

## Quarrying imperils Netherlands' bats

Humans are more frequently regarded as destroyers of wildlife habitat than as creators. But in the southern Netherlands human activity has resulted in an important refuge for thousands of bats. The Netherlands are renowned, and named, for their flat lands but in the province of South Limburg, bordering Belgium, rise low limestone hills. Two thousand years of mining for limestone has formed the largest man-made tunnel system in Europe, with 170 entrances and 600 km of passages, some 14 m high. Bats have been studied here for 50 years. Currently, their numbers are monitored by 40 Dutch bat-workers, who examine the entire complex during three days in January. The main St Pietersberg system alone is the winter roost of 3000 bats of nine species.

It is disturbing to discover that such an important site is being gradually but relentlessly destroyed. A Swiss-owned company is removing the limestone by open-quarrying to make cement. One-third of the main system has already been removed. Another large section has collapsed under the weight of spoil dumped on top of it and yet more tunnels have been partly filled with slurry. The largest section of the remaining caves is in Belgium where the company intends to begin quarrying. And so, in a slow gigantic pincer movement the limestone hills will be completely removed. Probably only international pressure can save this supremely important site.

## Where tourists have destroyed the reef

When the monsoon storms lashed the coast of uninhabited Pigeon Island early in 1984 the waves flung great drifts of dead coral on to its beaches. Tourist activity has now almost destroyed the protecting fringing reef although the first signs of damage were noticed only 14 months ago; boats crash through the reef to unload tourists who then walk over and crush the coral as they land. Pigeon Island is 16 km off Trincomalee on the east coast of Sri Lanka and the reef area provided the coastal people with fish, clams and lobsters. With the coral gone, a few sea cucumbers and starfish are all that is left of the rich wildlife. During three hours of diving only five fish were seen and there were no clams at all.

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Quarrying is eroding the St Pietersberg tunnels where bats roost in their thousands (R.E. Stebbings).

Conservationists in Sri Lanka believe that if the island is left alone the reef might eventually recover. But it is extremely difficult to act in the face of the great pressure to satisfy the income-bringing tourists.

## Why is Britain waiting for its marine nature reserves?

The UK Wildlife and Countryside Act 1981 gave power to the Secretary of State, on the advice of the Nature Conservancy Council (NCC), to establish Marine Nature Reserves (MNRs). By 1982 the NCC reported that it had selected seven sites for early establishment as MNRs and that it expected to submit firm proposals for two sites, the Isles of Scilly and Lundy Island, to the Secretary of State by around April 1983. But as 1983 drew to its close these submissions still had not been made.

On the Isles of Scilly the marine nature reserve proposal met with strong and persistent local opposition, especially from fishermen, and a meeting in October 1983 between the NCC, the Scillonians and the Duchy of Cornwall (the owner, who supports the proposal), failed to resolve the deadlock. The NCC was instructed by its chairman to withdraw in order to allow heated tempers to cool before recommencing consultations.

It is now most likely that either Lundy Island or Skomer Island will become the first statutory reserve. Discussion and consultation with local sea fisheries committees are under way but it

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seems unlikely that a final designation will take place before 1985.

It is easy to criticise the NCC for this lack of progress but it does face very real problems. Its Chief Scientists' team contains only two people concerned with all aspects of marine conservation, a quite inadequate number in view of the large vested interests, particularly those of the fisheries, arrayed against the establishment of MNRs. Even if this situation were remedied by employing more staff, another problem remains. The NCC has no powers over fishing byelaws. These are made by sea fisheries committees with the backing of the Ministry of Agriculture, Fisheries and Food and the Department of Agriculture and Fisheries for Scotland, which maintain that fisheries must be proved to be damaging before they will consider imposing constraints. In addition, these government departments refuse to distinguish between various kinds of fishing, which means that the NCC would not even be able to control activities such as spearfishing. As if overcoming these problems were not enough, the Marine Nature Conservation Review, which will provide an objective and scientific background for the development of the MNR programme, is being delayed through lack of money; it will not now formally start until 1985 at the earliest.

The Marine Conservation Society is involved, in a voluntary capacity, in all aspects of marine nature reserves, from their survey through to their designation; eventually it hopes to be involved in their everyday management. Further details of the Society, which is interested in many other aspects of marine conservation, mainly in the UK, are available from Dr Elizabeth Wood, Hollybush, Chequers Lane, Eversley, Basingstoke, Hampshire RG27 0NY, UK.

## Return of sea eagles to Britain

By 1916 white-tailed sea eagles *Haliaeetus albicilla* had been hounded to extinction in Britain by shepherds, gamekeepers and egg-collectors. Two reintroduction efforts, beginning with the release of three eagles in Glen Etive in 1959 and four eagles in Fair Isle in 1968, were not sustained. In 1975, the NCC, with periodic financial aid from the WWF, the RSPB and the Scottish Wildlife Trust, embarked on a long-term project to reintroduce the species on the Isle of Rhum, a national nature reserve in the Inner Hebrides\*.

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Since then, with the help of the Norwegian and Royal Air Forces, 52 young sea eagles have been flown in from northern Norway, where there is still a healthy population. The eagles are taken from their wild parents at about eight weeks of age, by which time they are almost fully fledged. When possible, one chick is taken from a brood of two, leaving the adults with the other chick to rear naturally.

Nearly all the eagles released have dispersed, but few have ventured further than 50 miles from Rhum. Only six of the 52 are known to have died and the whereabouts of 30 or more is known—confirming that the Hebrides, so similar in many respects to the habitat in northern Norway, is still capable of supporting the species. By 1983 10 of the 13 eagles surviving from the first three years' releases were mature and several pairs established breeding territories. Eggs were laid and, although none hatched, hopes are high that 1984 will see the first wild sea eagles hatched on the coast of Britain for 70 years.

\*John A. Love describes the project in *Scottish Wildlife*, September 1983. A zoologist from Aberdeen University, he has been employed by the NCC on the sea-eagle project since its inception.

## Last mahogany forest in Belize may fuel a power station

At least 480 sq km of rain forest in north-west Belize may be felled to fuel a power station to drive a pulp and paper mill, which will in turn use up yet more virgin forest. According to a report in *New Scientist* (24 November 1983), Barclays Bank, the British Government's Export Credit Guarantee Department and the Overseas Development Agency (ODA) are amongst those that have been asked to fund the £80 million scheme.

The area concerned covers the last remaining mahogany forest in Belize and has been bought by a group of businessmen trading as Hillbank Agri-Industries. The group plans to install a 60 MW woodburning power station, a mill capable of producing 250 tonnes of pulp and paper a day, a new town and 150 km of access roads. The power station will be operated by burning wood from virgin forest cleared at the rate of 80 sq km a

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year for six years. After that the plan is to use fast-growing exotic tree species grown on one-fifth of the cleared area. Comparison with similar operations in the Philippines suggests that this level of reforestation will be insufficient and in practice will mean that even more rain forest will have to be felled. The group plans to sell the rest of the cleared land for cattle ranching or citrus plantations.

The proposed pulp plant, a joint venture between an American company, Kenaf International, and Hillbank Agri-Industries, with funding from the Canadian Government, will involve clearing 12,000 ha of forest for pulp and replacing it with fast-growing reeds with good pulping qualities. Company representatives claim that they have carried out full ecological studies and found no negative results. In fact, neither an ecological impact assessment nor a comprehensive feasibility study has been made.

Both Britain's ODA and the World Bank are justifiably concerned about the lack of information which has accompanied requests for loans. The loan agencies should recognise that this badly-planned development should not go ahead and should refuse to fund the destruction of Belize's last mahogany forests.

### **Dam will destroy virgin forest in Brazil**

A large-scale hydroelectric project at Tucuruí on the Tocantins River, 400 km south of Belém, is nearing completion. In October 1984 water will begin to rise behind the dam and will eventually submerge 3000 sq km, much of it virgin forest. Although both the Brazilian authorities and the company responsible for the development are very conscious of the appalling loss of animal life that will ensue and have appointed a veterinary surgeon charged with minimising that loss, there is little in practice that can be done. The company is offering transport facilities in its planes for rescued animals and is prepared to build temporary housing for animals trapped prior to the flooding. But the problem of what one does with the rescued animals remains.

Releasing them in relatively safe areas will almost inevitably result in competition for resources and upset the ecological balance of these places. And the same applies to the avifauna that can migrate

of its own accord. The Centro Nacional de Primatas is particularly concerned about the fate of the primates and plans to trap as many as it can accommodate for its breeding programme. It is also investigating the possibility of releasing some on islands in the Amazon River. There are at least eight species of primates in the region including the black-bearded saki *Chiropotes satanus satanus* and the long-haired spider monkey *Ateles belzebuth marginatus* which are both listed in the *IUCN Mammal Red Data Book*.

Numerous discussions have come up with only partial and saddening solutions: capturing specimens for national zoological gardens and museums and perhaps permitting the export of some primate species for biomedical research.

### **The US gives away island— conservationists sue**

Seals, sea lions, walrus and whales feed along the shores of St Matthew Island, 400 km off the coast of Alaska in the Bering Sea, and millions of seabirds nest on its cliffs. The richness of its wildlife led to its declaration as a national wildlife refuge in 1909 and as a federal wilderness area in 1970. Despite this, the US Department of the Interior has announced the withdrawal of refuge and wilderness protection from 1600 ha of the island to enable the Atlantic Richfield Company to build a major oil exploration and production base. The oil company plans to build living accommodation for 250 people, dredge a deep-sea harbour and construct two, 1.6-km long runways. Undersea pipelines from offshore drilling rigs would carry crude oil and gas to storage tanks on the island from where tankers would carry these mineral resources to the mainland.

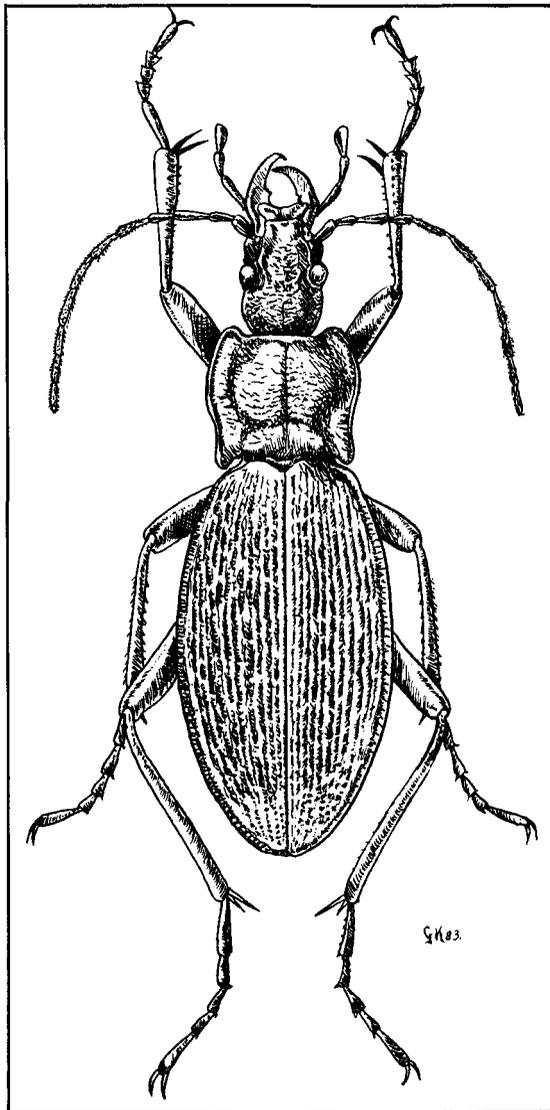
It is obvious that there will be massive disruption to wildlife communities. The chance of a major oil spill hitting the island has been put, with amazing precision, at 74 per cent—by the Interior Department itself. The manner in which the deal was made has angered conservationists, who say that if it goes ahead none of the lands that Congress included in the national park, national wildlife refuge and wilderness systems in Alaska will be safe. The Interior Department claim that it is acting legally under a provision of the Alaska

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National Interest Lands Conservation Act, which gives it authority to exchange refuge and wilderness lands. Under this guise of legality the oil company, at the suggestion of the Interior Department, arranged an exchange in which some scattered parcels of land owned by a corporation of native Alaskans were turned over to the Interior in exchange for St Matthew Island. Conservationists say the Department is trying to create a loophole in the Act, and the National Audubon Society, together with a coalition of

conservationists, fishermen and Alaskan natives, is taking the Department to court. In its lawsuit, the Society points out a number of shortcomings in the land deal: the Department did not explore alternative land exchanges through which native-owned parcels might have been acquired without giving away St Matthew Island; the public was not allowed to comment on the proposed exchange; tracts gained will yield little if any benefit to the refuge system, whereas the damage done to St Matthew Island will be direct and substantial.



*Carabus olympiae*, a rare beetle with special protection. It is 2–3 cm long (Geoffrey Kibby).

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### Piemonte, Italy, protects a ground beetle

by Mark Collins of the IUCN  
Conservation Monitoring Centre

The state of Piemonte (Piedmont) in northern Italy is taking an active lead in regional conservation. In 1982 the Regional Council published a booklet explaining the new state laws on protection of flowers and smaller animals such as amphibians, crustaceans and insects. Recently the Council has responded to public concern by protecting a metallic-green ground beetle *Carabus olympiae*, believed to be Italy's rarest and most beautiful beetle.

Found in 1855 on a spur of Monte Rosa in the Italian Alps, *Carabus olympiae* soon attracted private and then commercial collectors. By 1928 it was believed to be extinct, but it was re-discovered in 1942 in high pastures in a valley called Val Sessera. Once again it was hounded by irresponsible collectors, but the problem was aggravated by the building of ski lifts and, more recently, the proposal to build a dam which would flood the valley. The water level would probably not reach the beetle's habitat but it could have detrimental effects on the microclimate.

On 26 July 1983 the Piemonte Regional President passed a specific act protecting *Carabus olympiae*. This will certainly curb the activities of collectors, who do not generally pose a threat to insect populations, but may do so in cases of rare relict species like this one. The precise implications of the act to development within the beetle's habitat are not clear, but the raising of public awareness will certainly help to promote a demand for proper impact assessments.

## People behind fences?

A revolutionary approach to land management in Zimbabwe would put fences round people rather than wildlife. The plan, says Rowan Martin, principal ecologist in Zimbabwe's Department of National Parks and Wild Life Management, was developed by a multidisciplinary group of experts at a workshop to determine the optimum land use for the Sebungwe region, one-tenth of Zimbabwe's area. To avert wildlife/farming conflicts the plan proposes zones in which the status of large animals would range from total protection in game parks to total elimination in fenced crop areas. The multipurpose zones between the two extremes would link the parks, allowing the dispersal of wildlife; at present the game parks are in danger of becoming overcrowded 'islands'. Controlled hunting could also be allowed in these buffer zones, reducing the need for culling within the parks.

To strengthen the farmers' interest in wildlife conservation, the plan suggests that rural communities form land companies to control the use of the land surrounding their farms and to share the profits derived from it. This would go further than the current 'Operation Windfall' programme, which was devised by Rowan Martin in an attempt to distribute the benefits from wildlife among the rural people who share the habitat. 'Operation Windfall' has encountered problems because the income from wildlife does not always reach the people it should. Under the new plan, the land companies could exploit both wildlife and land for the direct benefit of the whole community and could promote better land use techniques for grazing, farming, forestry and water conservation.

These imaginative proposals, with their far-reaching implications, are at present before the Zimbabwe Government.

## The problem of primrose picking

Some conservationists tend to frown at people who pick wild flowers. The activity is seen as contributing to the all too apparent decline of some of the more attractive species. The evidence to support this belief is not, however, always forthcoming. Indeed, experimental investigations have sometimes led to the opposite conclusion. It has been found, for example, that the damage

done to bluebell populations by pickers was not attributable to the picking of the blooms (which in fact increased the vigour of the plant) but rather was due to trampling the leaves, which depleted the plants' vigour in subsequent years. However, such investigations are few.

In the 1970s the British press criticised a company in Devon, the Wiggins Teape Group, for its practice of distributing primroses as a customer-relations exercise. A radio programme on species conservation made for the Open University also condemned it as an example of a serious threat to the regeneration of populations of a well-loved native plant.

Wiggins Teape was in a dilemma. Should it abandon its custom, which had its beginnings in the early part of this century? The group certainly did not wish to see the demise of the primrose. It invited Plymouth Polytechnic's Faculty of Science to investigate the problem and determine whether the primrose-picking venture was damaging the primrose populations concerned, and to discover if it would be feasible to establish a commercial base for the distribution of blooms.

In 1978 the research team visited the farms where primroses were picked and found that the operation was carefully organised; only a few immature blooms were taken from a plant at any one time and open flowers were left. All involved—farmers, pickers and packers—enjoyed the annual event. In earlier years the operation was apparently not as well controlled and this, understandably, had led to the first protests from local amenity groups and then protests from a wider public. The only reservation the researchers had about the current methods was that farmers sometimes authorised picking where it could be seen by the public, thus perhaps setting a bad example to those not aware of the controls of the operation.

The team set up field and experimental investigations to test the effect of picking on individual plants, on population survival and on seed set. The results are not yet complete but data collected so far suggest that the level of picking is not a serious biological threat to the survival of primroses in the area concerned\*. This is supported by farmers who say they go back, year after year, to

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certain hedgerows where primroses have always been plentiful.

If the results of the completed study bear out this conclusion there would seem to be no reason, from a purely conservationist standpoint, why Wiggins Teape should not continue this controlled level of picking, especially as the study has also found that commercial growing of primroses would be prohibitively expensive.

One can condone picking in this particular instance without advocating it in general. It would certainly be bad conservation practice to do so with many species, especially if they are rare and bloom, perhaps with a single spike, only after several years of vegetative growth, as do some of our native orchids. But apart from such biological considerations and the lack of public knowledge as to which species would or would not be harmed by picking the flowers, there is a strong case against wild-flower picking in that it is anti-social. This is especially true in the well-trodden parts of the countryside where just a few selfish people taking a few flowers could destroy the enjoyment of many others.

\*Hull, T., Martin, E.S. and Wigston, D.L. 1982. Primrose picking in south Devon—the social, environmental and biological background. *Nature in Devon* 3.

## A Scottish island where endangered geese are shot

Barnacle geese *Branta leucopsis*, an endangered species, are being shot on the Isle of Islay. The UK Wildlife and Countryside Act 1981 that protects them also allows the Scottish Office to issue licences to shoot them if they damage crops. Some landowners are passing on licences to shooting parties, who pay for the sport, rather than to tenant farmers whose crops are being damaged. The NCC and the RSPB allege that licences are frequently violated—geese feeding harmlessly on salt marshes are shot, for example—and that the Scottish Office has ignored the NCC's advice that, on 38 of the 53 farms covered by the licences, crops could be protected by less drastic action, such as scaring. According to a report in *New Scientist* (3 November 1983) the Scottish Office tried to accommodate complaints by farmers and conservationists but objections from landowners

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have resulted only in the small and useless compromise that farmers will also be allowed to apply for licences. Since a farmer will still have to obtain permission to shoot from his landlord, and since the landowner can still send out his shooting parties, this unacceptable kill of an endangered species seems bound to continue.

## Israel moves to protect the Mediterranean and to reintroduce monk seals

by Bill Clark

The Israeli Knesset (parliament) has ratified the Barcelona Convention and is now a formal member of the Mediterranean Sea Anti-Pollution Treaty Organisation.

In an effort to clean up the Mediterranean, and make it once again a fit place for people and wildlife, the Organisation's protocols establish a series of stiff rules limiting the use of the sea as a dumping ground for mercury and cadmium and their compounds, non-degradable plastics, crude oil and other fossil fuels, radioactive substances, strong acids and any substance connected with the manufacture of chemical or biological warfare materials. On top of ratifying the accord, the Israeli Government enacted an Ocean Pollution Prevention Law, which expands the terms of the treaty in its Israeli application, and sets penalties for violation to one year's imprisonment and a fine of two million shekel (approximately £15,000) for each violation. For comparison, the average annual salary in Israel is about 540,000 shekel (approximately £4000).

In a related development, the Israeli Nature Reserves Authority has identified and moved to protect a stretch of Mediterranean beach along its northern coast, near the Lebanese border, as a suitable reserve and breeding area for Mediterranean monk seals *Monachus monachus*. The beach is rocky and laced with many caves, which are considered vital habitat elements for this endangered marine mammal. The beach is also part of Israel's northern defences, and therefore the general public is excluded. Although Israel has no monk seals at present, authorities hope to acquire some and reintroduce them to this former habitat area.