term.
- ensuring the responsible custodianship of all relevant datasets.

Partners also have a role in contributing to the collective activities of the Partnership. This involves:

- registering information on the indicator methodologies and associated datasets with the PCU.

- assisting in the selection and contribution of appropriate standards and guidelines to be used to promote compatibility and consistency between indicators.
- making the top level recognised 2010 indicators available to the PCU for central archiving when finalised.

5.2 Role of the Partnership

The Partnership as a collective is responsible for co-ordinating information management and facilitating quality and consistency across the indicator programs, and for providing stakeholders with easy access to the process. The principal responsibilities are therefore:

- co-ordinating and facilitating on-line access (by partners and stakeholders) to consolidated information (metadata) on indicator methodologies, status, and associated data sets.
- co-ordinating and facilitating on-line access to useful guidelines, standards and reference materials that support quality and consistency of indicators.
- maintaining linkages and ensuring complementarity with other indicator processes and means of communication and sharing, especially with the CBD Clearing House mechanism.
- establishing a permanent archive and means of access and dissemination for implemented and recognised 2010 Indicator time-series.

This will be accomplished through the following activities.

1. Developing a 2010 BIP Website and Partnership Intranet that will provide:

- Information entry and sharing facilities for Partners
- Management of access controls
- Public access to selected information products
- Linkage and access portals to related processes.

2. Establishing an Indicator Register containing information on the indicator methodology, the indicator datasets and source datasets, and the responsible authorities. (Note this register will **not** contain data, rather it will be a directory, i.e. metadata. The actual datasets will be managed by the responsible custodian organisation, who would establish and control access conditions.)

Contents for each Indicator:

- responsible Authority (Institution, consortium, committee, group)
- contact individual
- indicator methodology description (e.g. reference to peer reviewed paper, etc)
- status of development

Contents for each Indicator Dataset

- data custodian
- applicable standards
- QA process description
- archiving practices
- technology – systems and databases
- access and availability conditions
- directory level metadata (i.e. classifying and keywording the subject relevance of the indicator, see Appendix 2)

- associated source datasets

Contents for each key Source Dataset

- data Custodian
- QA process description
- technology – systems and databases
- access and availability conditions
- directory level metadata (i.e. classifying and keywording the subject relevance, see Appendix 2)

In some cases it would be appropriate to register source data **networks** and if so, additional information on the control and governance of the network should be added.

3. Developing a Standards Reference Base - an information resource that would contain relevant guidelines, standards and conventions recommended for use by Partners. This is intended to:

- improve comparability and consistency across the suite of 2010 Indicators
- facilitate harmonisation and normalisation of data
- facilitate automated data retrieval, exchange and integration
- reduce duplicate effort in locating key reference sources
- improve development and communication of information products.

The PCU will actively facilitate consultation among the Partners on existing guidelines, standards and reference bases in use and encourage the submission of such materials to the Reference Base. The Partnership Intranet will include facilities for contributing, exploring and retrieving reference materials. The Reference Base will include *inter alia*:

- definitions of key 2010 BIP terms
- standard coding for countries and definitions of “regions”
- preferred classification systems for commonly used parameters
- recommended IT standards and guidelines
- standard or preferred reference geographic subdivisions e.g. agro-ecological zones, river basins, habitats, ecosystems, biomes, political boundaries, etc.

4. Developing and maintaining an accessible archive of completed recognised top-level indicators.

This archive, which should persist after the project, will be made accessible through the 2010 Indicator Web presence, as well as being linked to the CBD Clearing House Mechanism. It will also be closely connected to the Indicator Register so that all metadata (for instance, on methodology) is made available to assist users in interpreting the indicators.

5. Strengthening the ability of individual Partners to fulfil their roles with respect to information management. These capacity building functions will be integrated into more general capacity building of the PCU, and include:

- workshops and seminars
- guideline development and dissemination
- facilitation of communication and interaction between Partners’ information management practitioners (for example, through creation of an Information Management Working Group).

6 WORKPLAN

6.1 Partner Information Management Activities

Much of the information systems development and operation is by necessity the responsibility of the participating Partners who are producing the indicators. As noted in Section 5.1, this would include establishing quality assurance methods, archiving procedures and providing required metadata.

Partner information management activities will proceed stepwise in a series of stages in parallel with the progress of indicator development as suggested in the table below.

Table 1: Information Management Activities

Stage	Methodology Activities	Information Management Activities
Preliminary	Research possible approaches and potential methodologies	Broad search for available data sources and networks. Inventory of potential data sources
Development	Consultative methodology development (including alternatives) Defining data needs to support methodologies	Specific review of available datasets that meet needs → to Partnership Co-ordination Unit First registration of potential indicator
Testing	Peer review and refinement of methodology Experimental application of methodology with partial or preliminary data	Quality review of potential source datasets Data collection plan to fill gaps if needed → to Partnership Co-ordination Unit Registration of potential source datasets
Implementation	Applying methodology to produce indicators Communicate results	Implement QA on all source datasets, documented processes. Set up facilities to archive and make accessible source datasets → to Partnership Co-ordination Unit Registration of all source datasets Design and implement databases to maintain indicator time-series → to Partnership Co-ordination Unit Provide indicator time series to Partnership Archive

There is no single time-line for the activities of the right hand column. Some indicators are ready at this point to be registered and documented, as are some key datasets. Others will require the full length of the project to reach the testing stage.

Planning in detail for these activities is the responsibility of the individual partners and the required resources should be explicitly included in the funding proposals and workplans of Partners.

Partners will be assisted in information management by workshops, guidelines and resource materials from the Secretariat as part of its capacity building endeavours.

6.2 Partnership Information Management Activities

The Partnership Co-ordination Unit is responsible for implementation of the coordination components of the Framework, i.e. the Indicator Register, the Standards Reference Base, and central Indicator

Archive. Information management activities include the development, operation and maintenance of a Website and Intranet that will encompass these.

As identified in Section 5.2, the following are the principal tasks.

1. Develop a 2010 BIP Website and Partnership Intranet

This will build on the existing interim *Twentyten.net* website to provide an access-controlled Partners Intranet, as well as organised user-friendly public access to selected information and products, and linkage and access portals to related processes.

Timing and costs:

This is an initial priority that requires web development expertise in the first few months, followed by maintenance.

The same expert resource would logically also perform the development work on the Indicator Register, the Standards Reference Base and the Indicator Archive. Estimated cost \$20,000.

2. Design and implement an Indicator Register

The Register will be implemented as a structured searchable directory on the Website. The starting point for populating this register will be the information gathered in partners' "templates" during the PDF-B. Subsequently data entry forms and facilities will enable partners to enter and update the information as indicator development progresses.

Timing and costs:

Design and development work is required in the short term, especially for a user interface for Partners to easily supply the information contributions (costs included in (1) above). Following the initial wave of data entry (from the existing templates and Partners), a lower level of maintenance and co-ordination is required.

3. Design and implement a Standards Reference Base

The reference base will be implemented as a structured searchable document library. Some initial findings regarding use of geographic reference bases during the PDF-B phase can be added initially. Contributions for partners through a user interface will then be solicited.

Timing and costs:

Design and development work is required in the short term to set up the document library structure and a user interface for Partners to easily provide contributions (costs included in (1) above). Following the initial wave of data entry, a lower level of maintenance and co-ordination is required.

4. Design and implement an Indicator Archive

The archive will be an on-line accessible database of the time-series of reviewed and published top-level indicators. The database will be accompanied by all relevant metadata and the time-series data made available consistently with the associated information on methodology, quality and interpretation. The Indicator Archive will be linked to the CBD Clearing House Mechanism for access and dissemination. The specific datasets will be contributed by partners as developed and published.

Timing and costs:

Design and development work is required in first full year of the project to set up the structure and a user interface for Partners to easily provide contributions (costs included in (1) above).

5. Strengthening Partnership information management (capacity building).

Activities include:

- establishing an information management working group of key experts in the partner organisations
- holding at least one annual workshop on information management

- dissemination of guidelines, harmonisation tools and practical standards
- provision of advice and guidance on methods, technology and good-practices.

Timing and costs:

The information management working group would be established in first six months, after which activities are continuous throughout the project. Estimated costs \$38,000 over the project.

6. Partnership information management co-ordination

Linking all these activities together requires the on-going operation of the identified co-ordination components once they have been developed and implemented in Tasks 1 though 4.

Activities include:

- co-ordination and facilitation of Partner’s inputs to the Indicator Register
- operation of an access controlled 2010 Indicators Intranet
- researching, collating and annotating relevant standards guidelines and geographic reference bases and co-ordinating their entry into the Standards Reference Base
- co-ordination and operation of the Indicator Archive to ensure time-series data integrity and availability, and correct linkages to metadata
- liaison on behalf of the Partnership with the information management components of other related processes such as the CBD Clearing House Mechanism, GEO and the Millennium Assessment

Timing and costs:

These activities are continuous throughout the project. Estimated costs \$77,000 over the project.

A preliminary time-line and costing is proposed below.

Table 2: Partnership Information Management Activities

Information Management Partnership Activities	2006			2007			2008			2009		
Develop Partnership Internet presence & co-ordination												
Design and build Website and Intranet												
Design and build Register												
Design and build Standards Reference Base												
Design Indicator Archive and access												
Operate IM Co-ordination												
Populate register and standards bases and maintain												
Archive Indicator Datasets												
Strengthening Partnership IM Linkages												
Develop tools and guidelines/Workshops etc												
Form & co-ordinate IM working group												

6.3 Early Priorities for Project Activities

Figure 2 outlines the principal tasks and timing for Partnership information management activities. The key purpose of these activities is to establish a high level of co-ordination and interaction between the concerned organisations (particularly between those involved in information management) leading to the effective information sharing and the necessary consistency across indicators. It is essential to the efficiency of the process, and ultimate credibility of the resulting indicators that this base of sharing and synergy is established at a **very early stage** of the project. Expanding on the bare bones of Figure 2, initial priority activities are elaborated in the following sections.

6.3.1 Register the base indicator information

It is essential that there be clear information available on the indicator partner activities and status – who is doing what, key contacts and the exact and current status of indicator development.

Urgent initial tasks are therefore to:

- design and set up (with access methods) the Indicator Register
- enter the initial base information from the “Templates” already on file
- encourage all partners to update and complete the information.

6.3.2 Establish an Information Management Working Group

This means identifying appropriate contacts for information management issues in each of the ILOs and other key participating organisations and, as a bare minimum, making this contact list available to all. This Group will want to discuss and compare notes on issues such as consistent reference bases, useful standards and practices, and means of data harmonisation.

6.3.3 Organise information on geographic reference bases

Many indicator methodologies propose reference to geographically designated (mapped) subdivisions such as watersheds, ecosystems, biomes, habitats, agro-climatic regions and the like. These are used for aggregating information, for stratification, and for normalisation (e.g. expressing protected areas as a percentage of the area of ecoregions). There is currently little international agreement on global mapping frameworks of this kind. There are also various global observation coverages - such as for forests, land cover (or vegetation), soil, and land use - that are inconsistent due to differing classification systems or methods of data collection. During this project development phase, a large number of these geographic reference frames have been mentioned in templates and indicator methodologies, and it is not always clear exactly what is meant – e.g. references to “WWF ecoregions” or “FAO Agro-climatic regions”. (There may be various versions of these, and Partners have indicated plans to modify or “improve” them.) Some of these geographic bases are noted in the summaries of information management status in Appendix 1. It is essential for inter-indicator consistency (and hence ultimately for credibility) that some convergence towards a limited number of frameworks be achieved – for instance, the water quality and river fragmentation indicators could benefit from using the same set of “river basins” or “freshwater ecosystems”.

In addition to these geographic reference bases (both for data analysis and for output information products), frequent use is made of reference datasets for indicator normalisation – such as population and demographics, land use, production and consumption statistics. In this regard Partners have frequently indicated data sources as “FAO”, but it is not clear that it is the same database and same version that is proposed. Others point to UN Statistics Division, World Bank CEISIN, OECD and others for such base data.

It is important that some clarity and consistency be achieved. This should be done as early as possible before methodologies and associated information management processes are entrenched.

Initial tasks are therefore:

- to identify and tabulate geographic reference bases and statistical bases proposed for use
- through the Information Management Working Group, to try to identify the best choice for each indicator that will lead to consistent and easy to interpret results
- to add annotated information on the key alternative geographic reference frames and base datasets to the Standards Reference Base as guidance for Partners.

6.3.4 Establish a connection to the CBD Clearing House Mechanism

As detailed in the Note by the Executive Secretary in preparation for the 8th meeting of the CBD COP (UNEP/CBD/COP/8/17, 19th Jan 2006), the CBD Clearing House Mechanism plans the “development of a database on indicators related to the 2010 target”. It is therefore an early priority to make the appropriate technical and organisational connection to establish the CHM as a complementary point of access and distribution of 2010 indicator results and information products. Appropriate links should also be made to other related processes such as UNEP’s GEO, and SEBI2010.

APPENDIX 1: CURRENT INFORMATION MANAGEMENT STATUS

Introduction

As is described in the main Project Description, during the PDF-B phase, Partners prepared templates describing the current status and plans for further development of indicators. The template included information on data sources, processing requirements, established information management procedures, data collection plans, etc. Further elaboration was obtained from representatives of the Partner organisations at the subsequent Partnership meeting (6-7 February 2006). The sections on the following pages summarise the current status of information management for each of the indicators. All of the indicators identified by the CBD that were considered by the 2010BIP project during the PDF-B phase are included below. A selection of these indicators will be taken into the FSP phase for implementation and delivery.

The following general comments are noted.

1. As stated in Section 2.1, the relative state of development of indicators varies from preliminary to well-established. In general, as indicator methodology development progresses, the sources of data become well-defined and an information management infrastructure is built to support production of the indicator values and related information products. The summaries of information management activities associated with each indicator reflect this and focus on data sources (and gaps), IT infrastructure, and quality assurance processes.
2. In many cases, the data for these global indicators derive from national sources. For example, FAO manages a number of information systems including statistical databases that are used as sources for several indicators. The data are obtained through well-established reporting processes, from officially recognised national sources.
3. In indicator development and processing, geographic reference areas of many kinds are frequently used, both in analysis and display. These include areas defined by both political and natural boundaries. A broad range of geographic reference bases was found to be in use (e.g. for watersheds, ecosystems, habitats, biomes). Where possible, geographic reference bases used have been indicated in the summaries. Improved availability and consistency in use of these reference bases across indicators is an important first priority for the project, and will be assisted by the proposed Standards Reference Base.

1 FOCAL AREA: STATUS AND TRENDS OF THE COMPONENTS OF BIODIVERSITY

1.1 Headline Indicator: Trends in extent of selected biomes, ecosystems and habitats

Habitats (general)

- Source data would be various types of remotely sensed data, all with global coverage. There is potential baseline data e.g. 1992 NOAA data, but to establish trends there are questions as to whether data have the resolution needed and whether they are freely available. Technical collaboration is required between FAO and the remote sensing community (GEOSS, GOFCC-GOLD, ESA, NASA, NOAA, etc).

1.1.1 Indicator: Extent of forests and forest types

- Primary source data will be from FAO Forest Resources Assessments (FRA). These are based on compilation of national data (from officially nominated correspondents) and have been carried out every 5-10 years, the two most recent being 2000 and 2005.

- The existing national methodologies are to be fine-tuned using an “Information Framework” under which there is a proposed new remote sensing survey. Further, for FRA2010, forest area will be classified into ecological zones based forest types.
- Note that the FRA is also a primary source of data for other indicators (see below).

1.1.2 Indicator: Extent of Grassland and Dryland ecosystems

- Source data would be various types of remotely sensed data and relatively coarse resolution would be adequate, but details of image analysis and other information processing are yet to be established.
- There is potential baseline data e.g. 1992 NOAA data.

1.1.3 Indicator: Extent of Agriculture ecosystems

- Can be achieved during same process as Grasslands above.

1.1.4 Indicator: Extent of urban habitat

- Source data would be “lights at night” data from NOAA satellites with 1 km resolution.

1.1.5 Indicator: Extent of Snow/Ice biomes

- Source data is NOAA MODIS satellite coverage at 1 km resolution.

1.1.6 Indicator: Extent of Wetland ecosystems

- Large wetlands could be monitored with high resolution remote sensing data. Image analysis and processing requirements need to be established.

1.2 Headline Indicator: Trends in abundance and distribution of selected species

1.2.1 Indicator: Living Planet Index

- The data consists of measures of species population (or proxies) for terrestrial, freshwater and marine biomes. These are assembled from multiple sources.
- Insufficient data is a major problem outside northern temperate regions.
- A new database structure and system is being developed – Phase 1: a basic Access database; Phase 2: an advanced database structured to handle the potentially large amounts of information anticipated from the data providing network; Phase 3: advanced user-friendly publicly available database.
- Anticipated selection criteria includes biogeographic realms, habitat type, taxonomic group, etc.

1.2.2 Indicator: Global Wild Bird Index

- The use of the Wild Bird Index is established in Europe and there is an existing base of good quality data. The data are collated from national bird monitoring schemes and countries use different methodologies and survey schemes but the indicator methodology enables these to be brought together to produce a multi-national multi-species indicator.

- Coverage will be extended by developing indices using existing national monitoring schemes and datasets in North America and Australia. Also, data collation schemes will be established across representative countries in other regions, although it is recognised that organisational and individual capacity is often limited.
- The European scheme uses a custom-developed software package, TRIM (Trends and Indices for Monitoring Data), to produce the indices from field data. There is data validation at the national and international levels.
- WorldBirds is a joint initiative (BirdLife International, RSPB and Audubon) aimed to facilitate the collection, analysis and presentation of bird monitoring data at a national level. Internet based software has been developed allowing birdwatchers to input their observations through a user-friendly interface. A first phase is now being implemented in several countries.

1.2.3 Indicator: Abundance of selected Forest Tree Species

- Relevant data is collected from the FRA (see 1.1.1), augmented by remote sensing data. This is a new indicator and processing requirements are not well defined as yet.

1.3 Headline Indicator: Coverage of protected areas

1.3.1 Indicator: Coverage according to World Database on Protected Areas

- The main data source is the World Database on Protected areas (WDPA) with potential additional input from national sources.
- Standards and information management practices are well defined

1.3.2 Indicator: Management Effectiveness

- The indicator will draw on over 3000 site-level assessments collected on a common framework.
- Data standards and procedures are planned and under development, including confidentiality protocols.
- A new database linked to the WDPA will be developed.

1.3.3 Indicator: Overlays with areas of key importance to biodiversity

- Main data source is the World database on Protected areas (WDPA) and critical habitat information from UNEP-WCMC.
- GIS facilities are needed to analyse overlay and derive weighted indicator.

1.4 Headline Indicator: Change in status of threatened species

1.4.1 Indicator: IUCN Red List Index

- Data is collected from national sources using Species Information Service Data Entry module and undergoes authoritative review before incorporation into the Red List database.

- MS Access is used for initial data collection and verification, and then Oracle. A new database is planned for 2006 and further development to have “advanced web-accessible” database operational in 2008. (Note that IT infrastructure is effectively outsourced.)
- Uses standards such as ISO for country names, FAO fishing areas, 10 biogeographic realms, etc; maintains authority files for habitats, threats and conservation actions.

1.5 Headline Indicator: Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance

1.5.1 Indicator: Genetic Diversity in Ex situ crop collections

- There are three primary data sources – World Information and Early Warning System (WIEWS), the database assembled by FAO from national sources through the monitoring approach of the Global Plan of Action, EURISCO, the European PGR catalogue maintained by IPGRI based on national inventories, and the System-wide Information Network for Genetic Resources (SINGER), the genetic resources catalogue of the holdings on the CGIAR Centres.
- The extent of duplication of data, i.e. the same genetic material in more than one collection, is not fully known. Data gaps remain to be identified.
- The database systems have all been operational for some years and are well-established with solid technical background and on-going support.

1.5.2 Indicator: Genetic diversity of terrestrial domesticated animals

- The primary source of data will be the Domestic Animal Diversity Information System (DAD-IS), launched by FAO in 1995. National-level information is provided by officially appointed National Coordinators. Additional information may be obtained from the country reports submitted in the SoW-AnGR process.
- National inventories have not yet been conducted in all countries and are still incomplete in others. The data from developing countries is not as fully documented as those from developed countries.
- NCs enter data directly and those new entries are validated before acceptance. Currently MS Access is used with a custom-programmed interface. However the system is currently being rewritten using open-source software and this new version is planned for release late in 2006.

1.5.3 Indicator: Genetic diversity of domesticated aquatic species

- A variety of sources of data are used. These include established databases such as the FAO fisheries catch statistics and the FishBase species information. Data is also gathered from sources such as scientific publications and grey literature.
- Data from inland fisheries, especially in developing and remote areas, is lacking, both in quality and quantity.
- The FAO statistical database systems and FishBase are well-established.

1.5.4 Indicator: Tree genetic resources

- The REFORGEN database developed by FAO has potential to contribute in part to the potential measures identified. More data may also be obtained from existing Forest Genetic Resources country reports.
- Data in REFORGEN is in part inaccurate, incomplete and outdated.
- Note that development of this indicator and required data in selected countries may be done through the FRA2010 process (see 1.1.1 above).

2 FOCAL AREA: SUSTAINABLE USE

2.1 Headline Indicator: Area of forest, agricultural and aquacultural ecosystems under sustainable management

2.1.1 Indicator: Forest Certification

- Currently the only data are from one certification scheme, from the Forest Stewardship Council. It is proposed that similar data be collected for sites under different certification bodies.
- The data is currently held in an Excel spreadsheet. It is proposed that after a review and analysis of the different certification schemes, a database will be developed and populated. GIS software will be used both for map display and, in the longer term, for analysis.

2.1.2 Indicator: Area of forestry under sustainable management: degradation and deforestation

- Primary source of data will be the FRA (see 1.1.1)

2.1.3 Indicator: Area of Agricultural Ecosystems under sustainable management

- Several FAO data sources are identified as being relevant to the proposed indicators. These include the Agro-Ecological Zoning (AEZ) database, several of the FAO statistical databases such as AQUASTAT and TERRASTAT, and projects and programmes such as GTOS. Other potential sources include OECD and EEA, as well as individual countries.
- Analysis of suitability and availability of data is included in the first step to be undertaken in the proposed workplan (Annex B).

2.2 Headline Indicator: Proportion of products derived from sustainable sources

2.2.1 Indicator: Proportion of fish stocks in safe biological limits

- The primary source of data will be the FAO fish catch statistics compiled from national submissions.

2.2.2 Indicator: Status of species in trade

- Two main sources of data are the historical CITES Appendices that list species, and the CITES Trade Database.

- The Species Trade Database is managed in an Oracle database held at UNEP-WCMC and accessible on-line. Quality assurance procedures are in place.

2.2.3 Other indicators for sustainable use

- Four possible additional indicators have been identified to be potentially useful. Possible relevant data sources include the CITES database, FAO fisheries catch statistics and the IUCN Red List data holdings.
- More work is needed to identify and collate available datasets and analyse how trade and use data relate with species status information.

2.3 Headline Indicator: Ecological footprint and related concepts

2.3.1 Indicator: Ecological footprint

- Global Footprint Network calculates EF of 150 countries annually; 5000 data values for each country each year; results since 1961
- Primary data sources are the FAOSTAT database (from Food and Agriculture Organisation) and COMTRADE (from UN Statistics Division). Many other sources are used and this is subject to change as databases are developed and made available.
- QC is done by Committee review of potential new sources; some QA checks are done but it is very difficult to assess the margin of error.
- MySQL is used in data management to some extent (2 tables); Excel is used extensively (~100 Excel worksheets).

3 FOCAL AREA: THREATS TO BIODIVERSITY

3.1 Headline Indicator: Nitrogen Deposition

- Source datasets are from existing well-established (regional) databases, namely Europe (EMEP), US (NADP), Canada (CAPMoN) and more recently East Asia (EANET). Also Global Atmospheric Watch (GAW) under WMO measures N deposition.
- Available data is relative to the process of wet deposition that is relatively well understood; very little data exists for dry deposition.
- There is an established information management infrastructure for each database (including QC/QA procedures) but databases are not integrated in any way.

3.2 Headline Indicator: Trends in invasive alien species

- Although there are 4-5 existing relevant metadatabases, the bulk of the databases listed are species-oriented and/or of limited geographic scope. Several national and regional databases may be relevant, but data content is not necessarily comparable and there are no widely used terminology standards.

- The Global Invasive Species Information Network (GISIN) has been formed and has done some work on standards (under NBII in USGS).

4 FOCAL AREA: ECOSYSTEM INTEGRITY AND ECOSYSTEM GOODS AND SERVICES

4.1 Headline Indicator: Marine trophic index

- The primary data sources include fisheries statistics from FAO databases, from ICES and from NAFO, and the fish species database, FISHBASE.
- The fisheries catch data is subject to examination and various adjustments made to improve the quality. There is a lack of data from developing countries, and lack of info on small-scale fisheries.
- SQLServer is used for database management, with GIS software (ESRI). Archiving procedures are in place and there is data downloading capability from the website.
- Selection criteria for analysis and display include marine protected areas, large marine ecosystems (LMEs), exclusive economic zones (EEZs), TNC and WWF ecoregions, FAO fishing areas, etc. Global maps are used to present results.

4.2 Headline Indicator: Water quality

- Values of five standard measurements of water quality (indicators) are provided to GEMS/Water from individual stations and, after QA/QC review, are entered into the GEMStat database.
- GEMStat contains global data from 1976 from over 1500 stations. Coverage is most complete for Europe and North America with data from developing countries lacking.
- The data management software is a custom-developed package (RAISON).
- Selection and display uses political boundaries and river basins. Codes used include country names.

4.3 Headline Indicator: connectivity/ fragmentation of ecosystems

4.3.1 Indicator: Fragmentation of forest systems

- The primary source of data will be the FRA (see 1.1.1), where the remote sensing data used to evaluate the extent of forest is possibly relevant but having sufficient resolution to consistently measure fragmentation is uncertain. Classification standards are not well developed so currently there does not appear to be any global dataset on forest ecosystem cover that includes comparable time series data.
- Considerable technical work is needed involving collaboration between FAO and the remote sensing community (GEOSS, GOFD-GOLD, ESA, NASA, NOAA, etc).

4.3.2 Indicator: Fragmentation of river systems

- River system boundaries are delineated on topographic maps (1:1m from Defence Mapping Agency) and finalised with information from national governments and local sources. Flow data (Virgin Mean Annual Discharge) and dam data are compiled from multiple sources as well as possible e.g. former may have to be estimated, dam location may be nearest city, etc.
- Data from South and South-East Asia are largely unavailable which means that these potentially important regions are excluded.
- GIS (ESRI) used.
- Geographic divisions include WWF freshwater biomes.

4.4 Headline Indicator: Health and well-being of communities depending directly on local ecosystem goods and services

No information management information available at this time

4.5 Headline Indicator: Biodiversity for nutrition, food and medicine

4.5.1 Indicator: Floral diversity for nutrition, food and medicine

- There is a considerable amount of existing data on food composition and consumption. The International Network of Food Data Systems (INFOODS) coordinates a global network of regional data centres working with countries to compile food composition databases. The FAO statistical databases, particularly the Food Balance Sheets and Supply Utilisation Accounts, have more than 40 years of such data.
- However there is little or no data at the cultivar/variety/breed level, i.e. the data is held at a more generic level. It is proposed that improvements to the existing instruments and assessment methods be made to meet the indicator requirements.

4.5.2 Indicator: Contribution of wild fauna and flora to human diet and health care

- Data sources are uncertain, but could include data from the IUCN, FAO and IPGRI.

5 FOCAL AREA STATUS OF TRADITIONAL KNOWLEDGE, INNOVATIONS AND PRACTICES

5.1 Headline Indicator: Status of traditional knowledge, innovations and practices

5.1.1 Indicator: Status and trends in linguistic diversity and use of indigenous languages

- Comprehensive data collection is needed. Sources include national census data, linguistic institutions and data extracted from existing publications e.g. Ethnologue. An initial dataset has been compiled using data primarily from Ethnologue and the UNESCO Atlas of Endangered Languages.
- Data is lacking from Africa, Melanesia, Latin America and SE Asia.

- The existing data is held in an Excel spreadsheet.

6 FOCAL AREA: STATUS OF ACCESS AND BENEFIT SHARING

Indicator to be decided

7 FOCAL AREA: STATUS OF RESOURCE TRANSFERS

7.1 Headline Indicator: Official development assistance provided in support of the Convention

No information management information available at this time

APPENDIX 2: Concepts of Information Management

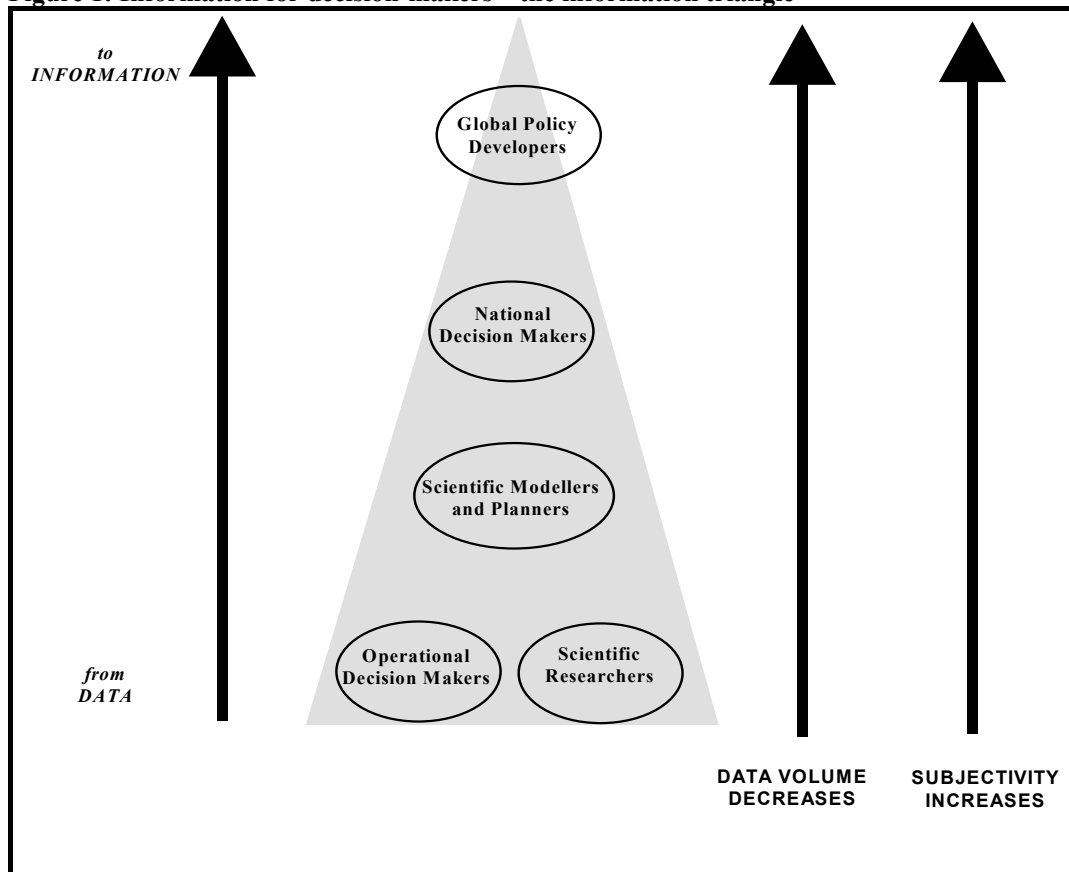
Information Management For Decision Making

The term “Information Management” refers to organising, processing, analysing, storing, retrieving and disseminating information with the objective of enabling improved understanding and consequently better decision-making. In abbreviated form, it is sometimes said that information management converts “data” into “information”. Information scientists often make a clear distinction between “data” (facts that result from measurements or observations of a phenomenon) and “information” (derived from data through assembly, analysis, interpretation or summarisation into a meaningful form). In day-to-day usage the distinction is much less clear. In the context of information systems it is common to use “data” for the **input** to any process and call the **output** “information” - which may then subsequently be the “data” that is input into the next process and so on. One agency’s information (or “information product”) is another’s data, even though it may be far removed from the initial raw measurement.

Figure 1 illustrates this, with data at the base of the triangle and, moving towards the apex, information is generated from data as they are processed, manipulated, summarised, etc. At any level, do you have data or information? The figure also illustrates that in moving "up" the triangle -

- i) the data (or information) volume is likely to decrease
- ii) the nature of the user will change
- iii) subjectivity increases (increased intellectual interpretation and analysis)
- iv) it will take time and resources to move from data to information.

Figure 1: Information for decision-makers – the information triangle

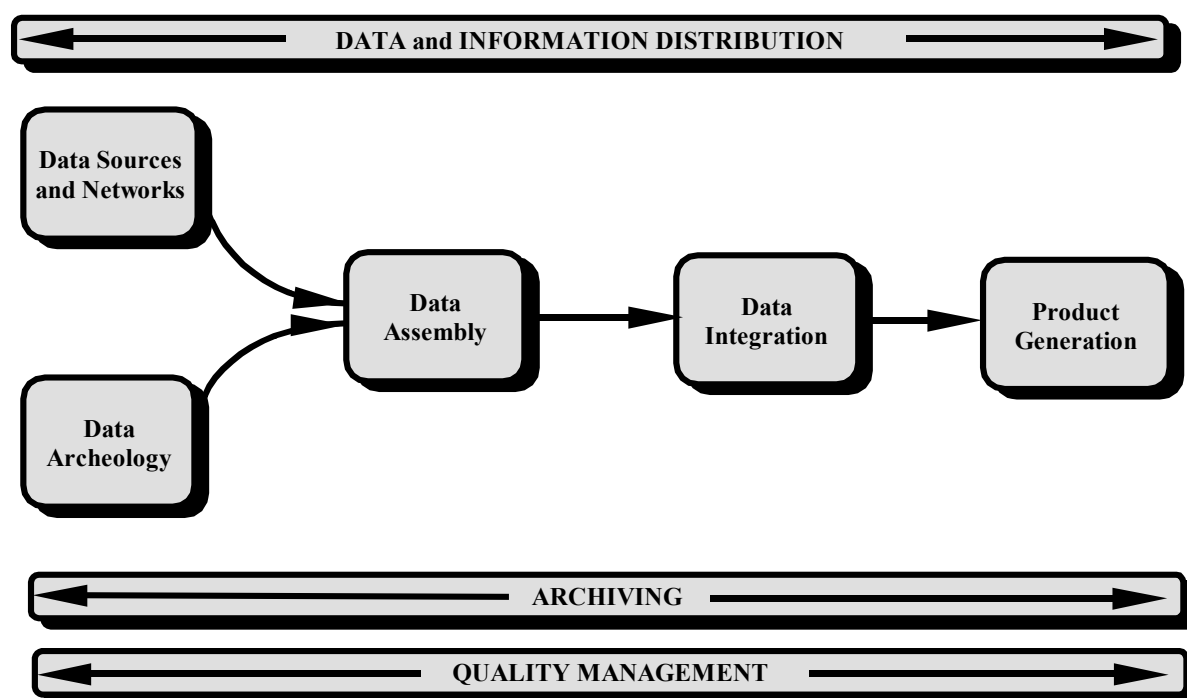


Indicators are clearly towards the apex of the triangle, intended to communicate the status and changes of complex systems in a simple yet quantifiable manner.

End-to-end Information Management

Figure 2 summarises the information management elements of a generic end-to-end (or “cradle-to-grave”) information management process that is commonly considered to be best practice. Information is extracted from existing data sources and networks. Data “archaeology” is undertaken where necessary to extract value from inactive and “buried” data holdings. Data is assembled and integrated into databases (processed, additional metadata provided, quality control exercised and datasets from separate sources merged). Information products (such as reports) are generated and made available and/or distributed to users. Archive procedures are undertaken to preserve the various levels of data and information (with the required metadata) for future use. Metadata products, such as data inventories, may also be generated.

Figure 2: “End-to-End” Information Management Process



The figure shows that archiving, quality management and data and information distribution are activities that occur continuously through the process. It should also be noted that metadata, mentioned above but not explicit in the figure, is a vital element of the information management process.

The following sections discuss specific elements considered particularly pertinent to the management of information within the 2010 BIP.

Archiving

The preservation of data and information to enable use over the long-term is intrinsic to the concept of measuring trends.

Archiving is an essential element of the end-to-end data management framework and there are potentially several points at which material should be archived. These points vary depending upon the dataset(s) and processes but should be clearly defined and documented in the overall information management plan in effect. At all stages and in all cases, relevant metadata must be included in the

archive material to ensure that the data and information can indeed be used in a meaningful fashion at some later date.

Clearly archiving is important to ensure that critical indicator data is preserved over time to be available for use in quantifying trends.

Metadata

Metadata are "data about data", describing such things as the location, sources, general content, quality, format, etc. of existing datasets. They constitute documentation covering all aspects of the end-to-end information management process.

In general, metadata are at two levels. The first, referred to as "directory level", identifies the dataset through such items as a general description (subject, geographic coverage, dates, collection methods, processing done...), details of availability (access conditions, costs...), contact point (for further information and/or ordering). These are items that are essentially common to all types of dataset, regardless of the subject matter. The second or "dataset level", is subject matter specific, for instance, instrument settings, adjustment factors, measurement units, data classification and coding systems, reference standards, taxonomies, etc.

Directory level metadata enables a potential user to judge whether a dataset might be useful for the intended purpose and how to obtain it; the dataset level metadata allows the data to be used correctly, once obtained. Typically a DataBase Management System (DBMS) will have built-in functions to enter and maintain metadata for ease of use by others, whereas a spreadsheet does not.

Metadata are essential to effective archiving, and to enable quality assessments to be made.

Data Quality

Assessments of the quality of scientific data are traditionally done through a peer review process. Researchers and users with knowledge in the relevant fields will examine the methods of data collection, analysis techniques used, and the manner in which the results have been interpreted. Detailed documentation of the steps taken and the techniques used to ensure and preserve quality at all stages is required to enable an assessment of quality to be made.

This builds on the premise that data quality is best defined as "fitness for use" and should be accurately documented to allow an assessment to be made on that basis i.e. taking into account the use which is to be made of the data. Just as the objective in collecting data may influence the collection method, so the prospective use to be made of data has a bearing on their suitability. Thus a dataset judged to be of acceptable quality for one use might be unacceptable for another.

The requirement for this type of documentation at all stages is an essential element of the end-to-end information management concept. Any "good-quality" dataset must carry such information as part of the metadata associated with it. It is recognised that many indicators may by necessity be based on data that are incomplete and uncertain in various ways – even if constituting the best available. It is therefore especially important that quality related metadata be provided with indicator datasets to describe the inherent uncertainties and possible effects of assumptions in the indicator methodology.

ANNEX M: 2010 Biodiversity Indicators Partnership Capacity Building Strategy – Linking Global, Regional and National Indicators and Policy

The capacity building strategy of the 2010BIP is embodied in the notion of sharing expertise and experience in indicator development and use, and is incorporated into various of its activities to achieve the outputs of project component 3:

Develop guidance and linkages for national and regional users of biodiversity indicators in relation to the 2010 biodiversity target, links to the Millennium Development Goals. This will combine the experience of the global 2010 indicator Partnership and existing national and regional processes requiring the use of biodiversity indicators, to produce guidelines and examples on:

- (a) methodologies and capacity required for producing the global 2010 indicators at regional and national scales;
- (b) location and adaptation of datasets at the local, national and global scales for the production of the 2010 indicators;
- (c) use of the global 2010 indicators in policy making at the regional and national scales, including links to the MDGs.

1 NATIONAL AND REGIONAL IMPLEMENTATION OF THE 2010 TARGET

1.1 Overview

Whilst there is a need to track progress at the global level in achieving the 2010 biodiversity target, in many ways the actions to achieve the target are determined at regional and national levels. The calculation of many of the 2010 indicators at the global level is also dependent on the availability of data sets from regions, countries and sites. This project will contribute guidelines and experience to help countries and regions develop their own plans and indicators for reaching the 2010 target, as well as improve the availability of national data sets for calculation of the global scale indicators.

1.2 Needs and support for guidance on biodiversity indicators

2010BIP is also designed to contribute to actions to reach the target at the regional and national levels, in accordance with CBD Decision VII/30. This Decision adopted a framework with seven focal areas and their indicators to facilitate the assessment of progress towards the 2010 target and communication of the assessment. The Conference of the Parties emphasized that the goals and targets adopted in Decision VII/30 should be viewed as a flexible framework within which national and/or regional targets may be developed, according to national priorities and capacities, and taking into account differences in diversity between countries.

The COP also emphasized the need for capacity-building regarding biodiversity indicators, especially in developing countries, in particular the least developed countries and the small island developing States among them, and countries with economies in transition, in order to enable them to implement activities to achieve and monitor progress towards the goals and targets.

COP Decision VII/8 on “Monitoring and indicators: designing national-level monitoring programmes and indicators”, also, “urges all Parties that have not done so to develop a set of biodiversity indicators as part of their national strategies and action plans, taking into account, as appropriate, the targets of the Global Strategy for Plant Conservation and the target to achieve by 2010 a significant reduction in the current rate of biodiversity loss at the global, regional and national level”. Decision

VII/8 also, “encourages Parties to share experience in the development and use of indicators and monitoring and to cooperate and promote, where useful, harmonized procedures and formats for data acquisition, computation and reporting, especially at subregional and regional levels”.

This project will build on the experience of the GEF project “Biodiversity Indicators for National Use” (BINU), which was completed in 2005 and provided guidance on indicator development in Kenya, Ecuador, Philippines and Ukraine. The BINU project found that many of the indicators developed to meet national priorities were compatible with the suite of 2010 indicators, which were determined at a later date. The project also showed that whilst the subject of biodiversity indicators is a new one for most countries, considerable progress can be made with some guidance and opportunities to learn from other indicator development work.

The meaning and relevance of a biodiversity indicator is dependent on its use, and an indicator can be useful for several purposes. For example, the suite of 2010 target indicators have been selected to help report on different aspects of not only the state and trends of biodiversity, but also on its conservation and sustainable use, and threats to it. As well as helping to monitor progress towards a target, indicators can assist in understanding an issue and setting targets for desired outcomes. The suite of global 2010 indicators is of relevance to national and regional processes for both these purposes. The BINU project found that successful biodiversity indicators were developed in consultation with policy makers and other users, to ensure their relevance and appropriate means of communication. However, policy makers and other groups affecting biodiversity issues often had limited understanding of biodiversity issues and its links to development. The agencies calculating and presenting indicators then had to function in a role of helping to build this understanding and interpretation of the indicators. This could include the production of assessment reports and recommendations for targets and policy measures. The 2010BIP project will support capacity building for national and regional calculation and use of biodiversity indicators, focusing on assessing progress on the 2010 biodiversity target but also their use in other relevant policy processes.

The global, regional and national linkages of the project have been discussed within the 2010 Biodiversity Indicators Partnership during its PDF-B phase. The partners supported the focus on global-level indicators within the project, although this process should clearly relate to national and regional initiatives. The need for information-gathering mechanisms and activities at the national level to support global indicator development was also emphasised. This is required to broaden the input of data, for example from francophone and Spanish-speaking countries, and to counteract a predominance of data from more industrialised countries.

The need for guidelines on the methodologies and application of biodiversity indicators was strongly endorsed by 2010BIP members and Steering Committee. This is a practical output to support capacity building for national and regional agencies in the relatively new field of biodiversity indicators and effectively builds on the experience of the 2010BIP.

2 PURPOSE AND PRODUCTION OF THE GUIDELINES

Guidelines and examples covering three aspects of producing and using the 2010 biodiversity indicators will be developed:

- (a) methodologies and capacity required for producing the suite of global 2010 indicators at regional and national scales;
- (b) approaches and adaptation for use of local, national and regional datasets in the development of global indicators;
- (c) use of the global 2010 indicators in policy making at the regional and national scales, including links to the MDGs.

The guidelines will initially be developed from the Indicator Development Templates already produced for each of the indicators at the global scale. The methodology and capacity guidelines will include for each indicator its use and interpretation, calculation procedure, most effective forms of

presentation, accuracy and limits to usefulness, and capacity requirements for its calculation. The suitability of the indicator for use at multiple scales will be addressed.

Guidelines for the use of datasets in the global indicators will be a reference source of information on the availability and standards for data sets in the 2010 indicators. They will provide guidance on how to ensure that data is managed, collated and made available, and how data can be re-interpreted to meet varying indicator needs.

Guidelines on the use of the global 2010 indicators in policy making at the regional and national scales will discuss interpretation and use of the indicators, including their roles in setting targets and policies, reporting on progress, and for education. The appropriate use of conceptual frameworks, such as P-S-R and the Millennium Ecosystem framework, will be discussed. Guidance will focus on how the indicators can be used to assist in the establishment of national and regional targets, strategies, action plans, and reports, including for the 2010 biodiversity target, other Multilateral Environmental Agreements, and the MDGs.

All the guidelines will include examples from the experience of the 2010BIP members, emphasising regional and national applications. The intended users of the Guidelines are the technical staff of government, NGO and academic bodies who already have a basic familiarity with the concepts of indicators and their use in decision-making.

The CBD Secretariat is developing funding proposals for regional capacity building workshops on the development and identification of national biodiversity targets and indicators in view of countries' commitments towards the 2010 biodiversity target. The 2010BIP members will co-ordinate with the CBD Secretariat in seeking funding and the organisation of these workshops. The draft guidelines and experience of the members of the 2010BIP will contribute to these workshops.

The guidelines will be made available through the 2010BIP website and the CBD Clearing House Mechanism. A first version of the guidelines will be published on the website approximately six months after the commencement of the project. They will then be updated and improved throughout the life of the project, particularly building on the experiences from the case studies conducted by the project, and through their use in the regional workshops as appropriate. The guidelines will be published in printed format at the end of the first phase of the project, in 2009.

ANNEX M: 2010 Biodiversity Indicators Partnership Capacity Building Strategy – Linking Global, Regional and National Indicators and Policy

The capacity building strategy of the 2010BIP is embodied in the notion of sharing expertise and experience in indicator development and use, and is incorporated into various of its activities to achieve the outputs of project component 3:

Develop guidance and linkages for national and regional users of biodiversity indicators in relation to the 2010 biodiversity target, links to the Millennium Development Goals. This will combine the experience of the global 2010 indicator Partnership and existing national and regional processes requiring the use of biodiversity indicators, to produce guidelines and examples on:

- (a) methodologies and capacity required for producing the global 2010 indicators at regional and national scales;
- (b) location and adaptation of datasets at the local, national and global scales for the production of the 2010 indicators;
- (c) use of the global 2010 indicators in policy making at the regional and national scales, including links to the MDGs.

1 NATIONAL AND REGIONAL IMPLEMENTATION OF THE 2010 TARGET

1.1 Overview

Whilst there is a need to track progress at the global level in achieving the 2010 biodiversity target, in many ways the actions to achieve the target are determined at regional and national levels. The calculation of many of the 2010 indicators at the global level is also dependent on the availability of data sets from regions, countries and sites. This project will contribute guidelines and experience to help countries and regions develop their own plans and indicators for reaching the 2010 target, as well as improve the availability of national data sets for calculation of the global scale indicators.

1.2 Needs and support for guidance on biodiversity indicators

2010BIP is also designed to contribute to actions to reach the target at the regional and national levels, in accordance with CBD Decision VII/30. This Decision adopted a framework with seven focal areas and their indicators to facilitate the assessment of progress towards the 2010 target and communication of the assessment. The Conference of the Parties emphasized that the goals and targets adopted in Decision VII/30 should be viewed as a flexible framework within which national and/or regional targets may be developed, according to national priorities and capacities, and taking into account differences in diversity between countries.

The COP also emphasized the need for capacity-building regarding biodiversity indicators, especially in developing countries, in particular the least developed countries and the small island developing States among them, and countries with economies in transition, in order to enable them to implement activities to achieve and monitor progress towards the goals and targets.

COP Decision VII/8 on “Monitoring and indicators: designing national-level monitoring programmes and indicators”, also, “urges all Parties that have not done so to develop a set of biodiversity indicators as part of their national strategies and action plans, taking into account, as appropriate, the targets of the Global Strategy for Plant Conservation and the target to achieve by 2010 a significant reduction in the current rate of biodiversity loss at the global, regional and national level”. Decision

VII/8 also, “encourages Parties to share experience in the development and use of indicators and monitoring and to cooperate and promote, where useful, harmonized procedures and formats for data acquisition, computation and reporting, especially at subregional and regional levels”.

This project will build on the experience of the GEF project “Biodiversity Indicators for National Use” (BINU), which was completed in 2005 and provided guidance on indicator development in Kenya, Ecuador, Philippines and Ukraine. The BINU project found that many of the indicators developed to meet national priorities were compatible with the suite of 2010 indicators, which were determined at a later date. The project also showed that whilst the subject of biodiversity indicators is a new one for most countries, considerable progress can be made with some guidance and opportunities to learn from other indicator development work.

The meaning and relevance of a biodiversity indicator is dependent on its use, and an indicator can be useful for several purposes. For example, the suite of 2010 target indicators have been selected to help report on different aspects of not only the state and trends of biodiversity, but also on its conservation and sustainable use, and threats to it. As well as helping to monitor progress towards a target, indicators can assist in understanding an issue and setting targets for desired outcomes. The suite of global 2010 indicators is of relevance to national and regional processes for both these purposes. The BINU project found that successful biodiversity indicators were developed in consultation with policy makers and other users, to ensure their relevance and appropriate means of communication. However, policy makers and other groups affecting biodiversity issues often had limited understanding of biodiversity issues and its links to development. The agencies calculating and presenting indicators then had to function in a role of helping to build this understanding and interpretation of the indicators. This could include the production of assessment reports and recommendations for targets and policy measures. The 2010BIP project will support capacity building for national and regional calculation and use of biodiversity indicators, focusing on assessing progress on the 2010 biodiversity target but also their use in other relevant policy processes.

The global, regional and national linkages of the project have been discussed within the 2010 Biodiversity Indicators Partnership during its PDF-B phase. The partners supported the focus on global-level indicators within the project, although this process should clearly relate to national and regional initiatives. The need for information-gathering mechanisms and activities at the national level to support global indicator development was also emphasised. This is required to broaden the input of data, for example from francophone and Spanish-speaking countries, and to counteract a predominance of data from more industrialised countries.

The need for guidelines on the methodologies and application of biodiversity indicators was strongly endorsed by 2010BIP members and Steering Committee. This is a practical output to support capacity building for national and regional agencies in the relatively new field of biodiversity indicators and effectively builds on the experience of the 2010BIP.

2 PURPOSE AND PRODUCTION OF THE GUIDELINES

Guidelines and examples covering three aspects of producing and using the 2010 biodiversity indicators will be developed:

- (a) methodologies and capacity required for producing the suite of global 2010 indicators at regional and national scales;
- (b) approaches and adaptation for use of local, national and regional datasets in the development of global indicators;
- (c) use of the global 2010 indicators in policy making at the regional and national scales, including links to the MDGs.

The guidelines will initially be developed from the Indicator Development Templates already produced for each of the indicators at the global scale. The methodology and capacity guidelines will include for each indicator its use and interpretation, calculation procedure, most effective forms of

presentation, accuracy and limits to usefulness, and capacity requirements for its calculation. The suitability of the indicator for use at multiple scales will be addressed.

Guidelines for the use of datasets in the global indicators will be a reference source of information on the availability and standards for data sets in the 2010 indicators. They will provide guidance on how to ensure that data is managed, collated and made available, and how data can be re-interpreted to meet varying indicator needs.

Guidelines on the use of the global 2010 indicators in policy making at the regional and national scales will discuss interpretation and use of the indicators, including their roles in setting targets and policies, reporting on progress, and for education. The appropriate use of conceptual frameworks, such as P-S-R and the Millennium Ecosystem framework, will be discussed. Guidance will focus on how the indicators can be used to assist in the establishment of national and regional targets, strategies, action plans, and reports, including for the 2010 biodiversity target, other Multilateral Environmental Agreements, and the MDGs.

All the guidelines will include examples from the experience of the 2010BIP members, emphasising regional and national applications. The intended users of the Guidelines are the technical staff of government, NGO and academic bodies who already have a basic familiarity with the concepts of indicators and their use in decision-making.

The CBD Secretariat is developing funding proposals for regional capacity building workshops on the development and identification of national biodiversity targets and indicators in view of countries' commitments towards the 2010 biodiversity target. The 2010BIP members will co-ordinate with the CBD Secretariat in seeking funding and the organisation of these workshops. The draft guidelines and experience of the members of the 2010BIP will contribute to these workshops.

The guidelines will be made available through the 2010BIP website and the CBD Clearing House Mechanism. A first version of the guidelines will be published on the website approximately six months after the commencement of the project. They will then be updated and improved throughout the life of the project, particularly building on the experiences from the case studies conducted by the project, and through their use in the regional workshops as appropriate. The guidelines will be published in printed format at the end of the first phase of the project, in 2009.

ANNEX N: 2010 Biodiversity Indicators Partnership

Monitoring and Evaluation Plan

The objective of monitoring and evaluation is to assist all project participants in assessing project performance and impact, with a view to maximizing both. Monitoring within 2010BIP will be undertaken through the continuous review by the 2010BIP Secretariat at UNEP–WCMC, hereon the Project Coordination Unit (PCU), with periodic oversight by the Steering Committee (SC) of the implementation of activities to ensure that all actions are proceeding according to plan. Evaluation in 2010BIP will aim to determine systematically and objectively the relevance, efficiency, and effectiveness of the activities in light of the project outputs and objectives. The general and specific objectives of the project, and the list of its planned outputs, have provided the basis for this M&E plan. The project will be evaluated on the basis of execution performance, and delivery of outputs.

1 OPERATIONAL MONITORING

1.1 Execution performance

Execution monitoring will assess whether the management and supervision of project activities is efficient and seek to improve efficiencies as required to improve overall effectiveness of project implementation. It will be a continuous process, which will collect information about the execution of activities programmed in the workplan, advise on improvements in method and performance, and compare accomplished with programmed tasks. This activity will be the direct responsibility of the Project Coordination Unit (PCU), and of the Steering Committee. See Table 1 for the execution performance indicators. The UNEP Task Manager will, in collaboration with the PCU, track these indicators. An Annual Progress Implementation Review (PIR) will assess performance of the project in reaching targets and will distil lessons learned from the partners.

Table 1: Indicators for Evaluating Project Implementation

Indicator	Means of Verification
Half-yearly and annual activity and progress reports are prepared in a timely and satisfactory manner	Arrival of reports to UNEP
Half-yearly disbursement plans and half-year and annual financial reports are prepared in a timely and satisfactory manner.	Arrival of reports to UNEP
Performance targets, outputs, and outcomes are achieved as specified in the annual work plans.	Semi annual and Annual progress reports and the PIR
Deviations from the annual work plans are corrected promptly and appropriately. Requests for deviations from approved budgets are submitted in a timely fashion.	Work plans, minutes of SC meetings, timely submission of revised budget to UNEP for approval
Disbursements are made on a timely basis.	IMIS system at UNEP and Bank Account statements of executing agency
Audit reports and other reviews show sound financial practices.	Audit statements
Steering Committee (SC) is tracking implementation progress and project impact, and providing guidance on annual workplans and fulfilling TOR.	Minutes of SC meetings
SC is providing policy guidance, especially on achievement of project impact.	Minutes of SC meetings

1.2 Delivered outputs

Ongoing monitoring will assess the success of 2010BIP in producing each of the programmed outputs, both in quantity and quality. In order to monitor outputs, quantifiable indicators include continued collaboration between partners; sharing of information among partners; full Partnership and SC meetings occur regularly; stakeholder activities in the partnership continue; lessons learned are efficiently incorporated into project implementation; and project activities are delivered to budget and schedule. These indicators will be assessed through reports and reviews of the partnership by the PCU on an annual basis and in a Mid-Term and terminal evaluation process (see below). See table 2 for a summary of expected outputs by project component and Annex B (Logframe matrix and Work Plan) for a more detailed account.

Table 2: Description and timing of project activities by project outcomes and outputs

Outcomes and Outputs	Objectively verifiable indicators	Activities	Timing of Activities
Outcome 1: 2010 biodiversity indicators partnership generating information useful to decision makers	<ul style="list-style-type: none"> At least 70% of the headline indicators identified by the CBD in the context of the 2010 target are implemented and available from organisations within the 2010 Biodiversity Indicators Partnership by 2009. 		
Output 1.1. Working partnership on 2010 indicators established and maintained	<ul style="list-style-type: none"> Four full meetings are held of the Partnership and 2010BIP Steering Committee during the course of the project, 2006-2009. At least 20 other biodiversity indicator stakeholder organisations are engaged in the Partnership through involvement in its activities between 2006-2009. The 2010 BIP project is efficiently and effectively managed and coordinated, with project activities delivered to budget and on schedule. 	<p>1.1.1 Develop a 2010 Biodiversity Indicators Partnership, based on organizations and agencies delivering the various agreed 2010 indicators.</p> <p>1.1.2 Implement processes to share ideas, standards, guidelines, methodologies and data amongst the Partnership and more widely.</p> <p>1.1.3 Hold four full Partnership meetings and four meetings of the 2010 BIP Steering Committee during the course of the project.</p> <p>1.1.4 Identify other stakeholders and encourage their contribution to the activities of the Partnership.</p> <p>1.1.5 Coordinate and manage the full suite of activities of the 2010 BIP, including maintaining documentation of on-going lessons learned from the implementation of the project</p>	<p>Oct 2006 – Sept 2009</p> <p>Oct 2006 – Sept 2009</p> <p>Dec 2006, Jun 2007, 2008, 2009</p> <p>Oct 2006 – Sept 2009</p> <p>Jan 2007 – Sept 2009</p>
Output 1.2 Communication strategy meeting user needs prepared and implemented	<ul style="list-style-type: none"> Communications strategy is finalised and in place for the 2010 indicators by the end of the first year, responding to the needs of users. User surveys performed to measure the success of the communications strategy for meeting user needs by the end of the third year of the project. Project website used and maintained throughout project. Indicator products 	<p>1.2.1 Undertake periodic review of potential users of the 2010 indicators and their needs</p> <p>1.2.2 Review and refine communications and outreach strategy.</p> <p>1.2.3 Develop promotional and outreach materials for use of Partnership members and others, including leaflets, brochures, reports, web material, and material for inclusion in the reports of other processes, as appropriate.</p> <p>1.2.4 Further identify and implement means to relate the 2010 indicators to other international conventions and programmes.</p> <p>1.2.5 Establish and maintain Partnership web site.</p>	<p>Oct 2006 – Sept 2009</p> <p>Oct 2006 – May 2007</p> <p>Oct 2006 – May 2007</p> <p>Nov 2006 – May 2007</p> <p>Oct 2006 – Feb 2007 (ongoing to Sept 2009)</p>

Outcomes and Outputs	Objectively verifiable indicators	Activities	Timing of Activities
	tailored to meet specific user needs developed annually, building on available indicators, and disseminated to major international initiatives, meetings and decision-making fora.	<p>1.2.6 Conduct analysis on the links between the full suite of 2010 biodiversity indicators.</p> <p>1.2.7 Further identify and implement means to relate the 2010 indicators to the MDGs, targets and indicators.</p> <p>1.2.8 Further identify the relationship of the indicators arising from other relevant conventions and programmes to the suite of 2010 indicators.</p> <p>1.2.9 Deliver appropriate analysis of 2010 indicators for use in products developed and delivered by other processes and initiatives, including MEAs and other assessment processes.</p> <p>1.2.10 Develop a range of suitable products based on outputs and analysis of the 2010 biodiversity indicators.</p> <p>1.2.11 Establish and implement a process for peer review of the products delivered from the Partnership.</p> <p>1.2.12 Translate, publish and disseminate Partnership products widely.</p>	<p>Nov 2006 – Mar 2007. Feb – May 2008. Mar – Sept 2009</p> <p>Nov 2006 – May 2007</p> <p>Nov 2006 – May 2007</p> <p>Nov 2006 – May 2007</p> <p>Nov 2006 – Sept 2009</p> <p>Jun 2007 – Sept 2009</p> <p>Nov 2006 – Sept 2009</p>
Outcome 2: Improved global indicators implemented and available	<ul style="list-style-type: none"> At least 70% of the headline biodiversity indicators identified by the CBD in the context of the 2010 target are improved by 2009 through increased data input, greater time-series coverage, or capacity to demonstrate trends in rates of change. 		
Output 2.1: Standards, guidelines and methods for indicator development, peer review and information sharing	<ul style="list-style-type: none"> Indicator Development plans and information management strategies in place by the end of the first year of the project, and implemented by 2009. Peer review procedures in place and implemented for each indicator by 2009. 	<p>2.1.1 Review needs for further development and implementation of individual indicators.</p> <p>2.1.2 Establish basic standards for each indicator, including quality assurance processes and documentation.</p> <p>2.1.3 Implement peer review strategies for all indicators developed within the 2010 BIP.</p> <p>2.1.4 Update and maintain indicator methodologies, metadata, and completed indicator time series in Partnership information sharing facilities.</p>	<p>Nov 2006 – Sept 2009</p> <p>Nov 2006 – Jul 2007</p> <p>Nov 2006 – Jul 2007 (ongoing to Sept 2009)</p> <p>Nov 2006 – Sept 2009</p>
Output 2.2: Individual indicators strengthened and delivered	<ul style="list-style-type: none"> At least 70% of the global 2010 biodiversity indicators delivered by 2009, incorporating data and expertise from a wider range of national and other sources than before 2007. Individual indicators delivered and used in products of the 2010 Biodiversity Indicator Partnership by 2009. 	<p>2.2.1 Further develop identified indicators in support of the CBD headline indicators, including developing and implementing short and long term plans for data collection, management and use.</p>	<p>Nov 2006 – Sept 2009</p>

Outcomes and Outputs	Objectively verifiable indicators	Activities	Timing of Activities
Outcome 3: National governments and regional organizations using and contributing to improved delivery of global indicators	<ul style="list-style-type: none"> At least 50% of the biodiversity indicators identified by CBD in the context of the 2010 target are further developed based on increased contribution of local, national, and regional data by the end of the third year of the project. At least 30 national governments and regional organizations are using a broader set of 2010 biodiversity indicators to report on progress towards the 2010 target, by 2010. 		
Output 3.1: Enhanced capacity of national governments and regional organizations to contribute to global indicator delivery	<ul style="list-style-type: none"> Guidelines are available, by the end of the first year of the project, on enhancing the use of local, national and regional data and methodologies in global indicator processes. At least 30 national governments and regional organizations are actively involved in global indicator delivery. 	<p>3.2.1 Develop guidelines to facilitate increased local, national and regional contributions to the development of global 2010 indicators.</p> <p>3.2.2 Contribute to regional capacity building workshops and other appropriate fora to disseminate and facilitate the use of such tools.</p>	<p>Nov 2006 – Apr 2007</p> <p>Oct 2006 – Sept 2009</p>
Output 3.2: Guidelines and other tools available to governments and regional organizations for the use of global indicators and their methodologies.	<ul style="list-style-type: none"> Guidelines are made available, by the end of the third year of the project, on the appropriate application of global indicator methodologies and lessons learned for regional and national processes. Guidelines are made available, by the end of the first year of the project, on the use of global indicators in national and regional policy. 	<p>3.2.3 Develop guidelines to facilitate use of global 2010 indicator methodologies and development processes at national and regional level.</p> <p>3.2.4 Develop guidelines on the options for use of global 2010 indicators in national and regional level policy and decision-making.</p> <p>3.2.5 Contribute to regional capacity building workshops and other appropriate fora to disseminate and facilitate the use of such tools.</p>	<p>May – Sept 2007 (ongoing to Dec 2008)</p> <p>Jul – Dec 2007</p> <p>Oct 2006 – Sept 2009</p>

1.3 Project Impacts and Outcomes

Evaluation of the project's success in achieving its outcomes will be monitored throughout the duration of the project through semi-annual progress reports, annual summary progress reports, a mid term and terminal evaluation (see below) based on the project logframe (Annex B). An annual review of the current status of the 2010 biodiversity indicators (see Annex G for a baseline analysis) will provide a quantifiable indicator of the development progress, and ultimately the impacts of the biodiversity indicators.

2 RISK ANALYSIS

The UNEP standard project risk assessment tool will be given consideration as part of the Annual Project Implementation Review (PIR) process. The PCU will further review this assessment of risk on a quarterly basis, and work with the SC to that risks are minimised in implementation of the project.

3 FINANCIAL MONITORING

Half yearly disbursement plans and half-year and annual financial reports will be prepared in a by the PCU and presented to UNEP in a timely and satisfactory manner. The IMIS system at UNEP and bank account statements of the PCU will verify that disbursements are made on a timely basis.

An external audit will be conducted at the PCU and presented to UNEP on an annual basis to monitor financial expenditure for the project.

Monitoring of the cofinancing component of the project will take place through three activities. Initial authoritative documentation of support has been provided in Annex D. This will be used as the baseline for monitoring cofinancing contributions. The PCU will track progress of the expenditure of the cofinancing support at the partnership level, while ILOs will track cofinancing of the individual indicators. The PCU will receive financial reports on cofinancing expenditure from partners, and will provide documentation to the SC and the external consultant for the mid-term and terminal reviews.

4 MID-TERM REVIEW AND TERMINAL EVALUATION

The full project has been divided into two phases. Each is fully self-contained, but the 2nd full phase builds heavily on the success of the first phase. Work during the first phase will focus substantially on development and delivery of indicators, on their integration with other programmes at national and international levels, and on means for ensuring their effective delivery. Work during the second phase will substantially focus on reporting on progress in achieving the 2010 target at CBD meetings in 2010 and beyond, to the Earth Summit likely to take place in 2012 ten years after WSSD, and in other appropriate fora, and on ensuring the uptake and use of the 2010 biodiversity indicators beyond 2010.

Due to the phased approach of this project the Mid-Term review will take place at the end of Phase 1 in late 2009 and the Terminal Evaluation will be conducted at the end of the 6-year project in late 2012.

Table 3 summarizes the responsibilities of the project management entities regarding monitoring and reporting.

Table 3: Monitoring, Reporting and Evaluation Responsibilities

UNEP	Project Coordination Unit (PCU)	Steering Committee	Indicator Partners	Collaborating Partners
<p>Monitor the agreed M&E plan in accordance with the terms of agreement with GEFSEC</p> <p>Receive half-yearly progress and annual summary progress reports, quarterly-financial reports and copies of all substantive reports from Project Coordination Unit</p> <p>Task manager to attend and participate fully in meetings of the project Steering Committee</p> <p>Engage and prepare terms of reference for independent M&E consultants to conduct the mid-term and final evaluations</p>	<p>Establish reporting guidelines for all partners in the project and ensure that they meet reporting dates and provide reports of suitable quality</p> <p>Prepare half-yearly progress reports and annual summary progress reports for UNEP, and the SC and forward substantive and quarterly financial reports, with supporting documentation as appropriate, in a timely manner to UNEP.</p> <p>Receive annual progress reports from the ILOs for each indicator and review progress of the whole suite of indicators</p> <p>Conduct an Annual Progress Implementation Review of the project</p> <p>Provide guidance and Partnership products for communication and outreach to partner members</p>	<p>Receive half-yearly progress reports, annual summary progress reports, quarterly financial reports and all substantive reports, and provide policy guidance to the project on any matters arising from a reading of these reports</p> <p>Advise Project Coordination Unit on implementation problems that emerge, and on desirable modifications to the workplan for the succeeding year</p> <p>Monitor progress in the capacity-building aspects of the project, and advise the Project Coordination Unit on steps to enhance this aspect of the project</p> <p>Assist the Project Coordination Unit in developing linkages with other projects, thus ensuring the wider impact of project work</p> <p>Provide overall guidance for the project implementation</p>	<p>Develop and deliver the individual indicators in line with Partnership targets</p> <p>Inform the PCU of any anticipated problems with regard their responsibilities</p> <p>Monitor information management, communication, and peer review of data and outputs relating to individual indicators</p> <p>Prepare annual progress reports, and annual financial reports, for the PCU and forward all substantive reports and outputs for the individual Indicator</p> <p>Monitor progress in the capacity-building aspects of the individual indicator project component and advise the PCU on steps to enhance this aspect of the project</p>	<p>Provide the PCU with technical, and other expert advice including that relating to indicator development, project management, communication, and information management</p> <p>Inform the PCU of any anticipated problems that may arise with regard to their responsibilities</p> <p>Receive and review progress reports and provide policy guidance to the project on the area of expertise on any matters arising from a reading of these reports</p> <p>Monitor progress in the capacity-building aspects of the project, and advise the Project Coordination Unit on steps to enhance this aspect of the project</p>

NOTES: See the Partnership Working Arrangements (Annex I) for member details of the project management entities listed in Table 3.

Table 4 describes the key content to be supplied in progress and financial reports.

Table 4: Monitoring and progress reports

Report	Format and Content	Timing	Responsibility
Progress Reports			
<p>Document the completion of planned activities, and describe progress in relation to the annual operating/ work plan.</p> <p>Review any implementation problems that impact on performance</p> <p>Summary of problems and proposed action</p> <p>Provide adequate substantive data outcomes for inclusion in consolidated project half-yearly and annual progress reports</p> <p>Highlights of achievements</p>	<p>Reports will use standard UNEP Progress Report format.</p> <p>The project logframe will be attached to each report and progress reported against outcome and output indicators.</p>	Half-yearly, within 30 days of end of each reporting period,	Project Coordination Unit (PCU)
The Project Implementation Review (PIR) reports	Per GEFSEC format	Yearly (after project has been under implementation for one year)	UNEP Task Manager
Consolidated Annual Summary Progress Reports			
<p>Presents a consolidated summary review of progress in the project as a whole, in each of its activities and in each output.</p> <p>Provides summary review and assessment of progress under each activity set out in the annual workplan, highlighting significant results and progress toward achievement of the overall work programme.</p> <p>Provides a general source of information, used in all general project reporting.</p>	<p>Reports will use a standard format to be developed following the UNEP Progress Report model.</p> <p>The project logframe will be attached to each report and progress reported against outcome and output indicators.</p> <p>A consolidated summary of the half-yearly reports.</p> <p>Summary of progress and of all project activities.</p> <p>Description of progress under each activity and in each output.</p> <p>Review of delays and problems, and of action proposed to deal with these.</p> <p>Review of plans for the following period, with report on progress under each heading.</p>	Yearly, within 45 days of end of the reporting period	PCU
Financial reports			
Report on cofinancing that has been provided to project as originally estimated in project proposal approved by GEF	Baseline in Annex E with supporting documentation of realized cofinancing as found in Annex D	Annual	PCU
Details of project expenses and disbursements	<p>Standardized UNEP format as found in project document</p> <p>Disbursements and expenses in categories and format as set out in standard UNEP format, together with supporting documents as necessary</p>	Quarterly	PCU

Annex N: Monitoring & Evaluation Plan

Report	Format and Content	Timing	Responsibility
Summary financial reports	(Standardized UNEP format as found in project document)		
Consolidates information on project expenses and disbursements	Disbursements and expenses by category. Requirement for coming period: request for cash advance.	Half-yearly, within 30 days of end of period	PCU
Financial audits			
Annual audit	Audit of accounts for project management and expenditures	Annual	PCU

ANNEX O: 2010 Biodiversity Indicators Partnership

COP Decision VII/30. Strategic Plan: future evaluation of progress

The Conference of the Parties,

Review and evaluation

Recognizing the need to: (i) facilitate assessment of progress towards the 2010 target, and communication of this assessment; (ii) promote coherence among the various programmes of work of the Convention; and (iii) provide a flexible framework within which national and regional targets may be set, and indicators identified, where so desired by Parties; as well as (iv) the need for a mechanism to review implementation of the Convention,

Recalling the statement in the Johannesburg Plan of Implementation that a more efficient and coherent implementation of the three objectives of the Convention and the achievement by 2010 of a significant reduction in the current rate of loss of biological diversity will require the provision of new and additional financial and technical resources to developing countries,

1. *Decides* to develop a framework to enhance the evaluation of achievements and progress in the implementation of the Strategic Plan and, in particular, its mission, to achieve a significant reduction in the current rate of biodiversity loss at global, regional and national levels. The framework includes the following focal areas:

- (a) Reducing the rate of loss of the components of biodiversity, including: (i) biomes, habitats and ecosystems; (ii) species and populations; and (iii) genetic diversity;
- (b) Promoting sustainable use of biodiversity;
- (c) Addressing the major threats to biodiversity, including those arising from invasive alien species, climate change, pollution, and habitat change;
- (d) Maintaining ecosystem integrity, and the provision of goods and services provided by biodiversity in ecosystems, in support of human well-being;
- (e) Protecting traditional knowledge, innovations and practices;
- (f) Ensuring the fair and equitable sharing of benefits arising out of the use of genetic resources; and
- (g) Mobilizing financial and technical resources, especially for developing countries, in particular least developed countries and small island developing States among them, and countries with economies in transition, for implementing the Convention and the Strategic Plan;

Goals and sub-targets will be established, and indicators identified, for each of the focal areas. The goals and sub-targets will complement the existing goals of the Strategic Plan; 1/

1/ These are:

Goal 1: The Convention is fulfilling its leadership role in international biodiversity issues.

Goal 2: Parties have improved financial, human, scientific, technical, and technological capacity to implement the Convention.

2. For the purposes of assessing progress towards the target to achieve by 2010, a significant reduction in the current rate of biodiversity loss, *defines* biodiversity loss as the long-term or permanent qualitative or quantitative reduction in components of biodiversity and their potential to provide goods and services, to be measured at global, regional and national levels;

Indicators for assessing progress towards, and communicating the 2010 target at the global level

3. In order to assess progress at the global level towards the 2010 target, and to communicate effectively trends in biodiversity related to the three objectives of the Convention, *agrees* that a limited number of trial indicators, for which data are available from existing sources, be developed and used in reporting, *inter alia*, through the Global Biodiversity Outlook. A balanced set of indicators should be identified or developed, according to the principles for choosing indicators identified by the Expert Group on Indicators and Monitoring (UNEP/CBD/SBSTTA/9/10) referred to in decision VII/8, on monitoring and indicators, to assess and communicate trends in the focal areas listed in paragraph 1. The global application of those indicators as well as the assessment of the progress towards the 2010 target should not be used to evaluate the level of implementation of the Convention in individual Parties or regions. As far as is feasible, the indicators should be identified or developed in such as way that:

(a) The same indicators may be used at the global, regional, national and local levels as tools for the implementation of the Convention and of national biodiversity strategies and action plans, where so desired by Parties;

(b) The indicators relate to one or more of the various Programmes of Work of the Convention;

(c) The indicators should take into consideration relevant Millennium Development Goals and indicators developed by other relevant international processes; and

(d) Existing data sets are used.

Full use should be made of the report of the London meeting (UNEP/CBD/SBSTTA/9/INF/9), and the notes by the Executive Secretary: on proposed biodiversity indicators relevant to the 2010 target (UNEP/CBD/SBSTTA/9/INF/26); on using existing processes as building blocks in reporting on the 2010 target (UNEP/CBD/SBSTTA/9/INF/27), on proposed global indicators (UNEP/CBD/COP/7/INF/33), and on monitoring and indicators (UNEP/CBD/SBSTTA/9/10);

4. *Agrees* that the indicators to be tested, identified or developed, are listed in annex I to the present decision. Indicators for immediate testing are listed in column B of annex I; indicators requiring further development are listed in column C of annex I;

5. *Requests* the Subsidiary Body on Scientific, Technical and Technological Advice at its tenth or eleventh meetings to evaluate information on the changes in trends and status of biodiversity, particularly the current rate of biodiversity loss at the global level *inter alia* by reviewing a draft of the Second Global Biodiversity Outlook;

6. *Requests* the Subsidiary Body on Scientific, Technical and Technological Advice at its tenth or eleventh meetings, with the assistance of an ad hoc technical expert group, subject to the availability of the necessary voluntary contributions, to:

Goal 3: National biodiversity strategies and action plans and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention.

Goal 4: There is a better understanding of the importance of biodiversity and of the Convention, and this has led to broader engagement across society in implementation.

(a) Review the use of the indicators listed in annex I, column B, to the present decisions, *inter alia*, by reviewing a draft of the second Global Biodiversity Outlook;

(b) Identify or develop indicators listed in annex I, column C, to the present decision, ensuring that the full set of indicators is limited in number;

and report on the results to the Conference of the Parties at its eighth meeting;

7. *Requests* the Ad Hoc Open-ended Working Group on Access and Benefit-sharing and the Ad Hoc Open-ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity, respectively, to explore the need and possible options for indicators for access to genetic resources and in particular for the fair and equitable sharing of benefits arising from the utilization of genetic resources, and associated innovations, knowledge and practices of indigenous and local communities, and for the protection of innovations, knowledge and practices of indigenous and local communities, and to report the results to the Conference of the Parties at its eighth meeting;

8. *Requests* the Executive Secretary, with the assistance of the World Conservation Monitoring Centre of the United Nations Environment Programme and other relevant international organizations, to

(a) Prepare the second Global Biodiversity Outlook for publication prior to the eighth meeting of the Conference of the Parties following peer review and review by the Subsidiary Body on Scientific, Technical and Technological Advice at its tenth or eleventh meeting. The second Global Biodiversity Outlook should provide an assessment of progress towards the 2010 biodiversity target at the global level and communicate effectively trends in biodiversity related to the three objectives of the Convention, based on the focal areas listed in paragraph 1 of the present decision, and making use of the indicators listed in annex I below that are successfully developed and tested, information provided in the national reports, as well as information provided by international organizations;

(b) Prepare the necessary background documentation to assist the Subsidiary Body on Scientific, Technical and Technological Advice in the work outlined in paragraph 6 above;

9. *Invites* related conventions, assessment processes and relevant organizations to contribute reports and information that assist the monitoring of progress towards the 2010 targets;

10. *Invites* the World Conservation Monitoring Centre of the United Nations Environment Programme to support the Secretariat in facilitating the compilation of information necessary for reporting on achievement on the 2010 target;

Goals and sub-targets to facilitate coherence among the programmes of work, and to provide a flexible framework for national targets

11. *Decides* to establish, goals and sub-targets for each of the focal areas identified in paragraph 1 above, as set out in annex II to the present decision, in order to clarify the 2010 global biodiversity target adopted by decision VI/26, help assess progress towards the target, and promote coherence among the programmes of work of the Convention. Such goals would complement the existing goals of the Strategic Plan;

12. *Requests* the Subsidiary Body on Scientific, Technical and Technological Advice at its tenth or eleventh meetings to:

(a) Review, and, as necessary, further refine the goals and sub-targets, ensuring that they are linked to relevant Millennium Development Goals, initiatives of the World Summit on Sustainable Development, and the goals articulated by other relevant international processes;

(b) Identify indicators for the sub-targets, where possible, by association with the indicators provided in annex I to the present decision;

(c) Refine proposals for the integration of outcome-oriented targets proposals for the integration of outcome-oriented targets into the programmes of work of inland water biodiversity and of marine and coastal biodiversity, according to the framework in annex II and using the approach set out in annex III to the present decision, identifying more precise targets, including, as appropriate, quantitative elements and decides that outcome oriented targets are a key priority for the Subsidiary Body on Scientific, Technical and Technological Advice;

(d) When the programmes of work of the Convention, are reviewed according to the multi-year programme of work of the Conference of the Parties develop recommendations for the integration of outcome-oriented targets into each of the thematic programmes of work, according to the framework in annex II and using the approach set out in annex III to the present decision, identifying more precise targets, including, as appropriate, quantitative elements;

13. *Requests* the Executive Secretary:

(a) To prepare proposals for the integration of goals and targets into the programmes of work when these programmes are due for review according to the multi-year programme of work of the Conference of the Parties, taking into account that these goals and targets should be viewed as flexible framework within which national and/or regional targets may be developed, according to national priorities and capacities; and

(b) To make full use of the clearing-house mechanism in promoting technical cooperation to achieve the 2010 targets and facilitating information exchange on progress made;

National implementation and national biodiversity strategies and action plans

14. *Emphasizes* that the goals and targets referred to in paragraph 12 above should be viewed as a flexible framework within which national and/or regional targets may be developed, according to national priorities and capacities, and taking into account differences in diversity between countries;

15. *Invites* Parties and Governments to develop national and/or regional goals and targets, and, as appropriate, to incorporate them into relevant plans, programmes and initiatives, including national biodiversity strategies and action plans;

16. *Invites* Parties and Governments to use existing national indicators or to establish national indicators using the tools (UNEP/CBD/SBSTTA/9/10) referred to in decision VII/8, on monitoring and indicators, and according to their national needs and priorities, to assess progress towards their national/and or regional targets;

17. *Emphasizes* the need for capacity-building, especially in developing countries, in particular the least developed countries and the small island developing States among them, and countries with economies in transition, in order to enable them to implement activities to achieve and monitor progress towards the goals and targets;

18. *Invites* Parties, Governments, international and funding organizations to provide adequate and timely support for the implementation of activities to achieve and monitor progress towards the goals and targets to developing country Parties, in particular the least developed countries and small island developing States among them, and Parties with economies in transition, as appropriate;

19. *Requests* the Executive Secretary to continue to explore ways to expand active support for developing country Parties in particular least developed countries and small island developing States among them, and Parties with economies in transition, where appropriate, in the development, revision and implementation of national biodiversity strategies and action plans. This process should include the commitment and resources of civil society in the development and implementation of national biodiversity strategies and action plans;

20. *Emphasizes* that national biodiversity strategies and action plans, as the primary mechanisms for the implementation of the Convention and the Strategic Plan, should be developed or reviewed with due regard to the relevant aspects of the four goals of the Strategic Plan, and the goals established by this decision, to enable greater contribution to the achievement of the 2010 target, consistent with national needs and priorities; and invites Parties to incorporate the goals, as appropriate, into the national biodiversity strategies and action plans when these are revised;

21. *Invites* developed country Parties continue to provide support to developing country Parties, in particular least developed countries and small island developing States among them, and Parties with economies in transition, as appropriate, to develop national-level indicators;

22. *Requests* the Executive Secretary to report to Conference of the Parties at its eighth meeting on the work required by decision V/20, paragraph 41, to allow further work to be undertaken to identify ways to support the review by Parties of national implementation;

Review of implementation of the Convention

23. *Recognizing the need* to establish a process, for evaluating, reporting and reviewing the Strategic Plan 2002-2010, *decides* to allocate adequate time in subsequent meetings of the Conference of the Parties and the Subsidiary Body on Scientific, Technical and Technological Advice, as well as ad hoc open-ended Working Groups, as appropriate, and *establishes* an Ad Hoc Open-ended Working Group on Review of Implementation of the Convention, subject to the availability of the necessary voluntary contributions, to consider progress in the implementation of the Convention and the Strategic Plan and achievements leading up to the 2010 target in line with the multi-year programme of work for the Conference of the Parties (decision VII/31), to review the impacts and effectiveness of existing processes under the Convention, such as meetings of the Conference of the Parties, the Subsidiary Body on Scientific, Technical and Technological Advice, national focal points and the Secretariat, as part of the overall process for improving the operations of the Convention and implementation of the Strategic Plan, and to consider ways and means of identifying and overcoming obstacles to the effective implementation of the Convention;

24. *Invites* Parties, other Governments and relevant organizations to submit views on these issues to the Executive Secretary, and requests the Executive Secretary to compile and make available these views for consideration by the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention;

25. *Requests* the Executive Secretary to participate in processes arising from the twenty-second session of the Governing Council of the United Nations Environment Programme relating to consideration of the development and establishment of an intergovernmental strategic plan for implementation support, linked to the outcome of the international environmental governance process, to ensure that it will contribute to the implementation of the Convention;

26. *Decides* to address explicitly the need to provide focused support and improve existing support mechanisms where obstacles to implementation of national biodiversity strategies and action plans have been identified, particularly when considering the results of the evaluation of progress in achievement the goals and mission of the Strategic Plan as well as the goals and sub-targets established in this decision

27. *Recognizing* in the development of better methods to evaluate progress in the implementation of the Convention that consideration could be given to making full use of the experiences of other multilateral environmental agreements, such as the United Nations Framework Convention on Climate Change, *requests* the Executive Secretary to initiate action as a follow-up to paragraph 41 of decision V/20,.

COP Decision VII/30 - Annex I

**PROVISIONAL INDICATORS FOR ASSESSING PROGRESS TOWARDS THE 2010
BIODIVERSITY TARGET**

<i>A: Focal area</i>	<i>B: Indicator for immediate testing</i>	<i>C: Possible indicators for development by SBSTTA or Working Groups</i>
Status and trends of the components of biological diversity	Trends in extent of selected biomes, ecosystems and habitats	
	Trends in abundance and distribution of selected species	
		Change in status of threatened species (Red List indicator under development)
		Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance
	Coverage of protected areas	
Sustainable use		Area of forest, agricultural and aquaculture ecosystems under sustainable management
		Proportion of products derived from sustainable sources
Threats to biodiversity	Nitrogen deposition	
		Numbers and cost of alien invasions
Ecosystem integrity and ecosystem goods and services	Marine trophic index	Application to freshwater and possibly other ecosystems
		Connectivity/fragmentation of ecosystems
		Incidence of human-induced ecosystem failure
		Health and well-being of people living in biodiversity-based-resource dependent communities
	Water quality in aquatic ecosystems	
		Biodiversity used in food and medicine
Status of traditional knowledge, innovations and Practices	Status and trends of linguistic diversity and numbers of speakers of indigenous languages	Further indicators to be identified by WG-8j
Status of access and benefit-sharing		Indicator to be identified by WG-ABS
Status of resource transfers	Official development assistance provided in support of the Convention (OECD-DAC-Statistics Committee)	
		Indicator for technology transfer

COP Decision VII/30 - Annex II

PROVISIONAL FRAMEWORK FOR GOALS AND TARGETS

Protect the components of biodiversity

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

Target 1.1: At least 10% of each of the world's ecological regions effectively conserved.

Target 1.2: Areas of particular importance to biodiversity protected

Goal 2. Promote the conservation of species diversity

Target 2.1: Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups

Target 2.2: Status of threatened species improved.

Goal 3. Promote the conservation of genetic diversity

Target 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.

Promote sustainable use

Goal 4. Promote sustainable use and consumption.

Target 4.1: Biodiversity-based products derived from sources that are sustainably managed, and Production areas managed consistent with the conservation of biodiversity.

Target 4.2 Unsustainable consumption, of biological resources, or that impacts upon biodiversity, reduced

Target 4.3: No species of wild flora or fauna endangered by international trade

Address threats to biodiversity

Goal 5. Pressures from habitat loss, land use change and degradation, and unsustainable water use, reduced.

Target 5.1: Rate of loss and degradation of natural habitats decreased

Goal 6. Control threats from invasive alien species

Target 6.1: Pathways for major potential alien invasive species controlled.

Target 6. 2: Management plans in place for major alien species that threaten ecosystems, habitats or species.

Goal 7. Address challenges to biodiversity from climate change, and pollution

Target 7.1: Maintain and enhance resilience of the components of biodiversity to adapt to climate change

Target 7.2: Reduce pollution and its impacts on biodiversity

Maintain goods and services from biodiversity to support human well-being

Goal 8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods

Target 8.1: Capacity of ecosystems to deliver goods and services maintained.

Target 8.2: biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained

Protect traditional knowledge, innovations and practices

Goal 9 Maintain socio-cultural diversity of indigenous and local communities

Target 9s.1 Protect traditional knowledge, innovations and practices

Target 9.2: Protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit sharing

Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources

Goal 10. Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources

Target 10.1: All transfers of genetic resources are in line with the Convention on Biological Diversity, the International Treaty on Plant Genetic Resources for Food and Agriculture and other applicable agreements.

Target 10.2: Benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources

Ensure provision of adequate resources

Goal 11: Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention ^{2/}

Target 11.1: New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20.

Target 11.2: Technology is transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with its Article 20, paragraph 4.

^{2/}

This is the existing goal 2 of the Strategic Plan of the Convention on Biological Diversity.

COP Decision VII/30 - Annex III

GENERAL APPROACH FOR THE INTEGRATION OF TARGETS INTO THE PROGRAMMES OF WORK OF THE CONVENTION

The following steps would be carried out: for each thematic programme of work, and for other programmes of work, as appropriate:

(a) *Vision, mission and outcome-oriented targets:*

(i) Identification of the overall vision (or long-term goal) to be ultimately achieved for the biome/issue covered by the programme of work, consistent with the Purpose of the Strategic Plan;

(ii) Identification of a 2010 outcome-oriented global target specific to the scope of the programme of work and consistent with the mission of the Strategic Plan;

(iii) Identification of a limited number of outcome-oriented targets related to the status and trends of biodiversity and its components, threats to biodiversity, and goods and services provided by biodiversity and ecosystems within the scope of the programme of work. Where appropriate, quantitative sub-targets should be established. The targets should be assigned to a number of goals according to the proposed headings in annex I above. Where possible the sub-targets of annex II above should be incorporated into the work programmes without modification to avoid unnecessary proliferation of targets. Where appropriate, identification of targets could draw upon the approach used to develop the Global Strategy for Plant Conservation. However, this process does not imply that all targets in annex I and the Global Strategy for Plant Conservation should be applied in every programme of work. Rather, targets may highlight broad strategic issues and/or particularly urgent priority issues, and each target should be associated with one or more indicators, which can draw upon existing data.

(b) *Relationship between the programme of work, its targets, and other processes:*

(i) Examination of how the programme of work contributes to particular Millennium Development Goals and associated targets;

(ii) A brief analysis of how the programme of work, and its targets, relates to the elements of the Plan of Implementation of the World Summit on Sustainable Development, categorizing such elements as follows:

- Elements to be integrated into the programme of work (these elements should be fully within the scope of the programme of work), specifying which of these represent outcome-oriented biodiversity related targets;
- Elements which complement the goals of the programme of work; and
- Elements representing goals to which the programme of work contributes;

(iii) A brief analysis of how the programme of work, and its targets, relates to the objectives, plans and targets of other multilateral environmental agreements and other relevant agreements, using the same categorization as in subparagraph (b) (ii) above;

(c) *Intermediate output- or process-oriented targets, milestones and deadlines for the activities of the programme of work:* Identification of a number of process- or output-oriented targets, milestones and deadlines, relating to the specific objectives, programme elements, and/or activities of the programme of work, according to the structure and needs of each programme of work.

ANNEX P: 2010 Biodiversity Indicators Partnership

SBSTTA Recommendation X/5. Indicators for assessing progress towards, and communicating, the 2010 target at the global level

The Subsidiary Body on Scientific, Technical and Technological Advice,

Recalling the guidance provided in decision VII/30 on the identification, development and use of indicators and ways of communicating progress towards the 2010 biodiversity target,

Emphasizing the value of indicators to evaluate achievements and progress in the implementation of the three objectives of the Convention and the achievement by 2010 of a significant reduction in the current rate of loss of biological diversity,

Aware of the need for strengthening national capacities, especially in developing countries, in particular the least developed and small island developing States among them, and countries with economies in transition, to enable them to contribute to the indicators used for assessing progress towards the 2010 target and, where so desired by Parties, to use the same indicators at the regional, subregional, national and local levels as tools for the implementation of the Convention and of national biodiversity strategies and action plans,

1. *Welcomes* the report of the Ad Hoc Technical Expert Group on Indicators for Assessing Progress Towards the 2010 Biodiversity Target (UNEP/CBD/SBSTTA/10/INF/7);

2. *Expresses its appreciation to:*

(a) The Governments of the Netherlands, the United Kingdom of Great Britain and Northern Ireland, and the United States of America for their financial support of the meeting;

(b) Other Governments and organizations for the participation of their representatives;

(c) The Co-Chairs and all the members of the Group for their contributions;

3. *Confirms* the suitability of those indicators considered by the Conference of the Parties as ready for immediate testing and use;

4. *Considers* the following indicators ready for immediate testing, while recognizing that data availability and/or indicator methodology may require improvement prior to 2010:

(a) Change in status of threatened species;

(b) Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance;

(c) Area of forest, agricultural and aquaculture ecosystems under sustainable management;

(d) *Trends in invasive alien species; */*

(e) Connectivity/fragmentation of ecosystems;

5. In respect to the indicators mentioned in paragraph 4 above, given the broad nature of these indicators, *recommends* that various sources of data could be used, including, but not limited to, the following:

(a) The application of the Red List Index approach, developed by the Red List Consortium (IUCN, BirdLife International, Conservation International and NatureServe), to selected

**/* SBSTTA recommends a rewording of the title of this indicator from that contained in decision VII/30 (Numbers and cost of alien invasions).

taxonomic and ecological/functional groups for which data exist, as an indicator of *Change in status of threatened species*;

(b) The use of suitable data on both *in situ* and *ex situ* conservation, including genetic diversity of tree species of socio-economic importance, as an indicator of *Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance*;

(c) The use of a range of parameters, including, where appropriate, but not limited to, the area under certified production systems, biological corridors, and areas under community management, as an indicator of *Area of forest, agricultural and aquaculture ecosystems under sustainable management*;

(d) Recognizing the limited global data on invasive alien species and the lack of a consistent approach towards calculating cost of alien invasions, to draw on the information available at the national level and data available through the Global Invasive Species Information Network (GISIN);

(e) The initial application of the indicator on *Connectivity/fragmentation of ecosystems* to forest and inland water ecosystems;

6. *Further recommends* the urgent development of the indicators identified by the Conference of the Parties and the Subsidiary Body on Scientific, Technical and Technological Advice at its tenth meeting as requiring further work;

7. *Reaffirms* the importance for the relevant open-ended working groups to develop global headline indicators on the *Status of traditional knowledge, innovations and practices* and on the *Status of access and benefit-sharing*;

8. *Invites* the organizations listed in annex I to this recommendation to contribute the data and analysis required for the delivery of the indicators, and the Parties and other Governments to facilitate this task, including by collecting and sharing information relevant to each indicator, *inter alia* by contributing such information to relevant databases;

9. *Invites* Parties, other Governments, and national, regional and international organizations that have data sets relevant to assessing progress towards the 2010 target to contribute pro-actively through the provision of relevant information to the realization of the second edition of the Global Biodiversity Outlook;

10. *Notes* that the indicators can be used to assess progress towards the goals and sub-targets adopted in decision VII/30 as set out in annex II to this recommendation;

11. *Calls for* urgent increased capacity-building efforts and financial support to developing countries, in particular the least developed and small island developing States among them, and countries with economies in transition, to the organizations listed in annex I to the present recommendation to facilitate their contributions to the use, testing and further development of the indicators relevant to the 2010 target.

12. *Requests* the Executive Secretary to:

(a) Develop an overall delivery plan for the indicators, data and analyses, taking into account the timetable for developing the Global Biodiversity Outlook, clarifying the arrangements and responsibilities for development and delivery of the indicators, setting out the roles of the Secretariat, the World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC), and other relevant international organizations, taking into account information provided through national reports, voluntary reports, indicators in use by Parties, other Governments and relevant organizations;

(b) Prepare a full characterization of the methods, technical limitations and the availability of data sources for the calculation of the indicators, and the validity of making global estimates;

(c) Report on progress made in the development of the indicators listed in annex I to this recommendation at the eleventh meeting of the Subsidiary Body on Scientific, Technical and Technological Advice, and, if necessary, and subject to the availability of resources, convene another meeting of an ad hoc technical expert group to facilitate this task and provide additional scientific advice to the Subsidiary Body;

(d) Develop and submit, for consideration by the Conference of the Parties at its eighth meeting, an information strategy to ensure that the indicators, data and analyses are periodically available over the coming years to support policy intervention and communication with respect to the 2010 target;

(e) Explore options for reporting on the impact of climate change on biological diversity, using the framework of indicators relevant to the 2010 target and report thereon to the Subsidiary Body on Scientific, Technical and Technological Advice at its eleventh meeting;

(f) Explore options for the identification of process indicators for the four global goals for the Strategic Plan of the Convention, and report thereon to the Open-ended Working Group on the Review of Implementation of the Convention on Biological Diversity and to the Subsidiary Body on Scientific, Technical and Technological Advice at its eleventh meeting.

13. *Invites* the Open-ended Working Group on the Review of Implementation of the Convention on Biological Diversity to consider the linkages between the process for assessing progress towards the 2010 target, including the use of indicators, and national reporting, with a view to streamlining future national reporting.

SBSTTA Recommendation X/5 - Annex I

SUMMARY OF INDICATOR STATUS AND WORK THAT NEEDS TO BE CARRIED OUT

Headline Indicator †/	Status‡ /	Potential Measures	Data available now?	Methodology available now?	Possible sources of data	Organizations to coordinate delivery of indicator
Trends in extent of selected biomes, ecosystems, and habitats §/	B	Forests, and forest types (e.g. mangroves)	Yes	Yes	FRA (FAO); EU-JRC, NASA Modland; Corine land cover (see appendix 2 to the AHTEG report)	UNEP-WCMC (with FAO, NASA-NGO Conservation Working Group and other relevant partners)
		Peatlands	Yes	Yes	Various national datasets and remote-sensing (see appendix 2 to the AHTEG report)	
		Coral reefs	Yes	Yes	GCRMN/Reefcheck	
		Croplands	Yes	Yes	National regional datasets and remote-sensing (see appendix 2 to the AHTEG report), MA	
		(Natural) grasslands	Yes	Yes	Remote-sensing (see appendix 2 to the AHTEG report), MA	
		Polar/ice	Yes	Yes	Remote-sensing(see appendix 2 to the AHTEG report), MA	
		Inland wetlands	No	No	Remote-sensing (see appendix 2 to the AHTEG report), MA	
		Tidal flats/estuaries	No	No	Remote-sensing (see appendix 2 to the AHTEG report), MA	
		Seagrasses	No	No	Seagrass Atlas, MA	
		Dry and sub-humid lands	No	No	LADA, Remote-sensing (see appendix 2), MA	
		Urban	No	No	Remote-sensing (see appendix 2), MA	

†/ **Bold = Indicator considered ready for immediate testing and use (column B in decision VII/30); *Bold italic = Indicator considered ready for immediate testing and use and therefore recommended for upgrading from column C to column B***; Regular = Indicator confirmed as requiring more work (to remain in column C)

‡/ B = Indicator is considered ready for immediate testing and use; C = Indicator requires further work

§/ Based on current and short-term future availability of trend information, the following major ecosystem types are recommended for immediate indicator implementation: (i) forests (including different forest types, notably mangroves), (ii) peatlands (probably for certain geographic areas only by 2010), (iii) coral reefs, (iv) croplands, (v) grasslands/savannahs, (vi) polar/ice. Efforts should also be made to apply the indicator to the following ecosystem types, for which suitable global datasets need to be gathered, to ensure coverage of all thematic areas recognized by the Convention: (i) inland wetlands, (ii) tidal flats/estuaries, (iii) seagrass beds, (iv) dry and sub-humid lands, and (v) urban.

Headline Indicator [†]/_‡	Status [‡]/_‡	Potential Measures	Data available now?	Methodology available now?	Possible sources of data	Organizations to coordinate delivery of indicator
Trends in abundance and distribution of selected species	B	Living Planet Index	Yes	Yes	WWF	UNEP-WCMC (WWF, Birdlife International and others, encouraged to review and refine methodology for calculation of index; These groups and IUCN encouraged to compare and share data with that used for the Red List Index.) Indices could be developed from data disaggregated (e.g.: migratory species, wetland species))
		Various species assemblage-trends indices	Yes	Yes	Birdlife International and partners, others	
Coverage of protected areas	B	Coverage according to World List of Protected areas.	Yes	Yes	WCMC/WCPA	UNEP-WCMC/IUCN-WCPA
		Ecological networks and corridors	Yes	Could be developed	MBC, PEEN etc.	
		Overlays with areas of key importance to biodiversity	Yes	Yes	WCMC, WCPA, BirdLife International	
		Inclusion on community and private protected areas	No	No		
		Management effectiveness	No	No		
Change in status of threatened species	B	Red List Index (IUCN-SSC)	Yes	Yes	Red List Consortium	Red List Consortium (Methodological refinements requested)

Headline Indicator [†] / _‡	Status [‡] / _‡	Potential Measures	Data available now?	Methodology available now?	Possible sources of data	Organizations to coordinate delivery of indicator
<i>Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance</i>	B	<i>Ex situ</i> crop collections	Yes	Could be developed	FAO (SOW, WIEWS); IPGRI (CGIAR-SINGER); Fishbase	FAO with IPGRI on behalf of CGIAR
		Livestock genetic resources	Yes	Could be developed	FAO (DADIS)	
		Fish genetic resources	Yes	Could be developed	FAO; Fishbase	
		Tree genetic resources	Some	Could be developed	REFORGEN database of FAO; OECD	
		Varieties on-farm	Some	Could be developed	FAO, IPGRI, OECD	
<i>Area of forest, agriculture and aquaculture ecosystems under sustainable management</i>	B	Existing data sets for measuring sustainability of agriculture, aquaculture and forestry, including FAO reports, Certification, and Ecological corridors and community-based management areas, and wildlife sustainable management schemes	Yes	Yes	FAO reports; Certification bodies (e.g., FSC, MSC, ISO, PEFC, CSA, SFI, LEI); MBC; Parties	UNEP-WCMC with FAO
Proportion of products derived from sustainable sources	C		No	No	Equilibrium/WWF/World Bank/TNC intend to propose some indicators	SCBD
Ecological footprint and related concepts	C ^{**} / _‡	Ecological footprint	Yes	Yes,	FAO, IAE, IPCC, UNEP-WCMC	Ecological Footprint network

^{**}/_‡ New indicator recommended by SBSTTA at its tenth meeting.

Headline Indicator †/	Status‡	Potential Measures	Data available now?	Methodology available now?	Possible sources of data	Organizations to coordinate delivery of indicator
		Other measures of the area of land and sea needed to support production of goods and deliver services	Some	Some		SCBD and UNEP-WCMC
Nitrogen deposition	B		Yes	Yes	Available (INI) models for 2010 could be developed with additional effort	INI with UNEP-WCMC
<i>Trends in invasive alien species ††/</i>	B	Numbers and cost of alien invasive species	Yes – some areas	Yes	Various, particularly national data sets	GISP
		Other measures to be identified and developed	Some	No		
Marine Trophic Index	B		Yes	Yes	Available (UBC)	UBC
Water quality of freshwater ecosystems	B	Indicator of biological oxygen demand (BOD), nitrates and sediments/ turbidity	Yes	Yes	UNEP-GEMS/Water Programme	UNEP-GEMS/Water Programme
Trophic integrity of other ecosystems	C		No	No		SCBD to assemble available information
<i>Connectivity/ fragmentation of ecosystems</i>	B	Patch size distribution of terrestrial habitats (forests and possibly other habitat types)	Yes	Yes	NASA Consortium; CI; WWF-US based on remote sensing data	UNEP-WCMC (with FAO, CI, NASA-NGO Conservation Working Group and USDA-FS)
		Fragmentation of river systems	Yes	Yes	WRI	
Incidence of human-induced ecosystem failure	C	(see notes)	Some	No	SCBD to assemble available information for later consideration	SCBD/UNEP-WCMC
Health and well-being of communities who	C		No	No	To be identified	SCBD

†† / SBSTTA recommends a rewording of the title of this indicator from that contained in decision VII/30 (Numbers and cost of alien invasions).

Headline Indicator [†] / _‡	Status [‡] / _†	Potential Measures	Data available now?	Methodology available now?	Possible sources of data	Organizations to coordinate delivery of indicator
depend directly on local ecosystem goods and services ^{††} / _‡						
Biodiversity for food and medicine	C		Some	No	FAO, IPGRI, WHO and others	SCBD
Status and trends of linguistic diversity and numbers of speakers of indigenous languages	B		Yes	Under review	UNESCO World Atlas of Endangered Languages; Ethnologue: Languages of the World - Fifteenth Edition	UNESCO with UNEP-WCMC (Smithsonian Institution requested to explore possible application of Red List methodology)
Other indicator of the status of indigenous and traditional knowledge	C		No	No	To be considered by the Working Group on Article 8(j) (possibly including land-tenure of indigenous and local communities)	SCBD
Indicator of access and benefit-sharing	C		No	No	To be considered by the Working Group on Access and Benefit-sharing	SCBD
Official development assistance provided in support of the Convention	B	Official development assistance as marked	Some	Yes	Donor countries encouraged to mark data	OECD (OECD is working on this for a trial period)
Indicator of technology transfer	C		No	No	Countries invited to submit information. The Expert Group on Technology Transfer may wish to consider this matter.	SCBD

^{††}/_‡ The indicator from decision VII/30 (Health and well-being of people living in biodiversity-based-resource dependent communities) was reworded to clarify the focus on local dependency.

*SBSTTA Recommendation X/5 - Annex II***INDICATORS RELEVANT TO THE 2010 GOALS AND SUB-TARGETS**

<i>Goals and targets</i>	<i>Relevant headline indicators</i>
Protect the components of biodiversity	
<i>Goal 1. Promote the conservation of the biological diversity of ecosystems, habitats and biomes</i>	
Target 1.1: At least 10% of each of the world's ecological regions effectively conserved.	<p>Most relevant indicator:</p> <ul style="list-style-type: none"> • Coverage of protected areas <p>Other relevant indicators:</p> <ul style="list-style-type: none"> • Trends in extent of selected biomes, ecosystems and habitats • Trends in abundance and distribution of selected species
Target 1.2: Areas of particular importance to biodiversity protected	<p>Relevant indicators:</p> <ul style="list-style-type: none"> • Trends in extent of selected biomes, ecosystems and habitats • Trends in abundance and distribution of selected species • Coverage of protected areas
<i>Goal 2. Promote the conservation of species diversity</i>	
Target 2.1: Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups.	<p>Most relevant indicator:</p> <ul style="list-style-type: none"> • Trends in abundance and distribution of selected species <p>Other relevant indicator:</p> <ul style="list-style-type: none"> • Change in status of threatened species
Target 2.2: Status of threatened species improved.	<p>Most relevant indicator:</p> <ul style="list-style-type: none"> • Change in status of threatened species <p>Other relevant indicators:</p> <ul style="list-style-type: none"> • Trends in abundance and distribution of selected species • Coverage of protected areas
<i>Goal 3. Promote the conservation of genetic diversity</i>	
Target 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.	<p>Most relevant indicator:</p> <ul style="list-style-type: none"> • Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance <p>Other relevant indicators:</p> <ul style="list-style-type: none"> • <i>Biodiversity used in food and medicine (indicator under development)</i> • Trends in abundance and distribution of selected species

<i>Goals and targets</i>	<i>Relevant headline indicators</i>
Promote sustainable use	
<i>Goal 4. Promote sustainable use and consumption.</i>	
Target 4.1: Biodiversity-based products derived from sources that are sustainably managed, and Production areas managed consistent with the conservation of biodiversity.	<p>Most relevant indicators:</p> <ul style="list-style-type: none"> • Area of forest, agricultural and aquaculture ecosystems under sustainable management • <i>Proportion of products derived from sustainable sources (indicator under development)</i> <p>Other relevant indicators:</p> <ul style="list-style-type: none"> • Trends in abundance and distribution of selected species • Marine trophic index • Nitrogen deposition • Water quality in aquatic ecosystems
Target 4.2 Unsustainable consumption, of biological resources, or that impacts upon biodiversity, reduced.	<p>Relevant indicator:</p> <ul style="list-style-type: none"> • <i>Ecological footprint and related concepts (indicator under development)</i>
Target 4.3: No species of wild flora or fauna endangered by international trade.	<p>Most relevant indicator:</p> <ul style="list-style-type: none"> • Change in status of threatened species
Address threats to biodiversity	
<i>Goal 5. Pressures from habitat loss, land use change and degradation, and unsustainable water use, reduced.</i>	
Target 5.1: Rate of loss and degradation of natural habitats decreased.	<p>Most relevant indicator:</p> <ul style="list-style-type: none"> • Trends in extent of selected biomes, ecosystems and habitats <p>Other relevant indicators:</p> <ul style="list-style-type: none"> • Trends in abundance and distribution of selected species • Marine trophic index
<i>Goal 6. Control threats from invasive alien species</i>	
Target 6.1: Pathways for major potential alien invasive species controlled.	<p>Relevant indicator:</p> <ul style="list-style-type: none"> • Trends in invasive alien species
Target 6. 2: Management plans in place for major alien species that threaten ecosystems, habitats or species.	<p>Relevant indicator:</p> <ul style="list-style-type: none"> • Trends in invasive alien species
<i>Goal 7. Address challenges to biodiversity from climate change, and pollution</i>	
Target 7.1: Maintain and enhance resilience of the components of biodiversity to adapt to climate change.	<p>Relevant indicator:</p> <ul style="list-style-type: none"> • Connectivity/fragmentation of ecosystems
Target 7.2: Reduce pollution and its impacts on biodiversity.	<p>Nitrogen deposition</p> <p>Water quality in aquatic ecosystems</p>

<i>Goals and targets</i>	<i>Relevant headline indicators</i>
Maintain goods and services from biodiversity to support human well-being	
<i>Goal 8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods</i>	
Target 8.1: Capacity of ecosystems to deliver goods and services maintained.	Relevant indicators: <ul style="list-style-type: none"> • <i>Biodiversity used in food and medicine (indicator under development)</i> • Water quality in aquatic ecosystems • Marine trophic index
Target 8.2: biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained.	Most relevant indicator: <ul style="list-style-type: none"> • Health and well-being of communities who depend directly on local ecosystem goods and services Other relevant indicator: <ul style="list-style-type: none"> • <i>Biodiversity used in food and medicine</i>
Protect traditional knowledge, innovations and practices	
<i>Goal 9 Maintain socio-cultural diversity of indigenous and local communities</i>	
Target 9.1 Protect traditional knowledge, innovations and practices.	Most relevant indicator: <ul style="list-style-type: none"> • Status and trends of linguistic diversity and numbers of speakers of indigenous languages Other relevant indicator: <ul style="list-style-type: none"> • <i>Additional indicators to be developed</i>
Target 9.2: Protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit-sharing.	<i>Indicator to be developed</i>
Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources	
<i>Goal 10. Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources</i>	
Target 10.1: All transfers of genetic resources are in line with the Convention on Biological Diversity, the International Treaty on Plant Genetic Resources for Food and Agriculture and other applicable agreements.	<i>Indicator to be developed</i>
Target 10.2: Benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources.	<i>Indicator to be developed</i>

<i>Goals and targets</i>	<i>Relevant headline indicators</i>
Ensure provision of adequate resources	
<i>Goal 11: Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention</i>	
Target 11.1: New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20.	Most relevant indicator: <ul style="list-style-type: none"> • Official development assistance provided in support of the Convention
Target 11.2: Technology is transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with its Article 20, paragraph.	<i>Indicator to be developed</i>

*SBSTTA Recommendation X/5 - Annex III***LIST OF ACRONYMS AND ABBREVIATIONS**

AHTEG	Ad Hoc Technical Expert Group
BOD	Biochemical oxygen demand
CBD	Convention on Biological Diversity
CGIAR	Consultative Group on International Agricultural Research
CI	Conservation International
COP	Conference of the Parties
CSA	Canadian Standards Association
DADIS	Domestic Animal Diversity Information System of FAO
EGTT	Expert Group on Technology Transfer
EU-JRC	Joint Research Centre of the European Union
FAO	Food and Agriculture Organization of the United Nations
FRA	Forest Resources Assessment of FAO
FSC	Forest Stewardship Council
GBO	Global Biodiversity Outlook
GCRMN	Global Coral Reef Monitoring Network
GEMS	Global Environment Monitoring System of UNEP
GISIN	Global Invasive Species Information Network
GISP	Global Invasive Species Programme
ICSU	International Council
IGBP	International Geosphere-Biosphere Programme
INI	International Nitrogen Initiative: a Joint Programme of SCOPE and IGBP
IPGRI	International Plant Genetic Resources Institute
ISO	International Organization for Standardization
IUCN	The World Conservation Union
LADA	Land Degradation Assessment in Drylands, a project of FAO
LEI	Lembaga Ekolabeling Institute
LPI	Living Planet Index
MA	Millennium Ecosystem Assessment
MBC	Meso-American Biological Corridor
MSC	Marine Stewardship Council
NASA	National Aeronautics and Space Administration
NGO	non-governmental organization
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
PEEN	Pan-European Ecological Network
PEFC	Programme for the endorsement of forest certification schemes
PGRFA	Plant genetic resources for food and agriculture
REFORGEN	The FAO Global Information System on Forest Genetic Resources
RLI	Red List Index
SBSTTA	Subsidiary Body on Scientific Technical and Technological Advice
SCBD	Secretariat of the Convention on Biological Diversity
SCOPE	Scientific Committee on Problems of the Environment of ICSU
SFI	Sustainable Forestry Initiative
SINGER	System-wide Information Network for Genetic Resources (for CGIAR)
SOW1	First report on the State of the World's Plant Genetic Resources for Food and Agriculture. FAO, Rome 1997.
SSC	Species Survival Commission of IUCN
TNC	The Nature Conservancy
UBC	University of British Columbia
UNEP	United Nations Environment Programme

UNEP-WCMC	World Conservation Monitoring Centre of UNEP
UNESCO	United Nations Educational, Scientific and Cultural Organization
USDA	United States Department of Agriculture
WCPA	World Commission on Protected Areas of IUCN
WHO	World Health Organization
WIEWS	World Information and Early Warning System on PGRFA
WRI	World Resources Institute
WWF	World Wide Fund for Nature
WWF-US	World Wildlife Fund United States

ANNEX Q: 2010 Biodiversity Indicators Partnership**CBD COP Information document 33: Monitoring Implementation of the Convention and Achievement of the 2010 Target: Delivery plan for indicators, data and analysis****CBD****CONVENTION ON
BIOLOGICAL
DIVERSITY**Distr.
GENERALUNEP/CBD/COP/8
/INF/33
21 February 2006

ENGLISH ONLY

CONFERENCE OF THE PARTIES TO THE
CONVENTION ON BIOLOGICAL
DIVERSITY

Eighth meeting

Curitiba, Brazil, 20-31 March 2006

Items 20 and 23 of the provisional agenda*

**MONITORING IMPLEMENTATION OF THE CONVENTION AND ACHIEVEMENT OF
THE 2010 TARGET: DELIVERY PLAN FOR INDICATORS, DATA AND ANALYSES***Note by the Executive Secretary***I. INTRODUCTION**

1. In its tenth meeting, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) requested the Executive Secretary to develop an overall delivery plan for the indicators, data and analyses, taking into account the timetable for developing the Global Biodiversity Outlook, clarifying the arrangements and responsibilities for development and delivery of the indicators, setting out the roles of the Secretariat, the World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC), and other relevant international organizations, taking into account information provided through national reports, voluntary reports, indicators in use by Parties, other Governments and relevant organizations (Recommendation X/5, paragraph 12 (a)).

2. The present note has been prepared by the Executive Secretary to respond to this request. It builds on the summary of indicator status contained in annex I of SBSTTA Recommendation X/5 and subsequent discussions in preparation of a project document for submission to the Global Environment Facility on a 2010 Biodiversity Indicators Partnership, coordinated by the World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC).

* UNEP/CBD/COP/8/1.

II. DEVELOPMENT OF GLOBAL HEADLINE INDICATORS

3. In decision VII/30, the Conference of the Parties (COP) agreed on a set of indicators to be tested, identified or developed. The Conference of the Parties specified that as far as is feasible, the indicators should be identified or developed on the basis of existing data sets. Accordingly, the Conference of the Parties invited related conventions, assessment processes and relevant organizations to contribute reports and information that assist the monitoring of progress towards the 2010 targets.

4. To facilitate delivery of the indicators, the COP further invited the World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC) to support the Secretariat in facilitating the compilation of information necessary for reporting on achievement on the 2010 target.

5. While some indicators are implemented as part of the mandate of specific organizations and accordingly have ongoing data collection, analysis and communication delivery, other indicators are yet to be developed.

6. To enable relevant lead organizations to deliver these indicators, UNEP-WCMC, in collaboration with the Secretariat and other relevant organizations, is currently preparing a project document on a 2010 Biodiversity Indicators Partnership for submission to the Global Environment Facility through the Division of Global Environment Facility Coordination of UNEP (UNEP/DGEF).

7. The 2010 Biodiversity Indicators Partnership seeks in particular to:

(a) Improve the quality (data coverage, resolution, confidence) of the information that is used to inform the indicators in the 2010 framework;

(b) Build a partnership among collaborating organizations (i.e. organizations identified by SBSTTA recommendation X/5 to lead delivery of the indicators);

(c) Develop a data management system that ensures that the information is available and accessible for reporting in 2010 and beyond;

(d) Develop a strategy to communicate this information for various user groups and audiences;

(e) Contribute to capacity development on the application of the 2010 framework at national and regional levels and to indicator-based biodiversity monitoring.

8. The 2010 Biodiversity Indicators Partnership project, a 3-million dollar project over three years likely to start in the second half of 2006, is expected to leverage additional funding and important in-kind contributions and thereby enable significant improvements to individual indicators and their interpretation as a suite of complementary pieces of information.

9. The table in Annex I to this note provides the current status of potential measures to report on the headline indicators, including whether or not they are used in the second Global Biodiversity Outlook. Where possible, it also identifies the main sources of information and the organization most suitable to ensure the delivery of the indicator, while indicating the development needs for each potential measure.

10. On the basis of the draft project document on the 2010 Biodiversity Indicators Partnership, the table indicates the level of financial support expected to be allocated to each potential measure and the likelihood of the potential measure to provide meaningful trends information by 2010.

Annex I

SUMMARY STATUS AND PLAN OF INDICATOR DELIVERY

Headline Indicator	Potential Measures	Used in GBO-2	Main data source N = National reports O = Data collected/compiled by organization(s)	Improvements required on C = classification, D = data, M = methodology	Financial support anticipated for indicator delivery <u>1</u>	Likelihood of indicator to be available by 2010 <u>2</u>
Trends in extent of selected biomes, ecosystems, and habitats	Forests, and forest types (e.g. mangroves)	Yes	N/O (FAO on the basis of national submissions)	C	+	High
	Peatlands	No	O	C, D	+	High
	Coral reefs	Yes	O (GCRMN/Reefcheck)	D, M	+	High
	Croplands	No	O (FAO)	D, M	+	High
	(Natural) grasslands	No	O	D	+	Low
	Polar/ice	No	O		+	High
	Inland wetlands	No	O (Information from Ramsar)	C, D, M	+	High
	Tidal flats/estuaries	No	O (Information from Ramsar)	D, M	+	Low
	Seagrasses	No	O	D	+	Low
	Dry and sub-humid lands	No	O	C, D	+	Low
Urban		O	M		High	
Trends in abundance and distribution of selected species	Living Planet Index	Yes	O (WWF)	D, M	+	High
	Common Birds Index	Yes	O (Birdlife International and partners)	D	++	High

1 This relates to funding anticipated through donor support beyond the budgets expected to be allocated in accordance with the programmes and obligations of the contributing organizations. +++ = significant; ++ = moderate; + = limited

2 This assumes that the financial support anticipated for the delivery of the indicator is forthcoming in time

Headline Indicator	Potential Measures	Used in GBO-2	Main data source N = National reports O = Data collected/compiled by organization(s)	Improvements required on C = classification, D = data, M = methodology	Financial support anticipated for indicator delivery <u>1</u>	Likelihood of indicator to be available by 2010 <u>2</u>
	Other species assemblage-trends indices: selected forest tree species	No	N/O (FAO on the basis of national submissions)	D, M	++	High
Coverage of protected areas	Coverage according to World List of Protected areas.	Yes	N/O (compiled through WCMC/WCPA, partly on the basis of national submissions)	D	+	High
	Ecological networks and corridors	No	O.	C, D, M		Low
	Overlays with areas of key importance to biodiversity	No	O (WCMC, WCPA, BirdLife International)	C	++	High
	Inclusion on community and private protected areas	No	O	C, D, M		Low
	Management effectiveness	No	O (WCPA)	D, M	++	High
Change in status of threatened species	Red List Index (IUCN-SSC)	Yes	O (Red List Consortium)	D	++	High

Headline Indicator	Potential Measures	Used in GBO-2	Main data source N = National reports O = Data collected/compiled by organization(s)	Improvements required on C = classification, D = data, M = methodology	Financial support anticipated for indicator delivery <u>1</u>	Likelihood of indicator to be available by 2010 <u>2</u>
Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance	<i>Ex situ</i> crop collections	No	O (FAO)	D, M	++	High
	Livestock genetic resources	No	O (FAO)	C,D, M	++	High
	Fish genetic resources	No	O (FAO)	D, M	++	High
	Tree genetic resources	No	O (FAO)	D, M	++	High
	Varieties on-farm	No	O (FAO, IPGRI, OECD)	D, M		High
Area of forest, agricultural and aquaculture ecosystems under sustainable management	Existing data sets for measuring sustainability of agriculture, aquaculture and forestry	No	O (FAO)	C, D, M	+++	High
Proportion of products derived from sustainable sources		No	O	C, D, M	+++	?
Ecological footprint and related concepts	Ecological footprint	Yes	O (Global Footprint Network, WWF)	M,D	+	High

Headline Indicator	Potential Measures	Used in GBO-2	Main data source N = National reports O = Data collected/compiled by organization(s)	Improvements required on C = classification, D = data, M = methodology	Financial support anticipated for indicator delivery <u>1</u>	Likelihood of indicator to be available by 2010 <u>2</u>
	Other measures of the area of land and sea needed to support production of goods and deliver services	No	O			Low
Nitrogen deposition		Yes	O (INI)	D	+	High
Trends in invasive alien species	Numbers and cost of alien invasive species	Yes / <u>3</u>	O (GISP, IUCN-ISSG)	D,C,M	+++	High
	Other measures to be identified and developed	No	O			?
Marine Trophic Index		Yes	O (UBC)		+	High
Water quality of freshwater ecosystems	Indicator of biological oxygen demand (BOD), nitrates and sediments/ turbidity	Yes	N/O (UNEP-GEMS/Water Programme, partly on the basis of national submissions)	M	+	High
Trophic integrity of other ecosystems		No	O			Low
Connectivity / fragmentation of ecosystems	Patch size distribution of terrestrial habitats (forests and possibly other habitat types)	Yes / <u>4</u>	O	D,M	++	High
	Fragmentation of river systems	Yes / <u>5</u>	O	D	+	High
Incidence of human-induced ecosystem		No	O	C, D, M		Low

3/ Only trends data from one sub-region and no distinction between alien species and alien invasive species.

4/ No trends information available.

Headline Indicator	Potential Measures	Used in GBO-2	Main data source N = National reports O = Data collected/compiled by organization(s)	Improvements required on C = classification, D = data, M = methodology	Financial support anticipated for indicator delivery <u>1</u>	Likelihood of indicator to be available by 2010 <u>2</u>
failure						
Health and well-being of communities who depend directly on local ecosystem goods and services		No	O	C, D, M	++	Low
Biodiversity for food and medicine		No	O (FAO)	D, M	+++	High
Status and trends of linguistic diversity and numbers of speakers of indigenous languages		No	N/O (UNESCO, partly on the basis of national submissions)	D, M	++	High
Other indicator of the status of indigenous and traditional knowledge		No	?			/ <u>5</u>
Indicator of access and benefit-sharing		No	?			/ <u>6</u>
Official development assistance provided in support of the Convention	Official development assistance as marked	Yes	N/O (OECD on the basis of national reports)	D, M		High
Indicator of technology transfer		No	?			/ <u>6</u>

5/ Depends on the identification of relevant indicators.

ANNEX R: Action taken in response to comments received on the draft proposal

GEF Secretariat comments - 19th April 2006

Comment	Action taken
<p>1. COUNTRY OWNERSHIP Country eligibility: Global Country drivenness: Adequate Endorsement: No endorsements required for global projects.</p>	No action required
<p>2. PROGRAM AND POLICY CONFORMITY Program Designation and Conformity Fully aligned with GEF Operational Strategy, GEF Operational Programs and Strategic Priority Four of the BD Focal Area.</p> <p>Please clarify the project's contribution to the targets of the third replenishment. Refer to previous upstream consultation provided to UNEP on this aspect of the proposal.</p>	<p>No action required.</p> <p>The project's contribution to the targets of the third replenishment have been clarified.</p>
<p>Project Design Please clarify the incremental reasoning of the project paying particular attention to how the project will remove the barriers that currently prevent the delivery of the suite of 2010 indicators in a synthetic and user-friendly fashion to a variety of stakeholders.</p> <p>Please elaborate more fully on the global environmental benefits that will accrue through the project's implementation.</p> <p>Please note that the GEF does not provide support for international institutions or networks of organizations to carry out their mandates.</p>	<p>The incremental reasoning of the project has been clarified and the cost-effectiveness and efficacy of the project has been emphasised and clarified. Mechanisms to overcome barriers to the delivery of the 2010 indicators have been elaborated in the project document.</p> <p>The proposal has been modified to more fully and more clearly demonstrate such benefits and the ways in which the project will enable them to be achieved.</p> <p>This has been noted and the project modified accordingly to show the contribution being made by UNEP to the project in support of its mandate.</p>
<p>The document is repetitive. Please clean up the document with this in mind. It requires a substantial copy edit. Consistent use of key terms (goals, objectives, outcomes, and outputs) is required.</p>	<p>The document has been edited accordingly, and the issue of consistency regarding the use of key terms has been addressed.</p>
<p>The document presents a number of formulations of the project goal and immediate objective resulting in a confused presentation of the project design and the implicit assumptions inherent to the project's development goals and immediate objective. Please be consistent in how the project development goal, immediate objective, and outcomes are presented and edit the document accordingly.</p>	<p>Alongside considerable revisions of the project logframe, the document has been modified to ensure consistent and clear formulation and presentation of the project goal, immediate objective, and outcomes. The presentation of the project design has been tidied up and clarified.</p>
<p>The project logframe requires reformulation and with it the project components and outcomes. Restructure the proposal such that each component</p>	<p>The project logframe has been reformulated and restructured accordingly. The components and outcomes have also been reformulated, restructured,</p>

is clearly articulated, has a clear outcome, and a set of outputs to achieve that outcome.	and reordered.
The project needs to more clearly explain the underlying assumption expressed in the logframe's project intervention logic that increased knowledge about progress in achieving the 2010 target will make a significant contribution to actions and policy implementation that in turn will lead to improved conservation outcomes and progress towards the 2010 targets. Along these lines please reformulate the project development goal and immediate objective, and make the necessary changes in the text, such that this implicit underlying assumption is made more explicit and so that the development goal and immediate objective are more narrowly targeted.	<p>The proposal has been modified to more clearly and explicitly explain the contribution that the project, and associated increased information about progress in achieving the 2010 target, will make to actions and policy implementation, and in turn to improved conservation outcomes and progress towards the 2010 targets.</p> <p>The project development goal and immediate objective have been reformulated accordingly, and associated changes in the text have been made.</p>
Output one as described is almost entirely project management costs thus is not properly presented as a project component, per se. Project management costs should be extracted out of that and the component restructured. This is particularly evident when looking at the project specification costs for this component. In Annex A, please also clarify costs and activities between Components One and Five which appear redundant and restructure those components accordingly.	The components have been restructured, and the new Outcomes and Outputs address the issues relating to similarities between components 1 and 5 and the extraction and restructuring of the project management costs.
Please eliminate unnecessary text. For example para 127 attempts to describe the concept of incremental costs. This is not necessary in a GEF project proposal.	This was noted and unnecessary text, including that regarding incremental costs, removed.
<p>Sustainability (including financial sustainability)</p> <p>Please elaborate on the revenue streams that will be generated through the proposed financial sustainability strategy, i.e. the "process" and "product" approaches.</p> <p>Please address issue identified above which was raised when the project entered the pipeline.</p>	Revenue streams have been elaborated in the text, relating to financial sustainability for indicator development, and for ongoing collaboration between organisations developing 2010 biodiversity indicators.
<p>Replicability</p> <p>As part of the replication strategy, please describe the approach to ensure the applicability of indicator sets from national to regional to global levels.</p> <p>April 19, 2006 Adequate.</p>	No action required.
<p>Stakeholder Involvement</p> <p>Please describe the process to ensure participation and engagement during project implementation from a great variety of organizations that are widely dispersed.</p> <p>April 19, 2006 Adequate.</p>	No action required.

<p>Monitoring and Evaluation</p> <p>Please explain how project design builds on experience to date with similar kinds of projects, both GEF (e.g. BINU, IABIN, etc.) and non-GEF funded, and incorporates lessons learned in their project design.</p> <p>April 19, 2006 Please respond to the above. It is not clear how the project has incorporated lessons learned from these projects in the design of the project. Of particular concern is the failure to draw on lessons learned from the MEA as it relates to replication and dissemination. This was a shortcoming of the MEA, traced to a variety of reasons. This seems particularly salient vis-à-vis the project's intention to ensure the applicability of indicator sets from national to regional to global levels, and in relation to output three and five of the project.</p> <p>Please review all indicators in logframe once logframe is revised and ensure that they meet the new EO policy on SMART indicators.</p>	<p>The proposal has been modified to more clearly explain how the project design builds on experience gained from similar projects, including the Millennium Ecosystem Assessment, BINU, IABIN, and others. A particular focus of such lessons learned is on the legitimacy, credibility and relevance of the process and products.</p> <p>The indicators in the logframe have been revised and are now SMART.</p>
<p>3. FINANCING</p> <p>Financing Plan</p> <p>Please identify specific sources of cofinancing.</p> <p>April 19, 2006 Please extract out of component one what is paid for by the GEF fee and what will be paid for by the project budget. Please then recalculate all budget and incremental costs accordingly.</p> <p>Implementing Agency Fees</p> <p>Please pay careful attention to the calculation of the fee for the Implementing Agency and the administrative costs of UNEP-WCMC executing the project.</p>	<p>The budget and incremental costs have been recalculated as appropriate.</p> <p>Costs for project management have been clearly represented in the overall budget.</p>
<p>4. INSTITUTIONAL COORDINATION AND SUPPORT</p> <p>Core communication and linkages</p> <p>Please clarify how the proposed project is linked to UNEP's programs.</p> <p>April 19, 2006 Please provide clarification on what UNEP will contribute to the project in terms of cofinancing.</p>	<p>The link to UNEP's programmes has been clarified in the project document.</p> <p>The UNEP co-financing contribution has now been clarified and included.</p>
<p>Consultation, coordination, collaboration between IAs, and IAs and EAs, if appropriate</p> <p>Given the very focused nature of this project, opportunities for "linkage" or collaboration with other GEF projects may be minimal. However, as</p>	<p>The proposal has been modified to more clearly explain how the project design builds on experience</p>

<p>other GEF projects may be minimal. However, as noted above, please elaborate on how the project reflects lessons learned from BINU and other indicator-focused and data management projects.</p> <p>April 19, 2006 Please respond to the above comment provided at pipeline entry.</p>	<p>gained from similar projects relating to indicators, e.g. BINU and MA.</p>
<p>5. RESPONSE TO REVIEWS</p> <p>Council Not applicable.</p> <p>Convention Secretariat Please respond.</p> <p>GEF Secretariat Please respond.</p> <p>Other IAs and RBDs Please respond to WB comments provided.</p> <p>STAP Please respond.</p> <p>Review by expert from STAP Roster April 19, 2006 Second review requested.</p>	<p>No action required.</p> <p>No action required.</p> <p>No action required.</p> <p>Response to comments from the World Bank is given below.</p> <p>No action required.</p>

GEF Secretariat comments – 22nd April 2006

Comment	Action taken
<p>The project review sheet may give you the feeling that the Secretariat concerns are just a matter of presentation, but as I reviewed the information in the Annexes and the proposal itself again this afternoon, I realized that the first phase the project appears to be too "diffuse", i.e., spreading itself too thin over too many indicators. I failed to emphasize this in the project review sheet but please note that this is a concern.</p> <p>We would encourage UNEP to consider focusing the first phase of the proposal on the key headline 2010 indicators that represent the "low-hanging" fruit that can easily be gathered and reported on thus demonstrating the success of the partnership, building internal and external confidence in the partnership's ability to deliver, and working out the modalities of managing such an ambitious undertaking. Projects such as this can suffer from being too all-encompassing early on and suffocate from too broad and ambitious of scope. We would welcome the presentation of a timeline that identified delivery points for certain indicators over time (both phases) as part of this kind of approach and strategy.</p>	<p>The project has been modified to ensure that during the first phase of the project priority is given to those indicators most likely to produce results by 2010. This will facilitate delivery of the Partnership's outputs and products. An analysis of the development of individual indicators is provided in Annexes F and G.</p>

GEF Secretariat Comments 5th May 2006

Comment	Action taken
Clarify why outcome 3 is has relatively less resources given its intent.	Text has been added to the executive summary to explain outcome 3 more clearly, including the use of existing fully-funded workshops to disseminate and facilitate the use of the guidelines.
The communications strategy includes lessons learned from the MA Add further clarity including regarding the achievement of outcome 3.	This has been made more explicit in the executive summary, and reference has been made to where these lessons learned are outlined in the communications strategy, Annex K.
Adjust the financing plan on page 1 of the executive summary to include phase 1 only.	The financing plan, and text under the heading “Financing Modality and Cost Effectiveness”, has been adjusted accordingly.
Receive and respond to the new STAP review.	The second STAP review has been received and responded to, and has replaced the previous review as Annex C.

World Bank Comments

Comment	Action taken
Project Development Objective: The project development objective seems overly ambitious – it would be more realistic to state a less ambitious but achievable objective which would seem to be: “improve understanding of the extent to which 2010 biodiversity targets are being met” and “promote dissemination of this information to support prioritisation of conservation activities and funding, at national and global levels”.	The logframe, including the PDO, has been revised and outcomes and outputs have been modified accordingly.
Scope: We are still very concerned by the long list of indicators (more than 30) especially as many still need to be developed. Just developing these indicators could take up an enormous amount of time and effort. If the intent of the project really is to provide strong and reliable information that is going to influence behaviours to better protect biodiversity conservation, then the project should focus on just a few of the more attention-catching and dramatic indicators (that together effectively tell something about global biodiversity) and on strong and effective ways of publicising this information to effect change. All of the different types of indicators are meaningful to different players (and will be collected by them) but not all indicators are equally effective for the purposes of this project. Therefore in the first phase the project should focus simply on a minimum set – let other players take care of the rest. In overall document and annexes it would be really useful to	The 2010BIP project has been modified to ensure that, during the first phase of the project, priority support is given to those indicators that are most likely to demonstrate trends in aspects of biodiversity by 2010.

<p>have more documents on what indicator information is already being collected, by whom and how it will all be tied together.</p>	
<p>Details about indicators: The message from the indicators needs to be reliable in informing about trends but it doesn't necessarily need to be down to square inch precision. The project annexes imply incredible levels of precision e.g. fine details on forest cover and fragmentation. Given the problems that UNEP-WCMC had with even allocating PAs to specific forest types for the State of the World's Parks, this level of detail seems unlikely without enormous effort and is probably unnecessary. Our advice would be to keep the group of indicators as simple as possible.</p>	<p>See response above – the indicators being considered in the 1st phase of the project have been prioritised, and with a focus on implementing effective indicators by 2010.</p>
<p>Duration: This project now has two phases with a first phase of three years that will take us up to 2010. We suggest that the first phase should perhaps be four years to increase time for feedback and reporting in 2010 and building momentum for further follow-up.</p>	<p>This suggestion was noted, however it was decided to maintain the three-year structure of the first phase to provide information in advance of 2010.</p>
<p>Use of information to effect change: The document already identifies the key risks and assumptions, i.e. that policy makers will take notice and use the information to effect change. Getting out the information on a regular (annual) basis and certainly to each COP is one of the most important components of the project. Already there is considerable monitoring going on, lots of State of the World reports and the Millennium Assessment yet little follow up action. A key failure of the MA was the lack of an effective outreach strategy to ensure that results of monitoring could be addressed in national or donor activities</p>	<p>The document has been modified to more clearly identify and emphasize the impact that the project will have on policy and decision-making.</p> <p>Following lessons learned from the MA, the 2010BIP project has an enhanced communications and outreach programme, and builds on the importance of credibility, legitimacy and relevance of the process and information.</p>
<p>Audience: In the light of the above it would be really useful to identify audiences for the data. Although the 2010 targets come from the convention, the project should look way beyond the UN processes and convention secretariats to influence civil society and others to seek ways to promote change. Is it possible to issue "worst" and "best" lists on progress in achieving work program targets, impact of threats etc....to better a) inform global debate at the COPs and b) national actions and donor funding priorities.</p>	<p>As part of the communications strategy it is proposed that a comprehensive analysis of users and their needs is performed. This will further identify audiences for the data, and will help to guide the project in producing information and data that is of use to policy makers and civil society.</p>
<p>Incremental costs: Related to the audience and chief users, couldn't one make the argument that this project is critical to the whole GEF program i.e is in effect a service to GEF and way of calibrating impacts through national and regional level projects against the global situation i.e a reality check on effectiveness and identifying additional gaps and needs. This argument that UNEP is meeting a GEF need as well as CBD need would seem to be a more compelling argument than the current one that an additional \$3 million on top of \$100m already spent on monitoring is</p>	<p>The argument is made in the text that this project will support the entire GEF program, but the ultimate end user is not the GEF.</p>

<p>going to make a huge difference.</p> <p>Also on IC, IC seems to be only on phase 1 (okay) with GEF picking up one quarter of the cost whereas exec summary states overall cost as \$16m with GEF picking up two fifths (both phases).</p>	<p>Co-financing for the 2nd phase has not been identified at this stage, and will be included in a follow-up proposal to the GEF in due course.</p>
<p>Component 1: Building and maintaining the Biodiversity Indicators Partnership. Isn't this effectively the management costs to UNEP WCMC and costs of a few coordination meetings, so why not just say that. Also seems that compt 5 could also be rolled into that.</p>	<p>This confusion has been addressed by the re-structuring of the Logframe into three outcomes, with associated outputs and activities.</p>
<p>Bank support: As a key user and interested party, the Bank has affirmed on several occasions that it would welcome the opportunity for involvement in discussions on this important topic. The Bank is also willing to share data from Bank projects, including the PA METT data with UNEP-WCMC.</p>	<p>The EA looks forward to increased and ongoing dialogue with the Bank on this important project.</p>