



# more than trees

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Ask almost anyone what a forest is and the answer will be “a place with lots of trees”. That may be true enough, but it’s far from the whole story. Forests have expanded and contracted time and again, surviving ice ages, providing refuges for plants and animals and ensuring their evolution and recolonisation of the Earth during interglacial periods. While separated for hundreds of generations, species evolved differences which often prevented them mixing when forest patches rejoined. Closely related but distinct species thus emerged, resulting in the world’s astonishing biodiversity. Today’s human-induced degradation of forests, however, is too rapid to allow the natural ecological processes that support life to function properly. (This, incidentally, makes a mockery of the term ‘sustainable forestry’, if it is applied to a cutting cycle of a few decades in natural forests, when the trees being logged are centuries old).

Co-evolution of seeds and fruit eating animals (seed dispersal agents) has led to mutual dependency. Such seeds have evolved such a tough outer coat — in order to survive passage through an animal’s gut — that they are unlikely to germinate unless chewed, swallowed and part-digested. And, of course, the animal’s dung provides a neat package of fertiliser. A recent study in South America showed that there were far fewer seedlings in heavily hunted forests, where primate numbers were much reduced. So if forests are to survive in the long-term, protecting the trees by banning logging is not enough; hunting — and especially of keystone species such as primates and elephants — must also be stopped or at least reduced to legal and sustainable levels.

In Africa and Southeast Asia, apes are among the most important seed dispersal agents, but being large bodied, they are also favoured targets for bush meat hunters. As remote forests are opened up for logging or converted

to agriculture, these are among the first species to be extirpated. International concern over declining ape numbers led UNEP to launch GRASP — the UN Great Ape Survival Partnership — in 2001. Registered at the World Summit on Sustainable Development, it grew to include UNESCO, the environmental conventions, the governments of all 23 countries with great apes, several donor governments, conservation NGOs and some private sector interests. GRASP promotes the idea that great apes are great assets, and that poverty reduction and sustainable development can benefit from their survival. The partnership signed the Kinshasa Declaration and adopted a Global Strategy in 2005 at a UN inter-governmental meeting hosted by the Democratic Republic of Congo (DRC) — resolving to use both traditional conservation methods and pro-poor sustainable development to ensure that gorillas, chimpanzees, bonobos and orangutans continue to play their role in the forests of Africa, Borneo and Sumatra.

Apes are also our closest relatives, and few of us can fail to be fascinated by their intelligence, strength and complex social behaviour. In a few places, scientists have won the trust of wild apes, such as the mountain gorillas of Uganda, Rwanda and DRC. This has revealed intimate details of their family life in books and documentary films, and spawned a successful ape-watching tourist industry.

In Uganda, for example, gorillas and chimpanzees attract an average 20,000 visitors a year. Permits to visit gorillas and chimpanzees brought in \$4.7 million in 2007 alone. With hotels and other services, more than 70,000 jobs have been created, putting tourism top of Uganda’s foreign exchange earners, bringing the country about \$300 million per year. The communities living around the



national parks where apes are visited benefit from a revenue sharing scheme. To date, 181 community projects — including clinics, schools, community centres, bridges, roads, local community camp sites, maize mills, and a water project — have been built with 'gorilla and chimpanzee money'.

It is often been said that forests are the lungs of the planet. Modern technology now enables anyone to see that this is not just a metaphor. Global weather patterns have been simulated in powerful computers to run like time-lapse sequence films, condensing a year to a couple of minutes and making the role of tropical forests startlingly obvious. Water vapour is pumped into the atmosphere by evapo-transpiration in the three tropical forest blocks (Amazonia, the Congo Basin and Southeast Asia), generating local rain and watering crops thousands of kilometres away in the temperate zones. And water is just one of the ecosystem services they provide. They exchange CO<sub>2</sub> for oxygen, they sequester and store carbon, reduce soil erosion, provide shade and yield fruits, medicinal plants, rattan cane and other non-timber forest products. Everyone alive benefits but, so far, none of us have paid for these services. Instead we have mined the forest timber, eaten the forest animals and converted the land to agriculture. We have done so because it has been more profitable than conservation. So it is not surprising that the concept of the world paying to keep forests standing is being greeted with excitement by ecologists and forest-dwelling people alike.

It may, indeed, change the very purpose of much conservation activity, hitherto focussed on protected area networks designed to preserve a representative sample of each habitat. Such an approach might — if given sufficient resources — conserve viable populations of species and parts of

ecosystems, but probably would not save enough to retain the ecosystem services we need. Protected areas cover at best 15 per cent of a country's area. If you were visiting a hospital patient in hospital whose lung function is down to less than 15 per cent, it is likely you would be saying your final farewell. And if forests are the planet's lungs, then wetlands are the kidneys and other ecosystems play the analogous roles of other organs. Conservation's new goal must be to ensure that enough of each ecosystem survives to fulfil its function in maintaining the health of the biosphere — the thin film of gas and water that supports life on the ball of rock we call home.

Partly because of this understanding of forest function, the government of Uganda is now seeking international finance to encourage private land-owners to maintain forests in between the forested protected areas of Western Uganda. The project's overriding objective is to raise the profile of the great apes among the land owners and the government, as well as their role in enhancing local people's livelihoods such as through tourism and the ecological services crucial for economic development. Whether for carbon, water, biodiversity or tourism investment, there is now more interest in keeping forests standing than ever before. If managed well, this change in policy will not only mitigate against dangerous climate change, but will alleviate poverty among forest-dwelling people, giving them a globally respected role as guardians of the forest, while ensuring the survival of the countless species that comprise the tropical forest ecosystem.

The health of the planet depends on the tropical forests, and the health of the forests depends on the primates, elephants and birds that sow the next generation of trees. 