

Biodiversity  
is life



2010 International Year of Biodiversity

Biodiversity  
is our life

# Ginecana 7



Convention on  
Biological Diversity

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# Gincana 7

## The International Year of Biodiversity

### Table of Contents

**AHMED DJOGLAF**  
*Executive Secretary, Convention on Biological Diversity (CBD)* ..... 2

**BAN KI-MOON**  
*United Nations Secretary-General* ..... 3

**ACHIM STEINER**  
*United Nations Under-Secretary General and Executive Director, United Nations Environment Programme (UNEP)* ..... 4

**ALI ABDUSSALAM TREKI**  
*President of the 64<sup>th</sup> Session of the United Nations General Assembly* ..... 5

**HER IMPERIAL HIGHNESS PRINCESS TAKAMADO**  
*Honorary President, BirdLife International* ..... 6

**YUKIO HATOYAMA**  
*Prime Minister of Japan* ..... 7

**HER ROYAL HIGHNESS PRINCESS MAHA CHAKRI SIRINDHORN**  
*Kingdom of Thailand* ..... 8

**STEPHEN HARPER**  
*Prime Minister of Canada* ..... 9

**LEE MYUNG-BAK**  
*President of the Republic of Korea* ..... 9

**NORBERT RÖTTGEN**  
*Federal Environment Minister, Germany* ..... 12

**JOSÉ MANUEL BARROSO**  
*President, European Commission* ..... 13

**ERIK SOLHEIM**  
*Minister of Environment and International Development, Norway* ..... 14

**HUW IRRANCA-DAVIES**  
*Minister for Marine and Natural Environment at the Department for Environment and Rural Affairs, United Kingdom* ..... 15

**MAH BOW TAN**  
*National Development Minister, Republic of Singapore* ..... 16

**TROELS LUND POULSEN**  
*Minister for the Environment, Denmark* ..... 17

**HELEN CLARK**  
*Administrator of the United Nations Development Programme and Chair of the United Nations Development Group* ..... 18

**MONIQUE BARBUT**  
*Chief Executive Officer and Chairman, Global Environment Facility (GEF)* ..... 19

**YVO DE BOER**  
*Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC)* ..... 20



Island ecosystem & sea level rise, French Polynesia, Bora Bora  
(Photo courtesy of Truchet/UNEP)

**LUC GNACADJA**  
*Executive Secretary, United Nations Convention to Combat Desertification (UNCCD)* ..... 21

**FRANCESCO BANDARIN**  
*Director of the UNESCO World Heritage Centre* ..... 22

**JULIA MARTON-LEFÈVRE**  
*Director General, the International Union for Conservation of Nature (IUCN)* ..... 23

**TOM ENDERS**  
*President and CEO, Airbus* ..... 24

**ANADA TIÉGA**  
*Secretary General, Ramsar Convention* ..... 25

**LIZ DOWDESWELL**  
*Former Executive Director of the United Nations Environment Programme* ..... 26

**ELIZABETH MARUMA MREMA**  
*Executive Secretary of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) Secretariat* ..... 27

**GERALD DICK**  
*Executive Director, World Association of Zoos and Aquariums (WAZA)* ..... 28

**DOUGLAS AND KRISTINE TOMPKINS** ..... 29

**RANDAL KEYNES**  
*The Charles Darwin Trust* ..... 30

**CARLOS BETO RICHÁ**  
*Mayor of Curitiba, Brazil* ..... 32

**GÉRALD TREMBLAY**  
*Mayor of Montreal, Canada* ..... 33

**TAKASHI KAWAMURA**  
*Mayor of Nagoya, Japan* ..... 34

**2010: INTERNATIONAL YEAR OF BIODIVERSITY EVENTS** ..... 35



Ahmed Djoghlaf, *Executive Secretary, Convention on Biological Diversity (CBD)*

# Renewing our Efforts to Preserve Biodiversity

**T**he fight to stop biodiversity loss is at a critical moment. Species are currently going extinct at up to 1,000 times the natural background rate. Sixty per cent of examined ecosystem services worldwide have been degraded. We should be alarmed because humans are not detached from the consequences of this loss. Biodiversity is humanity's source for countless irreplaceable goods and services, including food, lumber, medicine, crop pollination and air and water purification.

This is why in 2002 the Parties to the Convention on Biological Diversity established the 2010 Biodiversity Target, a commitment to significantly slow biodiversity loss worldwide by 2010. The international community quickly rallied around the 2010 Target and incorporated it into the Millennium Development Goals.

Nevertheless, preliminary indications are that the target will not be met. The impacts of this will be primarily felt by the poor, as natural capital constitutes 26% of the total wealth of low-income countries.

Moreover, the human costs of biodiversity loss will be exacerbated by climate change, which will potentially compound the rate of loss.

For this reason the United Nations declared 2010 the International Year of Biodiversity. The year 2010 offers an opportunity to renew our efforts and create a global alliance of all stakeholders to protect life on Earth.

In May, Global Biodiversity Outlook 3 will provide an initial assessment of progress so far and remaining challenges in achieving the 2010 Target. In September, the 65<sup>th</sup> session of the UN General Assembly will, for the first time, convene a high-level segment on biodiversity with the participation of heads of State and government. And in October in Nagoya, Japan, at the Nagoya Biodiversity Summit, the Convention's tenth Conference of the Parties, a broad range of stakeholders — including cities and local authorities, youth, indigenous communities, national governments and the private sector — will help finalize our 2011-2020 strategic plan



and the 2020 and 2050 biodiversity targets. Overall, the International Year of Biodiversity promises to be a true watershed period in our struggle to preserve biodiversity.

We are delighted to present the latest issue of *Gincana*, where heads of State and important international organizations have contributed their thoughts and hopes for the International Year of Biodiversity. Each of their pieces, in their own eloquent way, help demonstrate why biodiversity is life, biodiversity is our life. ♡

Urban biodiversity, Central Park South, New York, USA  
(Photo courtesy of Ed Yourdon/flickr.com)

Harvest, South Africa (Photo courtesy of Gliberry/UNEP)





# Message for the International Year of Biodiversity (2010)

Over the past half-century, human activities have caused an unprecedented decline in biological diversity. Species are going extinct a thousand times faster than the natural rate — a loss now being further compounded by climate change. A wide variety of environmental goods and services that we take for granted are under threat, with profound and damaging consequences for ecosystems, economies and livelihoods.

In 2002, world leaders agreed to substantially reduce the rate of biodiversity loss by 2010. The 2010 Biodiversity Target was subsequently integrated into the Millennium Development Goals. It will not be met.

Tropical forests continue to be felled, destroying valuable endemic species and disrupting local, regional and global climates. Climate change and ocean acidification are destroying coral reefs. Fisheries are increasingly overexploited, condemning millions of the world's poorest people

to unemployment and malnutrition.

The failure to protect biodiversity should be a wake-up call. Business as usual is not an option. We need a new biodiversity vision. We must manage our forests sustainably so they can store carbon, protect watersheds and provide resources and income. We must conserve coral reefs so they can continue to protect coasts from storms and support livelihoods for hundreds of millions of people. We must ensure the long-term viability of our seas and oceans.

To raise awareness of the impending crisis and to spur the world to act, the United Nations General Assembly proclaimed 2010 the International Year of Biodiversity. In September 2010, the General Assembly will hold a special high-level meeting on the subject. It will give the international community an opportunity to demonstrate much-needed leadership in advance of the Nagoya Biodiversity Summit, which will adopt a



new strategic plan for implementing the United Nations Convention on Biological Diversity.

In this International Year, we must counter the perception that people are disconnected from our natural environment. We must increase understanding of the implications of losing biodiversity. In 2010, I call on every country and each citizen of our planet to engage in a global alliance to protect life on Earth. We must generate a greater sense of urgency and establish clear and concrete targets. Biodiversity is life. Biodiversity is *our* life. ♡

Rainforest near Piha, Auckland Region, North Island, New Zealand (Photo courtesy of Daniele Sartori/flickr.com)





**Achim Steiner**, *United Nations Under-Secretary General and Executive Director, United Nations Environment Programme (UNEP)*

# Developing Better Ways to Manage Ecosystems and Biodiversity

**T**he year 2010 represents a real opportunity to boost the prospects for biodiversity and the health of natural systems.

Over the past two years, fresh calculations and more precise evaluations of the value of nature to global and national economies have been coming to the fore, in part as a result of The Economics of Ecosystems and Biodiversity (TEEB).

Meanwhile, governments have taken negotiations on access and benefit-sharing of genetic resources to new levels of determination, raising optimism that this third pillar of the Convention on Biological Diversity (CBD) can be strengthened and lead to new revenue flows for conservation and sustainable use.

It is equally possible that nations may also make important strides on plugging the serious and significant knowledge gaps on ecosystem and biodiversity by supporting the establishment of an Intergovernmental Panel or Platform on Biodiversity and Ecosystem Services in order to inform policy-makers on real choices based on the very latest scientific developments.

The Copenhagen, UN climate meeting in December 2009, may set the stage for paying developing countries to maintain forests and their carbon stocks with multiple benefits for biodiversity as well as water supplies, soil stabilization and opportunities for green jobs in areas like natural resource management and ecotourism.

A Reduced Emission from Deforestation and Forest Degradation (REDD) agreement, as part of a new overall commitment by countries on climate change, will also make a significant contribution to the climate adaptation agenda while perhaps opening the door towards payments for other carbon-storing initiatives.

During 2010, some of the first results are likely to emerge from the UNEP-Global

Environment Facility Carbon Benefits Project being undertaken with farmers and landowners in Western Kenya, as well as in Niger, Nigeria, and China.

The project is to set standards covering the quantities of carbon 'sequestered' in different landscapes and under different management regimes. It may be that farmers can be paid for the carbon locked away under sustainable agricultural systems, such as organic and agroforestry schemes. Payments for maintaining peatlands up to carbon-storing coastal 'infrastructure', like mangroves and wetlands, are further tantalising prospects emerging.

## TEEB

This visionary initiative, supported by the European Commission, Germany, Norway and the United Kingdom and whose secretariat is now hosted by UNEP, will produce its landmark, final report during the International Year of Biodiversity.

But TEEB, which dovetails with UNEP's Green Economy initiative, is already sharpening international attention on the economic losses resulting from the loss, degradation and destruction of the natural world and its goods and services.

It is also focusing attention on the opportunities for action that exist if investments are stepped up in ecosystem renovation and in more creative management of the Earth's nature-based assets.

- The world's 100,000 national parks and protected areas generate wealth via nature-based goods and services equal to around \$5 trillion but only employ 1.5 million people—indicating a potentially significant new area for employment generation
- TEEB estimates that securing these \$5 trillion-worth services might require an additional investment of

just \$ 50 billion a year — a good cost benefit ratio of 100:1

- Coral reefs, whose fishery, tourism and flood protection services are estimated at between \$100,000 and \$600,000 per square km, could be conserved for an investment of close to \$780 per square km or 0.2% of the value of the ecosystem protected
- Deforestation contributes close to 20% of global greenhouse gas emissions—\$17 billion to over \$30 billion annually could halve this while securing livelihoods and boosting conservation-related employment in tropical countries
- A global marine protected area network, involving the closure of 20% of total fishing grounds, could result in profit losses of an estimated \$270 million annually. It could, however, sustain fisheries worth \$80-100 billion a year; assist in conserving an estimated 27 million jobs while generating one million new ones, and protect food supplies for over one billion people, especially in developing countries whose main or sole source of animal protein comes from fish.

The ground work has been paved for a new response to the persistent and emerging challenges facing natural systems and their biodiversity. 2010 is the opportunity to open a new chapter where the myriad of intelligent policies and smart market mechanisms that have been tried and tested over the past decades are rapidly evolved to become part of mainstream economic policy.

On a planet of six billion, rising to over nine billion by 2050, more creative ways of managing ecosystems and biodiversity that reflect their central role in human well-being and their inordinate contribution to life, livelihoods and economies will, in large part, determine whether an ever-more populous humanity can survive and thrive in the 21st century. ❖





**Ali Abdussalam Treki**, *President of the 64<sup>th</sup> Session of the United Nations General Assembly*

# Meeting the Biodiversity Crisis as a United Human Family

I am pleased to convey a message on the occasion of the International Year of Biodiversity. Today, there is increased recognition of the impact of loss of biodiversity on life on earth. We have to collectively face the challenges arising from the crisis of biodiversity loss. Climate change is further compounding this challenge as depicted in the recent food crisis and the natural disasters that now hit our planet with inexorable regularity.

Seventy per cent of the world's poor live in rural areas. They depend directly on biological resources for as much as 90% of their needs such as food, fuel, medicine, shelter and transportation. Over three billion people depend on marine and coastal biodiversity, while more than 1.6 billion rely on forests and non-timber forest products for their livelihoods. The degradation of habitat and the loss of biodiversity are threatening the livelihoods of more than one billion people living in dry and sub-humid lands, particularly in Africa, the continent most affected by drought and desertification.

At the World Summit on Sustainable Development, the world leaders had pledged to reduce the rate of loss of biodiversity by 2010 as a contribution to poverty eradication. However, biodiversity continues to be lost at unprecedented rate, thus threatening the capacity of the planet to provide the required goods and services. The current rate of extinction is estimated to be 1,000 times higher than the natural rate. Halting and reversing the current loss of biodiversity is therefore vital.

Biodiversity loss is no longer solely an environmental issue. It is also an economic one. Biodiversity loss is also affecting the human health and the condition of the atmosphere.

The General Assembly has proclaimed 2010 as the International Year of Biodiversity. In that regard, the range of

*“Biodiversity loss is not solely an environmental issue it is also an economic one”*

activities and high level events planned by the Secretariat of the United Nations Convention on Biological Diversity provide a valuable platform to effect the necessary paradigm shift if the international community were to live in harmony with nature.

The High-level event of United Nations General Assembly on Biodiversity, to be convened in New York in September

2010, with the participation of Heads of State and Government, offers a unique opportunity to fully engage world leaders to respond collectively to the magnitude of the biodiversity crisis.

Postponing action to protect life on Earth is not an option. The need to act is now to achieve the changes vital to the well-being of all life on Earth. ♡

Tree frog of the “Agalychnis” genus (Photo courtesy of Kalovstian/UNEP)





**Her Imperial Highness Princess Takamado,**  
*Honorary President, BirdLife International*

# Beyond 2010: We must not Fail Again



In 2010, the International Year of Biodiversity, two major summits will be held, in New York and Nagoya, to review and revise the CBD's 2010 Biodiversity Target, set in 2002 as the date by when to achieve a significant reduction in the current rate of biodiversity loss. Alas, despite its universal endorsement, the world community has clearly failed to meet this target.

We are currently facing—or rather, failing to face—the worst human-induced extinction crisis in the planet's history. Changes in the IUCN Red List for birds between 1988 and 2008 show that the status of the world's bird species continues to deteriorate, with more species than ever slipping closer to extinction. Birds have gone extinct at 1,000 to 10,000 times the natural background rate. In Japan we have lost the Asian Crested Ibis and Oriental White Stork as breeding species, and the cost of bringing them back is proving hugely expensive. The plight of Okinawa's endemic birds, under great threat from alien species, is also of particular concern to me. This hemorrhaging of species and habitats is having profound ecological implications and causing serious cultural, social and economic impacts. Biodiversity is the foundation of ecosystems, and ecosystem services are the foundation of human wellbeing and economic prosperity. A simple equation.

I say that we have failed to meet the 2010 target, but I cannot say by how much. This is because, for a target to be a target, it must be action-oriented, quantitative, time-bound and measurable. That way, we can measure performance to meet it. In the case of the 2010 Target, we only set up a monitoring framework in 2006, far too late to help. Moreover, biodiversity is very expensive

to monitor. We must therefore establish logistically and financially achievable systems for monitoring biodiversity trends in the post-2010 world. Two crucial steps would be to involve NGOs far more fully, and to use indicators that work at all levels from the local to the global. For this reason I commend BirdLife International. Birds are easy to monitor, and make excellent indicators. And as the guardian of the largest biodiversity dataset currently available, and in fulfillment of its role as an international thematic focal point for birds for the CBD's Clearing House Mechanism, BirdLife International is fully committed to helping develop, implement and monitor the post-2010 target.

Moreover, BirdLife's structure mirrors

that of the CBD: a partnership of over 100 autonomous national NGOs (total membership: 2.5 million) all subscribing to a single set of ideals and goals, working with local communities at one level and with global conventions at another. There is an opportunity here to grasp. Without broad constituencies of people to share responsibility for maintaining livelihoods and biodiversity, we can never meet our targets, however measurable. NGOs like BirdLife offer these constituencies, and in partnership with bodies like the CBD we can go on to engender and empower still larger partnerships. The CBD must not fail: BirdLife International stands ready to support it every inch of the way. ♡

*“Targets must be action-oriented, quantitative, time-bound and measurable... We must establish logistically and financially achievable systems for monitoring biodiversity trends in the post-2010 world”*



Kea, New Zealand (Photo courtesy of Ministry for the Environment New Zealand/John Edwards)





# Uniting Our Wisdom for Living with Nature beyond 2010



It is a great pleasure for me to convey my message on the occasion of the International Year of Biodiversity (IYB). Among a range of environmental issues, biodiversity loss, together with climate change, is one of the most serious challenges for the international community. Our society has been making enormous efforts so far to “significantly reduce the current rate of biodiversity loss by 2010”. However, unfortunately we have to say that the unprecedented level of loss of biodiversity still continues at the global level.

I believe that we bear a heavy responsibility to hand over a rich and diverse ecosystem to future generations. And it is a critical moment to start concrete actions, sharing the common understanding on the need to stop the loss of biodiversity and restore it. In this respect, if every country develops and effectively implements the National Biodiversity Strategy and Action Plan under such an understanding, it would be an important step towards achieving this goal.

Japan became a Party to the Convention on Biological Diversity (CBD) in 1993. In 1995, the First National Biodiversity Strategy and Action Plan were established in accordance with the CBD. In accordance with the third Strategy with a long-term vision, over 600 measures of priority and some 30 numerical targets for the coming five years, our government is comprehensively taking various measures to address the biodiversity “crisis”.

I believe it is critically important that all countries jointly take concrete actions on the basis of post-2010 targets to be adopted at COP 10, understanding the importance of biodiversity.

In the year of 2010, International Year of Biodiversity, a series of high-level events are scheduled around the world, such as the official launch of the IYB in January, and special session on biodiversity during the 65<sup>th</sup> session of the United Nations General Assembly in September.

*“It is critically important that all countries take concrete actions on the basis of post-2010 targets to be adopted at COP 10”*



Tortoise in the Galápagos Islands (Photo courtesy Randal Keynes)

I would like to stress that the 10<sup>th</sup> Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 10) and the 5<sup>th</sup> Meeting of the Parties to the Cartagena Protocol (MOP 5) organized in October will be the highlight among them. And I believe that, taking this opportunity, all stakeholders at all levels should take practical actions to achieve conservation and sustainable use of biodiversity. Japan is willing to strengthen its efforts to address the major issues toward the COP 10 such as the development and

effective implementation of the post-2010 targets, “access and benefit-sharing”, and “climate change and biodiversity”, in close collaboration with national and international partners. I sincerely hope that our efforts will contribute to achieving the three objectives of the Convention by uniting our wisdom and efforts further than ever before.

I am grateful if many of you participate in the meetings in Aichi-Nagoya, and jointly work with us to address biodiversity issues beyond 2010. ♡



# Natural Resources and Environment Conservation

**H**er Royal Highness Princess Maha Chakri Sirindhorn was born on 2 April 1955, as the third child of His Majesty the King Bhumibol Adulyadej, King Rama IX and Her Majesty the Queen Sirikit of Thailand.

Her Royal Highness has acquired first-hand experiences in working for Their Majesties the King and Queen's development projects by regularly accompanying their Majesties on visits to remote areas since the age of sixteen (in 1970s). Even before she completed her university education, H.R.H has acted as Private Secretary to His Majesty the King for most of the royal initiated development projects which have been the main concern of His Majesty since his accession almost 50 years ago. The implementation of these projects has been crystallized by the establishment of the Chaipattana Foundation (the word "Chaipattana" means "achieving victory in development work") in June 1988 with His Majesty as Patron and Her Royal Highness Princess Maha Chakri Sirindhorn as the Chairman. The objective of the Foundation emphasizes projects on environmental quality development and improvement in parallel with those on economic and social development.

During her visit to the remote areas, Princess Maha Chakri Sirindhorn realized that Thailand has experienced rapid natural resources and environmental deterioration which one of the major causes of these problems arises from people's carelessness and ignorance. As a result, in 1987 Her Royal Highness Princess Maha Chakri Sirindhorn initiated the Conservation of Natural Resources and Environment Project, the purpose of which is to raise awareness and consciousness of conservation in natural resources and environment among young children as well as adults. The project started by encouraging children attending Border Patrol Police School in Chiang Mai province to cultivate the neem plant

(*Azadiracta indica*) and use its seeds instead of chemical pesticides, which does not harm the environment.

So far, many other environmental activities initiated by the Princess have been established. For example, conservation of forest resources based on community forestry, conservation of soil using vetiver grass following His Majesty the King's initiative and school botanical garden. The objectives of these activities are to encourage the children, as well as teachers and local people to work together in taking care of and maintaining the natural resources and environment in their communities. Also, Her Royal Highness had launched the Plant Genetic Conservation Project in 1992. The objective of the project is to collect plant genetic resources for conservation throughout the country.

The activities patronage of the environment by Her Royal Highness Princess Maha Chakri Sirindhorn, has impressed

Thai people. In 2003, the Sirindhorn International Environmental Park was launched, which aims to publicize HRH the Princess's honorable deeds and ingenuity in conservation of nature, environment, history, and culture, to both Thais and foreigners. Its missions include providing knowledge about the recovery of mangrove, beach and mixed deciduous forests, and habitats of fauna. These intend to raise awareness of natural resource and environment conservation among the general public.

For over three decades, Her Royal Highness Princess Maha Chakri Sirindhorn's activities concerning natural resources and environment preservation have been significantly impressed by Thai people. Her Royal Highness has tirelessly encouraged the children as the nation's future to conserve and sustainably use natural resources for the benefit of all Thai people. ❖



**ABOVE:** Opening ceremony of the third "Colorful Flora in Celebration of HM the Queen" Fair, at Queen Sirikit Garden, Bangkok, on 11 August, 2009.

**LEFT:** HRH Princess Sirindhorn was planting Golden Shower tree (*Cassia fistula*) in the opening ceremony of the "Planting 80 million Trees in Celebration of HM the King" Project, at Chitralada Garden, Dusit Palace, in January, 2008.

**RIGHT:** HRH Princess Sirindhorn planted vetiver grass during her upcountry visit.





Stephen Harper, *Prime Minister of Canada*



## Respecting and Protecting our Natural Beauty

Canadians are rightfully proud of our record as conservationists and responsible stewards of nature. The challenge of balancing sustainable economic growth with a sustainable environment requires cooperation from all levels of government, industry, community organizations and all Canadians.

As Prime Minister of Canada, I take seriously the responsibility of my government to provide the leadership and action necessary to ensure that Canada continues to play a constructive role in conservation efforts both at home and abroad.

One of the most important actions any government can take in supporting conservation and biodiversity is to expand the protected lands and waters within its

jurisdiction. Our government recently enlarged Nahanni National Park Reserve of Canada to 30,000 square kilometres, a six-fold expansion. Our government also designated four new Canadian wilderness areas to further protect Canada's natural heritage.

Our government is actively engaged in protecting biodiversity offshore. Recent declines in commercially and ecologically important fish stocks are an indication that something is amiss and that maritime countries must cooperate to do better. Canada recently hosted an expert workshop to review criteria and classification systems for identifying ecologically sensitive marine ecosystems in need of protection in areas beyond national

jurisdiction.

Canada is a northern nation, and many of our country's most ecologically sensitive areas exist in our remote arctic regions. Our government has made environmental protection a pillar of Canada's new Northern Strategy and, to that end, we are actively working with other arctic nations to conserve arctic flora and fauna in the face of increasing development and a changing climate.

Canadians hold a deep appreciation and respect for nature. Canada's natural beauty is a major part of our national inheritance. There is no better legacy for any of us than respecting and protecting our inheritance so it can be appreciated and enjoyed for generations to come. ♣



Lee Myung-bak, *President of the Republic of Korea*

## Making the Earth Green Together: A Time for Us All to Act

"A person should live only off the interest accruing to nature." This was the lifelong philosophy of Park Kyung-ni (October 28, 1926 – May 5, 2008), a prominent Korean novelist who was regarded as one of the most likely Korean candidates for a Nobel Prize in literature. Her philosophical view is in line with the awakening of modern ecologists to the fact that biodiversity is like the capital deposited in nature that people borrow for their use. How was it possible for a Korean writer of the 20<sup>th</sup> century to predict and practice what is being emphasized by ecologists in the 21<sup>st</sup> century?

In fact, such an idea is not new to Koreans. That is because in their long-standing tradition and culture, Koreans have embraced two seemingly conflicting

perspectives on nature and human beings. First, they have pursued progress and success in life through stringent self-discipline and "doing" so as to become a person of character. Second, they have tried to come closer to a frugal, simple human nature through transcendentalism and "being," which lead a person to be submissive to the providence of God so as to become nature. Koreans have naturally accommodated conflicting elements, including "doing" and "being," development and conservation, and greening and growth, into a harmonious — rather than adversarial — relationship.

Against this backdrop and with such an understanding, the Republic of Korea is creating a new value of green growth going beyond the concept that greening

and growth are bound to be confrontational. This is not simply an abstract, repetitive rhetoric but a concrete and viable notion predicated on practical action. Through my address last year commemorating the 60<sup>th</sup> anniversary of the founding of the Republic, I declared "Low-carbon, Green Growth" as a national vision and development strategy.

The low-carbon, green growth strategy is a historic challenge to formulate a virtuous cycle where environmental conservation will help revive the economy, and vice versa. It is intended to make intensive investments in green technologies and industries to address environmental and energy problems, thereby achieving sustainable economic development.

To this end, by enacting a Framework





Act on Green Growth and establishing a five-year plan for Green Growth, Korea is striving to restructure economic and industrial structures as well as people's lifestyles to make them more future-oriented. According to the plan, about two per cent of the GDP will be injected into green industries over the next five years. It is almost double the amount recommended by the United Nations for green investment. Such ongoing efforts are viewed in positive light around the world. A recent report by the United Nations Environment Programme (UNEP) hailed the country's green growth initiative as a useful and exemplary model. The report also assessed that Korea has become a pace-setter in green growth for the international community to follow.

I am convinced that low-carbon, green growth will help us meet the challenge of climate change as well as the need for growth on a whole new level. It will also be the best gift we can give

### **Korea's Efforts for the Conservation of Biological Diversity and Sustainable Use of Biological Resources**

In June 2009, Korea formulated the second National Biodiversity Strategies and Action Plans (NBSAPs) as the top-most plan for biodiversity conservation. With this, Korea has come up with strategies to achieve the objectives of the Convention on Biological Diversity, namely the conservation and the sustainable use of biological diversity, and the fair and equitable sharing of the benefits arising from the utilization of genetic resources.

Guided by these strategies, Korea is carrying out field surveys on the indigenous species on the Korean Peninsula — approximately 100,000 species — with a view to promoting biodiversity and restoring the health of the nation's ecosystem. For their systematic management, we are currently preparing legislative acts concerning biological resources.

Biological Resources will be constructed to revitalize research on biological resources and ensure improved management as well as to be utilized as centers of effective public education.

Notably, the success of the 10th Conference of the Parties to the Ramsar Convention on Wetlands held in Changwon last year played a great role in raising awareness of people across the world on the importance of wetland ecosystems. The Changwon Declaration on Human Well-being and Wetlands adopted at the Ramsar COP 10 serves as a very useful tool for raising public awareness and is being widely shared around the world.

Korea is fully committed to working together with other countries, thereby making contributions to the preservation of biological diversity and sustainable use of biological resources. For instance, we came to host the Secretariat of the East Asian-Australasian Flyway

*“Low-carbon, green growth will help us meet the challenge of climate change and the need for growth on a whole new level –the best gift we can give to future generations”*

to future generations. This is, in particular, because green growth will make it possible for all people to preserve biodiversity — including all the components of genetic, species, and ecosystem diversity — and to maintain the balance of life as well as enjoy the blessings of economic prosperity.

The year 2010 marks the International Year of Biodiversity designated by the United Nations. A variety of activities are being planned and carried out to promote the understanding of the importance of preserving biodiversity around the world. Notably, the clock is ticking for the 2010 Biodiversity Target agreed upon at the World Summit on Sustainable Development in 2002. A global effort will be needed to substantially reduce the rate of biodiversity loss. For that reason, Korea is actively participating in the efforts to secure biodiversity in line with its broader vision of green growth.

Among other things, various projects are being carried out to restore and increase the populations of endangered species including the Asiatic Black Bear and gorals. In October last year, a pair of Crested Ibis — a Natural Monument presumed to be extinct in Korea — was donated by the People's Republic of China for restoration.

Along with these endeavors, Korea established the National Institute of Biological Resources in 2007, which serves as a center for the integrated management of the nation's biological resources and for preparing conservation measures. In addition, as part of the efforts to sustainably manage and conserve forest biological resources in response to global warming, additional Korea National Arboreta are being set up by climatic and vegetation zone. In the years to come, the National Institute of Ecology and the National Institute of Marine

Partnership, which aims to protect about 50 million migratory birds inhabiting along the way. Taking a step further, Korea took the lead in designating Narepski Point, located in King George Island and also known as “Penguin Village,” as an Antarctic Specially Protected Area (ASPA) as part of its efforts to protect Antarctic ecosystems and, in particular, penguins.

### **Preservation and Restoration of the Nation's Environment, a Foundation for Biological Diversity**

Korea is now enhancing efforts to push ahead with policies aimed at preserving and restoring the nation's environment, which constitutes the foundation for biological diversity. For the sake of efficient preservation and management of habitats and ecosystems, more than 10% of the nation's land has been designated as protected areas. In addition, when it comes



to areas whose values are internationally recognized, the nation took measures to register them as Ramsar Wetlands of International Importance and World Natural Heritage sites.

In 2003, the Act on the Protection of the Baekdu Daegan Mountain System was passed with a view to protecting the core national ecosystem, reflecting the opinions from a wide range of stakeholders. In September 2005, more than 260,000 hectares of the Baekdu Daegan Mountain System was designated as a protected area, connecting several isolated national mountain parks, which is a unique example internationally. In the future, we will continue to make efforts to expand protected areas through various programs including the designation of the Demilitarized Zone (DMZ) between North and South Korea as a Biosphere Reserve by UNESCO.

We are to aggressively carry out the Four Major River Restoration Project to restore the ecosystems around Korea's four major rivers. The project aims to eliminate environmental contamination caused during the country's industrialization in the second half of the 20th century. The riverbeds will be dredged and cleaned up. Unlike a dam project that submerges a large area of adjacent land or forest under a reservoir, the project takes an innovative approach which will enable the four rivers to constantly hold 1.3 billion tons of water, which is enough to resolve the nation's water shortage.

When the ecosystem is revived, water quality will be improved substantially, the biological diversity preserved, and the quality of life enhanced remarkably. What is more, the river areas will turn into the bases for green growth, as tourism, leisure and industrial activities will contribute to local livelihoods. We have a track record of successfully reviving polluted urban waterways, including Seoul's Cheonggye Stream. The award-winning Cheonggye Stream project is acclaimed internationally for its tremendous contribution to the urban environment. The stream flowing right through the middle of the sprawling capital provides its 10 million plus citizens and tourists with green space and walking paths. This successful eco-friendly project has contributed to



Bon Accord Wetlands, Tobago. (Photo courtesy the Tourism Development Company Limited of Trinidad and Tobago)

reducing city's heat island phenomenon and raising the city's prestige.

In addition, for wise use and smart conservation of areas rich in biological resources and biodiversity as well as for revitalization of local economies, the Korean Government is implementing projects to promote eco-tourism. To this end, we have formulated the Framework Plan for Eco-tourism Promotion and are developing various model projects and public relations domestically and internationally so that Korea's well-preserved biological resources such as the Demilitarized Zone and wetlands can emerge as global tourist attractions.

### **A Green Earth through Global Collaboration**

Global attention toward biodiversity does not necessarily imply a desire to enjoy rich natural resources and beautiful environment. People have come to realize that links lost between genes, species, and ecosystem diversity cannot be restored again, and that ultimately it is a matter of survival for humankind.

Korea suffered serious environmental destruction during the Korean War in the 1950s. Throughout the ensuing decades of rapid industrialization, air and water were polluted and trees were cut down for roads and houses, causing even more damage to the country's biological diversity. Fortunately, now we

have enhanced accountability toward the environment, cooperative governance between the government, businesses and civil society, and support of related businesses, which all contributed toward the rapid restoration of the country's ecosystem.

In the face of rapid climate change which endangers nature and even humanity, global collaboration is urgently needed to conserve biodiversity and to address climate change. The Republic of Korea, which will chair the G20 summit next year, is determined to do all it can to help resolve issues common to all humanity including biodiversity conservation.

For example, although the Republic of Korea belongs to the Non-Annex I countries of the UNFCCC, we are taking voluntary actions to set our own 2020 greenhouse gas emissions reduction target by the end of the year 2009. The task at hand will not be easy since the country saw its GHG emissions increase two-fold during the 1990-2005 period. Nevertheless, the Korean Government will certainly set and comply with the target in an exemplary manner.

A Green Earth can only be achieved when the global village works together and starts acting now. We cannot afford to delay any longer. It is a great practice for us and a new and forceful power toward a better future for our generations to come. ♡



Norbert Röttgen, *Federal Environment Minister, Germany*

# Opportunities and challenges in the International Year of Biodiversity 2010

**A**longside climate change, the loss of biological diversity is one of the most pressing areas of global policy and thus one of the key challenges of our time. However, although we are aware of this and are committed to combating this loss at national, regional and international level, biodiversity - the wealth of our planet - is still disappearing worldwide at an alarming rate.

The United Nations' designation of 2010 as the International Year of Biodiversity can and will help us to raise global awareness of the many facets of

shortly after this Japan will host the 10th meeting of the Conference of the Parties to the Convention on Biological Diversity, when the post-2010 targets for global biodiversity policy will be adopted.

Taking stock at the start of this eventful year, I am pleased that we have achieved positive results during Germany's CBD Presidency. At COP 9 in Bonn in May 2008, more than 6000 delegates from 191 countries jointly took a global step forward in nature conservation. The momentum then achieved has been sustained. Even 18 months after

the key elements of post-2010 global biodiversity policy. This debate must be conducted with great care and include all the relevant players, in order to generate the broadest possible ownership of the new target and establish it as an overarching target for other conventions as well.

Irrespective of the actual key elements and targets we agree on, for me it is vital that they encompass the three objectives of the CBD: the conservation and sustainable use of biological diversity, access to and the fair and equitable sharing of the benefits arising from the use of genetic



*“Political decision-makers are beginning to grasp that the conservation of biodiversity and its services are important for human well-being, global economic development and poverty alleviation”*

biodiversity and integrate this issue into key political and social processes. The coming year offers us a unique opportunity. In 2010 we must do everything in our power to anchor biological diversity even more firmly in the global political agenda and steer a new course towards effective international biodiversity conservation, in order to bring about the urgently needed halt to biodiversity loss. A range of events taking place in 2010 will offer excellent opportunities for this.

In addition to the expert talks within the CBD, at the special session of the UNEP Governing Council in February environment ministers will discuss biodiversity, the status of the 2010 biodiversity target and the structure of a new political framework for global biodiversity conservation post-2010. These issues will be addressed again later in the year by heads of State and government in the special session of the UN General Assembly, and

the meeting, biodiversity remains high on the agenda of global environmental policy.

This shows that political decision-makers throughout the world have begun to grasp that the conservation of biodiversity and its services is immensely important for human well-being, global economic development and poverty alleviation. For the German Presidency the increased importance attached to biodiversity is vital for the comprehensive and timely implementation of the decisions taken in Bonn and the preparations for COP 10 in Japan.

### **What are the main international debates and processes of 2010?**

### **What do we envisage for the years to follow?**

### **How can we successfully tackle the major challenges?**

Without doubt, the coming year will primarily focus on the debate concerning

resources. Future global objectives must equally reflect both the key importance of nature and its ecosystem services for human well-being and the close relationship and great potential for synergies between climate protection and biodiversity conservation.

In my view, this means it is imperative that an internationally binding regime on access and benefit-sharing (ABS) is adopted at COP 10 in Japan in 2010. I also believe that compiling the international study *The Economics of Ecosystem Services and Biodiversity* (TEEB), disseminating and implementing its results and creating an intergovernmental science-policy platform on biodiversity, similar to the IPCC, are inseparably linked to the debate on the future global targets and objectives of biodiversity policy.

The LifeWeb Initiative, which in Germany receives funding from the International Climate Initiative and the development cooperation budget, can





link the two major global challenges climate protection and biodiversity conservation in a relatively simple and very innovative way. Projects to conserve habitats which are important carbon stores help both to conserve biodiversity and mitigate climate change. Moreover, they also present useful ways for humans and habitats to adapt to the impacts of climate change.

Since 2008, 32 LifeWeb projects have been supported with a total volume of 74 million euros. A further 11.5 million euros have been pledged for LifeWeb projects. For me, the main task here is to gain as many partners as possible for this successful initiative.

**Outlook**

In the months to come, the road to Nagoya, with its many events, will require great commitment from everyone in order for us to achieve our ambitious goals. The upcoming conferences and expert meetings must be used to prepare the adoption of the decisions we are striving for at the 10th meeting of the Conference of the Parties to the CBD in Japan.

In 2009, we have come a lot closer to reaching an important objective of the German CBD Presidency – to convince the few countries that have not yet joined to become Parties to the Convention. I am delighted that Iraq and Somalia have taken this step, thus playing their part in further strengthening this most comprehensive global agreement to protect nature and secure the natural foundations of human existence. The International Year of Biodiversity would be the perfect opportunity to complete the CBD family!

Safeguarding the biological diversity of our Earth for future generations is a key concern for me, so that our children and grandchildren can also experience nature’s wealth, beauty and many benefits. Only if we think beyond our own existence can we preserve the planet for the sake of our children. This is a question of maintaining the very basis of our lives - as an end in itself, because it is an asset for mankind - but also to prevent an ecological crisis of a magnitude that would put all economic and financial crises in the shade. ❖

# Moving Beyond Business as Usual



**B**iodiversity is an issue to which I and the European Commission attach the greatest importance. We have a clear moral obligation to protect nature. But it is also very much in our own interest to do so.

The services provided by ecosystems are the life support system upon which

Commission have concentrated on our target to stop the loss of biodiversity in Europe by 2010. We have worked to effectively implement existing legislation, to complete the network of protected areas in Europe and to design new policies to address deforestation and reduce the EU’s ecological footprint. As a result of this work the EU is much closer to meeting its biodiversity target than it would otherwise have been. But we also need to be honest and to recognise that, despite our efforts, all the evidence is that the destruction of biodiversity is continuing.

Nature’s destruction reduces the quality of our lives, and stands in the way of sustainable, long-term economic development. And extinction is irreversible.

*“To successfully tackle climate change we must stop the destruction of the world’s forests. Healthy and resilient biodiversity is essential for reliable long-term food production”*

our wellbeing depends. Nature provides us with goods such as food, fuel and medicines. Ecosystems regulate the air that we breathe, the quality of our waters and the fertility of our soils. It will not be possible to successfully tackle climate change without stopping the destruction of the world’s forests. Healthy and resilient biodiversity is essential for reliable long-term food production.

In short, our prosperity is underpinned by healthy ecosystems and the loss of biodiversity is a global threat of the same magnitude as global warming. And yet we take these goods and services so much for granted that often we can only see how important they are when they are gone.

Efforts made by the European

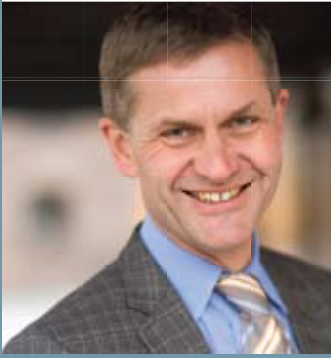
Reaching the point of no return when it comes to the ecosystems means just that: there is no return.

It is clear that with a “business as usual” approach we will not achieve our objective. For this reason I am convinced we should raise the profile of biodiversity and ecosystems in tackling issues such as climate change and food insecurity.

We need to devote more high level attention to biodiversity and we will need to develop new thinking if we are to move beyond business as usual. I look forward to real progress during 2010, the International Year of Biodiversity, to develop the measures that will protect our natural heritage in Europe and also give a decisive contribution to the global challenge. ❖



Erik Solheim, *Minister of Environment and International Development, Norway*



(Photo courtesy Bjørn H. Stuedal)

## Earth's Natural Capital – Recognizing the Value Delivered by Nature

In 2003 we set ourselves an ambitious, but important global target, namely to significantly reduce the loss of biodiversity by 2010. The European countries have committed to halt the loss of biodiversity by 2010. Even though important progress has been made, the implementation has so far been insufficient to meet the 2010 target. Recent research on biodiversity has concluded that we are living through a period in which ecosystems are being degraded and biodiversity is being lost at rates not seen in human history. The 2005 Millennium Ecosystem Assessment shows that nearly two-thirds of the world's ecosystems are now under threat. We have to change course, and we cannot escape the fact that we have a moral responsibility for conserving biodiversity, and that nature has its own intrinsic value.

A significant reduction of the loss of biodiversity matters for many reasons. Natural ecosystems provide a wide range of ecosystem services from which people benefit, and upon which all life depends. These include food, fuel, building materials, freshwater, climate regulation, flood control, nutrient and waste management, recreation and outdoor activities, and cultural services. Conservation of biodiversity is often misinterpreted as only the protection of endangered species, and the crucial role of nature for combating climate change is often forgotten. The linkages between climate change and biodiversity management have to be improved. We cannot tackle biodiversity loss without tackling climate change, and we cannot tackle climate change without addressing biodiversity and ecosystems. In other words, protecting biodiversity is a win-win situation: the many vital ecosystem services it provides are central in tackling climate change at the same time as they absorb greenhouse gases in the atmosphere.

We therefore need to create synergies between biodiversity, climate change and

development agendas. Efforts to reduce emissions from deforestation and forest degradation in developing countries, the REDD initiative, will support such synergies. Norway contributes about USD 500 million annually to this initiative. The emissions from deforestation and degradation of forests are close to 20% of the global emissions of greenhouse gases. Reducing the emissions by fighting deforestation and degradation of forests represents one of the fastest, most significant and cost-effective options for slowing down climate change. Other ecosystems such as peatlands, wetlands, soil and oceans also play a crucial role in absorbing and storing carbon.

As Darwin once said, "It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change". Failing to combat and adapt to climate change will have serious impacts on biodiversity and ecosystem services. One particularly vulnerable ecosystem includes coral reefs which are reaching the stage of ecological tipping points. Coral reefs are an integral part of an extensive and vital landscape of coastal ecosystems which are highly productive. They are home to an estimated 1-3 million species and it is estimated that around 30 million of the world's poorest and most vulnerable people in coastal communities are totally reliant on reef-based resources as their primary means of food production. More focus on ecosystem resilience and the fact that nature is part of the solution is needed.

Human well-being is dependent upon ecosystem services provided by nature for free. These are predominantly public goods with no markets and no prices, so their loss often is not detected by our current economic incentive system and can thus continue unabated. We need to understand the real costs of using the Earth's natural capital and the consequences that policies and actions have on the resilience and the sustainability of

natural ecosystems. The new report, prepared by The Economics of Ecosystems and Biodiversity (TEEB) initiative hosted by the UN Environment Programme, often compared with the Stern report on climate change, underlines the fact that there are very large values being lost today. According to estimates in this report the measurable cost of the loss of biodiversity is somewhere between 1.5 and 5 trillion euro's a year. In comparison: the total sum of all the financial packages approved by governments worldwide to mitigate the worst financial crisis of the last century was three trillion per year. Moreover, the report shows that economics can be a powerful instrument in biodiversity policy in supporting decision processes and by inclusion in national budgeting. Recognizing the value delivered to society by nature must become a policy priority.

We also need to strengthen and improve the scientific input into policymaking processes in the biodiversity field as a parallel to the Intergovernmental Panel on Climate Change (IPCC). The establishment of an Intergovernmental platform on Biodiversity and Ecosystem Services (IPBES) in 2010 is therefore important and a priority to Norway.

Halting the loss of biodiversity is no longer just an environmental issue, but a social development and equity issue and a question of human survival. Degradation of ecosystem services presents a significant threat to achieving the UN's Millennium Development Goals, worsening poverty and causing social conflicts. Biodiversity is a key factor to sustainable development. Goals set to alleviate extreme poverty will not be met unless we address the accelerating rate of biodiversity loss. Let us join efforts during the 2010 International Year of Biodiversity to tackle these challenges and to set new ambitious global targets on biodiversity at the 10th Conference of the Parties to the Convention on Biological Diversity! ❖



**Huw Irranca-Davies**, Minister for Marine and Natural Environment at the Department for Environment and Rural Affairs, United Kingdom

# Facing up to the Challenge of Safeguarding Biodiversity

**B**iodiversity matters. We know just how important it is, not just for its own sake but also to all of us because it underpins the vital benefits we get from the natural environment, because of its contribution to our economy, our health and wellbeing, and because it enriches our lives.

But we also know that globally we're losing species and habitats at an unprecedented rate as a result of human activities. It is urgent that we turn this around.

Part of the challenge we face is to spread the word to people on just how important biodiversity loss is to all of us. We need people to better understand what biodiversity does for them and just how serious the consequences are of failing to halt the loss of biodiversity and degradation of ecosystems. Greater understanding of this will help us all place greater value on the world's natural capital.

That is why the International Year of Biodiversity is so important. As well as the focus on the Convention on Biological Diversity conference in the autumn of 2010, the designation of 2010 as the International Year of Biodiversity gives us a real opportunity to leave a legacy of a greater public understanding of the profound importance of our natural world. The Convention has called on national governments to take action to mark the year, to communicate to different target audiences the value of biodiversity and to motivate them to conserve it, and to promote sustainable use practices.

In the UK, we are establishing a wide partnership for 2010 to promote the importance of biodiversity to the British public, explaining why it is so important that we halt biodiversity loss and encouraging them to get involved to make a contribution. So far over 200 organisations — and rising — are involved. We will be working with the Convention's excellent branding materials under the slogan, 'Biodiversity is life', to celebrate successes and point the way forward, including how we can all

*"We need people to better understand what biodiversity does for them and just how serious the consequences are of failing to halt biodiversity loss and degradation of ecosystems"*



A waterfall at the Asa Wright Nature Centre (Photo courtesy the Tourism Development Company Limited of Trinidad and Tobago)

get involved and make a difference.

The partnership will include many organizations that focus on biodiversity conservation as a part of their core business. But it will also include other organizations keen to be involved because of the International Year and because they see the importance of preserving our natural heritage for future generations. For example, museums, universities, art and cultural organizations are all engaged. This will help give us a wider reach and have a greater public impact. We hope to be able to achieve much more working together than separately.

For us in government, we are looking to play our part, too. We have already provided funds to support his UK partnership, 'Biodiversity is life', and we are underway on a whole range of initiatives. For example, we are encouraging the

public to volunteer for conservation work through our Muck in4life campaign.

Volunteering is critical to the successful delivery of many of the objectives of our national biodiversity strategy. Muck in4life is an exciting, innovative campaign which aims to enthuse the public about biodiversity by increasing the number and diversity of citizens involved in conservation volunteering, while also increasing awareness that being active outdoors, whether in urban green spaces or the natural environment, has physical and mental health benefits.

Through the campaign, we are encouraging families and community-based groups to undertake a range of outdoor volunteering activities to protect precious wildlife (ranging from monitoring species to scrub and path clearing and creating new habitats), encouraging people to enjoy the outdoors while at the same time helping their local community. We are working with over 40 national and local partner organizations that provide volunteering opportunities.

The main message is about having fun, being healthy, and taking part in free environmental activities for all the families that help conserve and enhance our wildlife. The campaign is using a multi-media approach and innovative, engaging communications to provide accessible information for our target audience about how they can get involved in a local level.

2010 will be a crucial year for biodiversity. Let us make sure we face up to this challenge, and take the opportunity to spread the message of just how important safeguarding the world's biodiversity is. ♡





# Balancing Economic Development and Biodiversity Conservation: The Singapore Story

**T**he mission of the Convention of Biological Diversity (CBD) is to reduce the global rate of biodiversity loss. This becomes more critical every year as the losses mount and development pressures become more acute.

## Balancing Economic Development and Biodiversity

At the heart of the CBD's mission is the perennial question: how do we balance economic development with biodiversity conservation? As a small island city-state with five million people on 700 sq km, Singapore is acutely aware of the challenges underlying the need to achieve this delicate balance. Since we gained independence almost 50 years ago, our philosophy has been to plan for economic growth and to create the highest quality living environment for our people and our children. Land is a precious resource. We treasure it and nurture it. We adopt a long-term and integrated approach in planning its use. We pay attention to the natural environment and protect our natural heritage.

Despite being land-scarce and facing competing needs for economic growth, we have set aside close to 10% of our land for parks and nature reserves. To ensure that our native biodiversity is conserved in a lush urban setting, we have put in place a hierarchy of nature conservation areas. The four Nature Reserves, namely Bukit Timah, Central Catchment, Sungei Buloh Wetland and Labrador Nature Reserves, are protected by law. They cover more than 4.5% of Singapore's land area and represent the key ecosystems like primary lowland

forest, freshwater swamps, mangroves, rocky shores, grasslands, and freshwater streams. These reserves play important conservation roles, even beyond Singapore. The Sungei Buloh Wetland Reserve, for instance, is on the East Asian-Australasian Flyway and is an important stopover point for migratory birds from as far as Siberia.

Complementing our biodiversity assets is an island-wide network of parks, park connectors, streetscape and waterfront greenery, resulting in a green cover over almost 50% of our island-state. We are now transforming Singapore into a City of Gardens and Water, where our water bodies and greenery are integrated to become havens for urban biodiversity.

## What we learnt

Our experience has given us hope that through careful planning, it is possible to strike a balance between economic development and biodiversity conservation. Today, Singapore has established itself as a vibrant economy and a choice destination for global investors. At the same time, we have recorded over 2000 native plant species, 98 reptile species, over 350 bird species, more than 280 butterfly species, and nearly 120 dragonfly species. Despite being one of the busiest ports in the world, our waters harbour around 250 species of hard coral (over 30% of the global total of 800 hard coral species), and more than half of the sea-grass species that are found in the Indo-Pacific Region. More surprisingly, we are still discovering new species in Singapore. In 2007, Patrick Grooetaert, a Belgian entomologist, discovered over 150 new species of the long-legged flies, Dolichopodidae, in Singapore.

Our experience has taught us that economic development and biodiversity

conservation need not contradict. In fact, the two can reinforce each other. Our green environment has a direct and positive effect on our high quality of life and is a key factor that helps attract foreign investors to Singapore. Economic growth also provides us with the wherewithal to embark on important biodiversity conservation projects.

## Singapore Index on Cities' Biodiversity

The year 2008 was a significant landmark year in human history. For the first time, we have more people living in cities than people in the rural areas. When CBD Executive Secretary, Dr. Ahmed Djoghlaif, visited Singapore that year, he was pre-occupied with the question of how to get cities more involved in his mission to reduce the global rate of biodiversity loss. We discussed the need for cities to share and pool our knowledge, and to develop new approaches, methods and tools. He also called on Singapore to lend our resources and share our experience.

At the 9th Meeting of the Conference of the Parties to the CBD, I proposed that Singapore work with the CBD to develop a self-assessment tool to assist cities in benchmarking their biodiversity conservation efforts over time. I am pleased that Singapore's proposal was well-accepted. Such a tool has now been developed with the help of several international technical experts in diverse fields. The Singapore Index on Cities' Biodiversity, as it is now called, comprises 25 indicators that benchmark three areas: a) Native Biodiversity in the City; b) the Ecosystem Services Provided by Native Biodiversity in the City; and c) Governance and Management of Native Biodiversity in the City. The index is currently being tested in several cities. I hope it will be endorsed at



Troels Lund Poulsen, *Minister for the Environment, Denmark*

the 10th Meeting of the Conference of the Parties to the CBD in Nagoya in October 2010. It is my hope that the Index will help like-minded cities collaborate and share best practices on conserving biodiversity in the urban environment.

### Future Challenges

For a small country like Singapore, juggling competing needs for resources is a constant challenge. There is always the temptation to succumb to short-term needs and expedient solutions at the expense of our natural heritage. But for our long-term viability, a deep commitment to sustainable development is not a choice but a necessity. Last year, as part of this commitment, we formulated our National Biodiversity Strategy and Action Plan, which sets out to a) conserve and enhance biodiversity at the genetic, species and ecosystems levels; b) ensure sustainable use of Singapore biodiversity resources; and c) ensure fair and equitable sharing of benefits that result from the use of our genetic resources.

I will conclude by sharing a story about the Oriental Pied Hornbill. This big bird is a native species of Singapore and the region, and had been extinct from Singapore for many decades. Breeding had not been recorded since 1855. But in 1995, bird watchers began spotting the Oriental Pied Hornbill, which had flown into Singapore from neighbouring forested countries. The Oriental Pied Hornbill has bred in Singapore every year since 1997. By providing nest boxes set up in the wild to overcome a shortage of natural nesting cavities, we have now helped to build up the resident population of Oriental Pied Hornbill to more than 50. This bird can now be seen at a wide spread of localities around the city. Whenever we need a reason to explain why we need biodiversity in our city, we just need to look at how the hornbill stirs excitement among our city folks whenever it makes an appearance. There is in all of us, young and old, a primordial appreciation of the wonder and mystery of nature that this large beautiful bird embodies. Success stories like this encourage and reward us for making the effort to ensure the continued diversity of species in our living environment for our future generations. ❖

# Biodiversity and Ecosystems are Vital for Climate Change Mitigation

**B**iodiversity and ecosystems play a key role in climate regulation and in the efforts for mitigating the negative consequences of climate change. In fact, healthy ecosystems and a rich biodiversity is vital for sustaining global civilisation as we know it today, and healthy

This is worrying as biodiversity and ecosystems are the foundations of agriculture, forestry and fisheries and provide the raw materials for industry, medicine, trade and tourism. Furthermore, natural ecosystems, such as forests, wetlands, grasslands and marine areas, provide vi-



*“Reaching mutual benefits and mitigating the negative affects of climate change require international cooperation, knowledge and political will”*

ecosystems and a rich biodiversity are therefore important to protect.

For this reason, Denmark is committed to halting the loss of biodiversity and to work focused, and through diverse channels, to achieve the international goals on biodiversity and on climate regulation. For this reason Denmark intends to strongly support the coming negotiations on ambitious, realistic and measurable international goals on biodiversity and ecosystem conservation.

The decision to include measures to reduce greenhouse gas emissions from deforestation and forest degradation, in the negotiations for a post-2012 climate agreement under UNFCCC, offers new and promising opportunities for climate change mitigation and adaptation, as well as for improving a range of other valuable ecosystem services and protecting biodiversity.

Global changes in the climate are taking place, and consequent impacts on natural ecosystems, biodiversity and the services they provide for our economies and livelihoods have already been observed.

tal ecosystem services for our economies and societies, e.g. water flows, water quality, pollination, carbon sequestering, nutrient cycling, flood and wind control, decontamination and soil formation.

However, reaching the mutual benefits and mitigating the negative effects of climate change require international cooperation, knowledge and political will. The Danish government will work hard to achieve the common international goals. To that end, the Danish Government will, inter alia, in collaboration with a broad range of intergovernmental organisations on forest, biodiversity and the environment in general, provide for a scientific update and international dialogue on relevant challenges and opportunities at task at Forest Day 3 in Copenhagen 13th December 2009. This will take place alongside the 15th Conference of the Parties of the UN Framework Convention on Climate Change (UNFCCC) in Copenhagen.

Denmark has a long tradition of nature restoration, afforestation and sustainable forest management and we would like to share our expertise and experience to the benefit of all. ❖



# Sustainable Management Essential to Mitigate Biodiversity Loss

**T**he sustainable management of biodiversity and ecosystem services is critical to achieving the Millennium Development Goals and to combating poverty. Poor rural communities depend on biodiversity and ecosystem services for health and nutrition, for crop and stock development, and as a safety net when faced with climate variability and natural disasters. Healthy ecosystems like forests and bogs contain massive carbon reservoirs and are vital to regulating the global climate.

Biodiversity loss threatens to increase poverty and undermine development. As the two main causes of biodiversity loss are weak governance systems and market failures, support to government authorities to address the governance and market failure requires the broad experience, ability to leverage, and trusted credibility of a neutral partner. The United Nations Development Programme’s (UNDP) engagement in the business of biodiversity management is thus essential if biodiversity loss is to be mitigated.

UNDP’s biodiversity management work supports the four key results of mainstreaming environment into development, assisting developing countries to access finance to meet their environmental finance needs, assisting countries to adapt to the impacts of climate change, and supporting local environmental action to buttress national policy reforms and ensure their sustainability.

These key results are implemented through two programmes financed by the Global Environment Facility, UNDP resources, and programmes such as the Dryland Development Centre and Equator Initiative.

First, UNDP works to ensure that the production practices employed by large, small and medium enterprises in major economic sectors such as forestry, agriculture, fisheries, mining and tourism are compatible with biodiversity conservation objectives.

Second, UNDP works to strengthen the management and economic benefits derived from the World’s Protected Areas and indigenous and community conservation areas, which together cover an estimated 22% of the Earth’s surface.

UNDP’s activities under these two programmes mesh upstream policy dialogue and support for institutional strengthening, and efforts to raise environmental finance, with demonstration activities on-the-ground to showcase sound biodiversity management approaches. In this way, policy dialogue is fertilised by experiences dealing with the real economic and social issues facing communities. UNDP’s work seeks to ensure that de-



*“The UNDP seeks to ensure that developing countries have the capacity to manage their biodiversity on a sustainable footing — and eventually without development assistance”*

veloping countries have the capacity to manage their biodiversity on a sustainable footing—and eventually without development assistance.

For example, in Namibia, a US\$ 8.5 million GEF funded UNDP programme is helping the Government optimise the economic benefit from its protected areas and ensure that they contribute to poverty alleviation. An economic assessment of the programme showed that protected areas contributed 6% of GDP in tourism alone, with a significant potential for growth. Namibia’s Ministry of Environment and Tourism has used these findings to negotiate an increase in the State budget for Park Management by 310% in the last four years. Twenty five per cent of the entrance revenue has been earmarked for reinvestment in the protected area system through a trust fund, providing up to

US\$ 2 million in additional yearly financing. The initiative has also led to new donor funding for parks, already amounting to over US\$ 80 million and is expected to create over 6,000 new jobs. It is worth noting that local communities have a direct stake in this through benefit sharing arrangements, and the overall capacity of the Government to manage the protected areas has been strengthened.

The extinction of a species or the degradation of an ecosystem leaves the world a poorer place. As the Year of International Biodiversity approaches, we must redouble our efforts to create an environment which prevents this from happening. ♡

For additional information on UNDP’s work on biodiversity, go to [www.undp.org/gef/05/portfolio/biodiversity.html](http://www.undp.org/gef/05/portfolio/biodiversity.html)





**Monique Barbut**, *Chief Executive Officer and Chairman, Global Environment Facility (GEF)*



## A New Opportunity for the Planet

**W**hen it comes to global environmental policy breakthroughs, great opportunities are few and far between. The most recent one was the Copenhagen climate change conference, but it is still too soon to predict what will be unfolding from that process, which was attended by 119 heads of State. Yet one important lesson learned already is that citizens of the world, be they rich or poor, are demanding action on the part of policy makers to ensure a healthy planet for future generations.

How do we move from words to action? While many are not sanguine about short-term advances, there could be some progress over the course of 2010, with the next real opportunity presenting itself with the upcoming CBD COP10 in Nagoya, Japan this October.

There are several reasons why decision makers should look to Nagoya for building greater consensus on global environmental challenges; Copenhagen reinforced that biodiversity and climate change are

intertwined in the global commons.

First, under the UN framework, several institutions have already joined forces to highlight 2010 as the International Year of Biodiversity. The Global Environment Facility, for example, is working closely with the CBD, UNESCO and others to educate and inspire opinion shapers about the vital contribution biodiversity makes to human health, economic development and local livelihoods. Such a concerted effort is unprecedented since the CBD was enacted in Rio in 1992, and with this momentum much can be accomplished over the next few months.

Second, climate change is a mere symptom of much larger problems for our planet. A key reason we face rapidly changing temperatures across hundreds of ecosystems is the poor, unsustainable management of biological diversity and natural resources. Recognizing this fact, if Copenhagen was successful on any front, it was the consensus achieved between rich and poor countries that

conserving forests, peatlands and soils is central to keeping the planet's fever under control — the so-called REDD+ agenda. Aggressively pushing the REDD+ agenda will translate into multiple benefits: among these are biodiversity conservation, emissions mitigation and job generation.

If emissions from deforestation and degradation are responsible for 15% of the total climate change problem, on the other side of the equation oceans capture 25% of our emissions every year. When you protect the oceans you also protect the planet: healthy seas and rivers mean secure food sources, safer water supplies, and healthier living for the world's most vulnerable people.

Third, while adaptation measures to climate change are starting to be put in place, people cannot readily adjust to lack of shelter, water, food and productive habitats. If and when we are able to sustainably manage biodiversity and natural resources, we will also have come a long way in turning the tide for climate change.

For these basic reasons I believe that the International Year of Biodiversity and the CBD COP 10 represent landmark opportunities to catalyze change. And as the world's largest public environment fund the GEF is poised to deliver efficient and targeted resources to help meet these growing environmental and economic challenges.

As the financial mechanism of the Convention on Biological Diversity, the GEF has a strong comparative advantage because of its track record helping developing countries and countries with economies in transition meet Convention commitments while generating global environmental benefits. The GEF's biodiversity portfolio is the largest GEF focal area portfolio in terms of grant amounts provided, and accounts for about one-third of total GEF investment to developing countries and to those with economies in transition.

Tobago's coral reefs are home to more than 300 species of South Atlantic coral and a variety of spectacular multicoloured fish. (Photo courtesy the Tourism Development Company Limited of Trinidad and Tobago)





Since 1991, the GEF has invested about \$2.8 billion in direct financing and leveraged about \$8 billion in cofinancing for 964 projects that address the loss of globally significant biodiversity in more than 155 countries. Behind these numbers much has been accomplished — for example, GEF has been the driving force to ensure 10% of the world's terrestrial areas are conserved through support to the improved management and enhanced financial sustainability of 2,302 Protected Areas spanning 634 million hectares with at least 700 globally threatened species.

Yet, we and others need to do much more — and do it in a cost-effective and efficient way that reflects how climate change and biodiversity are interconnected.

Contemplating the financial needs of biodiversity, we are looking forward to a robust GEF-5 replenishment necessary to finance the way forward.

In many ways, the GEF-5 strategy is also already working towards building on the synergies between biodiversity, natural resources management and responses to climate change, drawing on our role as the financial mechanism of the three Rio Conventions.

Consistent with these goals, the GEF established a program in sustainable forest management in GEF-4 that will continue in GEF-5. As part of this process the GEF is also launching the Blue Forests Initiative bringing together resources from biodiversity and international waters towards much more ambitious goals in the protection and sustainable management of the oceans.

COP 10 and the International Year of Biodiversity provide the next opportunity for the global community to express its political will to do more to reverse the loss of ecosystem services, including a stable climate. The GEF is committed to do its part during GEF-5 and build on the results we have achieved thus far. We look forward to working with our country partners and other stakeholders to advance the collective cause of biodiversity during this celebration that commemorates that “biodiversity is our life”. This is our time; we cannot afford a lost opportunity. ❧

## Time to Decisively Deal with Climate Change

**T**here is overwhelming scientific evidence, as shown in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), that climate change threatens economic growth and long-term prosperity as well as the very survival of the most vulnerable populations not least through a dramatic, and in many instances irreversible, loss of biodiversity.

IPCC projections indicate that if emissions continue to rise at their current pace and are allowed to double from their pre-industrial level, the world will face an average temperature rise of around 3°C this century. Up to 30% of plant and animal species assessed so far are likely to be at increased risk of extinction if increases in global average temperature exceed 2°C. If global average temperature increase exceeds about 3.5°C, model projections suggest major extinctions around the globe.

The UN climate change process has long since recognized the importance of biodiversity and its services, its intrinsic value and its value for mitigation and adaptation-related action. In this context, a number of organisations, including CBD, have made important contributions to reports, fora and meetings. Relevant work has been carried out under the Ad Hoc Technical Expert Group (AHTEG) on biodiversity and climate change. Information brochures on forestry and adaptation-related issues have been produced on the initiative of the Joint Liaison Group of the Rio Conventions, and information and experience exchanged in the context of UNFCCC's REDD (Reducing Emissions from Deforestation in Developing Countries) web platform.

In 2007, in Bali, the 192 Parties of the UN Framework Convention on Climate Change launched negotiations on strengthened action against climate change. This negotiating process is to culminate in an ambitious agreed outcome at the end of 2009, which needs



to enter into force before January 2013. The UN Climate Change Conference in Copenhagen this year will be the moment in history when humanity has the opportunity to rise to the challenge and decisively deal with climate change.

In the ongoing negotiations, issues related to biodiversity are being considered under agenda items relating to adaptation and forests under various bodies.

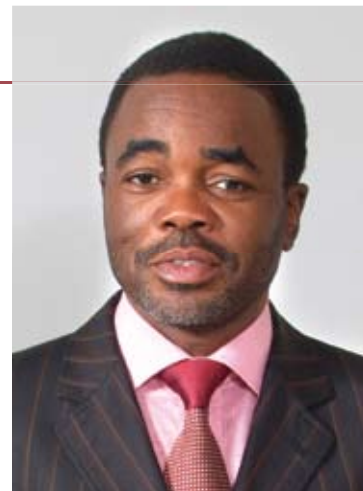
The concept of CBD's ecosystem approach and related issues are also currently being taken into account under negotiations on the issue of adaptation, based on submissions by Parties and intergovernmental organisations for the Convention negotiating text.

At the UN Climate Change Conference, in December, in Copenhagen, Parties will have before them the final report of the AHTEG on biodiversity and climate change. In the light of the findings of the IPCC and of the AHTEG, an ambitious and effective Copenhagen deal could play a significant role in protecting biodiversity and preventing the worst projections of the IPCC from coming true. ❧





# On the Occasion of the International Year of Biodiversity: Enhancing Soils Anywhere Enhances Life Everywhere



**H**aving emerged together from the Earth Summit in 1992, the Rio Conventions share common values, concerns and challenges toward sustainable and environmental development. We have demonstrated the strength of synergetic approaches to meet the broad objectives of our Conventions on various occasions.

At the same time, I cannot stress enough about the importance of synergetic approaches at the local and national levels. By bringing all stakeholders together for the implementation of these Conventions in communities and countries, we can generate significant local and global benefits including on poverty alleviation, food security, water availability, energy conservation and deter war and conflict, to name a few.

The interdependence between biodiversity and soil is one such aspect that can yield multiple benefits through synergetic approaches, and serves as our

*“Soil and biodiversity are part and parcel of the life sustaining cycle. Therefore, enhancing soil anywhere, enhances soil everywhere”*

Convention’s primary focus in observing the International Year of Biodiversity.

Biological diversity provides valuable services to dryland ecosystems. Conversely, biological diversity may be adversely affected by desertification. For instance, soil cannot be conserved without vegetation, but vegetation growth also depends on healthy soil.

Soils contribute essential services for the sustainable functioning of all ecosystems, as habitats of micro-organisms that serves as the primary driving agents of nutrient cycling, regulators of the dynamics of soil organic matter and converters of atmospheric carbon into soil organic carbon. Micro-organisms also modify the soils’ physical structure and water

regimes, which enhance the amount and efficiency of nutrient acquisition by the vegetation and plant health. Thus, ecosystem diversity is critically linked to soil diversity. In this regard, soil conservation preserves the root for the diversity of life.

The 10-Year Strategic Plan and Framework for the implementation of the United Nations Convention to Combat Desertification (UNCCD) recognizes this interdependence between biodiversity and soil. By promoting sustainable land management and combating desertification/land degradation, the Strategy also promotes the conservation and sustainable use of biodiversity, and the adaptation to and mitigation of climate change by land users.

I am convinced that by promoting better soil and land management throughout the observance of the International Year of Biodiversity, we can enhance a relationship that achieves the main goals and objectives under each Rio Convention.

The International Year of Biodiversity offers a unique opportunity to convey a strong message that soil and biodiversity are part and parcel of the life sustaining cycle. Therefore, enhancing soil anywhere enhances life everywhere.

I congratulate the secretariat of the Convention on Biological Diversity for its tireless efforts towards such a noble cause. I am delighted to join you in celebrating the International Year of Biodiversity. ✨

Ichkeul National Park, Tunisia (Photo courtesy World Heritage Centre)







Francesco Bandarin, *Director of the UNESCO World Heritage Centre*

## A Powerful Ally in the Protection of Biodiversity

The World Heritage Convention provides a framework within which the world's most outstanding natural and cultural heritage is systematically identified with the support of technical experts, and then formally recognized by the international community through the inter-governmental World Heritage Committee. Once inscribed on the World Heritage List, a rigorous monitoring process and an active dialogue between the Convention's Secretariat, national authorities and other partners ensures that conservation standards are maintained.

The Convention recognizes ten distinct criteria under which a site may be inscribed on the World Heritage List. Two of these criteria focus on ecosystems and biodiversity (criteria ix and x), while a third focuses on natural phenomena (criteria vii), such as the Monarch Butterfly Biosphere Reserve (Mexico), which helps conserve the wintering grounds of the unique migratory population of monarch butterflies.

As of its 33<sup>rd</sup> session, held in Seville, Spain, in June 2009, the World Heritage Committee had inscribed 173 sites from 66 countries on the list under criteria supporting the conservation of biodiversity. Of these, five are transboundary sites and 14 have also been added to the List of World Heritage in Danger — a tool of the World Heritage Convention designed to elicit increased political, financial, and international support for the conservation of a site facing particularly intractable conservation challenges.

World Heritage biodiversity sites range from the iconic, such as the Galápagos Islands (Ecuador) and Komodo National Park (Indonesia) — both of which include important marine components, Serengeti National Park (Tanzania) and Yellowstone National Park (USA), to the equally rich, yet lesser known sites, such as the Rainforests of the Antsinanana (Madagascar), the Uvs Nuur Basin (Mongolia and Russia), the over five-million-hectare Central Amazon Conservation

Complex (Brazil) and the Belovezhskaya Pushcha / Białowieża Forest (Belarus and Poland).

Taken as a whole, these biodiversity sites represent the most rigorous global level *in-situ* conservation of vast assemblages of the planet's biodiversity, covering a total area of nearly 100 million hectares — nearly twice the area of France.

Coordination with other biodiversity conventions provides further value added to this network of World Heritage sites. In fact, noting the excellent cooperation of these conventions through the mechanism of the Biodiversity Liaison Group, the World Heritage Committee at its 33<sup>rd</sup> session recommended adopting a similar model for cooperation among conventions and programmes in the field of cultural heritage.

The World Heritage Centre, which acts as the Secretariat to the Convention, has been providing input to CBD-led initiatives such as the Post-2010 Biodiversity Indicator Development Process, the writing of the Guide to Integrating Protected Areas within Wider Landscapes and Seascapes, and is actively contributing to various activities and events for the International Year on Biological Diversity. The CBD's programme of work on protected areas also serves as a guiding principle for the work of the World Heritage Centre, where focus on capacity-building and management effectiveness assessment is particularly noted.

World Heritage sites provide a ready-made network of intergovernmentally monitored sites in which such site-based CBD initiatives can be piloted. The recent inscription of the Wadden Sea (Germany, Netherlands) also highlights a complementary role with the Convention on Migratory Species, as this site, along with many such sites, was recognized as a critical breeding and wintering area for up to 12 million birds per year, while supporting more than 10% of the population of 29 bird species. Similarly, in developing the World Heritage component of the



World Commission on Protected Area's work plan for marine conservation, recent participation from the Ramsar Convention Secretariat resulted in strengthened cooperation between these two site-based instruments.

The scientific rigor and intergovernmental nature of the Convention's processes has made it a favoured Corporate Social Responsibility reference point with the private sector. Shell International, the International Council on Mines and Metals, JP Morgan, Goldman Sachs, HSBC, TripAdvisor and the luxury watch maker Jaeger LeCoultre, are examples of large private sector corporations that have formally acknowledged the credibility of the World Heritage instrument through various commitments and initiatives.

As recognized in the Convention on Biological Diversity's Article 8, the fundamental requirement for the conservation of biological diversity is the *in-situ* conservation of ecosystems and natural habitats. In this regard, the World Heritage Convention is a powerful ally, not only in helping ensure the conservation of internationally recognized *in-situ* biodiversity hot spots, but also in helping develop regional and national capacities in protected area management overall. As the Secretariats from the various biodiversity conventions continue to increase coordination of their work, opportunities for further consolidation of objectives and activities are certain to result in more robust and effective results on the ground. ✨



Julia Marton-Lefèvre, Director General, the International Union for Conservation of Nature (IUCN)



# IUCN: Unconditional Support for Biodiversity Conservation

**W**e are losing biodiversity at an alarming rate. The IUCN Red List of Threatened Species™ and the Millennium Ecosystem Assessment have documented declines in all biomes and across all species. The 2008 IUCN Red List shows that nearly one quarter of all mammals, one-eighth of birds and more than one-third of amphibians worldwide are threatened with extinction. The figures are daunting.

IUCN's goals, addressing the extinction crisis and maintaining ecosystem integrity, are the foundation of our work. Through its extensive networks, IUCN disseminates knowledge on the status of biodiversity and promotes conservation action, empowering people to make effective decisions and contribute to change at all governance levels.

IUCN contributes towards the CBD goals through the delivery of its Programme, though the work of expert Commissions, Members and Secretariat working together. For example, the Species Programme and Species Survival Commission (SSC), together with some Members, produce the IUCN Red List, which measures the status and extinction risk of species. It is used to identify site-scale conservation priorities such as protected areas and also measures trends in biodiversity through the IUCN Red List Index. This shows that most species groups are declining. The Index has been adopted as a key indicator for measuring progress towards the CBD's 2010 Target and Millennium Development Goal 7.

With human livelihoods dependent on species and biodiversity, IUCN is working on sustainable use of wild living resources. The SSC Medicinal Plant Specialist Group and TRAFFIC have developed the FairWild Standard to help ensure that wild medicinal plant products are produced sustainably and ethically, contributing to the Global Strategy for Plant Conservation.

*“As we celebrate the International Year of Biodiversity and prepare to gather in Nagoya to give new and urgent impetus to conserving biodiversity, IUCN is committed to achieving true traction in the fight against biodiversity loss”*



Yellowhead, Makarora Valley, Otago Conservancy, New Zealand (Photo courtesy Ministry for the Environment New Zealand/Ian Southy)

IUCN's Global Marine Programme is facilitating a global scientific process with the CBD to reduce the rate of marine biodiversity loss in the remote open-ocean and deep sea. The project will bring together scientific data, methods and tools to identify ecologically or biologically significant areas needing protection.

Our Ecosystem Management Programme and Commission are working with the CBD to support implementation of the Ecosystem Approach, providing guidance to Parties to help achieve the 2010 Target.

IUCN's Forest Conservation Programme focuses on conserving biodiversity in multi-use forests such as those with industrial logging; it recently co-published guidelines on this. It also works to improve local peoples' livelihoods while promoting ecological management.

IUCN's Social Policy Programme is contributing to the development of indicators for assessing progress towards the 2010 Target relating to the status of

traditional knowledge, innovations and practices.

IUCN's Water and Nature Initiative is undertaking ecosystem-based Water Resource Management projects in river basins across the world, to help reduce poverty, through sustaining ecosystems and conserving freshwater biodiversity.

The Gender Advisor and the Global Policy Unit are leading pioneering work on Access and Benefit-Sharing

and gender — making visible women's knowledge of biodiversity and calling for participation of women in CBD decision-making processes. These efforts have led to a Gender Plan of Action within the Convention.

Finally, IUCN is engaging the private sector in activities to improve their performance on biodiversity conservation through developing tools to integrate biodiversity considerations in various sectors and by providing advice to international companies on the most effective approaches for biodiversity management.

As we celebrate the International Year of Biodiversity and prepare to gather in Nagoya to give new and urgent impetus to conserving biodiversity, IUCN is committed to achieving true traction in the fight against biodiversity loss. We will continue to work on developing and synthesizing knowledge and disseminating it through our expanding networks for the benefit of both nature and people. ❖



Tom Enders, *President and CEO, Airbus*

# The Biggest Thing we've helped Get off the Ground – Why Airbus Supports *The Green Wave*



In addition to pioneering greener flight, aircraft manufacturer Airbus is working in partnership with the United Nations Environment Programme's Convention on Biological Diversity (CBD) to build awareness of the complexity of biodiversity and its importance in developing a sustainable future.

If biodiversity is a good measure of the planet's health, the latest prognosis does not make comfortable reading. Science tells us that the alarming rate of biodiversity loss – with species extinctions at 100–1000 times the natural rate – qualifies as the sixth extinction level event in the planet's history. Only this time, mankind is to blame. That it is our generation's responsibility to do something about it is not for debate.

In the shrinking tropical rainforests – a planetary lifebelt home to more than 50% of known species of all living organisms – another 137 species have today run out of time, taking with them a potential treasure trove of life-saving medicines.

Thirty per cent of species globally are currently under threat because of human activities and climate change. More than a million of land-dwelling plants and animals could become extinct by 2050. And as the balance of the global ecosystem is altered, the probability of environmental refugees, uncertain food production, lack of water, increasing spread of disease and growing social instability increase.

Painting by numbers, it's a very different picture for our grandchildren. And far from the blank canvas we would want them to inherit.

And so it is the younger generation – those whose future is directly at stake – who will be crucial in any effort

to slow biodiversity loss. Our job, then, is to educate this new generation of champions. To encourage an informed, idealistic youth empowered to act, whose energy and commitment can keep the planet we know intact for future generations.

Here, the aviation industry can use its global networks to help. And it has plenty in common with the CBD.

The CBD aims to conserve biodiversity; encourage the sustainable use of its components; and promote fair trade and the equitable sharing of the benefits from the use of resources. While the aviation industry is fully committed to tackling its two percent contribution to man-made



**THE GREEN WAVE**  
One school, one tree, one gift to nature  
 

*“The younger generation — those whose future is directly at stake — is crucial in any effort to slow biodiversity loss”*

carbon emissions; contributes to trade, investment, productivity and tourism; and gives increasing numbers of people from developing nations access to opportunities for sustainable social and economic development.

As the first aeronautics company in the world to have earned ISO 14001 certification for its aircraft and its sites, Airbus believes that the application of technology and a lifecycle approach will enable us to both reduce the environmental impact of air transport and to widen the pool of people who can enjoy the benefits it brings. What's more, as Airbus biomimicry engineers will tell you, there is still a lot more we can learn from nature about how to fly with maximum efficiency and

minimum environmental impact!

So, for all of these reasons, Airbus is backing *The Green Wave* – and we're asking others in our industry to join us. Because in the International Year of Biodiversity we want *The Green Wave* to be as far reaching as possible. Because growth in air travel need not be inconsistent with creating a better environment. Because preserving diversity is the key to preserving life on Earth. And because raising awareness among the world's children and youth today is an investment in the educated citizens of tomorrow.

Between us, this could be the biggest thing we've ever helped get off the ground. ✎





# Collaboration Essential for Addressing Biodiversity Loss

As the Convention on Biological Diversity's (CBD) lead implementation partner on wetlands since COP 3, the Ramsar Convention on Wetlands continues to play a major role in supporting the world's governments in their implementation of the objectives of both our Conventions, providing a wide range of policy advice, guidance, and support for on-the-ground implementation activities — work which is delivered under the CBD/Ramsar Joint Work Plan. The many achievements from the Conventions' close collaboration provide a model for how such multilateral environmental agreement synergies can be delivered effectively.

The key to achieving both CBD and Ramsar's objectives lies in the usage of water, and in improving the world's management of water through maintaining and restoring the natural infrastructure of the network of wetlands interlacing all our ecosystems. The Intergovernmental Panel on Climate Change (IPCC) tells us that we will feel the impacts of climate change through water — changes in where, when and how frequently it occurs, how much or little of it there is, and increased unpredictability of water for ecosystems and people — so water is a key to ecosystem-based adaptation to the changing climate. Wetlands are embedded in all ecosystems, whether they are mountain, island, forest, marine and coastal, agricultural or inland waters — and hence implementation of the Ramsar Convention speaks to the delivery of all CBD's ecosystem programmes of work as well as other CBD programmes and issues such as protected areas and climate change. Yet the cross-cutting role of water for ecosystems has so far received scant attention in CBD debates and programmes — this urgently needs redressing at the CBD's SBSTTA-14 and COP 10 meetings.

Practically, a considerable number of implementation activities by Ramsar's

Parties, Secretariats and Scientific & Technical Review Panel (STRP) speak strongly to CBD issues for implementation. Some recent examples include:

- Designation of further Ramsar sites (Wetlands of International Importance): With the Ramsar List now totalling 1871 sites covering over 84 million hectares, it is a major contribution to implementing the CBD programme of work on protected areas
- Climate change: Joint work by CBD and the Ramsar STRP on addressing water, wetlands, biodiversity and climate change, and recent work through

World Wetland Day, on 2 February each year, celebrates the 1971 signing of the Ramsar Convention. World Wetland Day's 2010 slogan of "Caring for Wetlands: an answer to climate change", and its theme of "wetland, biodiversity, and climate change," speak not only to the vital issues of managing wetlands for climate mitigation and adaptation, but also make a Ramsar contribution to celebrating the International Year of Biodiversity during 2010, with advice on maintaining wetland ecosystem services if we are to have any chance of success in reducing rates of biodiversity loss.

Addressing biodiversity loss cannot

*"The key to achieving both the CBD and Ramsar's objectives lies in the usage of water, and in improving the world's management of water through maintaining and restoring the natural infrastructure of the network of wetlands interlacing all our ecosystems"*

the Danone Fund for Nature, involving the Danone Group, Ramsar and IUCN in increasing understanding of the major importance of some coastal and inland wetlands (notably mangroves, salt marshes and forested peatlands) in carbon sequestration and storage

- The STRP's work on ecological indicators for assessing the effectiveness of Ramsar implementation, which is informing the assessment of achievements towards the 2010 biodiversity target, has also made a contribution to the in-depth review of the CBD programme of work on inland water's biological diversity to be considered by SBSTTA14 and COP10. This work also demonstrates that CBD and Ramsar national reporting processes are already complementary and can be utilised to inform implementation assessment for both our Conventions.

be done only by those directly responsible for national CBD and Ramsar implementation — much better cross-sectoral understanding and collaboration is essential. To that end, the "Changwon Declaration on wetlands and human well-being" adopted at Ramsar COP10 provides a powerful message from the governments of the world to other sectors — that the sustainability and success of their businesses in the future will critically depend on maintaining the natural infrastructure which delivers their water and other ecosystem services. Ramsar is committed to continuing and strengthening its partnership with CBD, and we also need a future of much strengthened multilateral collaboration amongst all MEAs, particularly to help countries respond to the outcomes of the December 2009 Copenhagen climate negotiations. ❖



**Liz Dowdeswell**, *Former Executive Director of the United Nations Environment Programme*

# In a State of Becoming

**T**he designation of 2010 as the International Year of Biodiversity is an opportunity we should not squander. Our celebrations of progress and reflections about the past must be the impetus for discipline and urgency in fully implementing the Convention on Biological Diversity and its Biosafety Protocol.

In the late 80s we faced mounting evidence that the environmental web that sustains all life was unraveling — species and their habitats were disappearing at an alarming pace.

The international community mobilized to negotiate a legally binding treaty to help reverse this loss. It was nothing less than a Convention about life on Earth.

This treaty signed by an overwhelming majority of countries at the United Nations Conference on Environment and Development in 1992 asked all countries to make an investment in our collective futures. Recognizing multiple threats, it placed the conservation of biodiversity within the context of sustainable development, recognizing simultaneously wise management of global biodiversity and development objectives. It articulated an ethical imperative of the fair and equal sharing of benefits — a search for mutual reliance and solidarity.

Today the threats are ever more obvious. All signs point to a future of instability and surprise. The widening gap between rich and poor, overcrowded cities, the increasing frequency of extreme weather events, a rise in fundamentalism, resurgence of infectious diseases, pressures of human migration and cultural, social and political upheavals form a short list.

Notwithstanding the farsighted work of scientists to address gaps in our knowledge, the persistence and dedication of non-governmental organizations and the passionate leadership of certain countries and individuals, it is clear that our work is in its infancy.

We know now more than ever that tampering with the earth's life-support

systems is a dangerous game. Yet we do not seem to understand how to avoid a collision between growing ecological pressures, significant challenges to social cohesion and economic expansion

But we are starting to connect the dots. Biodiversity is very much a matter of interest for sectors as diverse as agriculture, health and industry. The impacts of climate change are already being observed — coral bleaching, inability of certain species to adapt, shifts in habitat, melting of glaciers and a changing Arctic landscape. And we are being reminded of the other side of the picture -that biodiversity resources can reduce impacts of climate change, reducing the amount of CO2 from deforestation, by strengthening the resilience of ecosystems.

In parallel, scientific and technological developments are bringing new chal-

lenges. How do we acknowledge the precautionary principle while we seek the benefits of fast-paced biotechnology discoveries for improving health and stimulating the economy? How do we achieve the aspirations of developing countries for genuine sustainable development? How do we ensure that the interest of the global commons is front and centre in a messy, volatile, complex and interconnected world?

With its capacity to re-create nature and even change what it means to be human, science is now confronting us with moral dilemmas and profound choices that will require even deeper global dialogue and greater systemic thinking than we have ever achieved. At the same time, we have an opportunity to put the politics of polarization aside and be architects of a participatory



process worthy of the importance of these issues.

Gradually a firm foundation has been built, an agenda set, and shared responsibility is becoming the norm. But — paralysis in implementation remains a worry. How do we move from the conceptual, from the domination of procedural and political considerations to real action?

There continue to be some unresolved thorny questions: Is there a real commitment on the part of the developed world? How do we guarantee access to genetic resources and benefit sharing? How does

*“Raising awareness and linking the work of our scientists to citizens and decision-makers is crucial”*

a global partnership actually accommodate the view that biotic wealth is the sovereign property of nations? How do we place an economic value on biodiversity? What do we mean by sustainable use? By what means can a static legal instrument respond to the complexity and dynamic pace of biotechnology?

If we want to maintain momentum and give real vitality and practical expression to the Convention on Biological Diversity, there are several issues that require our attention.

They all relate to governance — how we make decisions (the processes, policies and institutions).

First, we have built a system of institutions and governance that is rigid. It does not allow us to deal effectively with the pace of change. We are coming to realize that our challenges will not be met with



**Elizabeth Maruma Mrema**, *Executive Secretary of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) Secretariat*



## CBD – Strength in (Bio-) Diversity

traditional entrenched modes of thinking. Fresh and innovative perceptions need to be brought to bear. Preventing a genomics divide or responding to profound inequities and questions of ethics call upon different skills and approaches. Agility and responsiveness need to be designed into our institutional structures just at the time when so many of them are going through a mid-life crisis.

Our governance systems must promote greater mutual understanding and tolerance in recognition of an interdependence that has been empowered by new information technologies. As we better understand concepts of ecological resilience and adaptive management we will need the social flexibility to cope, innovate and adapt.

Secondly, biodiversity is a term not yet well understood by our citizens. Yes, we can conjure up examples of endangered and exotic species or safaris and vacations in tropical forests. But there is incomplete recognition of our total dependence on the critical interactions between genes, species and habitats. And as the world becomes increasingly urban, recognition of new stakeholders in cities will have an important role to play in healthy ecosystems.

One of the real threats to implementation of the Convention is the lack of evident public support and consequently no sense of urgency that demands concerted political attention. The biodiversity convention is dependent upon national implementation and all governments will need to reinforce a culture of responsibility among their citizenry.

Raising awareness and linking the work of our scientists to citizens and decision-makers is crucial.

And so as this year of recognition begins, we are in a state of becoming. The impact of the trends we observe can be moderated with a shared vision and purposeful and sustained action. Surely our mutual vulnerability is becoming more poignant, more politically irresistible. The avoidance of a diminished future must fuel our dynamism.

What issue could be more fundamental than to preserve the integrity of the complex web upon which we depend for survival? ❧

It was evident almost from the start that the Conventions on biodiversity (CBD) and migratory species (CMS), since they both belong to the same UNEP biodiversity stable, would develop a *modus operandi* in their dealings with each other.

In the complex spectrum of international environmental law, there are almost inevitably overlaps and danger of duplication, frustration and waste. These dangers have nonetheless created opportunities for joining forces and adopting multifaceted approaches to solving problems. CBD and CMS were provided with the opportunity to embark on con-

The Executive Secretaries of CMS and CBD signed a Memorandum of Cooperation in 1996, committing their organisations to institutional collaboration, according each other observer status at Conferences of the Parties and subsidiary bodies; the exchange of experience and information; co-ordination of Programmes of Work; and joint conservation action. The Memorandum bore fruit with the conclusion of the first joint work programme (2002-2005) covering areas such as the marine and coastal environment, forests, agriculture, dry and sub-humid lands, alien species and information exchange

*“The tasks we are assigned — to secure a sustainable future for the planet — can be daunting, but challenges are there to be overcome”*

structive dialogue on how to collaborate on issues of mutual interest, which they seized eagerly, without any sense of jealousy, envy or rivalry.

CMS, negotiated in 1979, had a head start over CBD. However, CBD, despite being CMS’s junior by over ten years, had the advantage of being born of the Rio Earth Summit. Rio is an iconic event in the annals of the history of international environmental governance and has eclipsed its precursor, the UN Conference on the Human Environment held in Stockholm in 1972. But it should not be forgotten that Stockholm sowed the seeds from which CMS and indeed its parent organisation, UNEP, both sprang.

While CBD may be the flagship of UNEP’s biodiversity fleet, CMS has proven its tactical worth. As early as COP 3, held in November 1996, CBD Parties adopted Decision III/21, calling on their Secretariat to evaluate how the implementation of CMS could complement the implementation of the Convention on Biological Diversity.

between Secretariats, subsidiary bodies and National Focal Points.

In May 2000, CMS commissioned a report to examine the complementarities between the Convention on Migratory Species and the Convention on Biological Diversity. The report was in part a response to Decision III/21 and aimed to explain the importance of migratory species in biodiversity conservation and efforts to promote and encourage sustainable use. It demonstrated how CMS (and its instruments — the Agreements and Memoranda of Understanding) supported CBD’s implementation, and highlighted the potential for synergies between the two Conventions.

Fears that CMS would wither and be considered superfluous following the entry into force of CBD in December 1993 were unfounded as membership of CMS has trebled since then. CBD’s 193 Parties include the vast majority of CMS’s 112 countries (but one should also not forget the thirty-two countries, which although not Parties to the Convention





Gerald Dick, *Executive Director, World Association of Zoos and Aquariums (WAZA)*

itself, participate in CMS's regional seven Agreements and seventeen MOUs.)

Decision VI/20 adopted by the CBD COP6 in 2002 further cemented the relationship between the two Conventions, with formal recognition of CMS as CBD's lead partner in the conservation and sustainable use of migratory species over their entire range. It also recognized that CMS provides an international legal framework through which Range States can cooperate on issues relating to migratory species.

Bilateral ties are underpinned further through both Conventions being members of the multilateral structure of the Liaison Group of Biodiversity-related Conventions or Biodiversity Liaison Group (BLG), which also includes CITES, the Ramsar Convention, the World Heritage Convention and the International Treaty on Plant Genetic Resources for Food and Agriculture.

The UN General Assembly has decided that 2010 should be declared "International Year of Biodiversity" (IYB). The year 2010 is singularly appropriate because in 2002 the Parties to the CBD set the ambitious target of achieving by 2010 a significant reduction in 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. CMS, having declared 2006 to be "Year of the Turtle", 2007 and 2008 both "Years of the Dolphin" and 2009 "Year of the Gorilla", will be supporting CBD in celebrating 2010 as International Year of Biodiversity, and will contribute its accumulated experience of running a sustained campaign with awareness raising and conservation elements.

Working for the UN can be demanding and even dangerous; sometimes hectic, rarely dull; often challenging but usually ultimately rewarding. We have the opportunity to experience other cultures in a cosmopolitan milieu; and the privilege of working with dedicated and learned colleagues. The tasks we are assigned — in the biodiversity field to secure a sustainable future for the planet — can be daunting, but after all challenges are there to be overcome. Together, we should succeed in our conservation ambitions. ♡

## Zoos and Aquariums and CBD: A Novel Partnership?

The international community of zoological gardens and aquariums, which numbers about 1300 institutions, hosts a minimum of 600 million visitors annually and focuses on conservation and education. By conveying the conservation message, and via education programmes and public awareness work, zoos and aquariums serve as biodiversity embassies and conservation centres. Being located on all continents and united by WAZA, the World Association of Zoos and Aquariums, our members are best placed to explain what biodiversity is and to get people directly involved in conservation action.



World Association of Zoos and Aquariums  
**WAZA** | *United for Conservation*

During 2009, the UN Year of the Gorilla, zoos not only promoted the conservation of these human relatives and their habitats in various ways, but also collected used mobile phones in order to reduce the demand for coltan, which is mined in gorilla habitats. The combination of the WAZA member institutions, linking direct contact with people, and the

field projects is unique and places zoos and aquariums amongst the leading and biggest conservation organisations. The recent publication<sup>1</sup> 'Building a Future for Wildlife' highlights 25 of the most successful conservation projects in which zoos and aquariums take a leading role. These projects range from South America to Europe, Africa, Asia and Oceania and deal with creatures from snails to gorillas.

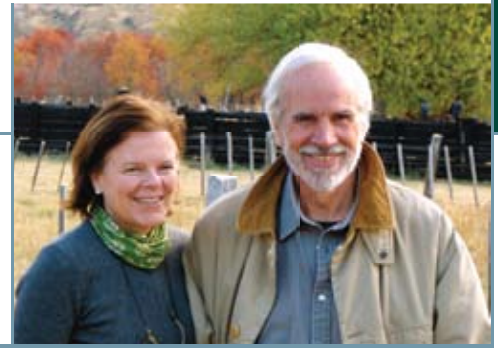
They range from the reintroduction of threatened species to local community work. All projects are carried out in partnerships, with other zoos and aquariums, other conservation NGOs, governments or local communities. The common focus is to improve the status of threatened species and habitats and support people in their endeavour to achieve sustainable living. The increasingly precarious situation of nature and the human dependence on natural resources make it imperative to engage in partnerships and work together. There is no one organisation which can turn the steering wheel in



(Photo courtesy of Gerald Dick/WAZA)



Douglas and  
Kristine Tompkins



terms of biodiversity loss; if there is to be a real chance of sustained improvement, forces have to be joined.

Through its strategic guidance, WAZA has established partnerships with the international conservation community. WAZA members are committed to a code of ethics and animal welfare and also to international strategies such as the world zoo and aquarium conservation strategy, the global aquarium strategy for conservation and sustainability ('turning the tide') and the WAZA vision and corporate strategy. In implementing these strategies, WAZA has established working relationships with IZE (International Zoo Educators), IUCN, CMS, Ramsar and CBD. As we share a common goal, the conservation and sustainable use of biodiversity, the partnership with CBD may be a novel one, but a consequential step forward in using synergies and improving impact. Now in its seventy-fifth year of existence, it is the most appropriate and rewarding way in which WAZA can visibly support the UN Year of Biodiversity 2010 as an official partner by amplifying conservation and education work, accompanied by public awareness-raising.

Increasingly, the WAZA community is also being confronted with the climate change and sustainability agenda, not only in terms of the institutions themselves, but as part of international policy. The directors and the senior management of the world's leading zoos and aquariums therefore sent an urgent message to world leaders at the Copenhagen COP 15 UN climate change conference, stressing the extreme gravity of the climate change threat to wildlife and natural systems. They called for an agreement to reduce atmospheric CO<sub>2</sub> to the safe level of <350 ppm, which is the only way to give the international conservation community a real chance to manage the negative effects of climate change on the natural world.

WAZA will continue to work with partners and other stakeholders in their efforts to meet biodiversity targets, focusing in 2010 on encouraging conservation implementation by telling success stories and providing best practice examples. ❖

## Putting Nature First

It is painfully clear that the current global extinction crisis is deepening. Every reader of this publication will be familiar with the litany of grim statistics about biodiversity loss, deforestation, unraveling ecosystems on land and in the oceans, and the prospect for climate change to amplify these trends caused by a burgeoning humanity's destruction of natural habitat and overexploitation of wild creatures.

us into the current mess.

For us, it is impossible to imagine the needed societal changes without a deep systemic critique of globalized industrial growth capitalism, and a significant reduction in human population numbers—achieved humanely and voluntarily, but quickly. Simply too much of the planet is dominated by destructive economic activity, and population growth is continuing at a ferocious pace. Is this desirable?

*“If we limit our conservation arguments to human-centred concerns, we reinforce the same anthropocentric worldview that has gotten us into the current mess”*

The extinction crisis is arguably the biggest story of the last 65 million years, but you wouldn't know it from watching the news. No mass movement of citizens has risen up to demand action, and national governments have demonstrated little capacity to implement sustained, effective policies to restore and protect biodiversity. Conservation groups around the globe are doing heroic work to preserve wildlife and wild habitats, but nongovernmental organizations are underfunded and inadequately powerful relative to the magnitude of the problem.

Moreover, it is frustrating to see how biodiversity-related communications, both from public agencies and advocacy groups, almost always emphasizes the needs of people, not the intrinsic right of wild places and creatures to exist for their own sake. Yes, human welfare is inextricably tied to the health of the natural world. Yes, protecting biodiversity is crucial to sustainable human economies. Yes, it is useful to communicate the value of ecosystem services, but if we limit our conservation arguments to human-centered concerns, we reinforce the same anthropocentric worldview that has gotten

What pressing problems, ecological or social, will be easier to solve by adding 80 million additional human beings on the planet this year?

Human-caused extinctions are the ultimate marker, the measure of whether our cultural, economic, and religious frameworks are correct. The current trends toward social and ecological collapse are stark reflections of a failed philosophical and economic paradigm. To save the full diversity of life, it will take more than small changes, more than tinkering around the edge of a fundamentally broken system. It will take all the current tools in the conservation toolbox but also a dramatically different worldview, a shift from the modern, western point of view that sees our species as the Lord over creation, and toward our rightful place as a “plain member and citizen” of the land community, to borrow Aldo Leopold's phrase.

Since leaving the business world and moving to South America two decades ago, we have devoted all of our energies, and the bulk of our personal wealth, to vigorous advocacy for wild nature, and helping create new protected areas. Thus far, through foundations and public

<sup>1</sup> For details see [www.waza.org](http://www.waza.org)



charities that we endowed and manage, we've purchased more than two million acres and created national parks in Chile and Argentina. These natural areas offer beauty, recreation, and associated economic development, but our primary goal is restoring and protecting biodiversity. Because of their value to national pride and unsurpassed endurance as a conservation tool, we generally favor national parks as the ultimate type of protected area.

The tradition of private individuals and land trusts buying private property and setting it aside for parks and reserves stretches back more than a century, and we are proud to continue it. We have complemented our parkland creation efforts with agricultural restoration projects, creating organic farms that model innovative practices.

We believe that every landowner, and especially individuals who hold large amounts of private property, should have a personal land ethic. Protecting additional conservation land is an ecological

imperative and also a social responsibility. Buying land for conservation, and with the objective to own that land for a relatively short period of time, restore it if necessary, and then repatriate it from the private sector to the public sector is, in our minds, one of the most noble efforts anyone can make. It has brought tremendous personal satisfaction to us to have conserved so much land already, and we are working hard to create the future Patagonia National Park in the Aysen Region of Chile, as well as other new protected areas.

The nominal holding of land titles either personally or through our foundations is for such a short period in geologic time as to be nothing more than a wink of an eye. If these lands can be preserved as wild sanctuaries where evolution is allowed to continue or to resume, then that fleeting moment in time will have been seen in historical perspective as having been very important.

We are but one couple of conservation-minded citizens who love the wild

world. If the ten thousand richest families on Earth devoted the lion's share of their personal wealth to buy land and create protected areas for biodiversity to flourish, it would change the world overnight. A wildlands philanthropy movement on that scale wouldn't eliminate the need for effective governmental action and an ethical revolution in humanity's relation toward the living Earth, but it would go a long way toward slowing the current extinction crisis.

Above all we believe that nature comes first, that we are bound ethically to share the planet with other creatures. In all of our land conservation work—both parkland and agricultural properties, we strive to embody ecocentric, not anthropocentric values. Paraphrasing the great conservationist David Brower, and endorsing his sentiment, we believe that there will be no social justice, no "development" (sustainable or otherwise), no arts and entertainment, no democracy or gender equality, and no society or culture on a dead planet. ❖

Randal Keynes, *The Charles Darwin Trust*

## Biodiversity – The *Origin of Species* and the Crisis We Now Face



One hundred and fifty years ago Darwin gave us *The Origin of Species*. He explained how all living organisms struggle, thrive and fail in their unceasing interactions with each other, and how they generate new species through the process of natural selection. Through this last year people around the world have been reflecting on his ideas. We've seen how his theory has grown stronger and stronger as science has developed since his time. The discussion the Convention on Biological Diversity is now leading about the biodiversity crisis echoes *The Origin of Species* again and again. In focusing as we are on the

diversity of life, on ecological relations, on the critical importance of ecosystem services and on the need for public understanding, we're working on from the start Darwin made.

Darwin ended *The Origin of Species* with his vision of an entangled bank teeming with plants, insects, animals and birds that make it their home. He suggested we could reflect on how 'these elaborately constructed forms, so different from each other and dependent on each other in so complex a manner, have all been produced by laws acting around us'. In writing about 'these forms, so different from each other', Darwin was pointing straight

to biodiversity. He had suggested earlier how the differences were developed by a natural process, his 'principle of divergence', to create the extraordinary meshing together. We now see how the power and resilience of the web of life depends on its diversity.

Since the discussion on biodiversity started after Rio, it has evolved. One maturing theme is the emphasis on ecological relations. Darwin was thinking about them carefully from the outset. He wrote about their 'infinite complexity causing an infinite diversity in structure, constitution and habits'. He stressed again and again our deep ignorance of the mutual relations





Six-spot Burnet moth, *Zygaena filipendulae*, with orchid pollen-masses on its proboscis pollinating a Common Spotted-orchid, *Dactylorhiza fuchsii*, on Darwin's 'Orchis Bank', Downe Bank in Kent, Britain (Grant Hazlehurst), (Photo courtesy Randal Keynes)

Darwin studied Common Spotted-orchids in an area of chalk grassland near his home in Kent which he called Orchis Bank. He found out how the orchids were cross-fertilised by moths that fed on them. Darwin almost certainly had the plants and insects of Orchis Bank in mind when he described an entangled bank and its wildlife in the last paragraph of *The Origin of Species*, his great tribute to biodiversity and one of the most famous and inspiring passages in all science writing. Orchis Bank is now part of Kent Wildlife Trust's Downe Bank Nature Reserve and the Common Spotted-orchids still thrive there today together with eight other orchid species, their pollinators like the Burnet moth and the many other plants and insects that depend on them in the ways Darwin had in mind.

of all the beings which live around us in what he called 'the great and complex battle of life'. And yet, he wrote in one key passage, 'these relations are of the highest importance, for they determine the present welfare, and, as I believe, the future success and modification of every

Darwin spotted a link between the cold forests of seaweed and the land forests he had explored 'in the most teeming part of the tropics'. 'On shaking the great entangled roots (of kelp) it is curious to see the heap of fish, shells, crabs, sea-eggs, cuttle fish, star fish, Planariae, Nereidae

turf-covered) expanse has passed, and will again pass, every few years through the bodies of worms. The plough is one of the most ancient and most valuable of man's inventions; but long before he existed the land was in fact regularly ploughed, and still continues to be thus ploughed by earth-worms. It may be doubted whether there are many other animals which have played so important a part in the history of the world, as have these lowly organised creatures.' An imaginative insight, and an example for us all today of how to understand and value apparently insignificant elements in natural life.

One group of problems that we face now is linked with some weaknesses in our overall understanding of human dependence on natural life. Scientists are uncertain about some key factors because the processes are so complex and the investigation is so difficult. The general public do not understand because the factors have not been explained clearly to them, and governments and other bodies do not act because they aren't pressed to.

Darwin pioneered field research into



*"Darwin would have been shocked that humans have destroyed so much so quickly but he wouldn't yield to despair. He'd urge us to press on with the most penetrating investigations we can undertake to throw light on the workings of resilient and failing ecosystems, and to work out effective solutions to each major problem"*

inhabitant of this world.' (*The Origin of Species*, Introduction.)

Darwin had first sensed the richness of a complex ecosystem in the Brazilian forests he was able to explore on the first leg of the Beagle voyage. He quickly recognised the value that single species could sometimes have for a whole system, and later in the Southern Seas he anticipated the idea of an ecosystem service in his grasp of the importance of kelp, *Fucus*, for an 'immense quantity and number of kinds' of organic beings that lived in the kelp forests in the intertidal zone on the rocky coast of Tierra del Fuego and islands in the South Atlantic.

which fall out.' One single plant form is an immense and most interesting menagerie' for marine life of all kinds. If this *Fucus* was to cease living, with it would go many', eventually possibly the indigenous Fuegians who then lived on what they could catch from the rocks and their boats.

Later in his life Darwin drew attention to another ecosystem service provided by a single organism, this time a land creature hardly noticed by most people. He concluded his book about the role of earthworms in soil formation, 'It is a marvellous reflection that the whole of the superficial mould over any (wide,

ecosystem functions with a series of experiments to examine interactions between different organisms in the wild. He emphasized how difficult it is to recognise and appreciate some aspects of the struggle for existence, and he made repeated efforts in *The Origin of Species* to make them clear to the widest possible audience. Scientists today have made huge advances in field investigation, but we have not yet persuaded policy-makers and action-takers to factor biodiversity concerns and needs into their decisions as they should. We must follow Darwin's example by working hard to convey the key points effectively to the



Carlos Beto Richa, *Mayor of Curitiba, Brazil*



## Biodiversity and Sustainability

widest audience we can reach with non-technical language, clear arguments and examples from common experience.

Alongside all his great insights, Darwin got one critical point badly wrong. When he was writing in the 1850s, no-one imagined that humanity might soon face a global crisis of habitat destruction and species loss. He'd seen human destruction of vegetation on islands in the Atlantic leading to utter sterility. He also noted in *The Origin of Species* how *Cynara cardunculus*, a thistle brought from Europe, had spread over whole tracts of Argentina, Chile and Uruguay and made them quite impenetrable. But he believed that nature's fertility was hugely powerful, natural selection was far more effective than any human breeding could be, and evolution by natural selection could be expected to continue unaffected. As he wrote in the last sentence of *The Origin of Species*, 'Endless forms, most beautiful and most wonderful... are being evolved.'

But we've triggered a global crisis in the 150 years we've had *The Origin of Species*.

What would Darwin say now? Reading what he wrote and sensing how he valued natural life, I'm certain he'd be deeply shocked that humans have destroyed so much so quickly, that we've managed to disrupt the natural process he was so confident would sustain life, and that by our selfishness and carelessness we are now precipitating the sixth great extinction event in the history of our planet. He wouldn't yield to despair. He'd urge us to press on with the most penetrating investigations we can undertake to throw light on the workings of resilient and failing ecosystems, and to work out effective solutions to each major problem. And then, critically, we must make a compelling case for action. We must explain to and then persuade the public and the decision-takers. ♡

**Randal Keynes is a writer and conservationist living in London. He is a great-great grandson of Darwin. He writes about Darwin's heritage and its use for conservation and science education. He is a Trustee of The Charles Darwin Trust and a Board Member of the Charles Darwin Foundation for Galapagos.**

**W**henever we set objectives to be reached, regardless of how tough they might be, they will always be easier to accomplish if we deploy the tools we are most familiar with, without ever ignoring the flashes of creativity driven by the forces of adversity.

Conjugating expertise and inventiveness was Curitiba's option to reach 2010, the International Year of Biodiversity, with consistent progress in the battle for the preservation of urban biodiversity, with a view to meeting the commitments taken on by the city in the latest editions of the Convention of the Parties (COP).

This is a challenge of epic proportions, since it requires socio-economic inclusion for the new generations of citizens, thirsting for jobs, education, health, culture and leisure, without compromising the survival needs of future generations.

In facing this, we resorted to the skills for which Curitiba has already become a reference — public transportation, urban planning and environmental preservation — and added to these competencies a new agenda that places social equality at the top of budget hierarchies.

Another challenge is to run these programs in integration, coordinating their policies in such a way that their very execution potentializes their purpose.

Curitiba, in the quest for the sustainable city, launched in 2007 a program called Biocity, which links development and environmental preservation. The Program's actions are organized into projects that deal with, simultaneously, issues like the replacement of exotic invasive species with native plants, environmental education, incentives for preservation of privately owned green areas, revitalization of the rivers, ownership regularization and waste destination. The Biocity's environmental management concepts are practiced by all areas of the City Government and by the population of Curitiba, by way of simple and practical actions.

The Green Line (an urban avenue that

replaces a former federal highway) integrates regions of the city formerly separated by the highway and opens a new economic development hub in an extensive region previously doomed to stagnation. The first stage (10 km out of a total of 22 km) was concluded in late 2008 and in March of this year, the Green Line received the city's sixth transportation axis, on which bio-fuel powered buses are running (reducing the emissions of polluting gases by 60%), on lanes with linear parks on which 2,500 native trees are being planted.

Perhaps the most important of these actions is the closure of the Greater Curitiba sanitary landfill, being replaced by the Integrated Waste Processing and Use System (SIPAR). Comprised of Curitiba and 15 neighboring cities, the SIPAR will allow the waste generated every day by the population of the metropolitan region to be recycled and transformed into fertilizer and energy. Just the water and electric energy saved through this new system will be enough to supply 600 thousand people a year.

In the social dimension, the furthest reaching project associates low-income housing and revitalization of environmental preservation areas, the banks of the city's rivers and streams. As a highlight in the issue of water resources, the Strategic Plan for revitalizing the Barigui river basin — targeted at de-polluting and revitalizing Curitiba's largest river basin, and foreseeing immediate medium and long term measures for the preservation of headwaters, conservation of natural areas and ownership regularization for families that are now living on the river banks, which will move to new areas.

In partnership with the federal administration, Curitiba City Government is relocating families that live in irregular areas, subject to flooding and whose occupation collaborates directly to the degradation of rivers, transferring them to areas equipped with social infra-structure, with



schools, day care centers and health services units, in addition to urban and community equipment indispensable in improving human development indicators.

The city has also established a cooperation with conservation entities with a view to evaluating and quantifying the carbon sequestration potential of the native forests of Curitiba, in order to fine

tune our public policies targeted at the preservation of urban biodiversity, showing to the population that the function of green areas in urban environments is directly linked to health, well-being and quality of life for citizens.

The range of partnerships also encompasses society, more specifically the owners of natural reserves, encouraged

to preserve their private properties by way of tax and building incentives, already established in municipal legislation.

I am convinced that this set of measures sustainably conciliates the needs for social inclusion and economic development, in strict compliance with the Millennium Development Goals set by the United Nations. ✎



**Gérald Tremblay**, *Mayor of Montreal, Canada*

## Protecting Biodiversity Involves Volition and Local Action

**A**s Mayor of the host city of the international Secretariat of the Convention on Biological Diversity and on the occasion of the International Year of Biodiversity, I would like to emphasize the critical role played by cities in protecting their ecosystems and biodiversity as well as the work already achieved in this area.

With most of the world's population now living in cities the responsibility faced by municipalities represents a major challenge. Following the Conference of the Parties held in Curitiba in 2006, a new body called the "Cities and Biodiversity" network was created to embody this reality. This network unites large cities from around the world with the goal of sharing their best practices and integrating their actions as well as those initiated by Convention member countries. The network is also actively involved in developing tools specific to urban biodiversity.

Montréal is a leader in the field of biodiversity as it plays a prominent role in such areas as protection, conservation and implementation of sound practices. A concerted effort is central to our actions in the field of biodiversity.

Montréal can rely on innovative approaches and tools to reconcile urban development and biodiversity conservation. These include the Policy on the Protection

and Enhancement of Natural Habitats, adopted in 2004, which aims to protect biodiversity and meet citizens' desire for improved access to nature in the city. One of the highlights of the policy was the creation of 10 ecoterritories\* on the Island of Montréal. It is also a solid example of sustainable development, which is ac-

Plan for Sustainable Development also reflect our commitment to protect biodiversity and promote sustainable development.

The many conservation efforts carried out since 2002 were made possible through major land acquisitions within the ecoterritories, as well as via several inno-

*“Conservation efforts carried out since 2002 were made possible through major land acquisitions within the ecoterritories and via several innovative projects that integrated biodiversity protection into urban development plans”*

knowledged in the Urban Plan. The actions stemming from the policy helped increase the area of protected habitats from 3% in 2004 to close to 6% in 2009, representing approximately 2,600 hectares. In effect, we will succeed in doubling the area of protected natural habitats throughout the city by increasing protected natural habitats by more than 200 hectares on an annual basis.

Other initiatives such as our Plan to Protect and Enhance Mount Royal our Tree Policy and Montréal's First Strategic

vative projects that integrated biodiversity protection into urban development plans. These types of projects promote both ecosystem sustainability and species diversity in cities.

For several years, exotic species have been the focus of preventive actions in our parks and protected natural habitats. A variety of learning experiences led by the city's Nature Museums, for example, also serve to inform the public. At the same time research and conservation in the field of genetic diversity are





overseen by the experts at the Nature Museum while the Biodiversity Centre is scheduled to be built in 2010 on the site of Montréal's Botanical Garden. This centre is one of the projects included in the Nature Museums' 2009-2017 Business Plan/Life Plan. The Plan, valued at \$189 million, aims to change the way people look at nature by enhancing Montréal scientific institutions and thereby creating the first place in

the world dedicated to humankind and nature.

A major conservation project on biodiversity is also underway on Mount Royal. It involves the creation, by the spring of 2010, of a new park that will house the most impressive biodiversity reserve on Mount Royal, with its 23 hectares. The Third Summit Park project will be developed in partnership with the Notre-Dames-Neiges cemetery and Université de

Montréal, thereby promoting the vision of a protected mountain in the heart of the city. These initiatives mark considerable progress in the way cities are developed. Although it has a structuring effect, this evolution will only be matched on a world scale if it is encouraged, shared and implemented on a local basis. ♡

\* Ecoterritories represent protected areas and natural spaces with high ecological value.



**Takashi Kawamura**, *Mayor of Nagoya, Japan*

## Nagoya: Coexisting Sustainably with Nature

**T**he year 2010 will be a very important year for international biodiversity, and the City of Nagoya is truly pleased and proud to be involved in supporting the organization and being the host city of the Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity. As the new Mayor of Nagoya since April, 2009, I will continue to support COP 10 throughout the region to the best of my ability so that the meeting will be conducted smoothly and will produce beneficial results.

It was resolved at COP 9 that cities and local governments have an indispensable role in achieving the goals of the CBD, and as a result, we will hold the Nagoya Biodiversity City Summit concurrently with COP 10 from 24 to 26 October, 2010. Local governments and international organizations from around the world will convene at the summit to aim for an exchange of information and experiences related to the conservation of local biodiversity. Preparations are underway to strengthen collaboration with related organizations so that the conference will lead to the expansion of local actions for the conservation of biological diversity.

We are currently developing the Nagoya Strategies for Biodiversity which

was created to promote the preservation and revitalization of the surrounding nature as well as lifestyle changes to facilitate the sustainable use of biodiversity resources. We would like to strive for a sustainable city coexisting with nature by implementing the following strategies:

- Educating people to be aware of how life is connected
- Creating a lifestyle suitable to the local environment
- Adapting the city's development to nature

2010 will also be a memorable year for Nagoya because it is the city's 400th anniversary. We would be delighted for you to experience the charm of Nagoya's history and culture by participating in the excursions and other events to be held concurrently during your visit to Nagoya. ♡





# 2010 International Year of Biodiversity Events

<b>4 JANUARY</b> India	<b><i>Celebration of the International Year of Biodiversity</i></b> Ministry of Environment and Forests, India <a href="http://moef.nic.in/index.php">http://moef.nic.in/index.php</a>
<b>8 JANUARY</b> Curitiba, Brazil	<b><i>Celebration of the International Year of Biodiversity</i></b> City of Curitiba
<b>11 JANUARY</b> Berlin, Germany	<b><i>Launch of the International Year of Biodiversity</i></b> Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany <a href="http://www.bmu.de/naturschutz_biologische_vielfalt/downloads/doc/45484.php">www.bmu.de/naturschutz_biologische_vielfalt/downloads/doc/45484.php</a>
<b>13–14 JANUARY</b> London, UK	<b><i>Integrating ecosystem services into biodiversity management</i></b> The Royal Society <a href="http://royalsociety.org/Integrating-ecosystem-services-into-biodiversity-management/">http://royalsociety.org/Integrating-ecosystem-services-into-biodiversity-management/</a>
<b>18–22 JANUARY</b> Chicoutimi, Canada	<b><i>Événement ÉCO-Conseil 2010: « La biodiversité sens dessus dessous »</i></b> Université du Québec à Chicoutimi <a href="http://evenementecoconseil.uqac.ca/">http://evenementecoconseil.uqac.ca/</a>
<b>16 JANUARY, NAGOYA</b> Aichi, Japan	<b><i>The Aichi-Nagoya Celebration: The Opening of the International Year of Biodiversity</i></b> Aichi-Nagoya COP10 CBD Promotion Committee <a href="http://www.cop10.jp/aichi-nagoya/english/index.html">www.cop10.jp/aichi-nagoya/english/index.html</a>
<b>20 JANUARY</b> Paris, France	<b><i>Children's Photo Exhibition</i></b> National Geographic Society
<b>20–21 JANUARY</b> Geneva, Switzerland	<b><i>Redefining Sustainability in the International Agenda: Inspiring Greater Engagement in Biodiversity Issues</i></b> United Nations Conference on Trade and Development
<b>20 JANUARY</b> Paris, France	<b><i>French Nature Congress</i></b> Comité français de l'UICN
<b>21–22 JANUARY</b> Paris, France	<b><i>High-Level Event for the IYB: Launch of the UNESCO Biodiversity Exhibition</i></b> United Nations Educational, Scientific and Cultural Organization <a href="http://portal.unesco.org/science/en/ev.php-URL_ID=7998&amp;URL_DO=DO_TOPIC&amp;URL_SECTION=201.html">http://portal.unesco.org/science/en/ev.php-URL_ID=7998&amp;URL_DO=DO_TOPIC&amp;URL_SECTION=201.html</a>
<b>21–22 JANUARY</b> Montreal, Canada	<b><i>The Ark</i></b> Western Canada Wilderness Committee <a href="http://www.arsenal.ca/en/performances/general-audience/the-ark/">www.arsenal.ca/en/performances/general-audience/the-ark/</a>
<b>21–22 JANUARY</b> Montreal, Canada	<b><i>The Ark: Presented by L'Arsenal à Musique. Organized in collaboration with the Programme de soutien à l'école montréalaise</i></b> Secretariat of the CBD & L'Arsenal à Musique
<b>25–29 JANUARY</b> Paris, France	<b><i>UNESCO IYB Science-Policy Conference</i></b> United Nations Educational, Scientific and Cultural Organization <a href="http://events.unesco.org/">http://events.unesco.org/</a>
<b>25–27 JANUARY</b> Madrid, Spain	<b><i>Delivering Biodiversity Targets: 2010 and Beyond / Protected Areas and Ecological Networks in Europe</i></b> Spanish Ministry of Environment and Rural and Marine Affairs
<b>25 JANUARY</b> Tokyo, Japan	<b><i>Kick-off event in Tokyo</i></b> Ministry of the Environment, Japan
<b>28 JANUARY</b> The Netherlands	<b><i>Launch of the IYB in The Netherlands</i></b> NCB Naturalis and the Dutch National Committee IYB2010
<b>26 JANUARY–6 FEBRUARY</b> Montreal, Canada	<b><i>Launch of Multimedia Show Paradis Perdu</i></b> Dominic Champagne, Jean Lemire and Daniel Bélanger
<b>1–5 FEBRUARY</b> Trondheim, Norway	<b><i>Sixth Trondheim Conference on Biodiversity</i></b> Ministry of the Environment, Norway <a href="http://www.trondheimconference.org/">www.trondheimconference.org/</a>
<b>4–7 FEBRUARY</b> Delhi, India	<b><i>10<sup>th</sup> Delhi Sustainable Development Summit</i></b> The Energy and Resources Institute



<b>10 FEBRUARY</b> New York, USA	<b><i>North American Launch of the International Year of Biodiversity</i></b> United Nations Development Programme
<b>15–17 FEBRUARY</b> Chennai, India	<b><i>Biodiversity in Relation to Food and Human Security in a Warming Planet</i></b> M. S. Swaminathan Research Foundation
<b>24–26 FEBRUARY</b> Bali, Indonesia	<b><i>11<sup>th</sup> Special Session of the Governing Council/Global Ministerial Environment Forum</i></b> United Nations Environment Programme <a href="http://www.unep.org/GC/GCSS-IX/">http://www.unep.org/GC/GCSS-IX/</a>
<b>27 FEBRUARY</b> Tokyo, Japan	<b><i>IR3S Symposium to Commemorate the International Year of Biodiversity</i></b> Secretariat of the CBD
<b>13–15 MARCH</b> Doha, Qatar	<b><i>15th Meeting of the Conference of the Parties to CITES–Convention on International Trade in Endangered Species of Wild Fauna and Flora (COP 15 CITES)</i></b> Convention on International Trade in Endangered Species of Wild Fauna and Flora
<b>15–16 MARCH</b> Coimbatore, India	<b><i>National Conference on Impact of Climate Change on Biodiversity of Insects and Environment</i></b>
<b>22–28 MARCH</b> Cali, Colombia	<b><i>International Year of Biodiversity Event at the ABS talks</i></b> Secretariat of the CBD
<b>1–7 APRIL</b> Saint-Chamond, France	<b><i>Semaine sur l'environnement et le développement durable – Biodiversité</i></b> Ville de Saint-Chamond, France
<b>16 APRIL</b> Auckland, New Zealand	<b><i>Auckland Seabirds: Conservation, Restoration and Research</i></b> <a href="http://www.auckland.ac.nz/uoa">www.auckland.ac.nz/uoa</a> University of Auckland in New Zealand
<b>26–30 APRIL</b> Austin, USA	<b><i>The NatureServe Conservation Conference 2010 and The South east Natural Heritage Conference “A Network Connecting Science with Conservation”</i></b> Secretariat of the CBD <a href="http://www.natureserve.org">www.natureserve.org</a>
<b>1–31 MAY</b> Shanghai, China	<b><i>Shanghai World Exposition</i></b> Bureau of the Shanghai World Expo 2010 Coordination, China <a href="http://en.expo2010.cn/">http://en.expo2010.cn/</a>
<b>3–7 MAY</b> Paris, France	<b><i>Global Forum on Oceans, Coasts, and Islands</i></b> United Nations Educational, Scientific and Cultural Organization <a href="http://www.globaloceans.org/">www.globaloceans.org/</a>
<b>13–15 MAY</b> New York, USA	<b><i>High-Level Segment of CSD-18</i></b> Secretariat of the CBD <a href="http://www.un.org/esa/dsd/csd/csd_csd18.shtml">www.un.org/esa/dsd/csd/csd_csd18.shtml</a>
<b>13–28 MAY</b> Nairobi, Kenya	<b><i>IYB Celebrations at SBSTTA 14</i></b> Secretariat of the CBD <a href="http://www.cbd.int/meetings/">www.cbd.int/meetings/</a>
<b>13–28 MAY</b> Nairobi, Kenya	<b><i>IYB Celebrations at WGRI 3</i></b> Secretariat of the CBD <a href="http://www.cbd.int/meetings/">www.cbd.int/meetings/</a>
<b>18–22 MAY</b> Nagoya, Japan	<b><i>2nd International Conference of Urban Biodiversity &amp; Design (URBIO2010)</i></b> Organizing Committee for URBIO2010
<b>19–21 MAY</b> Nairobi, Kenya	<b><i>Ecological Conference : Climate Change and Natural Resource Use in Eastern Africa: Impacts, adaptations and mitigation</i></b> Ecological Society for Eastern Africa
<b>21–22 MAY</b> New York, USA	<b><i>Celebration of the International Day for Biological Diversity at the Permanent Forum for Indigenous Issues</i></b> Secretariat of the Permanent Forum on Indigenous Issues
<b>22 MAY</b> Montreal, Canada	<b><i>International Day for Biological Diversity</i></b> Secretariat of the CBD <a href="http://www.cbd.int/idb">www.cbd.int/idb</a>
<b>24–28 MAY</b> Montevideo, Uruguay	<b><i>Fourth Assembly of the Global Environment Facility (GEF)</i></b> Global Environment Facility <a href="http://www.gefweb.org/">www.gefweb.org/</a>
<b>27–28 MAY</b> Abidjan, Côte d'Ivoire	<b><i>Annual Meeting of the African Development Bank</i></b>
<b>2–4 JUNE</b> Braga, Portugal	<b><i>European Consortium for the Barcode of Life (ECBOL2)</i></b> Universidade do Minho, Braga, Portugal <a href="http://www.barcoding.si.edu/">www.barcoding.si.edu/</a>





<b>2-3 JUNE</b> Libreville, Gabon	<b>Libreville International Conference, "Bolstering Biodiversity in Africa: Everyone's Problem and Heritage"</b> Gabonese Republic
<b>5 JUNE</b> Nairobi, Kenya	<b>World Environment Day</b> United Nations Environment Programme <a href="http://www.unep.org/wed">www.unep.org/wed</a>
<b>9-11 JUNE</b> Montreal, Canada	<b>UNESCO International Congress on Biological and Cultural Diversity</b> United Nations Educational, Scientific and Cultural Organization <a href="http://www.crcecb.umontreal.ca/evenement.html">www.crcecb.umontreal.ca/evenement.html</a>
<b>13-18 JUNE</b> Montpellier, France	<b>5th International Symposium-Workshop on Frugivores and Seed Dispersal (1985-2010)</b> Musée National d'Histoire Naturelle <a href="http://www.fsd2010.org">www.fsd2010.org</a>
<b>17 JUNE</b> Bonn, Germany	<b>World Day to Combat Desertification</b> United Nations Convention to Combat Desertification <a href="http://www.unccd.int/publicinfo/june17/2009/menu.php">www.unccd.int/publicinfo/june17/2009/menu.php</a>
<b>24 JUNE</b> Brasilia, Brazil	<b>IYB Celebrations at the UNESCO World Heritage Centre</b>
<b>25-27 JUNE</b> Huntsville, Canada	<b>G8 Summit</b> Department of Foreign Affairs and International Trade (DFAIT) <a href="http://www.town.huntsville.on.ca/residents/G8_Summit2010.htm">www.town.huntsville.on.ca/residents/G8_Summit2010.htm</a>
<b>1 JULY</b> New York, USA	<b>IYB Celebrations at High-Level Segment of ECOSOC</b> Secretariat of the CBD
<b>19-23 JULY</b> Montreal, Canada	<b>UNESCO International Congress on Biological and Cultural Diversity</b> UNESCO
<b>24 JULY</b> Montreal, Canada	<b>Montreal, Canada</b> Launch of Two-Year Expedition on Biodiversity by Jean Lemire, Secretariat of the CBD
<b>20-22 SEPTEMBER</b> New York, USA	<b>United Nations General Assembly – High Level Segment</b> United Nations Educational, Scientific and Cultural Organization <a href="http://www.un.org">www.un.org</a>
<b>4-6 OCTOBER</b> London, UK	<b>Census of Marine Life 10-Year Finale</b> Census of Marine Life, Consortium for Ocean Leadership and Office of Marine Programs, University of Rhode Island, USA <a href="http://www.coml.org">www.coml.org</a>
<b>8-9 OCTOBER</b> Nagoya, Japan	<b>Joint CBD-Aarhus Convention Workshop</b> Secretariat of the CBD
<b>11-29 OCTOBER</b> Nagoya, Japan	<b>Fifth Meeting of the Conference of the Parties Serving as the Meeting of the Parties to the Cartagena Protocol on Biosafety (COP-MOP 5) and Conference of the Parties (COP 10)</b> Secretariat of the CBD
<b>17-21 OCTOBER</b> Cologne, Germany	<b>65th Annual WAZA Conference: Biodiversity is life: The Role of Zoos and Aquariums in Biodiversity Conservation</b> World Association of Zoos and Aquariums
<b>27-29 OCTOBER</b> Nagoya, Japan	<b>IYB Celebrations at High-Level Segment of COP 10</b> Secretariat of the CBD
<b>4 NOVEMBER</b> Hampshire, UK	<b>Non-Native Plants Conference</b> Hampshire and Isle of Wight Wildlife Trust / New Forest Non-Native Plants Project <a href="http://www.hwt.org.uk">www.hwt.org.uk</a>
<b>11-12 DECEMBER</b> Kanazawa, Japan	<b>Closing of IYB: Launch of the International Year of Forests</b> Secretariat of the CBD
<b>21-22 DECEMBER</b> Montreal, Canada	<b>Media Meeting: Keeping the 2010 IYB Momentum Alive</b> Secretariat of the CBD



## Important links for the International Year of Biodiversity

IYB Implementation Plan: [www.cbd.int/2010/prints/](http://www.cbd.int/2010/prints/)

IYB Logo: [www.cbd.int/2010/logo/](http://www.cbd.int/2010/logo/)



Nagoya Castle, situated in Nagoya, Aichi Prefecture, Japan  
(Photo courtesy Nagoya Convention & Visitors Bureau)

