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Biodiversity Monthly Newsletter

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UNEP, Partners Establish Tana River Basin Coordination and Information Platform

25 July 2012: The UN Environment Program (UNEP) has announced the formation of the Tana Basin Coordination and Information Platform, which it says will focus on promoting the sustainable allocation of the Kenyan river's resources. The Tana Basin covers approximately 20% of Kenya's total land area, supplies 32% of drinking water nationally, and is the country's only source of hydroelectric power.

According to UNEP, current threats to the Tana Basin include deforestation in the upper catchment, through logging to produce timber and charcoal, which adversely affects water quality and quantity, and sand mining. UNEP says that fisheries and agriculture in the basin provide a major source of food and employment. The river delta also is a biodiversity hotspot, and is home to several endangered primate species.

The Tana Basin Coordination and Information Platform is supported by over 100 organizations, including UNEP, other UN bodies, government agencies, national and international NGOs, private companies and research institutes. It will seek to combine these groups' expertise to identify priority issues for ensuring the health and productivity of the Tana River ecosystem.

Source: biodiversity-l.iisd.org

Forest cover falls 9% in East Africa in 9 years

July 31, 2012 Forest cover in East Africa has dropped by 9.3 percent from 2001-2009, according to a new paper published in the open-access journal PLoS ONE. Looking at 12 countries in the region, the scientists found that, worryingly, forests were particularly hard hit near protected areas. Usually thought of as a region of vast savannas, such as the Serengeti, East Africa is also home to incredibly bio diverse tropical forests, including coastal forests, rich mountain forests, and the eastern portion of the Congo Rain-forest.

"Large areas of evergreen forests have been lost from East Africa during the 20th century resulting in carbon emissions, reduced habitat for forest dependent biodiversity, and reduced availability of essential ecosystem services," the researchers write. "Initial conservation efforts in East Africa, like elsewhere, focused on creating protected areas.

However, the study finds that protected areas do not always live up to conservation goals. According to the study, 46 percent of East Africa's National Parks lost forest cover in the last decades. Worse, 50 percent of Nature Reserves is losing a cumulative 5.3 percent of forest cover, 61 percent of Forest Reserves (-3.5 percent), and 92 percent of Game Parks (-24.4 percent) lost forests. Just outside of protected areas, forests were particularly vulnerable, with buffer zones losing forest at an even faster clip.

The study also found some evidence for leakage — that protecting forests in parks simply lead to increased deforestation outside protected boundaries — but cautions that more research is needed.

Booming populations and the ease of accessing a particular were the two main drivers for deforestation in the region, according to the study. Local people clear forests for agriculture, grazing land, and for charcoal to burn. Roads are bringing more people to the edges of protected areas, where, in some cases, forest loss was more severe than national rates. Commercial logging, both legal and illegal, is also taking a toll.

The best way to mitigate deforestation in the region is not to keep locals out however, says the study. In fact, current data "suggests that involving local communities in forest management improves forest conservation outcomes," the scientists write. They point to Kenya's Mukogodo Forest Reserve and Tanzania's Vumari Forest Reserve as innovative conservation areas that allow community participation and resource collection, and note that Tanzania's Participatory Forest Management (PFM) program is a model worth emulating.

mongabay.com

East Africa's forests shrink, especially near parks

31 Jul 2012 Forests in East Africa have shrunk over the past years, especially around the fringes of parks, complicating efforts to protect wildlife and fight climate change, a study showed on Monday. The report indicated that forest cover decreased by about 9.3 percent overall from 2001-09 in about 12 nations studied. Losses were biggest in Uganda and Rwanda, while only southern Sudan – which is now the independent country South Sudan – made fractional gains.

"The decrease in forest cover is strongest just outside protected areas," Rob Marchant of the University of York, who coordinated the study in the journal PLOS One by experts in Britain, Denmark and the United States, told Reuters.

"Outside the parks there is very little legislation to prevent people from chopping down trees for timber or charcoal," he said. The study concluded there had been "mixed success" for protected areas in East Africa.

Population growth outside parks puts pressure on species of animals and plants. Loss of forests contributes to climate change – trees soak up carbon dioxide, the main greenhouse gas, when they grow and release it when they burn or rot.

The losses of forests were high in bands 10 km (6 miles) from parks and other protected areas, where many people were drawn to live by jobs in forest management or tourism. National Park Forests increased by 3.2 percent Overall thanks largely to successful expansion in Tanzania. Forests in 26 of 48 national parks got bigger or stayed the same size, while they shrank in the remaining 22. Marchant said

the study also showed the difficulties of designing U.N. schemes meant to reward countries for preserving their forests as a way to slow global warming.

Source: Reuters // Reuters

By Environment Correspondent

Accommodating biodiversity in urban environments

Retrofitting urban areas so that they are sensitive to and encourage biodiversity is a challenge, but a necessary one if we are to prevent continued species decline

One of the many issues affecting the world's biodiversity today, habitat destruction, is often cited as the main contributing factor. Cities and urban populations are expanding at a rapid rate, with ecologically sensitive areas increasingly at risk of becoming lost within their fabric and fragmented to a level where they cease to function. A recent paper in the journal Tree (Trends in Ecology & Evolution) also points out that urban areas are now expanding in nonlinear ways; a marked contrast to previous developments, which were slowly added to the periphery of urban centers. This is likely to mean that new developments, which are often considerable in size and in some cases towns in their own right, will severely, reduce habitat availability and disrupt what remains of the urban landscape.

2010 was the International year of Biodiversity which has widely been hailed as a missed opportunity to reverse the trend of biodiversity loss, particularly by western leaders. On the back of 2010, the Decade on Biodiversity has been announced by the United Nations in a hope that targets can be reached this time. In trying to meet these targets new developments must start to incorporate a significant level of retained habitats, where these exist, together with habitat creation and green infrastructure.

The MEMO (Mass Extinction Monitoring Observatory) is one project, conceived by stone carver and project director Sebastian Brooke, designed to raise awareness and understanding of the issue of biodiversity. The project, currently in the engineering design process, will be sited on the Isle of Portland on the south coast of Britain and will take the form of a monument to the world's extinct species, together with a biodiversity education center. David Adjaye's architectural design for MEMO is a continuous spiral of stone inspired by the Portland Screw (a turreted gastropod fossil found in the area) lined with the carved images of the 860 species that have become extinct since the demise of the Dodo. The carvings are viewed from an interior ramp spiraling upwards around a central void, and the architecture itself will provide many creative teaching opportunities; from the lichens that will grow on it, to the role of limestone deposition in the global carbon cycle. There are also openings suitable for nesting birds, with the structure designed to act as a continuation of the surrounding cliffs.

Portland's quarries are full of potential for natural renewal and, like all limestone; Portland itself is largely comprised of the bodily remains of ancient creatures. It is an area internationally important for limestone plants, lichens, butterflies and birds. The building of MEMO will entail ten acres of quarry

being permanently restored to species rich limestone grassland to form part of the coast-to-coast Portland Quarry Park. Located on what is known as Dorset's UNESCO 'Jurassic Coast', the overarching ambition of the project is to showcase evidence of biodiversity that has not been maintained in the past to initiate action and bring about preservation in the future.

Above and beyond this, for new developments to accommodate and incorporate existing natural habitats, action needs to be taken in a coherent manner. It can be difficult to apply ecological principals into a development, particularly large master plans that have already been designed, as habitats can be difficult to re-create. However, where healthy habitats are present on a proposed development site, designers should look to retain these and use them as a framework to work around. This is likely to mean that a larger area will be required for a given population, but will also ensure that habitats are maintained and, importantly, can be linked together.

What about our existing city areas; can we really incorporate biodiversity into the concrete jungle? Although attitudes are changing, there are still designers and architects that support leaving our cities as places for mankind only.

Encouragingly, we have seen projects that have been completed with these considerations in mind. A regeneration scheme southeast of Kingsland High Street and Dalston Lane in London, for example, saw residential, commercial and community space use green roofs to promote biodiversity opportunities, alongside the required environmental impact assessment which considered air quality, ecology, transport and waste. Elsewhere, schemes like Pocket Habitat use 'plant pockets', made from environmentally friendly material and containing recycled substrates and wildflower seeds, to form a moveable, continuous vegetated surface on new and existing roofs to promote biodiversity.

The guardian

What we know and don't know about Earth's missing biodiversity

July 17, 2012 Most of the world's species are still unknown to science although many researchers grappled to address the question of how many species there are on Earth over the recent decades. Estimates of non-microbial diversity on Earth provided by researchers range from 2 million to over 50 million species, with great uncertainties in numbers of insects, fungi, nematodes, and deep-sea organisms.

Some groups of species, such as plants and birds, are well-known, with scientists discovering relatively few new ones each year. For insects and fungi, however, it is almost impossible to guess how many unknown species there are.

These findings were revealed in a first-ever study by researchers from the National University of Singapore (NUS), James Cook University in Australia, Microsoft Research in the United Kingdom and

Duke University in the United States, and was first published in Trends in Ecology & Evolution on 10 July 2012.

Unknown Biodiversity: Estimates

In their study, Scheffers and his colleagues collated information from numerous studies that attempt to estimate numbers and characteristics of unknown biodiversity. What may seem like straight forward questions about Earth's biodiversity are "deceptively complex," warned the researchers.

"What we do know," said lead researcher Brett R. Scheffers, who is from the Department of Biological Sciences at NUS, "is that these unknown species are likely living in places where they are in danger of extinction, and that we could lose many before we realize how valuable they are."

The report suggests that many of these species are important for medicine, water purification and provide numerous other services for humanity. For instance, a group of marine snails — the cone snail — is important for drug development ranging from pain killers to treatment of neurological diseases. Many species of these snails are newly discovered, and there is likely many more still waiting to be discovered.

Major Challenges

The researchers pointed out major challenges that complicate biodiversity inventory. These include accidentally assigning two different species the same name, and animals that look nearly identical and can therefore only be identified by genetic analyses.

Co-author Dr. Lucas Joppa from Microsoft Research in Cambridge, United Kingdom said, "Missing species will likely be hard to find, such as deep-sea organisms, high mountain species or those species that live beneath the ground. Missing biodiversity will be small — both in body size and the amount of area that they live in. This is a concern as both of these factors relate to a species vulnerability to environmental disturbances."

Although these challenges present real struggles for future records, Scheffers and his colleagues stress that progress is being made. Novel techniques, such as DNA barcoding, new databases and crowd-sourcing, could greatly accelerate the rate of species discovery.

Science Daily

Researcher will push emerging field of biodiversity informatics in Africa

July 13, 2012 the term "biodiversity informatics" may not set the average person's heart aflutter. Yet, this emerging field is revolutionizing conservation efforts, public health and agriculture in parts of the world.

Now, a researcher at the University of Kansas is ready to bring comprehensive training in biodiversity informatics to students and scientists across Africa.

“Biodiversity informatics is about how to develop, integrate and use information about life on Earth,” said Town Peterson, University Distinguished Professor of Ecology and Evolutionary Biology and curator in the Biodiversity Institute. “We have a lot of raw data about biodiversity, which is to say we know places where particular species have been seen. But turning those raw data into usable information is a much bigger challenge.”

In Africa, as in much of the world, there is scant availability of training in this important discipline. This is about to change. With funding from the JRS Biodiversity Foundation, Peterson will lead multiple training sessions in four African nations: Ghana, South Africa, Kenya and Egypt.

“The people doing the training will come from around the world, and the trainees will be a range of people, from people in decision-making situations, such as a ministry of natural resources, to professors, graduate students and undergrads,” said Peterson.

“We’re going to focus on people with the promise to take this training and put it to good use.” What’s more, Peterson and his team will make videos of the training sessions, along with other learning materials, available on the Internet for anyone to access.

He calls it a free online “biodiversity informatics university.” “You have a field that’s relatively new,” said the KU researcher. “Being able to analyze biodiversity patterns worldwide is not something that’s been feasible in terms of data availability for very long. This field emerged just in the last 10 to 20 years. It requires a fair amount of technology and access to the Internet.

So not just Africa, but people all over the world, including in the U.S., are looking for means of obtaining quality training in terms of how you learn these techniques. The in-person training will be in Africa, but the training materials will then be made available worldwide.” The training could significantly enhance efforts in Africa and elsewhere in several important fields. “Say a country has the will to protect its natural resources in biodiversity, but may not have good information about where protection should be focused,” said Peterson.

“If you want to have maximum effect, you need to know where each species is. Think of the national parks in the U.S.: here you have the Rockies, the Appalachians, the Great Plains and California. But if you were starting from zero and setting up a national park system, where would you protect first? Take that question to any number of countries in Africa, and there are data out there, but they are raw. So you need to organize the data and have a framework for analyzing and interpreting the results.”

KU ornithology news

Sheka joins the networks of UNESCO Biosphere Reserves

July 17th, 2012 The International Coordinating Council of UNESCO's Man and the Biosphere Program (MAB), meeting in Paris from 9 to 13 July, has added 20 new sites, including two trans boundary, to the World Network of Biosphere Reserves (WNBR). The network now includes 598 reserves in 117 countries.

Biosphere Reserves were inscribed in Haiti, Kazakhstan, and Sao Tome and Principe for the first time this year.

Biosphere Reserves are areas designated under UNESCO's Man and the Biosphere (MAB) Program to serve as places to test different approaches to integrated management of terrestrial, freshwater, coastal and marine resources and biodiversity. Biosphere Reserves are thus sites for experimenting with and learning about sustainable development.

Sheka, Ethiopia, covers a total area of 238,750 ha and consists of forests, bamboo thickets, wetlands, agriculture lands, rural settlements and towns. The forest in Sheka which is also part of the Southwest Highlands Forests of Ethiopia is important for the conservation of the Afromontane forest vegetation types, especially the Afromontane Rainforest and Alpine Bamboo thickets. The area is rich in plant and animal life with over 38 threatened species of flora and fauna. The local population is deeply committed to maintaining the integrity of the ecosystem through the practice of ecologically sustainable agriculture.

Source: unesco.org

FAO's World Fisheries and Aquaculture Report Calls for Adopting Ecosystem Approach

9 July 2012: The Food and Agriculture Organization of the UN (FAO) have released the 2012 edition of its flagship publication, "The State of World Fisheries and Aquaculture." The report underscores fisheries' and aquaculture's contribution to global food security and economic growth, but warns that they are threatened by poor governance, weak fisheries management regimes, conflicts over the use of natural resources, and the persistent use of poor fishery and aquaculture practices.

Noting that promotion of sustainable fishing and fish farming can provide incentives for wider ecosystem stewardship, the report calls for the "greening" of fisheries and aquaculture. It urges the adoption of an ecosystem approach to fisheries and aquaculture with fair and responsible tenure systems, to turn resource users into resource stewards.

The report includes sections on: mainstreaming gender in fisheries and aquaculture; improved preparedness for and effective response to disasters in fisheries and aquaculture; managing recreational fisheries and their development; barriers to achieving low-impact, fuel-efficient fishing; putting into practice the ecosystem approach to fisheries and aquaculture; effects of fisheries management policies

on fishing safety; climate change and food safety; marine protected areas (MPAs) as a tool for the ecosystem approach to fisheries; global guidelines on ecolabelling and certification in capture fisheries and aquaculture; the role of capture fisheries in a global sustainable food production system; and capture fisheries as targets of efforts to reduce resource use and greenhouse gas (GHG) emissions.

Source: http://uncsd.iisd.org

Nagoya Protocol meeting builds momentum towards entry into force

6 July 2012. With a spirit of compromise and constructive engagement, Governments concluded a week-long meeting where they advanced in the preparations for the entry into force of the Nagoya Protocol on Access and Benefit-sharing.

At the second meeting of the Intergovernmental Committee for the Nagoya Protocol (ICNP), held in New Delhi this week, some 500 delegates agreed on recommendations relating to key issues for the entry into force and implementation of the ground-breaking treaty on the use of genetic resources.

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization, agreed in 2010 at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity, will enter into force 90 days after 50 Parties have ratified it. As of today, five countries have ratified and 93 have signed.

During the meeting of the Intergovernmental Committee, Parties demonstrated their commitment to early ratification of the Protocol and their ongoing efforts to expedite the required domestic procedures to that effect. It is expected that before the end of the year a number will have completed the necessary domestic steps and formally deposited their instrument of ratification with the Secretary-General The Committee advanced recommendations on compliance, capacity-building, awareness-raising, a clearing-house, guidance to the financial mechanism, resource mobilization and a global mechanism for benefit-sharing in preparation for the first meeting of the governing body of the Protocol, which is expected to take place in 2014.

The Committee also forwarded recommendations regarding the Nagoya Protocol to the upcoming eleventh meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 11) which is scheduled to take place in Hyderabad, India from 8 to 19 October 2012. COP 11 will be asked to ensure that continued support can be provided for awareness-raising and capacity-building in support of ratification of the Protocol. The Committee also recommended to the Conference of the Parties that it should hold another meeting in order to complete its work in preparation for entry into force of the Protocol.

Braulio Ferreira de Souza Dias, Executive Secretary to the Convention on Biological Diversity said: “Parties have demonstrated that they are committed to bringing the Nagoya Protocol into force. Their

discussions over the week were constructive and they advanced on the key issues that will need to be agreed by entry into force of the Protocol."

He added that: "During the week, a number of Parties also communicated the status of ratification, and indicated that they are working with all speed to enable the legislation and policies that are needed to ensure ratification."

In-session documents of the meeting, including recommendations for adoption, are available at:
http://www.cbd.int/icnp2/in-session/