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New vision required to stave off dramatic biodiversity loss, says UN report

Montreal, Canada. 10 May 2010. Natural systems that support economies, lives and livelihoods across the planet are at risk of rapid degradation and collapse, unless there is swift, radical and creative action to conserve and sustainably use the variety of life on Earth.

That is a principal conclusion of a major new assessment of the current state of biodiversity and the implications of its continued loss for human well-being.

The third edition of *Global Biodiversity Outlook* (GBO-3), produced by the Convention on Biological Diversity (CBD) confirms that the world has failed to meet its target to achieve a significant reduction in the rate of biodiversity loss by 2010.

The report is based on scientific assessments, national reports submitted by governments and a study on future scenarios for biodiversity. Subject to an extensive independent scientific review process, publication of GBO-3 is one of the principal milestones of the UN's International Year of Biodiversity.

The Outlook will be a key input into discussions by world leaders and heads of state at a special high level segment of the United Nations General Assembly on 22 September. Its conclusions will also be central to the negotiations by world governments at the Nagoya Biodiversity Summit in October.

The *Outlook* warns that massive further loss of biodiversity is becoming increasingly likely, and with it, a severe reduction of many essential services to human societies as several "tipping points" are approached, in which ecosystems shift to alternative, less productive states from which it may be difficult or impossible to recover.

Potential tipping points analyzed for GBO-3 include:

- The dieback of large areas of the Amazon forest, due to the interactions of climate change, deforestation and fires, with consequences for the global climate, regional rainfall and widespread species extinctions.
- The shift of many freshwater lakes and other inland water bodies to eutrophic or algae-dominated states, caused by the buildup of nutrients and leading to widespread fish kills and loss of recreational amenities.
- Multiple collapses of coral reef ecosystems, due to a combination of ocean acidification, warmer water leading to bleaching, overfishing and nutrient pollution; and threatening the livelihoods of hundreds of millions directly dependent on coral reef resources.

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The *Outlook* argues, however, that such outcomes are avoidable if effective and coordinated action is taken to reduce the multiple pressures being imposed on biodiversity. For example, urgent action is needed to reduce land-based pollution and destructive fishing practices that weaken coral reefs, and make them more vulnerable to the impacts of climate change and ocean acidification.

The document notes that the linked challenges of biodiversity loss and climate change must be addressed by policymakers with equal priority and in close co-ordination, if the most severe impacts of each are to be avoided. Conserving biodiversity and the ecosystems it underpins can help to store more carbon, reducing further build-up of greenhouse gases; and people will be better able to adapt to unavoidable climate change if ecosystems are made more resilient with the easing of other pressures.

The *Outlook* outlines a possible new strategy for reducing biodiversity loss, learning the lessons from the failure to meet the 2010 target. It includes addressing the underlying causes or indirect drivers of biodiversity loss, such as patterns of consumption, the impacts of increased trade and demographic change. Ending harmful subsidies would also be an important step.

GBO-3 concludes that we can no longer see the continued loss of biodiversity as an issue separate from the core concerns of society. Realizing objectives such as tackling poverty and improving the health, wealth and security of present and future generations will be greatly strengthened if we finally give biodiversity the priority it deserves.

The *Outlook* points out that for a fraction of the money summoned up instantly by the world's governments in 2008-9 to avoid economic meltdown, we can avoid a much more serious and fundamental breakdown in the Earth's life support systems

In his foreword to GBO-3, the United Nations Secretary-General, Ban Ki-moon writes: "To tackle the root causes of biodiversity loss, we must give it higher priority in all areas of decision making and in all economic sectors.

"As this third *Global Biodiversity Outlook* makes clear, conserving biodiversity cannot be an afterthought once other objectives are addressed – it is the foundation on which many of these objectives are built.

"We need a new vision for biological diversity for a healthy planet and a sustainable future for humankind."

UN Under-Secretary General and Executive Director of the United Nations Environment Programme, Achim Steiner, adds that there have been key economic reasons why the 2010 biodiversity was not met.

"Many economies remain blind to the huge value of the diversity of animals, plants and other life-forms and their role in healthy and functioning ecosystems from forests and freshwaters to soils, oceans and even the atmosphere," observes Dr. Steiner.

"Many countries are beginning to factor natural capital into some areas of economic and social life with important returns, but this needs rapid and sustained scaling-up.

"Humanity has fabricated the illusion that somehow we can get by without biodiversity or that it is somehow peripheral to our contemporary world: the truth is we need it more than ever on a planet of six billion heading to over nine billion people by 2050."

The Executive-Secretary of the Convention on Biological Diversity, Ahmed Djoghlaf, says "The news is not good. We continue to lose biodiversity at a rate never before seen in history — extinction rates may be up to 1,000 times higher than the historical background rate.

"The assessment of the state of the world's biodiversity in 2010, as contained in GBO-3 based on the latest indicators, over 110 national reports submitted to the Convention Secretariat, and scenarios for the 21st Century should serve as a wake-up call for humanity. Business as usual is no longer an option if we are to avoid irreversible damage to the life-support systems of our planet.

"The Convention's new Strategic Plan, to be adopted at the 2010 Nagoya Biodiversity Summit must tackle the underlying causes of biodiversity loss. The linked challenges of biodiversity loss and climate change must be addressed with equal priority and close cooperation. Joint action is needed to implement the Conventions on Biodiversity, Climate Change and to Combat Desertification — the three conventions born of the 1992 Rio Conference. The Rio+20 Summit offers an opportunity to adopt a work plan to achieve this."

KEY FINDINGS:

Biodiversity in 2010

GBO-3 uses multiple lines of evidence to demonstrate that the target set by world governments in 2002, "*to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level,"* has not been met. Based on a special analysis of biodiversity indicators carried out by a panel of scientists, as well as peer-reviewed scientific literature and reports from national governments to the CBD, key findings include:

- None of the twenty-one subsidiary targets accompanying the overall 2010 biodiversity target can be said definitively to have been achieved globally, although some have been partially or locally achieved. Ten of fifteen headline indicators developed by the CBD show trends unfavorable for biodiversity.
- No government claims to have completely met the 2010 biodiversity target at the national level, and around one-fifth state explicitly that it has not been met**.**
- Species that have been assessed for extinction risk are on average moving closer to extinction, with amphibians facing the greatest risk and coral species deteriorating most rapidly in status.
- The abundance of vertebrate species, based on assessed populations, fell by nearly one-third on average between 1970 and 2006, and continues to fall globally, with especially severe declines in the tropics and among freshwater species.
- Natural habitats in most parts of the world continue to decline in extent and integrity, notably freshwater wetlands, sea ice habitats, salt marshes, coral reefs, seagrass beds and shellfish reefs; although there has been significant progress in slowing the rate of loss of tropical forests and mangroves, in some regions.
- Crop and livestock genetic diversity continues to decline in agricultural systems. For example, more than sixty breeds of livestock are reported to have become extinct since 2000.
- The five principal pressures directly driving biodiversity loss (habitat change, overexploitation, pollution, invasive alien species and climate change) are either constant or increasing in intensity.
- There has been significant progress in the increase of protected areas both on land and in coastal waters. However, 44% of terrestrial eco-regions (areas with a large proportion of shared species and habitat types), and 82% of marine ecoregions, fall below the target of 10% protection. The majority of sites judged to be of special importance to biodiversity also fall outside protected areas.

Biodiversity Futures for the 21st Century

Scientists from a wide range of disciplines came together as part of the preparation of GBO-3 to identify possible future outcomes for biodiversity during the current century, based on observed trends, models and experiments. Their principal conclusions include:

- Projections of the impact of global change on biodiversity show continuing and often accelerating species extinctions, loss of natural habitat, and changes in the distribution and abundance of species, species groups and biomes over the 21st century.
- There is a high risk of dramatic biodiversity loss and accompanying degradation of a broad range of ecosystem services if the Earth system is pushed beyond certain thresholds or tipping points.
- Earlier assessments have underestimated the potential severity of biodiversity loss based on plausible scenarios, because the impacts of passing tipping points or thresholds of ecosystem change have not previously been taken into account.
- There are *greater* opportunities than identified in earlier assessments to address the biodiversity crisis while contributing to other social objectives; for example, by reducing the scale of climate change without large-scale deployment of biofuels and accompanying loss of natural habitats.
- Biodiversity and ecosystem changes could be prevented, significantly reduced or even reversed if strong action is applied urgently, comprehensively and appropriately, at international, national and local levels.

Towards a strategy for reducing biodiversity loss

GBO-3 sets out a number of elements that could be considered in a future strategy to reduce biodiversity loss, and avoid the worst impacts of the scenarios analyzed in the *Outlook*. It is likely to form the basis of discussion of the strategic plan currently being considered for the next decade of the Convention on Biological Diversity, and due to be agreed at the 10th meeting of the Conference of Parties to the CBD in Nagoya, Japan in October 2010. The elements include:

- Continued and intensified direct intervention to reduce loss of biodiversity, for example through expanding and strengthening protected areas, and programmes targeted at vulnerable species and habitats
- Continued and intensified measures to reduce the direct pressures on biodiversity, such as preventing nutrient pollution, cutting off the pathways for introduction alien invasive species, and introducing more sustainable practices in fisheries, forestry and agriculture.
- Much greater efficiency in the use of land, energy, fresh water and materials to meet growing demand from a rising and more prosperous population.
- Use of market incentives, and avoidance of perverse subsidies, to minimize unsustainable resource use and wasteful consumption.
- Strategic planning to reconcile development with the conservation of biodiversity and the maintenance of the multiple services provided by the ecosystems it underpins.
- Restoration of ecosystems to safeguard essential services to human societies, while recognizing that protecting existing ecosystems is generally much more cost-effective than allowing them to degrade in the first place.
- Ensuring that the benefits arising from use of and access to genetic resources and associated traditional knowledge, for example through the development of drugs and cosmetics, are equitably shared with the countries and cultures from which they are obtained.
- Communication, education and awareness-raising to ensure that as far as possible, everyone understands the value of biodiversity and what steps they can take to protect it, including through changes in personal consumption and behavior.

NOTES TO EDITORS.

1. Global Biodiversity Outlook 3 (GBO-3), like its two predecessors published in four-yearly intervals since 2002, results from a decision of the Conference of Parties to the CBD **[see note 2 below]**. It is the product of close collaboration between the Secretariat of the CBD and the United Nations Environment Programme's World Conservation Monitoring Centre (UNEP-WCMC). The *Outlook* has been produced according to a transparent, rigorous process of review. Two separate drafts were made available for review via the Internet during 2009, and comments from some 200 reviewers were considered. The whole production has been supervised by an Advisory Group, and the second draft was subjected to scientific review by a panel comprising leading scientists from governments, inter-governmental bodies and non-governmental organizations. The principal sources on which GBO3 is based include:

- An analysis of the current status and trends of biodiversity, carried out by the Biodiversity Indicators Partnership, a network of organizations coordinated by UNEP-WCMC;
- A study of scenarios and models regarding biodiversity in the 21st Century, involving a wide range of scientists under the auspices of the Diversitas network and UNEP-WCMC. This study, "Biodiversity Scenarios: Projections of 21st Century Change in Biodiversity and Associated Ecosystem Services" is also been launched on May 10th and is available at www.cbd.int/gbo3;
- Some 500 peer-reviewed scientific journal articles and assessments from inter-governmental and non-governmental bodies reviewed for the *Outlook*.
- 110 national reports on biodiversity submitted by governments to the CBD.

The publication of GBO-3 was enabled by financial contributions from Canada, the European Union, Germany, Japan, Spain and the United Kingdom, as well as UNEP.

2. The Convention on Biological Diversity (CBD) Opened for signature at the Earth Summit in Rio de Janeiro in 1992, and entering into force in December 1993, the Convention on Biological Diversity is an international treaty for the conservation and sustainable use of biodiversity and the equitable sharing of the benefits from utilization of genetic resources. With 193 Parties, the Convention has near universal participation among countries committed to preserving life on Earth. The Convention seeks to address all threats to biodiversity and ecosystem services, including threats from climate change, through scientific assessments, the development of tools, incentives and processes, the transfer of technologies and good practices and the full and active involvement of relevant stakeholders including indigenous and local communities, youth, NGOs, women and the business community. The Cartagena Protocol on Biosafety a supplementary treaty to the Convention seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. To date, 157 countries and the European Community are party to the Protocol. The Secretariat of the Convention and its Cartagena Protocol is located in Montreal. www.cbd.int/

3. 2010 International Year of Biodiversity The United Nations declared 2010 the International Year of Biodiversity (IYB) to raise awareness about the crucial importance of biodiversity, to communicate the human costs of biodiversity loss, and to engage people, particularly youth, throughout the world in the fight to protect all life on Earth. Initiatives will be organized throughout the year to disseminate information, promote the protection of biodiversity and encourage countries, organizations, and individuals to take direct action to reduce biodiversity loss. The focal point for the year is the Secretariat of the Convention on Biological Diversity. www.cbd.int/2010/welcome/

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