

ORYX

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Notes and News

Last December poachers killed a young male mountain gorilla *Gorilla g. beringei* that Dian Fossey had been studying since 1967 in the Parc des Volcans in Rwanda. Called Digit, this was the animal seen taking Dian's

**Gorilla
Killing in
Rwanda**

notebook and pencil and returning them in the famous Anglia TV film, and his photograph was used by the Rwandese tourist authorities for a poster—'Come and see me in Rwanda'. One of the poachers was caught and admitted that they had killed this young silverback, which

was probably about to take over the leadership of his group, for the £10 offered for his head and hands—which had been chopped off. It is known that this illegal trade has been going on, the trophies going to European tourists and residents. In a distressed letter to FPS Dian Fossey writes, 'Most of the Karisimbi gorillas have been killed off . . . The only "abundant" gorilla population remaining consists of my own study groups' . . . (of which Digit was a member). It is this attack on these groups that makes the killing so significant. 'This', she writes, 'could be the beginning of the end for the remaining 200 or so mountain gorillas' (in Rwanda). The most urgent immediate need was clearly to provide and equip more guards, which of course means more money. FPS set up a Mountain Gorilla Fund, promoted by the *Sunday Times*, and quickly received £3600. Some has been sent to Dian Fossey, more will go to help the Rwandese authorities, through an existing WWF project, to step up the gorilla protection in the park. One complication is that the international boundary between Rwanda and Zaire passes through the park (very close to Dian Fossey's station). Rwandan guards cannot go into Zaire to patrol—or even give chase—but this part of the Zairois frontier is so deep in their adjoining Parc des Virungas that the Zairois guards do not often patrol there. Poachers of course have no such limitations.

The Government of Indonesia are fully committed to establishing many new reserves and national parks, with a target of 10 million hectares, before the end of the new Five-Year Development Plan, said Mr Soedjarwo, Director-

**Plans
for Parks in
Indonesia**

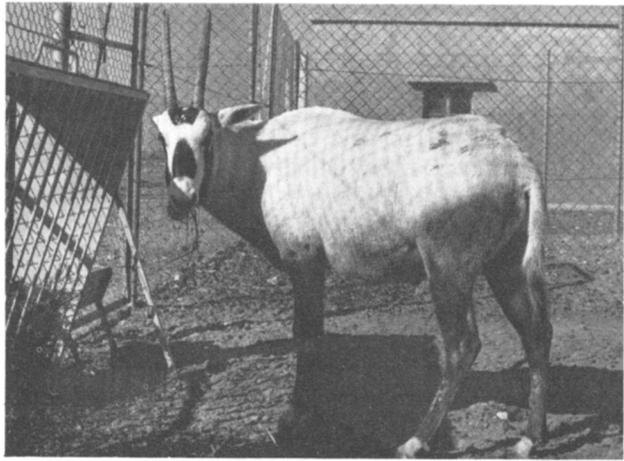
General of Forestry, who signed an Agreement between his Government and WWF providing for this long-term programme. The 17 different projects already agreed include support for the two important reserves, Ujung Kulon (home of the Javan rhino) and Gunung Leuser, both designated as future national parks, and the creation of a reserve on Siberut, in the Mentawi Islands, to safeguard in particular four Red Data Book primates: the Mentawi Island gibbon, pig-tailed langur, Mentawi leaf monkey and pig-tailed macaque. A two-year study of Kuhl's deer on Bawean Island, in the Java Sea, of which not more than a few hundred survive, is now in progress, and the heavy hunting of recent years has been practically stopped.

When Project Tiger was started in India in 1973 the immediate aim was to establish sanctuaries where tiger populations could build up to replenish the surrounding areas. The number for a viable contiguous population was thought to be about 300 animals. But more recent

**Priorities
for
Project Types**

research has shown that a much larger population in the range of 2000–3000 animals is required for long-term viability, which in modern India is clearly out of the question. (It would require over 50,000 sq km.) So future research will have to provide the information about behaviour that will allow techniques to be perfected for transferring animals from one discrete population to another, and ensuring their acceptance in new areas, in order to maintain the gene flow. This interesting glimpse into tiger management of the future is taken from the IUCN/WWF Report on Project Tiger by Colin W. Holloway, Paul Leyhausen and M. K. Ranjitsinh. They describe Project Tiger as having 'already achieved a number of quite outstanding successes', including the removal of villages from sanctuary areas, control of poaching, elimination of stock-grazing and restriction of forest exploitation (wood-cutting, etc) in the core areas and the nine sanctuaries (since increased to 11) that were set up. But conservation in the buffer zones surrounding the cores is sadly below standard, and in forests adjoining Project areas often completely absent. It is urgent to redress this situation in order to allow the tiger populations to expand, for there was already evidence in 1976 (when this study was made) that tigers were too numerous in some core areas and were showing signs of stress. The Report lays great emphasis on the importance of winning the local people's co-operation and recommends a full land-use study, initially of one area, with a view to drawing up plans that would integrate the people with the Project and ensure that they benefited as well as the tigers. An interesting table in the report shows that 18 world-endangered mammals occur in the 11 tiger reserves.

ONE OF the four Arabian oryx soon after arrival in Jordan, its horns still covered with the rubber tubing used to protect them for the journey. This will rub off.



On February 17 four Arabian oryx from the captive World Herd in the USA arrived in Jordan to start the first captive herd in Arabia deriving from Operation Oryx. They have been presented to Jordan by the Trustees of the

**Arabian
Oryx Return
to Arabia**

World Herd at Phoenix and San Diego Zoos. The four animals, which are brothers—all offspring of an FPS-owned female called Annie—came from the San Diego Zoo, which made the arrangements and crated the animals; WWF paid for their transport across America and the Royal Jordanian Airline flew them to Amman. They were released into the holding pens in the Shaumari Wildlife Reserve, where the Royal Society for the Conservation of Nature in Jordan has set up a captive breeding unit for the desert wildlife that was almost exterminated in the 1950s. All survived the 42-hour journey in good condition, and if all continues to go well females will be sent before the end of the year to provide a breeding unit. Shaumari, which was described by John Clarke, the IUCN/WWF Project Leader, in *Oryx* July 1977, is a former agricultural research station covering 22 sq km, and fenced, for it is not yet possible to consider releasing the oryx into the wild. But almost more important than keeping the oryx inside the fence is the need to keep other animals out to protect the grazing from the voracious domesticated goats and camels.

The conclusion of an officially invited scientific mission to Mongolia, whose members spent two weeks in the Gobi region in May/June 1976, is that Przewalski's horse is 'certainly extinct' in the wild. Neither tracks nor sightings have been reported since 1968. The mission, whose

**Vast Desert
Park
in Mongolia**

two members represented FAO (Dr G.S. Child) and IUCN (Dr P. Hunkeler), were accompanied by two members of the Mongolian Department of Wildlife Management, Dr Y. Dash and Dr A. Szaniawski. They were invited to Mongolia to advise particularly on international assistance for the setting aside of protected areas in the Gobi region in south-west Mongolia; later in 1976 the Great Gobi National Park was established by official decree.

This vast park comprises the Transaltai Gobi National Park of 3,800,000 ha and the Djungarian Gobi Wildlife Reserve of 900,000 ha, two enormous areas of both arid and semi-arid, largely undisturbed desert, a very fragile habitat that has been irreparably damaged in other parts of the world, as the mission's report, published in *La Terre et la Vie*, points out. Apart from the wild horse, there are thriving populations of all the indigenous large mammals—snow leopard, wolf, Gobi bear *Ursus pruinus*, Asiatic wild ass, Argali sheep *Ovis ammon*, saiga antelope and wild Bactrian camel. No human activities are allowed in the national park and they are strictly limited in the wildlife reserve. The importance of the protected areas have been explained to representatives of the local people, and in future domestic stock (which had much to do with the decline of the wild horse) will only be allowed to cross the reserve on agreed routes for the twice yearly treks to and from winter pastures near the Chinese border. An ecological research centre is to be set up with international assistance.

From her investigation in the summer of 1976 into the monk seals off the south-west Turkish coast Dr F. Berkes concluded that the population was small—with not less than 50 but not more than 100 animals—and decreasing.

**Fishermen
and the
Monk Seal**

The seals had disappeared from several areas and usually only single animals were reported. She estimated one seal per 10km of coastline, and describes the population as 'vulnerable to extinction'. The causes are many. Seals have a low reproduction rate and a late maturity; human disturbance is an increasing factor with the growing tourist industry, and so is pollution. Persecution by fishermen, she thought, may be less frequent than formerly, partly because the seals are few in number, fast swimmers and very intelligent—'they seem to sense when we take guns along', say the fishermen—and partly due to the belief among older fishermen that killing seals brings bad luck and 'the seal has a right to eat too'. But younger fishermen, with money invested in modern fishing gear, including very large multifilament nylon nets to which seals can do enormous damage, have fewer inhibitions. Moreover the number of fishermen and the size and range of their boats have increased in the last 20 years, and Dr Berkes estimates a 5- to 10-fold increase in the total fishing effort in the study area in that time without any significant increase in the catch. This strongly suggests overfishing which also could have a considerable effect on the seal population. A League for the Preservation of the Monk Seal has been formed to generate interest in the plight of the Mediterranean species at all levels, including governments—the entire population is believed to number only between 500 to 1000. The League will also collect and disseminate information, and start captive breeding with orphans, abandoned young or wounded adult seals as they become available. In Greece, following a presidential decree, the Government is establishing seal reserves. One of these will be a small island in the northern Sporades, in the Aegean, where Dr Thomas Schultze-Westrum has been studying a small colony of monk seals.

This island also holds a small colony of fifteen pairs of the rare Audouin's gull *Larus audouinii*—which will benefit too.

Last February IUCN called for the 1978 hunt of young harp seals in Canada to be called off or delayed so that observations could be made of undisturbed whelping colonies. This is essential in order to collect the necessary facts for

**Will Harp
Seals Follow
Whales?**

scientific management; for a great deal about the life of the harp seal is still unknown. Neither action was taken. Alternatively IUCN asked that the quota for killing be reduced from 180,000 to 170,000 (this was also ignored) and the 1979 hunt cancelled. The Canadian Government's strategy, in order to allow the seal populations to build up, is to allow a quota of only 75 per cent of the maximum sustainable yield. But IUCN suggests that the quota was based on population estimates that were too high, and an even more recent revision of the estimates suggests that the quota should have been even lower—153,000. The 1977 kill was 165,000 and on that evidence and that of an aerial census made in March 1977 this may have been more than 100 per cent of the sustainable yield. If this was so the larger 1978 quota would reduce the population still further. It sounds like the whale story all over again. With so much unknown about the seals the only sensible policy is to fix quotas on the most conservative scientific figures. After all, in the 1960s the average commercial catch was 282,000 a year and, says IUCN, all authorities agree that in the 50s and 60s the population decreased by at least 60 per cent. The Canadian Government should know better.

Two crocodile species and one subspecies were considered so endangered that they were recommended for transfer to Appendix 1 (which bans all trade in the animal) of the Convention on International Trade in Endangered Species

**Crocodile
Ups
and Downs**

(CITES) by the Crocodile Group of IUCN's Survival Service Commission when it met in Madras in February. They are the estuarine crocodile *Crocodylus porosus*, which is critically endangered in Australia, Bangladesh and India, and only free from threat in Papua-New Guinea; the American crocodile *C. acutus*, and the Argentine and Paraguay populations of the Yacare caiman *Caiman crocodilus yacaru*. On the other hand, the US success in restoring the American alligator prompted the Group to propose its transfer from Appendix 1 to Appendix 2 of CITES. Another species that looks like being saved from near extinction, thanks to help from UNDP, FAO and the Indian and Nepalese Governments, is the gharial. In his FAO hatching, rearing and release programme Dr Robert Bustard releases the young in protected areas with considerable success. Eggs have also been taken in Nepal, with the Government's agreement, airlifted to India and successfully hatched there. At a recent FPS meeting Jim Edwards, reporting on conservation in Nepal, described how Dr Bustard hatched 256 gharial eggs taken from the Narayani river at Tiger Tops, the 'jungle hotel', and the entire staff was kept busy collecting small fish on which to feed the hatchlings until

they could be airlifted to India. The agreement on this occasion was that half the number of hatchlings would be returned to Nepal for release. Gharials are breeding satisfactorily on Nepal's Narayani River, reports Dr Charles McDougall from Tiger Tops, but if they are left to hatch naturally every egg is taken by local people who can sell them for Rs 10 each.

Some 70,000–80,000 hectares of dry savanna in the Kagera River Basin east of Lake Victoria, involving Tanzania, Rwanda and Burundi, could become farmland under a vast hydrological scheme tentatively backed by the United Nations Development Programme (UNDP) and the three African governments involved. Almost as disturbing as the plan itself is the way UNDP has handled it. Without any consultation with either IUCN or the United Nations Environmental Programme (UNEP) UNDP hired two commercial firms, both with interests in the project, to make preliminary ecological field studies, and refused to discuss the resulting report until after it had been accepted by the three African governments. When eventually IUCN received it, the contents were declared confidential because the consulting ecologists' opinions were not necessarily UNDP's. Director General Dr David Munro replied that they were certainly not IUCN's either, that several important conclusions of the commercial ecologists were contradicted by IUCN's own advisors, and that, in any case, it was questionable whether the resulting farmland would be productive for more than a few years; IUCN, he said, was not opposed to development *per se* but in favour of sustainable use of natural resources. UNDP has now agreed, pending consent of the three governments, to commission an independent survey and allow both IUCN and UNEP to take part in future discussions.

**UNDP's Way
with
a Report**

The United Nations' third stab at drawing up a new treaty to adapt the long out-of-date international law of the sea to late-20th century realities, is in great danger of committing disastrous errors in the conservation sphere. IUCN draws attention to the lack of a systematic and coherent approach to the management of the world's oceans in a critique of the Informal Composite Negotiating Text of UNCLOS III (United Nations Conference on the Law of the Sea). This was drawn up by an expert group convened by IUCN's Environmental Law Commission, headed by Professor D.M. Johnston. The UNCLOS text, they say, makes inadequate provision for prospective uses, such as mining and krill fishing, that are likely to have an adverse effect on the ocean environment; it does not consider adequately the preservation of unutilised species or critical habitats, nor the conservation of rare and endangered species. Thanks to the need for political compromise to get a negotiating text at all, the UNCLOS provisions on the conservation and management of living resources are generally vague, inconsistent and sometimes scientifically unsound—there is great play, for example, with the concept of maximum sustained yield, which is now largely discredited almost

**Heading
for Disaster
at Sea**

everywhere except in the closed world of whaling science. IUCN has submitted amendments which would, among other aims, require coastal states to conserve ecologically critical areas, vulnerable habitats and endangered species within their 200-mile limits. The mangrove swamps of the world will be gravely threatened if some such provision is not made. IUCN also believes there should be an international mechanism for establishing protected areas on the high seas, for instance in the Sargasso Sea.

The Texas wintering grounds of the only wild flock of whooping cranes, the Aransas National Wildlife Refuge, is threatened by a revived proposal for a superport for supertankers at Port Aransas. The key threat to the rich tidal flats, wetlands and mangrove swamps of this coast is a wide, deep, turbid and inevitably polluted 'turning pool' at Aransas Pass, 25 miles south of the wildlife refuge, which is also the confluence of every major river or stream for over 100 miles of coast, and supports a wide array of marine life (besides a \$28 million-a-year shrimp industry). Dredging for the port would mean dumping millions of cubic yards of mud on the rich wetlands. A massive industrial complex to service the port would require more water than is available, so another major dam is planned, on the Frio River, which in turn would have serious consequences for the environment. And of course there is inevitably the danger of a major oil tanker spill.

**Superport
and Whooping
Cranes**

Taiwan is noted for its enormous numbers of butterflies and moths, and over 360 species have been listed. It is also noted for the very large commercial use that is made of them. Some 20,000 people make a living out of butterflies, including 10,000 collectors, and about 20 million butterflies (probably a conservative estimate) are caught each year and sold to more than 30 factories, each of which may process more than 2000 butterflies a day, mounting the wings between thin layers of plastic to decorate purses, mats, baskets, etc. (The bodies are fed to pigs.) Yet, says Dr Sheldon R. Severinghaus, in a paper in *Atana* (5, 2) this enormous trade may be less of a threat to the butterfly populations than habitat destruction. Collectors work mainly by attracting the butterflies to urine-soaked sand—but there is evidence that at least in some species this only attracts males. With promiscuous species the females could still be producing adequate numbers for replacement. On the other hand many species are known to have specialised habitat requirements, and if these habitats are destroyed so are the species. In Taiwan hardwood forests are being cleared fast—partly because they are at lower altitudes (below 2000m–2300m) and easier to reach, and partly because a policy of replacing hardwood forest by conifers is being pursued; at the same time human activities are pressing higher into the previously undisturbed mountain forests—for agriculture, tourism, mining etc. And most of the butterflies occur in the range of the hardwood forests. Dr Severinghaus

**Butterflies
by
the Million**

suggests that the Taiwan Government is aware of the value of the butterflies, and some 'farms' have been established, but it has made no move to protect or manage the populations, or to study the ecology of the butterflies.

The vicuña is a conservation success story that now poses problems. In 1965 when the Pampa de Galeras Reserva Nacional was established in the Peruvian Andes there were probably well under 10,000 in the whole of Latin America—5000 of them in Peru—and numbers were sinking

**The Problems
of
Success**

fast thanks to poaching and smuggling of skins. In 1977 the population estimates for the four countries where vicuña survive were: Chile 4000, Argentina 3000, Bolivia 2000, and Peru 50,000; in the Pampa Galeras reserve numbers had increased from about 1000 in 1965 to nearly 30,000. The problem now is that the 50,000-hectare Pampa Galeras reserve cannot be expanded, and the vicuña have become too numerous for their habitat; overcrowding brings the threat of disease. The vicuña is still an endangered species, but Peru sees no alternative to culling. To remove the vicuña from Appendix I of CITES (Convention on International Trade in Endangered Species), which bans all trade in the species, would, however, open up once more the prospect of poaching and smuggling skins that brought it so near to disaster. This problem, of successful build-up of an endangered species and lack of habitat to keep it, is one that has occurred before (white rhino in South Africa, for example) and will undoubtedly occur again.

In 1976 feral dogs almost wiped out two populations of Galapagos land iguanas *Conolophus subcristatus*, one on Isabela, the other on Santa Cruz at Conway Bay. However, National Park staff and scientists at the Charles

**Galapagos
Land Iguanas
Rescued**

Darwin Research Station managed to rescue 90. Some were taken to the Station, and 38 from Conway Bay were put on a very small island called Venecia (300 × 100 m) just offshore, where conditions are very like the mainland except that there is no soft soil suitable for nesting holes.

But when soil was brought in from the old site the iguanas soon began to excavate in it, and two more nesting sites are being similarly supplied. The remarkable result of the operation is that all the rescued animals survived, which the rescuers attribute to Dr Dagmar Werner's field research during the last seven years. Her knowledge enabled the rescuers to supply the right conditions for the captives. Recently Dr Werner has discovered two land iguanas and traces of others on Santiago (James), where they had been thought extinct (due to feral pigs) for 140 years since Darwin saw them there. But there are fears that on Isabela young animals in the three apparently healthy populations on the Alcedo, Darwin and Wolf volcanoes are being destroyed by feral cats and dogs, for there is an increasing preponderance of adults. The main task now for the Park and Station staffs, apart from watching, guarding and where necessary rescuing existing colonies, is to

exterminate these feral cats and dogs where they threaten iguana colonies. This is proving very difficult indeed, and in order to learn how to do it there will have to be some extensive field studies on their behaviour and ecology.

'In Africa over the past 50 years, hunters, game wardens, fisheries biologists, and zoologists have shot thousands of Nile crocodiles', say Professor Carl Gans of Michigan University and A.C. Pooley of the Natal Parks Board, writing in the *Bulletin of the Ecological Society of America*. The result of course is depleted populations—near extermination in Uganda, a 90 per cent decrease in Chad, and heavy declines in nearly every other African country.

**Study
Them Alive,
not Dead**

In the early days much of the shooting was the result of misguided ideas about predators; more recently it has been in pursuit of research. How many more crocodiles are to be killed, they ask, 'to prove what we already know'? The latest such project was one in Botswana (involving the shooting of 20,000 crocodiles) that combined analysis of stomach contents (how many times has this been done?) with the sale of skins—a dangerous practice in that it may produce legitimate skins to 'muddle' the numbers that are poached. But there is still much research to be done on live crocodiles, studying behaviour and social organisation, which is highly relevant to both conservation projects in the wild and captive breeding in farms.

Those who believe that the root of all our troubles is the burgeoning human population of the world have acquired an unexpected ally in the shape of the American agricultural-industrial complex. This juggernaut is now drenching

**Who are
the Poisons
Killing?**

the soil of the United States (doubtless of other countries too), with two and a half times more pesticides and herbicides than were used in 1962, the year Rachel Carson's *Silent Spring* was published. In 1977 the US farmers sprayed some eight times as much herbicide on corn (maize), America's top crop, as in 1964, and nine times as much on soybeans, despite the well publicised banning of DDT, mirex, chlordane, and that terrible trio of the Carson years, aldrin, dieldrin and heptachlor. There is every indication that the situation will get worse, as agribusiness promotes no-till farming, substituting herbicides for the plough to get rid of weeds, again despite the well documented adaptation to pesticide resistance of invertebrate pests and weeds, and despite an actual increase in the loss of crops from insect damage from 4 per cent in the 1940s to 12 per cent in 1974. But the crux for the population crusaders' arguments is the now increasingly well attested fact that almost all these pesticides are carcinogens. We have known since 1969, for instance, that 2,4-D, one of the best selling herbicides, causes birth defects, and there is good reason to suppose that it also causes cancer. Endrin, lindane and methoxychlor, three of the more 'popular' persistent pesticides, are also suspect. Three of the restricted chlorinated hydrocarbons, dieldrin, heptachlor and chlordane, are now present in most American mothers' milk, and officials commented that 'the possible long-term consequences of these minute amounts are uncertain'. Others may put two and two together differently.