

## Notes and News

What triggered-off the sudden surge of interest in conservation in Britain which gave European Conservation Year such an unexpectedly good send-off no-one can say, but the remarkable series of Reith lectures by our Council member, Dr Frank Fraser Darling, must have been a major factor. It was a wonderful *tour de force* to put the whole conservation case in all its aspects in the comparatively short space of six lectures, with so much lively example and detail as to make it vivid and meaningful for ordinary people. Frank Darling is a top scientist, but this was a brilliant piece of popularisation. And it came at the right moment. 'Brilliantly gloomy' was one critic's rather neat description of the lectures. Brilliant they certainly were; they could hardly be other than gloomy. For FPS, however, and other conservation societies, Dr Darling relieved the gloom in a very material way by dividing his fee for the lectures among them. FPS received £250 for which we are deeply grateful to him.

**ECY and the Reith Lectures**

The cat is out of the bag. Ever since the idea of Uganda building a hydroelectric power station at the Murchison Falls (in the national park of that name) the crux of the objections has been: what will be the effect on the flow of water over the falls? Various 'expert opinions' have been that this would be negligible, certainly not enough to impair their quality as Uganda's major tourist attraction. Now we learn that the flow of water could be reduced to as little as one-tenth. Since 1962 the Nile has been at exceptionally high levels, with an average flow of 1500 cumecs (cubic metres per second) at the falls; before 1962 the average was 600 cumecs, and the history of Lake Victoria levels suggests that it is almost certain to revert in time. In these circumstances the full scheme for the projected power station would leave only 50 cumecs over the falls. It is believed that the World Bank has turned down the financing of the power station and that a British consortium is contemplating doing it. In a letter to *The Times*, Dr F. Fraser Darling, Sir Julian Huxley and Peter Scott (two Council members and one Vice-President of FPS), urge that a comprehensive survey be undertaken first to assess the effects on Uganda's tourist industry (which is what keeps her national parks viable) and take alternative sites into account before deciding to destroy the falls. 'To permit the destruction, with British funds, of a unique natural feature and its environment in Africa, would be a cynical way to celebrate European Conservation Year.'

**How to Destroy the Murchison Falls**

Last year Sudanese rebels wanting money for arms invaded the Garamba National Park, in Congo Kinshasa, and slaughtered rhinoceros (the northern white, or square-lipped) almost to the point of extinction. This was reported by Dr Jacques Verschuren, the eminent Belgian scientist and conservationist who has been appointed Director of National Parks in the Congo, at the SSC meeting in New Delhi in November. From over 1200 in 1963 numbers had dropped to a *maximum* of 50. Elephants, too, had been heavily depleted—from about 10,000 to some 5,000 and giraffes he estimated were down to about 300. Efforts are now being made to guard the survivors. Until recently the northern square-lipped rhino occurred in the southern Sudan, north-eastern Congo and the west Nile province of Uganda; in the last there are believed now to be 20–25 animals, all fully protected but vulnerable to poachers. It was from this population that eleven animals were taken, in two operations, to the greater safety of the Murchison Falls National Park in 1961 and 1964. The FPS has suggested that a third Operation Rhino should be mounted to bring more of these animals to Murchison.

**Disaster for  
Congo's White  
Rhinos**

Outside the national parks crocodiles have virtually disappeared in Uganda: this is the finding of an aerial survey by I. S. C. Parker and R. M. Watson made for the Fisheries Department and National Parks

**Crocodiles  
Going in  
Uganda**

Trustees. Their survey covered all the major waters of central and western Uganda; outside the Murchison Falls park fewer than 100 crocodiles were seen; inside they counted 1064 below the Falls and 433 above. The authors believe that hunting for skins is only partly responsible for the decline in crocodiles; the real cause is man's relentless occupation of crocodile habitats. All the sheltered beaches and bays preferred by crocodiles are also preferred by man. Here the fishing villages are built and fishing nets are set close inshore, often parallel to the shore for hundreds of metres. On Lake Albert alone there are over four million metres of licensed fishing nets quite apart from the illegal fishing which is common; judging by the number of illegal canoes the authors estimate that 5½ million metres is a more realistic figure. The fact that there are no complaints from the fishermen about crocodiles damaging nets confirms the crocodiles' absence. The results of the survey were not entirely unexpected, for since 1965 the crocodile trade has been dwindling, and whereas the skins used to come from mature animals (over seven feet), by 1965 they were from animals averaging three-and-a-half feet; in 1968 this had shrunk to two-and-a-half. What should be done? Reintroducing crocodiles into areas outside the reserves, the authors say, would be a waste of time and money. Crocodiles prey on humans, interfere with fishermen and compete with man for the best habitats; they will never be tolerated. But the largest single crocodile population in Uganda—on the Nile in the Murchison Falls park, between the falls and Lake Albert—is still small, and they recommend that efforts should be con-

centrated on building it up; by controlling predation and poaching, stopping disturbance of nesting crocodiles by launches (described by Dr Cott in the last ORYX), and, in order to defeat the illegal skin trade, banning all skin imports (which act as a cover for the poached skins) and all private traffic in skins. Finally they also suggest experiments with artificial hatching and a study of the crocodile's reproductive behaviour, which would be particularly important for successful artificial rearing. On the vexed question of the disturbance by tourist launches, Roger Wheeler, chief warden of Murchison Falls park, reports that the leaflets supplied by FPS (see last ORYX, page 160) are proving effective.

In 1930 the bontebok, an endemic antelope of South Africa, was almost extinct, with numbers down to about 20. To-day, thanks to careful conservation, the number is believed to be almost 900, according to the

**Bontebok  
Go On  
Going Up**

report of the Cape of Good Hope's Nature Conservation Department. Protection first started as long ago as 1837 by two enlightened farming families, Van der Byl and Van Breda, who probably saved them from early extinction. But numbers declined until the nadir was reached in 1930. In 1931 the Bontebok National Park was established, but the site proved unsuitable and numbers increased only slowly. In 1960, 61 of the 72 bontebok in the park were transferred to a new national park near Swellendam, where they flourished, and the remaining eleven went to the Conservation Department's wildlife farm. By 1968 numbers in the national park had increased to 260, and on the farm there are 70. A number of farmers have now received bontebok for their farms and are protecting them. One farmer has in the last thirty years raised a herd that in 1966 numbered 200, of which 130 have been distributed to other farms, so that bontebok stocks are now widely (and very sensibly) scattered.

Four hundred and fifty individually recognisable polar bears are now roaming the Arctic as a result of the international research programme for this endangered species, directed by the Polar Bear Group of the

**Five Nations  
Tag  
Polar Bears**

SSC (Survival Service Commission). At their first meeting two years ago the group standardised research techniques for marking bears—ear tags, dye, lip tattoos—and new methods are now being tried, including radio tracking and censusing by heat-sensitive scanners on aircraft. All this is in order to get the facts about the polar bear's life history that are essential for the devising of management plans. The threats to the bears are increasing all the time, especially economic developments in the Arctic—oil spills and off-shore drilling, for example, could have serious ecological effects. And there is a still growing market for skins. The Eskimos, to whom polar bears are an important source of food and clothing, are increasing faster than bears, and it may be necessary to try to persuade them to change some of their age-old customs. The five nations represented in the group are

Canada, Denmark, Norway, the USA (Alaska) and USSR, each represented by two scientists.

There is a new attitude to wolves in Canada and Alaska, and growing concern about the use of poisons to reduce their numbers, says Douglas H. Pimlott, of Toronto University, in a paper on predation and productivity in game populations in North America. Field studies have shown, he says, that predator control does not produce sufficiently more game (except waterfowl) to be worth the cost, quite apart from the havoc the poisoning programmes can have in killing other species. Hunters, trappers, and naturalists in Ontario have denounced the use of poison so strongly that they have 'virtually prevented the use of strychnine or sodium fluoroacetate in control programs'. The move now is away from extensive control programmes in favour of intensive local control where necessary and where it will result in making more game available for hunters. The strong interest in wolves, which has resulted in stopping control programmes in national and some provincial parks, he says, will force game managers to make more careful evaluation of the need for wolf control and require them to show that the control measures will not exterminate wolves over large areas.

**Canada  
Looks Again  
at Wolves**

The Endangered Species Conservation Act which became law with the signature of the President on December 5, 1969, puts the USA well in the lead in the protection of endangered wildlife—both its own and other people's. For not only does it protect native species threatened with extinction—by requiring the Secretary of the Interior to keep an up-to-date, scientifically compiled list, authorise research and propagation programmes and acquire habitats (up to the value of a million dollars a year)—but it seeks to protect the threatened species of the world by banning all imports of such species *whether or not* they can be taken legally in their country of origin. The Secretary of the Interior will decide, after consultation with the countries of origin and with IUCN, what species are threatened (on a world-wide basis, not merely in one part of their range), and the enforcement of this ban is greatly simplified by allowing wildlife to enter the USA only at certain designated ports. (This deals with the bogey always raised in Britain that all customs officers cannot be expected to recognise the difference between, for example, different species of monkey, and makes it easier for conservation organisations to have officers at the ports of entry.) Moreover, the Secretary is directed to make positive efforts to get agreements with other countries on the conservation of their endangered species and empowered to give them technical assistance. Even the Secretaries of Agriculture and Defense are brought in, being required to take measures to protect threatened species where practicable on lands under their control; and a much sought-after addition to previous legislation has been made: amphi-

**US Acts for  
Endangered  
Species**

bians, reptiles, molluscs and crustaceans have been added to birds and mammals in the ban on trading in a species that is protected in one state but not in another. This is the ban that has been badly needed to save the Florida alligators, which have been poached in enormous numbers and smuggled into neighbouring states where they were not protected. It is now illegal in *all* states to deal in all protected wildlife taken in *any* state, thus destroying some of the incentive for poaching. On the international level it is hoped that there will be the same disincentive. We would now like to see the Board of Trade in Britain taking a leaf out of the American book. Here we have not yet even succeeded in getting a ban on the import of the wool of vicuña—a highly endangered species—which Peru has asked us to do.

A suggestion that reached the FPS recently that the proboscis monkey, which occurs only in Borneo, is becoming rare, seems to be without foundation except in Sarawak. There, although protected, numbers estimated at about 2000 are believed to be dropping, due largely to deforestation and illegal hunting. In Sabah it is absolutely protected and not decreasing, and in Brunei it is plentiful, mainly in the coastal areas of the Brunei Bay. In an article in *ORYX*, August 1965, Tom Harrisson described how in Sabah 'this unique and splendid monkey . . . almost ignores the many motor boats and even speed boats which thread the coastal labyrinth of mangrove swamp, where it has further increased and is now locally abundant and tame'. In Kalimantan (Indonesian Borneo) it is 'abundant.'

**Proboscis  
Monkey in  
Borneo**

**More Young  
Javan  
Rhinos**

For the future of the Javan rhino in its last refuge in Indonesia's Ujung Kulon reserve, the most important discovery made last year by the two Swiss biologists working there, Drs Rudolf and Lotte Schenkel, was that there were four or five young and immature rhinos in the reserve. They actually saw one calf, which they estimated to be less than a year old, with its mother, and found fresh tracks of another thought to be less than three months old. The previous year they had seen the footprints of two young animals, one of about a year and the other three to five months old (*ORYX*, December 1968). Their census of the total number of rhinos in the reserve was also higher than in 1968: a maximum of 34 and a minimum of 22, compared with 29 and 20 respectively in 1968, and 28 and 21 in 1967. It looks as if the protection measures that have been taken, in which the FPS has had a hand, are having effect. These include the provision of two boats (essential for getting to the reserve)—the first supplied by FPS out of the Revolving Fund; the re-organisation of the game guards, and management of the sanctuary based on the Schenkels' ecological surveys. The work is now supported by the Basel Patronage Committee for Ujung Kulon, whose president, Professor Geigy, is a WWF trustee.

The Mexican grizzly bear may not be extinct after all. In the September 1969 *ORYX* we reported Dr Carl Koford's 'reluctant conclusion' following an expedition that failed to find or hear of any, that the small remnant population found by A. Starker Leopold in the late 1950's had all been shot or poisoned. But in *Natural History* for January this year Dr Starker Leopold writes that last year a cattle rancher in the Sierra Madre, 100 miles west of the known site, had been protecting grizzlies round his ranch and reported 'several dozen' animals there. This is now to be investigated. If it proves true it is to be hoped that this time it will be possible to take whatever effective action is needed. When Dr Starker Leopold found the Sierra del Nido bears in the late 1950s, the Mexicans immediately gave them full protection, an intensive field study was started and it was hoped that the whole mountain range might be dedicated as a National Wild Life Refuge. But the grizzlies gradually disappeared. One old male made the mistake of killing an Angus bull, and the business-man ranch-owner declared all-out war on bears, distributing poison baits all over the range; by 1968 not a grizzly was to be seen. If the new report proves correct it may prove an easier area to protect; there is unlikely to be a third chance.

**The Mexican  
Grizzly  
May Survive**

The Indian rhino in Nepal—one of the two major concentrations of the species (the other is in Kaziranga in Assam)—is in a serious state of decline, according to Graeme Caughley in a report to FAO. He puts numbers at between 81 and 108, compared with 300 in 1959 (Gee) and 800 in 1950 (Willan). Most serious is his conviction that this is due not to overhunting and poaching, but to a natural decline of the species as a result of the destruction of its habitat. Until 1950 the rhinos in the Rapti Valley were strictly protected by the ruling Ranas, and even their considerable hunting did not affect the numbers. But when their rule collapsed poaching became serious, and the simultaneous eradication of malaria, which had kept the population down, resulted in a population increase from about 36,000 to 100,000 by 1960. In 1962 King Mahendra took stern measures, and in 1964 he removed 22,000 villagers from the sanctuary; since then poaching has ceased to be a serious problem. But the habitat destruction has had a much more insidious effect. Between 1953 and 1968 Caughley estimates that rhino habitat has decreased by 77 per cent and much of the rest has suffered in quality; in the same period rhinos have decreased by 88 per cent. One 36-square-mile area of elephant grass—essential to the rhinos for shelter and shade—has completely disappeared since 1953. Even the area south of the Rapti river, which is rigidly protected against agricultural encroachment, has deteriorated. The 15-foot-high elephant grass is reduced to a 'one-foot-high turf' by annual fires and the intense grazing of cattle and buffalo which are driven across the river each day. In the critical months before the monsoon 2000–3000 head a day are grazing in the rhino sanctuary; the elephant grass is thinned out

**Nepal's  
Rhinos are  
Disappearing**

to scattered clumps so that the swamp level is lowered, and the swamp (essential to rhinos for wallows) dries out. It is clearly urgent that if the rhino decline is to be stopped the grazing of domestic animals in the sanctuary must also be stopped; there is no other way of ensuring that the rhinos get their three basic requirements: food, shelter (elephant grass) and wallows. There is also the danger of the cattle transmitting disease. If something is not done quickly, says Caughley, the rhino will be extinct in Nepal by 1980.

The saltwater crocodile in Western Australia has been given all-the-year-round protection for a period of ten years. At the end of that time, if numbers have recovered sufficiently permits may be issued to allow

**Crocodiles  
in  
Australia**

some specimens to be taken to establish crocodile farms. *Crocodylus porosus* is a Red Book species, listed as rare, and because of its size at first breeding (8-9 feet) it is particularly vulnerable to poachers after the skin. The freshwater crocodile *C. johnsoni* has had total protection in Western Australia since 1962, but recently poaching has become serious and strong efforts are promised to enforce protection, with much larger fines for skin poachers. The government is investigating other measures including the possibility of a reserve. All these measures stem from a report to the government on the crocodiles by Dr Robert Bustard as a result of a survey in September-October last year; most of his recommendations have been approved. It is now hoped that Queensland and the Northern Territory will follow Western Australia's lead, but according to Mr D. L. Humphries, Queensland sees no need to protect either crocodile; in the Northern Territory the freshwater crocodile is protected and the saltwater one partly so. An article by Dr Bustard on these two crocodiles in Papua-New Guinea is on page 249.

In 1962 E. P. Gee made a survey of the only population of the Indian wild ass in the Little Rann of Kutch in north-west India, and estimated numbers at around 870 (ORYX, April 1963). This was a considerable

**Indian  
Wild Ass  
Decline**

drop from the thousands to be found after the last war, but an aerial count in December 1969 produced a figure of only 368. Although this is probably an underestimate, there seems little doubt that the decline continues. And no management whatever is being done to stop it; there is not even a sanctuary. In January this year Dr David Jenkins and Paul Joslin (who is presently working on the Indian lion in the Gir sanctuary) visited the Little Rann and concluded that the situation calls for serious investigation. The reasons for the asses' decline are not clear, but among the factors to be taken into account, they suggest, are: 1968 and 1969 were famine years; a new road and railway now bisect the Little Rann, probably reducing the asses' range and possibly dividing them into two groups; much of the previously unused land on the edges of the Rann has recently been

allocated to farmers; the Forestry Department's planting of the African babul tree *Prosopis juliflora* (noted by Gee) is changing the habitat with unknown effects on the asses; a new inland dam has been built which could affect the surface water in the asses' habitat (and more dams are proposed); and finally, considerable disturbance—car tracks are numerous, a nearby military camp exercises on the Rann, and the asses are sometimes chased in jeeps. The urgent need, they believe, is for an experienced scientist to make a series of both aerial and ground counts of the asses coupled with reports on the land usage and the asses' behaviour and ecology. The project is to be submitted to the World Wildlife Fund and if accepted the FPS will help to find the necessary funds.

In the fourth century BC Plato pointed out that the result of destroying forests on the Greek hills was the rapid run-off of rain from the bared tops. There are many parts of the world where the lesson is still to be

**The Way to  
Ensure  
Floods**

learned; Italy appears to be one. The 1966 floods in Florence were a disaster with just such a conservation moral. Dr Richard Klein, an American professor of botany, tells the city's 'flood history' in *Natural History*. When the Etruscans settled in Tuscany about 800–600 BC the valleys and hills were fertile and wooded with an abundance of animal life. The rivers flowed throughout the year and abounded with fish, and the Arno was also broad and deep enough to be navigable. Today the hills scarcely support olives and grapes, and the lavender and rosemary scrub, while beautiful to look at, is useless as ground cover. The rivers are seasonal streams; even the Arno dries up almost completely in summer. About the beginning of the Christian era malaria drove people away, terraced farms were neglected, erosion and silting of the rivers followed. When malaria died out and people returned the new demand for wood to build houses and for fuel started a stripping of the hills until wood became so scarce and expensive that stone was resorted to. (This was when the city's squares and piazzas were built that were to become such efficient 'bath-tubs' for catching and retaining flood water.) As the woods were cleared the land was turned over to pasture, and those two villains of the piece, goats and sheep, were brought in to nibble every plant to root level and expose the soil to the baking sun and torrential autumn rains. The first disastrous flood to be documented was in 1333, when the city walls collapsed; in 1545 Michaelangelo warned a nephew that in Santa Croce district 'every year the cellars flood'. Proposals for reafforestation were ignored; so were the lessons of reafforestation in other areas, including the Hautes Alpes not so far away. Since 1333 Florence has had a moderate flood every 24 years, a major one every 26 years and a massive one such as that of 1966 every 100 years. There have been afforestation programmes in other parts of Italy. Surely Florence's flood record demands some very urgent action.