

International

Deforestation rates declining?

Preliminary analysis of 300 satellite images by the UN's Food and Agriculture Organization (FAO) suggests that deforestation rates in tropical countries were 10 per cent less in the past decade compared with the 1980s. Half of the images show a reduced rate of deforestation while a fifth show an increase. However, some observers believe that deforestation rates accelerated in the late 1990s, in part because of the increasing number of forest fires. The FAO survey is part of the *Global Forest Resources Assessment 2000*, which will provide new estimates of the state and change of forests in all countries.

Source: *Arborvitae* (2000), 16, 4.

Index shows continuing decline in earth's ecosystems

The Living Planet Index forms the basis of the World Wide Fund for Nature's *Living Planet Report*. The Index has two principle objectives: to quantify over time changes in the earth's natural ecosystems and to measure human pressures on the natural environment arising from consumption of renewable resources and pollution, and to analyse the geographical patterns of those pressures. The 2000 Index shows that the combined natural wealth of forests, freshwater ecosystems and ocean environments has declined by about 33 per cent since 1970. The most severe deterioration has occurred in tropical and southern temperate regions of the world. For the first time, the Index has assessed the level of human pressure on global ecosystems, the so-called 'ecological footprint'. By 1997 the ecological footprint of the global population was at least 30 per cent greater than the earth's biological productive capacity. In 1996, the ecological footprint of the average consumer in the industrialized world was four times that of an equivalent person in the lower income countries.

Source: *Arborvitae* (2000), 16, 3.

Marine reserves are the only way to safeguard world's fish

A new report released by the World Wide Fund for Nature, *Fully Protected Marine Reserves*, argues that creating marine reserves may be the only way to save some threatened fish species from the effects of increasingly intensive fishing practices such as long lining and trawling. The report shows that some fish species are so vulnerable that their extinction could be imminent unless governments and fishing communities establish networks of marine reserves that can safeguard crucial breeding and feeding grounds. Species at risk include the totoaba of the Sea of Cortez and the barndoor skate of eastern North America. The report also shows that protecting areas leads to rapid increases in fish abundance. Also 'spillovers' from the reserves allow fisheries to reap the benefits within 3–5 years. Marine reserves are considered a win–win solution as they offer both conservation and economic benefits, protecting habitats and fish breeding stocks.

Source: *Marine Pollution Bulletin* (2000), 40(12), 1068–1069.

Reintroductions may be intrinsically flawed

High profile efforts to reintroduce locally extinct species, such as condors into California, may be intrinsically flawed, according to a mathematical study by Finnish and Swedish researchers. The scientists modelled what happens to a community when a species that has died out is subsequently reintroduced. They found that once a species vanishes from a habitat, the 'doors' of that community may shut permanently, preventing the species from ever returning. When reintroduction is successful it often leads to additional extinctions. This seems to be backed up by evidence from wolf reintroductions in Yellowstone in the mid-1990s, which resulted in a halving of the local coyote population in 2 years. The researchers also found that once a species dies out, many others may follow. The larger the number of species in the original community, the greater the effect.

Source: *New Scientist* (2000), 168(2269), 24.

Scientists launch International Biodiversity Observation Year

On 28 December 2000, scientists launched the International Biodiversity Observation Year (IBOY) to raise awareness of biodiversity issues. Scientists around the world have committed themselves to making 2001 and 2002 years in which to dramatically increase communications about their findings, the status of biodiversity, and its links to human welfare. IBOY is inspired by the International Geophysical Year of 1957–1958, in which scientists worked together across disciplinary and national boundaries to advance knowledge about the earth, oceans and atmosphere. At the centre of IBOY activities are over 40 international projects that will make available important new information on biodiversity. Research projects range from surveys of life in the canopies of tropical forests to the depths of the Atlantic Ocean. Education projects include a museum exhibit that will travel across Europe and the US, an IMAX film about biodiversity, and a digital library. A special educational webpage for children will be launched in January 2001. Plans are also underway for a World Biodiversity Summit in late 2002.

Source: *Diversitas – International Biodiversity Observation Year (IBOY) 2001–2002*, 28 December 2000.

Treaty to ban the world's most toxic chemicals

In December 2000, 122 nations at a UN conference in Johannesburg agreed a landmark treaty that will eventually ban 12 of the world's most toxic chemicals, known as persistent organic pollutants (POPs). These are pesticides and industrial chemicals that accumulate in the environment and have been linked to reproductive and nervous system damage in animals and humans. The treaty will become legally binding after 50 countries have signed. This will take 4–5 years. However, the conference concluded that it will not be possible to

eliminate polychlorinated biphenyls (PCBs), a widespread industrial poison, until 2025. Russia has the biggest stocks of PCBs and scientists believe that leaks from equipment that uses PCBs are responsible for the build up of these chemicals in reindeer and marine mammals in the Arctic.

Source: *New Scientist* (2000), 168(2269), 6.

Europe

Threat to Zakynthos National Marine Park in Greece

The Provisional Management Body of the Zakynthos National Marine Park has been set up for only 6 months, despite clear obligations imposed by a Presidential Decree for a 3-year term. Far from spending its time setting up the infrastructure of the Park, the Management Body's main task will be to adopt the collection of proposals for amendments to the Presidential Decree setting up the Park. There are local expectations that the Body will announce considerable concessions in respect of the level of environmental protection and development restrictions within the National Park boundaries. The government is trying to change the provisions of the Presidential Decree in order to satisfy the demands of those affected and bring into question the basic principles embodied in the Special Impact Assessment as regards land use within the core of the Park.

Source: *Marine Turtle Newsletter* (2001), 91, 20–21.

Swedish Commission rejects scientific advice on wolves

A Swedish Government Commission has produced a controversial report *A Coherent Predator Policy* that rejects a recommendation by its own research group that at least 500 wolves would be required to preserve a Scandinavian wolf population. The Commission has instead recommended that the population be allowed to grow to 200, citing existing conflicts over the current Swedish-Norwegian wolf population of 59–75 animals. The Commission stresses the importance of genetic exchange with wolves in Finland. It also states that the growth in wolf numbers should be gradual and that controlled hunting to

reduce livestock damage should be permitted on a limited scale, particularly in the reindeer herding area. The report also makes recommendations regarding brown bears, lynxes and wolverines. In all, the Commission proposes increasing government expenditure by SEK13 million to meet the costs of raised compensation, grants for preventative measures, antipoaching efforts, research, and population monitoring. The proposals are to be debated in the Swedish Parliament.

Source: *A Coherent Predator Policy: Summary of the Carnivore Commission's Final Report* (SOU 1999:146). Sent by Guillaume Chapron.

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Swiss Canton approves lynx reintroduction

On 29 November 2000, the parliament of the Swiss Canton of St Gallen approved a proposal to reintroduce lynx to the eastern Swiss Alps. This is part of a new concept that aims to reduce lynx density in the north-west Alps and translocate animals to the eastern Alps, where there are currently none. The decision will also help join the currently isolated Swiss population with populations in Austria, Slovenia and Italy. The lynx was reintroduced into Switzerland in the 1970s and, after several fluctuations, reached peak density in the north-west Alps, leading to an increase in lynx attacks on sheep and a fierce debate over lynx conservation. As a result, the Swiss Agency of Environment, Forest and Landscape has developed Lynx Concept Switzerland, a conservation management plan to address issues such as lynx monitoring and compensation for damage to livestock. It also devolves greater power to cantons in managing their lynx populations.

Source: Urs Breitenmoser and www.large-carnivore-Icie.org. Sent by Guillaume Chapron.

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UK river water quality is the best ever

Tests across the UK in 1999 revealed that its rivers are cleaner than ever before. In 1999, water quality in 95 per cent of all rivers was rated as good or fair, compared with 92 per cent in 1998. The UK Environment Agency released figures in September 2000 for England and Wales that showed 63 per cent of river lengths to be of good chemical quality compared

with 48 per cent in 1990. Improvements have been achieved through tougher regulations and substantial investment by water companies in sewage treatment. A total of £7 billion is to be spent over the next 5 years to further improve water quality.

Source: *Marine Pollution Bulletin* (2000), 40(11), 889.

North Eurasia

Moratorium on logging in Karelia

The moratorium on logging in the old-growth forests of Karelia received a boost when Kovda Timber Ltd, the last foreign company working in the moratorium area, agreed to cease its activities. There are now plans to extend the moratorium and ensure a long-term strategy for sustainable forest management in Karelia. At a meeting in September 2000, it was proposed that the Karelian government organize a working group on the urgent problems of forest use with the participation of various governmental and non-governmental organizations. The primary goal of this group would be the elaboration of proposals on improving forest management. It was also thought necessary to speed up the organization of new protected areas.

Source: *Taiga News* (2000), 33, 3.

New forest reserve in Vologda region of Russia

On 10 August 2000, the Vologda government established the 3370 ha Atleca Landscape Zakaznik. The reserve is located in the Andomsky watershed of river systems that flow into the Atlantic Ocean, Arctic Ocean and Caspian Sea. The reserve protects one of the least disturbed old-growth forests in the region, the Andomsky forest. The Atleca area forests contain many threatened and vulnerable plant species, including three listed in the Russian Red Data Book and 23 protected at a regional level. The reserve area had been leased for logging by Belyj Ruchey joint stock company, the biggest logger in the area. This is the first case in Russia of the withdrawal for conservation purposes of a forest leased by a viable and active logging company. The Vologda region has one of the most intensive forest

industries and most exhausted timber resources in Russia.

Source: *Taiga News* (2000), 33, 4.

Protests at Putin's decree continue

Anger in Russia against President Putin's decree to abolish the State Committee for Nature Conservation and the Federal Forest Service continues. Russian environmentalists have collected 2.5 million signatures petitioning for a referendum on the Russian government's handling of the environment. The petition calls for a referendum on a ban on the import of radioactive wastes, the reinstatement of the Federal Forest Service, and the restoration of an independent state environmental monitoring body. This list of signatures will be handed to the regional election commissions and the Central Election Commission, whose Chairman will ask the President to consider holding a referendum. In a separate move, the Moscow based advocacy group Ecojuris filed a suit in the Supreme Court against President Putin's decree, and asked the Court to declare the decree unconstitutional. In October 2000, proposals for reforming Russia's forest sector were discussed at a meeting of the Presidium of the Russian Federation State Council. As a result a new working group has been commissioned to pursue reforms, and it is possible that a Ministry of Forestry may be created.

Source: *Taiga News* (2000), 33, 2.

Subspecies of leopard on the brink of extinction

The Far Eastern leopard *Panthera pardus orientalis* is on the brink of extinction with only 24–28 individuals left in the Primorye region of Russia. In 1998, there were between 40 and 44 leopards in this area. The leopards' forest habitat has declined by 50 per cent in the last 20 years.

Source: *Arborvitae* (2000), 16, 3.

Threats to falcon and bustard in Kazakhstan

The hunting of MacQueen's bustard *Chlamydotis undulata* using falcons, and the export of saker falcons *Falco cherrug* to Arab states, constitutes a major threat to both species in Kazakhstan. The Government of Kazakhstan established special rules for the management of these species, in particular outlawing their removal from the wild except for

'reproduction, scientific and other goals'. However, quotas for taking of birds have been exceeded, and licences granted for taking animals for inappropriate reasons. The government policy for issuing licences for these species represents a serious threat to their future survival. A survey in September 2000 estimated that only 200–300 breeding pairs of falcons remained. Much stricter controls are needed and it is planned to prepare a proposal to be submitted to the next meeting of the Convention on International Trade in Endangered Species of Wild Fauna & Flora (CITES) in 2003.

Source: *Ecoston News* (2000), 7(11), 3–4.

Sub-Saharan Africa

Bushmeat markets on Bioko Island

During the course of two 8-month study periods in 1991 and 1996, counts were made of the number of animal carcasses arriving at Malabo market, Bioko Island, Equatorial Guinea. Comparisons of individual species between years showed that more species and more carcasses appeared in 1996 than in 1991, with almost 60 per cent more carcasses entering the market in 1996. A larger number of smaller-bodied species, such as rodents and the blue duiker *Cephalophus monticola* were recorded in 1996 although there was a reduction in the number of carcasses of larger-bodied species, such as Ogilby's duiker *C. ogilbyi*, and seven diurnal primate species. Results of the study, which examined the drop in number of larger animals, suggest that the situation on Bioko is perilously close to a catastrophe, with some primate populations being hunted almost to extinction. While the need for further surveys of populations is encouraged, the authors stress the need to work together with the human population to find alternatives to bushmeat. Source: Fa, J.E., Garcia Yuste, J.E. & Castelo, R. (2000) *Conservation Biology*, 14, 1602–1613.

Ape survey in the Dzanga-Ndoki National Park

Between October 1996 and May 1997, a survey of apes was carried out in the Dzanga sector of the Dzanga-Ndoki National Park, Central African Republic.

The survey aimed to estimate gorilla (*Gorilla gorilla gorilla*) and chimpanzee (*Pan troglodytes*) densities based on nest counts. The density estimate for gorillas was 1.6 individuals per sq km, one of the highest densities ever reported for the Western Lowland gorilla; the density estimate for chimpanzees was 0.16 individuals per sq km. These results confirm the importance of the Dzanga-Ndoki National Park for primate conservation. Source: Blom, A., Almasi, A., Heitkonig, I.M.A., Kpanou, J.-B. & Prins, H.H.T. (2001) *African Journal of Ecology*, 39, 98–105.

Moratorium declared on trawling in Kenyan waters

On 27 October 2000, following months of campaigning by conservationists and local fishermen, the Fisheries Department in Kenya declared a 3-month moratorium on trawling from 1 December 2000. Trawlers in Kenya are only licensed to fish outside a zone that extends five nautical miles offshore, although this is largely ignored. Trawlers have also failed to adopt Turtle Excluder Devices as stipulated by the Fisheries Department. This has threatened turtle populations and affected local artisanal and sport fisheries. As well as the moratorium, a Task Force has been established to assess the status of marine resources, and whether trawling should continue and if so in what form. The Task Force will include representatives from the Fisheries Department, research institutions, fishing communities, the Kenyan Navy, the Coastal Development Authority, the Kenya Wildlife Service, the trawlers association and conservation groups.

Source: *Marine Turtle Newsletter* (2001), 91, 14.

Population trends of resident wildebeest in Masai Mara

A long-term study has examined the population trends of resident wildebeest (*Connochaetes taurinus hecki*) in the Masai Mara ecosystem, Kenya, between 1977 and 1997. Results of the investigation show that the resident wildebeest population in the Masai Mara ecosystem has declined from about 119,000 in 1977 to about 22,000 in 1997 – an 81 per cent decline. The decline is largely attributable to the expansion of agriculture into prime and original wildebeest wet season ranges, especially in areas that

are now occupied by crops, particularly wheat. Rainfall fluctuations and probable competition between wildebeest and cattle during periods of limited food resources may also have contributed to the decline.

Source: Ottichilo, W.K., de Leeuw, J. & Prins, H.H.T. (2001), *Biological Conservation* 97, 271–282.

Concern over environmental costs of farm invasions and fast track resettlement in Zimbabwe

The coordinator of the World Wide Fund for Nature (WWF) rhino conservation projects in Zimbabwe, Raoul du Toit, has expressed concern over the environmental impacts of the on-going land reform programme in his country. In conservancies such as Save Valley, perimeter fencing has been pulled down and the wire used for snares that could affect rhinos, wild dogs and other endangered species. Ranch scouts have been intimidated whilst attempting to patrol these areas. Wildlife has managed to escape through the damaged fences and this has resulted in the shooting of some animals on communal lands and the transfer of diseases such as foot and mouth from wild to domestic stock. Apart from an increased risk of poaching, there are concerns over the loss of vital wildlife corridors as a result of the fast track resettlement scheme. Areas earmarked for resettlement include lowland forest in the Eastern Highlands. Large parts of the central plateau have also been designated for resettlement, including areas of wetland that support species such as the globally threatened wattled crane. WWF has called for a concerted effort to minimize the environmental costs of land reform through more careful planning.

Source: WWF, 30 November 2000. Sent by Kevin Dunham.

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New 100,000 sq km Transfrontier Conservation Area

The international agreement to develop the Gaza/Kruger/Gonarezhou Transfrontier Conservation Area was finally signed on 10 November 2000. The new park will cover an area of 100,000 sq km straddling the borders of South Africa, Mozambique and Zimbabwe. The agreement was signed by ministers from the three countries and is the first stage in a process of ensuring the successful

implementation of the plan to establish the park. Funding for further activities is being sought from donor agencies such as USAID and the World Bank. Initial requirements include the erection of over 400 km of electric fencing, the training of more than 200 game guards, the drawing up of legislation, full community participation and the promotion of private sector participation.

Source: *Peace Parks News* (2000), 2, 1–2.

Concern over spraying in the Okavango Delta

Botswana's Ministry of Agriculture has announced its intention to spray 7180 sq km of the Okavango Delta with the insecticide Endosulphan in an attempt to control tsetse fly. This is planned to start in winter 2001. Tsetse fly, which transmits sleeping sickness in humans and nagana in animals, is a recurring problem, although there is controversy over how best to control it. Endosulphan is toxic to both fish and insects. The Delta is internationally important for its numbers of aquatic birds, and there are concerns that spraying may threaten these populations by killing large numbers of fish. Insectivorous birds and other animals may be similarly threatened through reduction of food supply. Over the past 8 years odour-baited targets (OBTs) have been used to control tsetse fly in Botswana. These have been used successfully in other African countries, but their success in Botswana has been reduced by poor maintenance of individual OBTs. Four NGOs are asking for an independent Environmental Impact Assessment, to be carried out as soon as possible, which should consider all options to control tsetse fly.

Source: *Africa Environment and Wildlife* (2000), 8(11), 22–23.

Aldabra rails are a runaway success

Aldabra Atoll is a large, raised coral platform in the western Indian Ocean. Although politically part of the Seychelles, it shares a biological affinity with Mauritius. The Aldabra rail *Dryolimnas aldabranus* is a flightless species that was once found on all the islands within Aldabra Atoll as well as on neighbouring islands. Populations of this species were decimated by introduced domestic cats. A reintroduction programme was launched in 1999 on the

cat-free Picard Island. The programme will benefit both tourists and conservation. Eight pairs were initially released. All bred successfully, and after 8 months the population had increased to at least 30 birds, with no known adult mortalities to date. A second phase of monitoring is planned for the summer of 2001.

Source: *Africa Birds and Birding* (2000), 5(5), 11.

Previously unknown population of coelacanths discovered

A hitherto unknown population of coelacanths may exist off the coast of South Africa, far from the Comoro Islands where most of these fish have previously been found. In October and November 2000, divers saw and filmed coelacanths off Sodwana Bay on the north-east coast of South Africa. The sightings suggest there is a viable population in the area. The first live coelacanth was discovered in 1938 hundreds of kilometres south of Sodwana. In the 1990s, animals were found near Mozambique and Madagascar. Another population was discovered off Indonesia in 1997, although controversy continues over whether these animals belong to a separate species. The latest discovery suggests coelacanths may be more widespread than previously thought.

Source: *New Scientist* (2000), 169(2272), 12.

South and South-east Asia

Environmental degradation in the Asia-Pacific region

Environmental degradation in the Asia-Pacific region continues, despite commitments made during the Earth Summit in 1992. This was the conclusion of a report from the United Nations Economic and Social Commission for Asia and the Pacific. *State of the Environment in Asia and the Pacific* outlines several factors contributing to degradation, including rapid population increase, growth of a consumptive lifestyle, rising economic output without decoupling from the use of resources, the perpetuation of poverty and a lack of access to resources for the vast majority

of people. The population of the region has grown from 1.7 billion in 1960 to 3.7 billion in 2000 and is projected to reach 5 billion by 2025. If the region had one car for every two persons, as in the US, this would mean 2.5 billion cars by 2025, a figure that would prove disastrous for the environment.

Source: *Marine Pollution Bulletin* (2000), 40(11), 890–891.

Jammu and Kashmir bans shahtoosh trade

The government of Jammu and Kashmir in India has banned trade in shahtoosh, the underwool of the chiru or Tibetan antelope (*Pantholops hodgsonii*) and advised manufacturers and traders to switch over to alternative trades. On 14 October 2000, the state government informed the Jammu and Kashmir assembly that the manufacture of shahtoosh products would be phased out after the Indian government conveys its decision on the disposal of current stocks. One recommendation of a 1999 TRAFFIC report on the shahtoosh trade was to call on Jammu and Kashmir to make trade and manufacture of shahtoosh illegal, thus closing the last major legal loophole in this endangered species trade. (See also *Shahtoosh dealers prosecuted* in the North America section.) Source: *TRAFFIC North America* (2000), 3(3), 8.

East Asia

Continued action on Chinese alligator conservation

In October 2000, a Resolution on Chinese Alligator Conservation was presented to the IUCN World Conservation Congress by Chinese government representatives. This was co-sponsored by 17 other IUCN members. This resolution was approved and commits China to action on the Chinese alligator *Alligator sinensis* at the highest level. The broad support for this resolution indicates the widespread recognition of the problems facing the species. In a separate move, Wildlife Conservation International visited China in August 2000 to review potential release sites for reintroduction of Chinese alligators. These sites, and the discussions held with their managers, form the foundation for further

development of the reintroduction option.

Source: *Crocodile Specialist Group Newsletter* (2000), 19(3), 5–6.

Global warming may 'kill' the Sea of Japan

Global warming may be creating a 'dead zone' in the Sea of Japan. Rising temperatures are shutting down a circulation process that is crucial to life. In winter, oxygen-rich surface water becomes colder than the water below and sinks, taking oxygen with it. At the same time, the current brings inorganic matter up from the depths. In the 1930s, the effects of this current were felt down to 2500 m but now the depth of the effect is only a few hundred metres. The oxygen level at 2500 m is falling at a rate that would reduce it to zero within 350 years. This would choke off life at the bottom of the food chain and extinguish species higher up. The cause is thought to be global warming; water is kept warmer in winter, thus weakening the convection current.

Source: *New Scientist* (2000), 169(2273), 22.

North America

\$1 million to protect British Columbia's forests

The Sierra Club, Greenpeace, the Rainforest Action Network and the Coastal Rainforest Coalition have raised \$1 million to develop ways of managing and conserving British Columbia's coastal forests in a way that protects ecosystems and also addresses social, cultural and economic needs. The NGOs estimate that it will require \$4 million for an initial programme of studies to end destructive logging practices. The industry has agreed to match the NGO money and together they seek to double it with venture capital.

Source: *Taiga News* (2000), 33, 3.

Habitat is the key for a threatened rattlesnake

The Massasuga is a small rattlesnake that is considered threatened in Canada. Wild populations exist at four Ontario locations, including in the city of Windsor and near Niagara Falls. Habitat loss is considered the most serious threat to

this species. A recovery plan for the species proposes work on three fronts: public and government agency education, investigation of the snake's habitat and ecology, and enhancement, repair and protection of habitat. Ontario's Fish and Wildlife Conservation Act makes it illegal to kill a Massasuga, but it doesn't protect its habitat. Conversely, the province's Endangered Species Act protects the habitat but not the snake. The Federation of Ontario Naturalists is now working to try and encourage proper protection for this species.

Source: *Nature Canada* (2000), 29(3), 28.

Clinton set aside more protected land than any other President

In his 8 years in office, Bill Clinton set aside more land in the Lower 48 (i.e. excluding Alaska and Hawaii), than any other president. Clinton protected 1.4 million ha, the largest area being Grand Staircase-Escalante National Monument in Utah (686,000 ha). It was Theodore Roosevelt who first formulated the idea of National Monuments under the 1906 Antiquities Act. This law gives the president the power to permanently protect public land as a national monument if they deem the land 'an object of historic and scientific interest'. No new activities are allowed if they would alter the land's character.

Source: *Audubon* (2000), 102(6), 24.

Debate over forest fires continues

Following the burning of 2.5 million ha of forest and wildlands in 13 states in the western US in 2000, the timber industry is attempting to gain support for more commercial logging. The industry claims that the 70 per cent decline in timber harvests over the last decade has been a major factor in the wildfires and that more wood in forests has led to a greater possibility of fires. In response, the US government is planning to protect 16.2 million ha of National Forest from fire through widespread thinning. To make the thinning economically profitable and of interest to logging companies, taking of larger trees will be required. Some of these forests have been excluded from logging for environmental reasons and NGOs have expressed concern about how these operations will be planned and supervised.

Source: *Aborvitae* (2000), 16, 2.

Early warning system for coral bleaching

The National Oceanographic and Atmospheric Administration (NOAA) is to develop a long-term coral reef monitoring system with the ability to predict coral bleaching episodes in all major US coral reef areas. Bleaching can be caused by a variety of events such as change in water temperature or a change in nutrient composition. The first step in the project will be the installation of meteorological and oceanographic monitoring stations in the Bahamas and the US Virgin Islands. The data from these, along with other information, will, it is believed, give 1–2 weeks notice of bleaching episodes. While bleaching cannot be halted or reversed once it has begun, advance information will allow reef managers to react quickly to help reduce stressful impacts from other factors in ways that had previously been impossible.

Source: *Marine Pollution Bulletin* (2000), 40(11), 891.

Further controls on long lining in the US

In an effort to reduce the number of swordfish, billfish and other species caught as bycatch in long lining gear, the US National Marine Fisheries Service has issued seasonal and year-round regulations in several areas. Year-round closures to open sea long lining for swordfish, tuna and shark were implemented in Desoto Canyon in the Gulf of Mexico from November 2000. A similar ban will take effect off eastern Florida from February 2001. An annual 3-month closure from 1 February to 30 April in the Charleston Bump off North Carolina will be effective from 2001. Meanwhile, in Hawaii, a decision by the US District Judge David Ezra could halt long lining throughout 2001. His decision requires all 115 long line boats to have a federally trained observer on board. Ezra also ordered the National Marine Fisheries Service to finish an environmental impact statement by 1 April 2001, to determine how long lining affects sea turtles and other marine mammals. (See also *Protection for US turtles* below.)

Source: *Marine Turtle Newsletter* (2000), 90, 28.

Great Ape Conservation Act passed by US Congress

The Great Ape Conservation Act was passed by the US Congress and presented to the President on 24 October 2000. The Act is designed to 'assist in the conservation of great apes (chimpanzee, gorilla, bonobo, orang-utan and gibbon) by supporting and providing financial resources for the conservation programmes of countries within the range of great apes, and projects of persons with demonstrated expertise in the conservation of great apes'. The Act allocates \$US5 million per year from 2001 to 2005 to the Multinational Species Conservation Fund to be distributed from a Great Ape Conservation Fund (see also *Grants and opportunities*, this issue). Grant proposals for funding will be reviewed by the Secretary of the Interior and will be approved if they assist efforts to: (1) implement conservation programmes, (2) address habitat conflicts between humans and great apes, (3) enhance compliance with CITES and other trade laws affecting great apes, (4) develop scientific information on great ape population and habitat health, or (5) promote cooperative projects among governments, affected local communities, NGOs and other persons or organizations.

Source: *IUCN*, 1 November 2000.

Infamous reptile dealer extradited to the US

On 29 August 2000, the Mexican government turned Keng Liang 'Anson' Wong over to the United States. Wong operated a wildlife import-export business in Malaysia and will face trial on charges including conspiracy, smuggling, money laundering and violating federal wildlife statutes. Among the animals that Wong is accused of smuggling are the Komodo dragon *Varanus komodoensis*, a CITES Appendix I species, and the Madagsacan plowshare tortoise *Geochelone yniiphora*, considered to be the world's rarest tortoise species. Between 1995 and 1998, the US Fish and Wildlife Service documented 14 illegal shipments made by Wong, containing protected reptiles worth a total of \$US500,000. Wong was arrested in Mexico City in September 1998.

Source: *TRAFFIC North America* (2000), 3(3), 7, 9.

Latest additions to the US Endangered Species Act

Several new species are to be listed under the US Endangered Species Act. The Alabama sturgeon *Scaphirhynchus suttkusi* is to be listed as endangered. This species has a small population size and has disappeared from around 85 per cent of its historic range in the Mobile River basin of Alabama and Mississippi. The O'ahu 'elepaio *Chasiempis sandwichensis ibidis*, a songbird endemic to the Hawaiian island of O'ahu, is listed as endangered. Only 1500 birds are thought to remain on the island. The Santa Ana sucker, *Catostomus santaanae*, was once the most abundant fish in southern California but is now absent from 75 per cent of its historic range and is considered threatened. The northern Idaho ground squirrel *Spermophilus brunneus brunneus* has the smallest geographical range of any squirrel species. Habitat loss has caused a sharp population decline. Ten areas within the range of the threatened Johnson's seagrass *Halophila johnsonii* along the east coast of Florida have been designated as critical habitat.

Source: *Endangered Species Bulletin* (2000), 25(4), 24–25.

Protection for US turtles

The US National Marine Fisheries Service is temporarily closing a fishing area on the Grand Banks to provide additional protection for loggerhead and leatherback turtles caught as bycatch by US fisherman during pelagic long lining operations. The ruling also requires that all pelagic long line vessels that fish in the Atlantic Ocean, Gulf of Mexico and Caribbean Sea carry and use dipnets and line clippers to aid in the removal of fishing gear from captured turtles. An earlier assessment by the Fisheries Service concluded that the Atlantic pelagic long line fishery jeopardised the continued existence of marine turtles. Since June 2000, Fisheries Service scientists have concluded that more research is needed to determine the precise impacts. It is planned to issue a new biological opinion in early 2001. (See also *Further controls on long lining in the US* above.)

Source: *Marine Pollution Bulletin* (2000), 40(12), 1069–1070.

Threats from transgenic trees

The Native Forest Network in the US plans to host a major international conference on genetically engineered (GE), or transgenic, trees in 2001. Whilst there has been a worldwide focus on genetically modified foods, the potential environmental consequences of GE trees have not been given as much attention. In November 1999, the World Wide Fund for Nature issued a report on the dangers of GE trees, which can cross-pollinate with native trees over a distance of almost 650 km. Threats from such trees include the evolution of 'super-pests', and elimination of beneficial insects through the creation of trees which contain the pesticide *Bacillus thuringiensis*. Areas of cloned trees could become biological deserts. The Canadian Forest Service is spearheading research into GE trees, and has budgeted \$C1.6 million for biotechnology research in 1999–2000. Canadian Forest Service officials expect GE trees to be planted commercially within 5–10 years. Source: *Taiga News* (2000), 33, 5.

US Fish and Wildlife Service issues giant panda permit

On 17 November 2000, the US Fish and Wildlife Service (USFWS) issued a permit under the US Endangered Species Act and CITES to allow the import of two giant pandas into the Smithsonian National Zoological Park in Washington, DC. The long-term loan meets the criteria outlined in the USFWS's Giant Panda Import Policy, which states that imports must contribute to the conservation and survival of pandas in the wild. There are thought to be fewer than 1000 pandas surviving in the wild in China.

Source: *TRAFFIC North America* (2000), 3(3), 6.

US market is the focus of mahogany report

A new report by *TRAFFIC*, *Mahogany Matters: The U.S. Market for Big-Leafed Mahogany and its Implications for the Conservation of the Species*, has been published. The US imports an estimated \$56 million of Latin American mahogany each year, most of which is big-leafed mahogany *Swietenia macrophylla*. A total of 76,000 cubic metres of this species, or 60 per cent of the global trade, is imported into the US annually. The report highlights concerns that cur-

rent harvest rates and practices are pushing the species in the same direction as Caribbean mahogany *S. mahagoni*, which is now endangered and commercially exhausted. In the last hundred years, the trade in mahogany has shifted from country to country in response to diminishing stocks. The latest main supplier, Peru, has been boosting its mahogany production by selling concessions to foreign companies in the Cordillera Azul region. The report concludes that the US has an economic incentive to protect stocks and that conservation of species would be aided by consumer awareness. The report outlines various regulatory, policy and voluntary interventions available to US policy makers, companies and consumers to improve conservation and management efforts.

Source: *Arborvitae* (2000), 16, 4.

US places moratorium on Endangered Species Lists until September 2001

The US Fish and Wildlife Service (USFWS) has decided to place a moratorium on all endangered species listings until September 2001. The moratorium will delay the protection of more than 300 species that are proposed for listing or are already considered candidates for listing. These include the Chiracahua leopard frog, the Aleutian otter and the Pacific fisher. USFWS blames litigation over critical habitat designation, launched by environmentalists, for eating away at its listing budget. Having missed the deadline for designating critical habitat for about 90 per cent of the 1200 species listed under the Endangered Species Act, the USFWS faces court-ordered designations for nearly 300 species. Complying with these will consume all of the Service's listing budget until 2001, says the USFWS. Conservation groups argue that the financial problems stem from the reduced level of congressional funding requested for 2001, \$US7.2 million as opposed to \$US7.5 million in 2000 and \$US3 million less than the request in 1992.

Source: *The Gallon Environment Letter* (2000), 4(43), 12 December 2000.

Halt to shark cartilage adverts

The Federal Trade Commission (FTC) in the United States has ordered two New Jersey firms, Lane Labs-USA Inc. and Cartilage Consultants Inc., to stop pro-

moting shark cartilage products as cancer treatments. FTC also fined Lane Labs \$US1 million for false advertising. Under the agreement, both companies agreed to stop marketing BeneFin, a shark cartilage product, and SkinAnswer, a topical skin cream, as cancer treatments. Shark cartilage from Pacific Ocean animals is used as a dietary supplement to relieve psoriasis and arthritis, and the National Cancer Institute (NCI) is conducting trials to test its effectiveness as a cancer treatment. Lane Labs is providing cartilage for the study, and under the terms of the agreement will pay \$US550,000 as a fine to the FTC and contribute the remaining \$US450,000 to the NCI trial.

Source: *TRAFFIC North America* (2000), 3(3), 13.

Shahtoosh dealers prosecuted

On 6 July 2000 in Newark, New Jersey, Navarang Exports of Bombay, India, pleaded guilty to the illegal sale of shahtoosh shawls. Navarang reportedly brought 308 shawls into the US between September 1994 and March 1995. This number of shawls represents the death of as many as 1540 chiru or Tibetan antelopes (*Pantholops hodgsonii*), or around 2 per cent of the current wild population. Cocoon North America, Navarang's US agent, also admitted violating CITES and the Endangered Species Act in March 1995 by exporting nearly 100 shawls to a fashion boutique in Paris. Both organizations also admitted falsely declaring the shipment as cashmere, and as a result underpaying the US Customs Service by nearly \$US32,000 in import duty. (See also *Jammu and Kashmir bans shahtoosh trade in the South and South-east Asia section*.) Source: *TRAFFIC North America* (2000), 3(3), 8.

Expanding airline services threaten national parks in the US

The expansion of commercial air services and the consequent demand for more regional airports is threatening national parks, in the US. Environmental assessments of some airport proposals have indicated serious potential impacts for national parks, including noise from overflights disrupting nesting birds, runway runoff polluting watercourses, and the development of infrastructure that eliminates buffer habitat. Hanscom Field in Concord Massachusetts is

typical of the threat. Increasing traffic at Logan Airport in Boston has led to plans to expand Hanscom, threatening the nearby Minute Man National Historical Park. The US National Park Service and a local group, Save Our Heritage, are fighting plans to expand services at Hanscom.

Source: *National Parks* (2000), 74(11–12), 13–14.

Sage grouse is two species not one

In July 2000, the American Ornithologists' Union recognized that the sage grouse is in fact two species. Scientists now recognize the Gunnison sage grouse and the greater sage grouse. The history of these two species is a cautionary tale of habitat fragmentation. Changes in climate and habitat around 300,000 years ago isolated the sage grouse east of the Colorado plateau from the rest of the population. Subsequent differentiation produced the genetically distinct Gunnison sage grouse. Gunnison sage grouse are threatened by the same problems as other sage grouse, including habitat degradation and development. Their range has shrunk to parts of Colorado and Utah, with fewer than 5000 individuals in eight populations.

Source: *Audubon* (2000), 102(6), 69.

Epidemic threatens California oak forests

A fungal epidemic is threatening the oak forests of coastal California and the animals that depend on these areas for food, shelter and habitat. The disease was first described in Marin County in 1995 and can now be found in an area stretching over 550 km from San Luis Obispo County up into Humboldt County. The cause appears to be a new species of *Phytophthora*. Other species in this genus were responsible for the Irish Potato Famine of 1845–1850, the die-off of eucalyptus forests in Australia and the decimation of Port Orford cedars in the Pacific North-west of the USA. *Phytophthora* spores enter the tree through the bark, destroying the circulatory and nutrient transport systems. Animals that depend on acorns for winter food, such as deer, squirrels, jays and acorn woodpeckers, are likely to suffer as the epidemic progresses. The Wildlife Conservation Society is mapping the extent of the epidemic and aims to develop strategies to conserve and restore ecosystems affected by the disease.

Source: *Wildlife Conservation* (2000), December 2000, 8.

Pumice mine to close

The demand for fashionable 'stone-washed' jeans in the mid-1980s led to an upsurge in the mining of pumice which was used in the production of such garments. The White Vulcan Mine in Arizona has supplied much of the United State's pumice for the past 20 years. It is situated in an area that contains the state's only alpine-tundra ecosystem. In 1998, the mine's owners, Tufflite, applied for a permit to expand its operation, which already covered 36 ha of the Coconino National Forest. This was opposed on conservation grounds by a range of organizations, and the federal government has now reached an agreement with the company that will see the mine close in February 2001. The government will pay Tufflite \$US1 million and write off \$US300,000 in unpaid royalties for earlier pumice sales. The advent of cheap biodegradable enzymes that give jeans a stonewashed look had already made Tufflite's business non-viable.

Source: *Audubon* (2000), 102(6), 22.

Lead kills condors in the Grand Canyon National Park

Sixteen reintroduced Californian condors have been captured and treated for lead poisoning in the Grand Canyon National Park in the US. This was after five birds were found dead, presumably from lead poisoning. Scientists were unable to pinpoint the source of the lead, but it was suspected that the birds had fed upon an animal carcass full of lead shot. This was evidence that birds were finding their own food rather than relying on that provided by the recovery team. Although hunting is allowed on some federal lands around Grand Canyon, no big game seasons were open when the birds began dying in June 2000. Thus the birds may have been feeding on private lands. The recovery team is trying to persuade local hunters to use so-called 'green' bullets that are non-toxic to the birds. As of July 2000 there were 48 California condors living in the wild in California and Arizona. A further 123 were held in captive breeding facilities in California and Idaho.

Source: *National Parks* (2000), 74(11–12), 16–18.

Horseshoe crabs protected in Delaware Bay

The US National Marine Fisheries Service has announced plans to protect horseshoe crabs in federal waters off the mouth of Delaware Bay. A reserve is proposed in an area that is home to the largest concentration of American horseshoe crabs and is adjacent to a prime spawning area for these animals. The Service has also imposed a state-wide moratorium on fishing for horseshoe crabs in Virginian waters. Virginia alone, of all the Atlantic states, chose not to implement a fishing quota on this species. The moratorium will remain in force until Virginia complies with the coast-wide regulations to reduce harvests of the species. The Fisheries Service estimates that in 1998 about 3 million crabs were collected along the US Atlantic coast for use as bait in the eel and whelk industries. Horseshoe crabs are also harvested for use in the medical industry.

Source: *Marine Pollution Bulletin* (2000), 40(12), 1071.

American crocodiles make a comeback

The American crocodile was listed as endangered in Florida in 1975, threatened by hunting and loss of habitat. It is now estimated that between 500 and 1200 crocodiles live in Florida, compared with between 200 and 400 a decade ago. Their habitat in the US stretches from Big Pine Key through Biscayne Bay and into the Everglades. As the American crocodile population expands into its historic territory, alterations of key habitat continue to cause problems. Restricted freshwater flows in the Everglades have made much of the area unsuitable for hatchlings. Development has also increased the number of human interactions with crocodiles. Although the species is recovering, human attitudes are still a concern.

Source: *National Parks* (2000), 74(11–12), 48.

US Navy plans shock test

The US Navy is planning a shock test of the destroyer *Winston S. Churchill*, offshore either Maryport, Florida or Pascagoula, Mississippi, commencing in May 2001. The test will take the form of no more than four underwater detonations aimed to simulate the effects of near misses in combat. Measures have

been taken to minimize impacts on marine mammals and sea turtles. Strict environmental criteria will limit the conditions under which the test can take place. At the core of the criteria is a two nautical mile Safety Range. If any marine mammal or sea turtle is spotted within the Safety Range, the detonation will be postponed until the animals are confirmed to be outside the Range. A Marine Animal Recovery Team will remain on-site to deal with any injured or dead animals. Injured sea turtles will be collected, treated, and, if possible, tagged and returned to the sea. Seriously injured animals will be transferred to appropriate rehabilitation facilities.

Source: *Marine Turtle Newsletter* (2001), 91, 15.

Central America and Caribbean

Smuggled birds returned to Mexico

On 10 August 2000, the US Fish and Wildlife Service (USFWS) returned 28 rare parrots that had been smuggled into the US for the black market pet trade. The birds were predominantly species native to Mexico that are protected under international treaty and US and Mexican law. The USFWS investigation that intercepted the parrots documented a smuggling operation that brought some 300 exotic birds across the US-Mexican border into Texas. These included military macaws *Ara militaris*, a CITES Appendix I species. It is believed that the smuggled birds were taken directly from their native habitat.

Source: *TRAFFIC North America* (2000), 3(3), 5–6.

South America

Oil spill threatens Galapagos Islands

On 22 January 2001, Ecuador declared a national emergency in the Galapagos Islands after an oil spill < 1 km offshore of the capital, Puerto Baquerizo Moreno, on San Cristobal Island. The spill began after the Ecuadorian registered ship *Jessica* ran aground on 16 January. The

ship was carrying an estimated 240,000 gallons of diesel and bunker fuel, a heavy fuel used to power some tour boats operating in the islands. By 20 January, an estimated 140,000 gallons of fuel had leaked into the ocean, threatening wildlife on San Cristobal and neighbouring islands. The Charles Darwin Research Station on San Cristobal and the Galapagos National Park have established rescue sites to deal with affected wildlife. On 21 January, the US Coast Guard arrived to drain the remaining fuel from the ship. This mission is expected to cost the Ecuadorian government \$US500,000.

Source: *Reuters* – Quito, 23 January 2001.

Oil pipeline threatens globally important area in Ecuador

The President of Ecuador, Gustavo Noboa, has approved negotiations on a \$US550 million crude oil pipeline which could cut through the Mindo Important Bird Area (IBA) which has a rich biodiversity, as well as being the site of a booming ecotourism industry with over 100,000 visitors a year. Mindo was the first ever IBA to be set up in Latin America, and includes five globally threatened bird species, and the critically endangered black-breasted puffleg *Eriocnemis nigrivestis*. A coalition of 50 Ecuadorian organizations including CECIA (BirdLife in Ecuador), environmentalists, local communities, tourist enterprises, landowners and the Pichincha Honourable Provincial Council has been formed to stop the pipeline being built through Mindo. BirdLife International has called for a multimillion dollar *Environmental Impact Assessment* of the proposed pipeline routes.

Source: *BirdLife International*, 22 November 2000.

Chilean city in danger as hole in ozone layer spreads

On 9 and 10 September 2000, the hole in the ozone layer over Antarctica extended over the city of Punta Arenas in southern Chile, exposing residents to very high levels of ultraviolet radiation. According to data from NASA, the hole covered an area of 29.3 million sq km. This was the first time that a city had been exposed to the ozone hole. It has been suggested that segments separating from the hole, or filaments, will form areas of low ozone that could affect areas of Argentina, South Africa, Aus-

tralia and New Zealand. Record low temperatures in the stratosphere are believed to have helped the expansion of the ozone hole during the southern hemisphere's spring. Antarctic ozone depletion starts in July, when sunlight triggers chemical reactions in cold air trapped over the South Pole. It intensifies in August and September before tailing off in November and December. The 1989 Montreal Protocol commits countries to eliminate production and use of ozone-depleting substances, but it could be 20 years before ozone levels recover noticeably.

Source: *Envirolink* website: www.envirolink.org/environews quoting *Reuters* report. Sent by Guillaume Chapon. E-mail: g.chapon-al98@veterinaire.fr

Temperate rainforest at risk

The second largest temperate rainforest in the world, the Valdivian forest in Chile and Argentina, is under threat. Only 40 per cent of the original 140,000 sq km remains, much of it highly fragmented. In the Chaihuin-Venecia area of Chile, a Chilean forestry company, Bosques S.A., is converting forest to eucalyptus plantations. The company has already destroyed 150 sq km of forest, in violation of Chilean law.

Source: *Arborvitae* (2000), 16, 4.

Pacific

Pacific nations agree to regulate tuna catch

On 5 September 2000, the US and 18 other nations signed a pact to create an international commission to protect tuna in the Pacific Ocean. The commission would have the power to set quotas for four tuna species, albacore (bigeye, skipjack and yellowfin), and a handful of other migratory fish. Observers appointed by the commission will monitor the catch from aboard boats of international fishing fleets. Transport and sales of fish at sea will be regulated by the commission. The pact was agreed at the seventh meeting of the Multilateral High Level Conference on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific. Japan and South Korea voted against the commission, while China, France

and Tonga abstained. At stake is the most lucrative tuna fishing region in the world, worth between \$US1.5 and 2 billion a year in sales.

Source: *TRAFFIC North America* (2000), 3(3), 7.

Proposal for South Pacific Whale Sanctuary defeated

A proposal, developed by Australia and New Zealand with the support of Pacific Island states, to establish a South Pacific Whale Sanctuary, was defeated at the International Whaling Commission (IWC) meeting in July 2000. It was planned that this sanctuary would link the current Southern Ocean Sanctuary to known breeding grounds in the Pacific region, thus providing protection for whales throughout their annual migrations. The Sanctuary would also provide a boost to the development of whale watching schemes. IWC rules require that any major change would need a three quarters majority – the proposal was carried by 18 votes to 11, falling well short of the necessary margin. The South Pacific Whale Sanctuary will be back on the agenda for the next IWC meeting in London in July 2001.

Source: *Forest & Bird* (2000), 298, 4.

Australia/New Zealand/ Antarctica

New antifouling paint project

There has been growing international concern over the environmental impacts of antifouling paints such as tributyltin (TBT) used on ships' hulls. In response to these concerns, the Australian Government has set up a long-term project to conduct trials on new and promising antifouling paints. From 1 January 2006, the Australian Government is to ban the use of TBT on vessels painted in Australian docks. This project will provide a capital injection for paint trials on vessels under a range of climatic conditions in Australian waters. It will support the work that marine paint and coatings manufacturers are doing to ensure that cost effective and environmentally

friendly alternatives are available in time for the ban.

Source: *Marine Pollution Bulletin* (2000), 40(12), 1069.

Action needed to protect Hector's dolphin

Urgent action is needed to protect the critically endangered North Island Hector's dolphin in New Zealand. The North Island population has been reduced to about 100 individuals. Gill nets are thought to be the main cause of the decline and the fishing industry's current proposals to ban gill nets are seen as inadequate as they do not ban the use of nets throughout the subspecies' range. There are two other genetically distinct populations of Hector's dolphin on the west and east coasts of South Island. These are also at risk from gill nets. A recent decision to increase fisheries catch limits for elephant fish and rig along the east coast of South Island will make matters worse for this dolphin.

Source: *Forest & Bird Conservation News* (2000), 120, 2.

Marine reserve for capital of New Zealand

The rugged southern coastline of New Zealand's capital, Wellington, could become one of the country's most important marine reserves. The proposed Taputeranga Marine Reserve covers an area of rocky coastline and diverse marine habitats such as hard reef systems and seaweed forests. The reserve lies in the confluence of three oceanic water bodies and currents and has a diverse assemblage of fauna & flora unique to New Zealand. Almost half of all known macroalgal (seaweed) species in New Zealand occur along this coastline. In total at least 100 species of seaweed have been recorded from this region. There is also a diverse invertebrate and fish fauna.

Source: *Forest & Bird Conservation News* (2000), 120, 1.

Orange-fronted parakeet confirmed as separate species

Until recently the orange-fronted parakeet from New Zealand was regarded as

a different colour form of the yellow-crowned parakeet. It is now recognized as a separate species. There are only two known populations: a small one in the Haedon Valley within Arthurs Pass National Park and a significant one in the South Branch of the Hurunui River. The total population is estimated to be between 150 and 500 birds. Since its formal description in 1857, the taxonomic status of the orange-fronted parakeet has been disputed. Now, New Zealand's Department of Conservation is working to prevent the species' extinction. This will involve continuing intensive management and ecological study.

Source: *Forest & Bird* (2000), 298, 6.

Project to protect tussac grass in the Falkland Islands

Over the past 15 years there have been regular reports of the decline of tussac grass habitats in the Falkland Islands. Large areas of tussac have been lost to grazing and erosion and the remaining areas are rapidly becoming the Falkland's most threatened natural habitat. Falklands Conservation launched a *Tussac Appeal* in early 2000 which aimed to fence and section the remaining areas of tussac to ensure careful future management and sustainable use. The appeal has raised enough funds to begin a management project at Port Harriet Point, south of Stanley. This is a 4-km spit of land with tussac growing along its entire length. Fencing will be used to split the habitat into 11 small areas to allow stock exclusion while replanting and regrowth of tussac grass takes place.

Source: *The Warrak* (2000), 18, 8–9.

The *Briefly* section in this issue was written and compiled by Simon Mickleburgh. Contributions from authoritative published sources (including web sites) are always welcome. Please send contributions to Martin Fisher, Fauna & Flora International, Great Eastern House, Tenison Road, Cambridge CB1 2TT, UK, or e-mail to martin.fisher@fauna-flora.org