

Chinese magnolias - it's mostly as bad as we thought

China is a hotspot for Magnoliaceae diversity, hosting c. 120 species or over one third of the global total (Kunming Institute of Botany, 2006, *Flora Yunnanica*, Vol.16, Science Press, Beijing). Magnoliaceae in China have long been exploited for timber and horticulture and this, coupled with habitat degradation from agriculture, means that many Chinese Magnoliaceae are now highly threatened in the wild.

During a red-listing workshop in Kunming in 2004, five species were identified as being particular priorities for action: *Magnolia phanerophlebia*, *Magnolia sargentiana*, *Manglietia grandis*, *Manglietia sinica* and *Michelia coriacea*. Fauna & Flora International's (FFI) China Programme has been working with the Kunming Institute of Botany under the Chinese Academy of Sciences as part of the Global Trees Campaign (<http://www.globaltrees.org>) to confirm the status of these five species and to assess in more detail their conservation needs. A programme of five field surveys has been conducted in key areas, involving staff of nature reserves and forest offices.

The surveys have confirmed that all five species are rare and threatened, with four of the five assessed as Critically Endangered. The most threatened is *M. sinica*, reduced to only 10 individuals in the wild in Xichou and Maguan Counties, south-east Yunnan. All the individuals are large trees, no seedlings or saplings were found, and the species is not regenerating naturally. However, c. 5,000 plants grown from seed were found in private and nationally-owned nurseries and research institutions in the area, and over-collection of seed could be partially responsible for the poor regeneration. FFI and the Kunming Institute of Botany are now working on a programme to reinforce the wild population using the cultivated seedlings, which are of known local provenance.

The total populations of both *M. phanerophlebia* and *M. coriacea* were estimated at c. 500 individuals each. The major area for *M. phanerophlebia* is in Maguan County, Yunnan Province, where habitat destruction, particularly for cultivation of banana and *Amomum tsao-ko* (a spice crop known locally as *Cao-Guo*), continues to be a major threat. Cutting for firewood is also an issue, although the species can re-sprout after cutting; most of the individuals seen had multiple stems. Conservation needs include the prevention of any further habitat destruction, strengthening public awareness of the status of the

species, and vegetative propagation, both for *ex situ* conservation and for a future reinforcement programme.

M. coriacea also occurs in Yunnan Province, in Xichou and Malipo Counties. In Xichou, the species was found in secondary shrubby woods or on roadsides, with many trees being regrowth from cut stumps. All mature trees in protected sites had abundant flowers but young trees or seedlings are rare, and interviews with local people revealed that although the species flowers well, it fruits only rarely. Conservation needs include studying the species' reproductive biology to attempt to improve fruiting, and developing techniques for vegetative propagation. Kunming Institute of Botany is currently working on these studies.

M. grandis was found to be faring a little better, with a total population estimated at 1,200-1,500 mature trees, although none were found in Napo and Jingxi Counties, Guangxi Province, historically part of the species' range. However, the species occurs in Yunnan Province near the Vietnamese border and further surveys could reveal its existence in Vietnam. Logging and collection for horticulture continue to be major threats, and conservation priorities are strengthening management within nature reserves to prevent ongoing logging, effective protection for individuals outside protected areas, and developing propagation from seeds and vegetative materials, both for *ex situ* conservation and to produce plants for horticultural use.

The only really good news is from surveys of *M. sargentiana*, which was found to be more numerous than previously thought, with a total estimated population of c. 36,930 individuals. The species occurs in north-east Yunnan and central and southern Sichuan Provinces but there are no significant intact populations and it persists largely as scattered individuals in agricultural fields or remnant patches of broad-leaved forest. The population also appears to be ageing, with >70% of the trees mature. In north-east Yunnan the shrub layer is now dominated by the edible bamboo *Qiongzhusua tumidissinoda* and this is preventing regeneration of *M. sargentiana*. Other threats include exploitation for timber, fuelwood and medicinal use. Although the Kunming workshop assessed this species as Endangered (Sun *et al.*, 2005, *Oryx*, 39, 12), these surveys have now resulted in a downgrading to Vulnerable. Priority conservation needs for the species are enforcement of national and provincial nature protection laws or regulations, prohibiting bamboo shoot

production in areas where *M. sargentiana* occurs, and restoration of the wild population.

The results from these surveys were incorporated in the recently published Red List of Magnoliaceae (D. Cicuzza, A. Newton & S. Oldfield, 2007, *Red List of Magnoliaceae*, FFI, Cambridge, UK). The Global Trees Campaign is now seeking to take action to prevent any of these species becoming extinct in the wild, and it is hoped the work to restore *M. sinica* in the wild can be followed by similar programmes for some of these other charismatic yet highly threatened trees.

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Measuring the impact of livelihoods initiatives in a conservation context

The social context of biodiversity conservation is an increasingly important facet of conservation policy and practice, with ever greater emphasis placed on the role of biodiversity and the responsibility of conservation organizations in alleviating poverty. Yet the debate over the linkages between conservation and poverty reduction is hampered by a lack of empirical evidence. Many conservation organizations are engaging with livelihoods and human needs at a local level in an attempt to provide social benefits, and offset social costs, as a means to improve conservation outcomes. However, these organizations often struggle to demonstrate the impact on people of their interventions and of biodiversity conservation in general because of inadequate monitoring and evaluation, a lack of capacity to undertake social/livelihoods monitoring, and/or a lack of appreciation of the range of applicable tools and processes. Monitoring and evaluation also suffers from being under-resourced.

In light of these issues, three international conservation organizations (Fauna & Flora International, Birdlife International and the African Wildlife Foundation) organized a workshop to explore the challenges and solutions to monitoring and evaluating socio-economic/livelihoods impacts. With funding from Swedbio, the Dutch Ministry of Foreign Affairs and USAID, a 2-day workshop was held on 18-19 July 2007 in Cambridge, UK, at which representatives from a range of conservation and development organizations and academia

gathered to share experiences. Focused around a series of presentations and discussion sessions, the goal of the workshop was to identify pragmatic recommendations for conservation practitioners that balance technical rigour with field realities.

Some 40 delegates spanning 20 nationalities participated in the workshop. These included conservation field practitioners from 14 countries in Africa, Asia and Latin America, as well as those working in organizational headquarters on organization-wide processes for monitoring and evaluation. The involvement of selected representatives from the development sector, which has a longer history and experience of using and developing socio-economic/livelihoods monitoring and evaluation tools and processes, provided a valuable counterpoint to the discussion. The first day focused on comparing field level monitoring and evaluation tools and frameworks, and the second day focused on organizational processes for monitoring and evaluation and reporting, and the challenges of reconciling field level, organizational and donor information requirements in a unified monitoring and evaluation system. Both days included presentations from conservation and development practitioners and discussion groups to explore key issues.

The presentations and discussions revealed that conservation organizations are relatively new to socio-economic monitoring and evaluation and primarily use quantitative tools and economic indicators of change, yet these are often perceived as limited in scope. Qualitative methods are rarely used, or fully understood, yet it was clear that anecdotal information, story-based methods and a more participatory and evaluative approach could complement formal measurement tools. The development sector is more familiar with these approaches, and some organizations have developed an explicit organizational culture of learning what shapes and drives their monitoring and evaluation processes.

Yet development agencies continue to struggle with the same challenges to implementing and mainstreaming effective monitoring and evaluation. Practical challenges include determining why change has taken place, whether impacts can really be attributable to project interventions, differentiating project impacts on different groups of people, adequately resourcing monitoring and evaluation within projects, and maintaining effective two-way channels of communication between field projects and headquarters. Ensuring that monitoring and evaluation is understood at all levels of the organization and that the data collected are valuable for project adaptive management and organizational learning, as well as for donor reporting, is also vital.

The most important elements for improved monitoring and evaluation were considered to be the following:

(1) Having good planning systems that incorporate monitoring and evaluation at the outset. (2) Using different types of complimentary monitoring tools. (3) Ensuring appropriate skills and expertise, either in-house or external. (4) Building an institutional culture of learning, and maximising feedback between the field and headquarters. (5) Making opportunities to learn from other organizations dealing with the same issues, including development organizations.

Participants concluded with a call to continue the collaborative dialogue established at the meeting, to explore specific tools in more detail and help to develop local networks of conservation and development organizations that can learn from each other and collaborate. A more detailed summary of the meeting will be posted on the website of the Poverty and Conservation Learning Group (<http://www.povertyandconservation.info>).

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Tanzania's second Nature Reserve: improving the conservation status of the Udzungwa Mountains?

Tanzania's new Nature Reserve reserve status has been employed for the second time in the Eastern Arc Mountains. Nature Reserve is the highest level of protection under Tanzanian Forestry and Beekeeping Division legislation, equivalent to the National Park status of the Tanzania National Parks Authority. Kilombero Nature Reserve was declared on 17 August 2007 through Government Notice no. 182 JB no. 2525 and combines three former Forest Reserves in the Udzungwa Mountains of south-central Tanzania (Matundu, Iyondo and West Kilombero Scarp). Assistance to the Forestry and Beekeeping Division to declare this reserve has been received primarily from UNDP-GEF but also from the WWF network and the Critical Ecosystem Partnership Fund.

The new Nature Reserve has an altitude range of 300 – 2,600 m and habitats that include lowland forest, sub-montane, montane and upper montane forests, and large areas of montane grasslands and wetlands at higher altitudes. The Reserve is recognized as a critically important conservation site by the Alliance for Zero Extinction (<http://www.zeroextinction.org>) and by those working in the Eastern Arc Mountains (see <http://www.easternarc.or.tz> and <http://www.cepf.net> for reports). It contains populations of two endemic or near endemic diurnal primates, the Iringa red colobus *Procolobus gordonorum* and the newly described kipunji *Rungwecebus kipunji*, the Eastern Arc endemic nocturnal

primate *Galagoides orinus*, two endemic shrews (*Myosorex kahaulei* and *Congosorex phillipsorum*), two endemic birds (rufous winged sunbird *Nectarinia rufipennis* and the newly split population of Udzungwa Partridge *Xenoperdix udzungwensis*), and some near endemic amphibians and reptiles. Additional new species of birds and small mammals are reported by researchers but have not yet been described. Large numbers of plants in the forests and grasslands of the Reserve are also either endemic to the Udzungwas or to the Eastern Arc Mountains. There are also significant and increasing populations of elephant within the Reserve, and antelopes such as Sable that form prey for populations of lion and leopard. Overall the species assemblage makes this new Nature Reserve the most important single site for conservation in the Eastern Arc Mountains.

In addition, two other Nature Reserves are in the final stages of gazettement within the Eastern Arc Mountains, one of which will link and upgrade the Uluguru North and Uluguru South Forest reserves across the Bunduki Gap to form the Uluguru Nature Reserve. The other work in progress is to upgrade the Nilo Forest Reserve in the East Usambara Mountains to Nature Reserve status.

The proposal for gazettement of Kilombero Nature Reserve was announced by the Forestry and Beekeeping Division during a workshop on conservation management in the Udzungwa Mountains, held in Morogoro, Tanzania, on 23 March 2007. This workshop aimed to discuss progress and reach consensus on action needed following conservation priorities identified at the first stakeholders' workshop held in December 2004 (see *Oryx*, 39, 123-124). It also represented an opportunity to discuss recent research on local socio-economic conditions, protection of the most disturbed forests, and improvement of connectivity between four key forest areas: the Udzungwa Mountains National Park, the Udzungwa Scarp Forest Reserve, Mikumi National Park and the Selous Game Reserve. Funded by the Critical Ecosystem Partnership Fund through Italy's Museo Tridentino di Scienze Naturali, and convened by the WWF Tanzania Programme Office, the workshop was attended by 60 people including village leaders, researchers, private sector and NGO representatives, protected area managers, and officials from local, regional and national government.

The Udzungwa Mountains form part of the Eastern Arc in the East Afromontane Hotspot, a globally important area for the conservation of biodiversity. Preliminary economic analysis of ecosystem services suggests that the Eastern Arc contributes a minimum of \$620 million per annum to the Tanzanian economy, even without full consideration of the value for water, tourism and environmental services. The majority of the

Udzungwa forests have some degree of legal protection but inadequate funding and management capacity mean that forests outside the Udzungwa Mountains National Park continue to be degraded. Of particular concern is the 207 km² Udzungwa Scarp Forest Reserve, which research suggests has a level of endemism, based on herpetofauna, as much as eight times that of the Eastern Arc as a whole. However, current human and financial resources for protection and management are inadequate to prevent illegal activities such as pole cutting, logging and hunting. As well as being highly degraded the Reserve is isolated from the central areas of forest in the Udzungwa Mountains by a 10-15 km stretch of woodland, bush grassland and subsistence cultivation.

Maintaining connectivity between the Udzungwa Mountains and nearby protected areas is vital. A recent survey of large mammals suggests there are only two viable remaining corridors from the Udzungwa Mountains, which without intervention will be lost by the end of 2009. If the Udzungwa Mountains become isolated from adjacent protected areas the large mammal populations of the Kilombero valley will lose an important dry-season refuge. Isolation of elephant populations within Udzungwa would hinder conservation efforts as the elephants are a threat to habitat structure and rare tree species diversity.

The workshop participants reached the following specific management recommendations, some of which are awaiting a final decision by the Forestry and Beekeeping Division, as the custodian of the forests: (1) Kilombero Nature Reserve should be gazetted as an IUCN 1a protected area; (2) Udzungwa Scarp Forest Reserve and Njelela forest should be upgraded and either incorporated in the proposed Nature Reserve or given National Park status; (3) the two remaining corridors linking Udzungwa Mountains National Park and Selous Game Reserve ecosystems (Nyanganje and Ruipa corridors) should be put under effective management as a matter of urgency, possibly in conjunction with a series of village agreements; (4) the Mngeta corridor linking Udzungwa Scarp Forest Reserve to the southern forests of Udzungwa Mountain National Park should be defined and managed; (5) Magombera Forest Reserve should be annexed to Selous Game Reserve through the involvement of the Illovo Sugar Company; (6) buffer zones should be incorporated within village land management to reduce the farm-to-reserve borders that have resulted in encroachment and human-wildlife conflicts; (7) education, awareness and realistic alternative community livelihoods need to be developed if these conservation areas are to succeed in the long term.

The workshop concluded that conservation in the Udzungwa Mountains would be boosted through the unified management offered by the Kilombero Nature Reserve but there was concern that, considering its size,

substantial resources would be required to establish the necessary infrastructure and staff. The World Bank has agreed to provide the Forestry and Beekeeping Division with some funding to start this process. The workshop also noted that the exclusion of Udzungwa Scarp Forest Reserve from the new Nature Reserve was an oversight, considering its rich biodiversity and the threats surrounding the Reserve.

This second Udzungwa workshop also helped to build relations between all stakeholders and to disseminate information. However, it was clear that current communication and coordination was insufficient. Awareness of conservation issues in the Udzungwa area is extremely limited, and the results of research findings do not reach all stakeholders, especially local communities. Those people that live closest to the forests are therefore in effect the least aware of their international importance. Many stakeholders were also unaware of the proposed Nature Reserve, which had been under development for about a year. It was concluded that reports and papers should be distributed as widely as possible by both researchers and managers. The Forest and Beekeeping Division are in the process of collating the results of all research in Tanzania for public access, with assistance from the Eastern Arc Mountains Conservation Endowment Fund.

The full proceedings of the workshop are available from http://www.cepf.net/ImageCache/cepf/content/pdfs/cepf_5fworkshop_5fmorogoro_2epdf/v1/cepf_5fworkshop_5fmorogoro.pdf

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Rising price for rhino horn in Yemen puts pressure on East Africa's rhinos

Yemen's demand for rhino horn continues unabated. The horn is made into handles for the traditional dagger, the *jambiya*, and it is essential to reduce this trade in rhino horn to curtail rhino poaching in eastern Africa. The most serious recent poaching has been in Garamba National Park in the Democratic Republic of Congo, where the last remaining wild population of the northern white rhino has been nearly wiped out. From 30 rhinos in 2003 there are now only four left. In Kenya at least 25 black and white rhinos have been killed during 2003 - 2006 in Solio Game Reserve, Aberdare National Park and Tsavo East National Park.

The smuggling routes for these horns from Africa to Yemen have changed in recent years. What used to be a sea journey in small boats from Djibouti to Yemen's mainland has been replaced by flights to Yemen's three main airports of Aden, Sana'a and Taiz. This is due to increased international security in the waters off the Red Sea in the search for terrorists, pirates, smugglers and illegal immigrants.

Horns then go to the capital city, Sana'a, where craftsmen continue their centuries-old tradition of carving them (now illegally) into *jambiya* handles. Alarming, the supply of rhino horn to Yemen has increased considerably since 2003, and the price the craftsmen pay has increased by 40%, averaging USD 1,700 per kg. Over the last few years there has been an annual 3% increase in the human population of Yemen, and as nearly every male in the north of the country needs at least one *jambiya* on reaching puberty, the trade flourishes. There are now more workshops (74) and handle-makers (124) in Sana'a souk than ever recorded. Almost all the artisans now craft horns from India's domestic water buffaloes. This is legal and the material is cheap: less than a dollar for each roughly cut piece of horn for a dagger. The *jambiya* may then sell for USD 75. Much more money can be made from crafting rhino horn. An average horn of 1.5 kg can produce three *jambiya* costing c. USD 1,000 each; a further profit can be made selling the chips and shavings illegally to China.

This growing demand for the *jambiya* gives even greater economic incentives to the middlemen and for poachers to kill more rhinos. There has been no pressure on Yemen from eastern African governments to do anything about this, and there had been virtually no assistance from international conservation organizations to Yemen on the rhino horn since work we carried out there in January 2003. In early 2007 we were able to return, thanks to funding from the European Association of Zoos and Aquaria. We had meetings with four Yemeni Ministers: Water and Environment, Tourism, Planning and International Cooperation, and State (the

latter also being the Mayor of Sana'a) bringing the continuing rhino horn problem to their attention. We met law enforcement officials (from the army, navy, border forces, customs and police) to push for more vigilance in stopping rhino horn from entering the country illegally. We also worked with Yemen's Environment Protection Authority to update work on curtailing rhino horn trade, and spoke at length with the ambassadors of the USA, Britain and the Netherlands for their assistance. In the souk we had discussions with traders and craftsmen to encourage them to use alternative materials. Educational billboards on the critical status of the rhinoceros were designed and are displayed prominently in the Sana'a and Taiz Zoos, both of which are heavily visited. These notices included a *fatwa* that the Grand Mufti produced stating that rhinos should not be killed for their horn. A main Yemeni newspaper ran a long story on the rhino horn issue bringing attention to renewed efforts to stop the trade. However, there had been elections before our visit, and many posters of the President were displayed in which he was pictured wearing a rhino horn *jambiya*.

More studies, meanwhile, are needed internationally to find a competitive substitute for rhino horn, and there is a need to develop a material that really looks and feels like rhino horn. However, cut pieces of rhino and water buffalo horn do look similar, and therefore a UN symposium is being planned that will teach Yemeni officials how best to recognize rhino horn pieces at Customs. Clearly much more follow up and pressure is required from the international community now that the issue has been brought to focus once more in Yemen. Limited conservation funds would be far better spent focusing attention on reducing demand for rhino horn in Yemen than solely on anti-poaching efforts for rhinos in the wild, where much money is spent and sometimes wasted. Truly wild rhinos in eastern Africa have no future unless Yemen's rhino horn market is reduced substantially.

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Working towards sustainable hunting in Spain

A new volume has recently been released by the University of Extremadura, Spain: *Criterios para la Certificación de la Calidad Cinegética en España* (eds J. Carranza & J.M. Vargas; see <http://www.unex.es/publicaciones>). It summarizes a series of discourses and discussions that took place in 2005 between wildlife ecologists, wildlife managers, hunting estates owners and politicians. This initiative aspired to merge hunting and conservation interests, and the main outcome was an agreement that

low impact hunting could be pursued through a rational exploitation of renewable natural resources.

To put into practice conservation-friendly hunting activities the establishment of a Game Quality Control was proposed. The assumption behind the concept is that hunting does not necessarily have a negative impact on the conservation of natural resources but rather the opposite. The aim of the project is to establish a single, comprehensive methodology to be used by both private and public estates to obtain a quality control label. This quality control label would certify that estates are natural habitats where game animals live and reproduce healthily and freely. Game activities in these estates should then resemble as much as possible the natural process of hunting for prey.

To obtain a Game Quality Control a reserve needs to follow a series of regulations, such as restoration of autochthonous vegetation where necessary, monitoring or eradication of exotic animal species, sanitary controls and welfare of game animals, prevention of the negative effects caused by overabundance, and monitoring of reproductive performance. Hunting in these estates will have to be regulated not only by economical benefits but also by ecological requirements.

The regional government from Andalusia (Junta de Andalucía) is now preparing a Decreto Ley (equivalent to an Order in Council) that will put into practice the main concepts contained in the Game Quality Control project. Currently Ley 8/2003 de Flora y Fauna Silvestre already contemplates the necessity of undertaking a game quality control in Andalusia, so this Order is a logical step forward. These initiatives indicate a new era of understanding between hunting and conservation views in Spain.

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The Shimba Hills, Kenya: a plant conservation priority for East Africa

A new assessment of the botanical diversity of the Shimba Hills of coastal southern Kenya has revealed the area to be one of the most important sites for conservation in East Africa. The Shimba Hills are already recognized as an Important Bird Area, known to support regionally threatened endemic frogs, a diverse butterfly fauna and the last wild population of Sable antelope in Kenya. The latest plant checklist (Q. Luke, 2005, *Journal of East African Natural History*, 94) covers c. 60,000 ha and records a total of 1,396 plant species, in 143 families and 686 genera, that are indigenous or considered naturalized within the Shimba Hills. This is 21% of the current estimate of Kenya's flora of 6,500 taxa. The larger families represented

in this checklist are Gramineae (109 taxa), Rubiaceae (104 taxa) and Papilionaceae (82 taxa). The largest genera are *Cyperus* (29 taxa), *Ficus* (16 taxa) and *Ipomoea* (14 taxa). The 2005 study added 35 new taxa to the Kenyan flora and lists 16 new taxa awaiting formal description.

The Shimba Hills contain 10 endemic plant taxa, including the endemic moss *Wijkia kenya*. A number of these endemics are trees that have only been discovered recently and are in the process of being formally named, e.g. a new species of *Polyceratocarpus* (Annonaceae) and of *Vangueriopsis* (Rubiaceae). Other species, such as *Diospyros shimbaensis*, have not been recorded for many years. A recently discovered endemic is the saprophyte *Afrothismia baerae*, first found in 2000. The Shimba Hills also hold the only Kenyan populations of a number of Eastern Arc/coastal forest endemics (e.g. the highly threatened timber tree *Cephalosphaera usambarensis*), some species are range disjuncts from Central Africa (e.g. *Artabotrys monteiroae*), and there is a population of the threatened coastal forest endemic *Hibiscus schizopetalus* and a globally important population of the endemic East African coastal cycad *Encephalartos hildebrandtii*.

The forest areas of the Shimba Hills have been subject to degradation from fire, logging (both informal poaching and state approved commercial extraction) and the impact of increasingly high numbers of elephant *Loxodonta africana*. Recent translocations of elephant from the Shimba Hills will reduce pressure on the forest. However, it is essential that a long-term management approach for elephant numbers be adopted. The Shimba Hills represents an extraordinarily diverse area of moist coastal forest that is of great national importance to Kenya and represents a conservation priority for the Coastal Forest hotspot. The long-term conservation of the area presents a number of important conservation challenges including local land use issues, habitat fragmentation, the overabundance of large mammals, and the management of sacred sites.

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Conservation action for threatened palms by NatureFiji-MareqetiViti

Conservation action for two of Fiji's threatened palms are the roll-out plans for Fiji's newest conservation

organization and its only local, membership-based conservation NGO, NatureFiji–MareqetiViti. The endemic Fiji sago palm *Metroxylon vitiense* was once widespread over the alluvial lowlands of the windward coast of Viti Levu, Fiji's largest island, but is now restricted to 13 populations of which only two may be secure. Threats come from the widespread drainage and clearance that has been ongoing since the first humans arrived on the island, but the more recent threats are unsustainable harvesting practices for thatch required by a growing demand from the tourist industry, and an increasing demand for sago palm heart. NatureFiji–MareqetiViti has drafted a Fiji Sago Palm Recovery Plan and will work with partners to implement it. Funding is currently being sought for a conservation officer to lead the work. Another of Fiji's threatened palms, *Heterospatha phillipsii*, is restricted to a single population, and NatureFiji–MareqetiViti will combine with the National Trust for Fiji to establish an insurance population in the Trust's nearby Garrick Memorial Park. More on these projects and NatureFiji–MareqetiViti can be found on the organizations website (<http://www.naturefiji.org>).

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Earth Portal website

The Earth Portal (<http://www.earthportal.org/>) has been launched by the not-for-profit organization National Council for Science and the Environment in

the US. Earth Portal is a resource for science-based environmental information built by a global community of environmental experts, educators, physical, life, and social scientists, scholars, and professionals. The Earth Portal includes the Encyclopedia of Earth (<http://www.eoearth.org>, which includes articles, e-books and reports, interactive maps and biographies), Earth News (<http://www.earthportal.org/news/>, which includes breaking news updates from many sources), and Earth Forum (<http://www.earthportal.org/forum>, which allows the public to engage in discussions with experts, ask questions and get answers, and to participate in community debates).

Free wildlife information for the developing world

Wildlife Information Network, a charity that has for 15 years published invaluable wildlife health and management information, has made all of its information resources Open Access to the developing world. The first step in this Open Access initiative will offer an ever-growing database of conservation information free of charge to every vet, wildlife decision-maker and student in 109 countries. From 15 March 2007 anyone who visits the Wildlife Information Network's website (<http://www.wildlifeinformation.org>) from a developing country will be redirected to a free login page from where they will be able to access up-to-date and fully referenced information on species, diseases, treatment methods and husbandry guidelines.