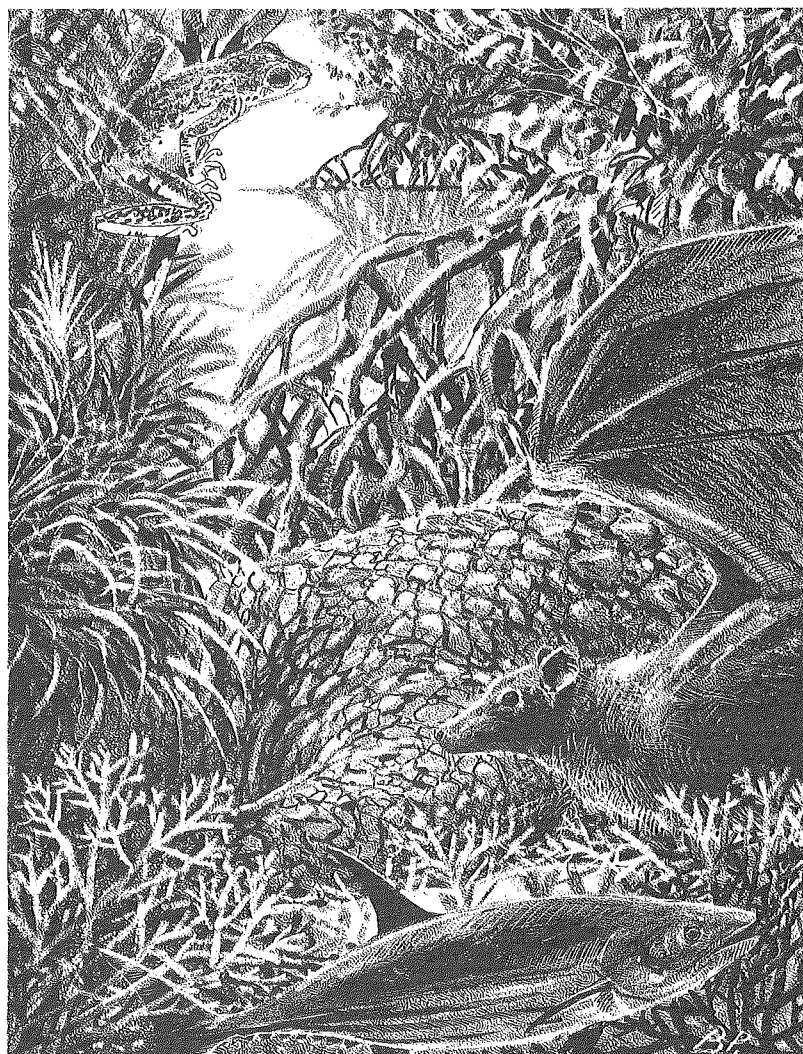


VOL. 13 NO. 2

OCTOBER/NOVEMBER 1992

# TRAFFIC

BULLETIN



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**The Journal of the TRAFFIC Network disseminates  
information on the utilisation of wild animal and  
plant resources**

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The *TRAFFIC Bulletin* is a publication of the TRAFFIC Network which is produced, and circulated free of charge, thanks to generous funding from WWF - the World Wide Fund for Nature, IUCN - The World Conservation Union, and National Westminster Bank. The *TRAFFIC Bulletin* publishes recent information and original papers on the subject of trade in and utilisation of animals and plants. It is concerned with the wise use of natural resources and supports the principles of the World Conservation Strategy. Papers submitted will be independently refereed as necessary.

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Kim Lochen

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# TRAFFIC BULLETIN



Cover illustration for Vol. 13 by Bruce Pearson

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## Front line funding preserves today's species for tomorrow's world

TRAFFIC receives support from National Westminster Bank (NatWest) as part of a £3 million/3-year sponsorship given by NatWest to the World Wide Fund for Nature (WWF). The NatWest/WWF sponsorship, the biggest commercial sponsorship for any environmental concern in the UK, has been renewed for a further three years.

NatWest has provided valuable funds for WWF and TRAFFIC in the UK and internationally. A large part of the Bank's funding has been directed at projects set up to protect species and their habitats.

One of the many species whose survival NatWest has contributed to is the Boborok Orang Utan in Sumatra. Orang Utans have been subjected to poaching and illegal trade for many years but happily their population is now steadily increasing. In an attempt to ensure their long-term survival, Sumatra is now trying to increase public awareness of the value of the species in terms of tourism. NatWest's funding is vital for these initiatives, and for the continued monitoring of illegal trade.

Everyone has heard of the loss of tropical rainforests; seventeen million hectares are being destroyed every year. NatWest funds are supporting new strategies and policies that will help to ensure sustainable use of forests, and focus public attention on the importance of tropical forest ecosystems.

Every day, a number of species face extinction, and many more are in danger. NatWest funds have helped many of the world's most endangered animals and plants, and the Bank's support to the TRAFFIC Network ensures continued reporting on the illegal and unsustainable trade in endangered wildlife.



**National  
Westminster  
Bank**

**supports TRAFFIC  
-a programme of WWF and IUCN**

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## Estonia and Greece Accede to CITES

Estonia and Greece acceded to CITES on 22 July and 8 October 1992, effective 20 October 1992 and 6 January 1993 respectively, bringing to 117 the number of Parties to the Convention.

*CITES Secretariat*

## Zimbabwe's Black Rhinos Dehorned

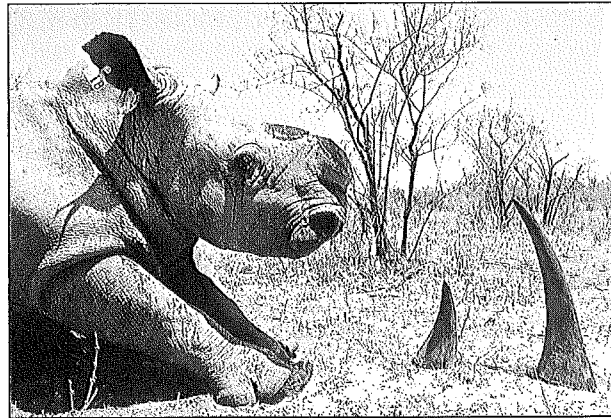
According to recent data presented at the IUCN/SSC African Rhino Specialist Group (ARSG) meeting in Victoria Falls in November 1992, the population of Black Rhino *Diceros bicornis* in Zimbabwe has dropped from an estimated 2138 animals in 1989 to just 430 today.

In the face of relentless pressure from poaching, in May 1992 the Government of Zimbabwe embarked upon an ambitious programme to dehorn all the country's wild rhinos. This decision was deemed an essential part of a broader management programme to ensure the survival of rhinos in Zimbabwe, and comes on the heels of an experimental dehorning exercise for White Rhinos *Ceratotherium simum* in Hwange National Park in late 1991. On that occasion, 71 animals were immobilised and 59 were dehorned; five mortalities occurred during the first 34 immobilisations but with improvements in technique and drug combination, there were no subsequent deaths.

The current operation is focused on both rhino species and, as of mid-November 1992, 117 Black Rhinos and 108 White Rhinos have been dehorned nationwide, including those in Hwange. So far, the mortality rate associated with dehorning stands at 0% for Black Rhino and 2%-3% for White Rhino. This is a commendable improvement on data from a decade ago which suggested that mortality associated with immobilisation of rhinos would reach 9%.

Dehorning seems to be an effective deterrent to poachers, at least in the short term. In Hwange, four dehorned rhinos were killed by poachers, but all losses occurred immediately after the experimental dehorning operation. Since then, although poachers' spoor have been found in association with rhinos, no rhinos have been killed. In Matusadona National Park, one dehorned rhino was killed, but by poachers operating in the park at the time of the dehorning operation. More significantly, the park has not experienced a single incursion since the dehorning teams departed five months ago.

As most rhino losses in Zimbabwe are attributed to Zambian poachers, TRAFFIC has launched a campaign in Zambia to publicize the dehorning programme. In conjunction with the WWF office in Lusaka, TRAFFIC has participated in media programmes to highlight the fact that Zimbabwe's rhinos no longer bear horns. TRAFFIC has also supplied Zambia's Species Protection Unit in the Anti-Corruption Commission with posters of



Dehorned Rhino in Zimbabwe.

dehorned rhinos for public exhibition in Lusaka's compounds, where many of the poachers are recruited. The bid is an effort to save lives as well as rhinos, as over 150 Zambian poachers have been killed in Zimbabwe since poaching started to escalate in 1984.

Preliminary data on annual regrowth rates for Hwange's White Rhino indicate 6.7 cm and 2.6 cm for front and rear horns, respectively. It is therefore likely that dehorning will have to be repeated every other year in order to effectively deter poachers. At an average cost of US\$1400 per animal, dehorning is not cheap.

Swaziland, which has lost over 50% of her White Rhinos over the last 18 months, has joined Zimbabwe in dehorning all remaining animals. And Namibia, which conducted the first experimental dehorning of Black Rhinos in 1989, seems poised to resume such action at the first sign of a significant poaching threat. The ARSG has recommended that emergency dehorning units be identified now so that immediate responses to future crises are possible.

*Tom Milliken, Director, TRAFFIC East/Southern Africa*

### TRAFFIC News

Sadly for the Network, Kurt Johnson and Nina Marshall, formerly of TRAFFIC USA, have moved on to new opportunities. Kurt will be working as an independent consultant on wildlife trade issues but will continue to work on various TRAFFIC projects. Similarly, Nina will maintain close links with TRAFFIC whilst working on plant trade issues from Kenya. We are also sorry to announce the departures of Kristen Nowell from TRAFFIC Taipei, and Keiko Sato and Mitsuru Nonako from TRAFFIC Japan. All have worked tirelessly for TRAFFIC and we wish them well in their endeavours.

We are glad to welcome four new recruits to TRAFFIC: Jonathan Loh as Director of TRAFFIC Taipei; Ms A. Ishihara, Administrations Officer and Ms H. Kiyono, Public Relations Officer at TRAFFIC Japan; and Mr Murali Suppayah, Project Officer at TRAFFIC Southeast Asia (addresses back page).

## South Africa Considers Rhino Hunting

In South Africa, the Bophuthatswana National Parks Board (BNPB) is seriously considering an initiative to carry out organized hunting of "post-productive" Black Rhino *Diceros bicornis* males.

"We urgently need money to ensure the survival of the species and, while many may be outraged at this proposal, viewed realistically it may be the only way to successfully secure the future of the Black Rhino", said Mr Alf Wills, Assistant Director of the BNPB.

The BNPB's Black Rhino Project, which increased surveillance in Pilanesberg Game Reserve, has proved very successful since it was launched four years ago; the reserve's Black Rhino population has increased by seven per cent each year. However the cost of maintaining the monitoring programme for the 33 Black Rhinos amounts to R350 000 (US\$114 000) a year.

Ms Hanne Lindemann, a wildlife biologist working on the project, said hunting individual, old male rhinos was a feasible alternative, since the ratio of males to females in the park was not conducive to breeding.

"We have more males than females and the post-productive old males are either gored to death by younger males or die of old age. The question is whether we can afford this kind of waste of a potentially highly profitable resource", she said.

Approximately 750 of the estimated 2500 Black Rhinos remaining in Africa can be found in South Africa.

*Natal Daily News (South Africa), 29 August 1992*

## "Hunters" Help Rhinos

Visitors to Pilanesberg Game Reserve in South Africa can pay about US\$7000 to "hunt" a rhino. Instead of bullets, however, they fire tranquillizing darts. A veterinarian inserts a computer microchip in the horn of the rhino in order to help scientists keep track of the animal and, in some cases, prepare it for transport to another game park.

The scheme apparently offers satisfaction to the "hunter" whilst assisting in the conservation of the White Rhino *Ceratotherium simum*.

*International Wildlife, January/February 1992*

## Rattlesnake remedy - a bitter pill

Dried rattlesnake flesh and powdered rattlesnake bones are widely-used folk medicines in parts of Mexico. In rural sections of the state of Querataro, they are considered to be a panacea and are used particularly for skin and

kidney diseases and for the prevention and treatment of cancer. A survey of hospitals for Hispanics in El Paso, Texas, showed that rattlesnake remedies had been used by a third of patients or their relatives.

According to researchers at Indiana University School of Medicine in Indianapolis, USA, Native Americans near Entronque Huizache, in northern San Luis Potosi, have for many years sold various animals to motorists. Until about 1986 these were mostly ground squirrels and other small mammals, and birds such as hawks and parrots. However, during surveys carried out in 1987, 1988, 1989 and 1991, dried snake carcasses were prominently displayed on crude wooden frames. Most specimens were about 70 to 100 cm long, but a few were considerably larger. During two trips in 1991, about 20 frames were seen over a distance of about 2 km, each holding eight to 14 carcasses; in 1987, some 30 frames were seen. Most of the species seen were rattlesnakes *Crotalus*; the identification of others was uncertain but they were believed to be colubrids such as *Pituophis*, some of which had two or three rattles sewed to the tail. It is presumed that the Native Americans obtain the snakes locally, and the volume of collection or durability of the carcass is unknown.

Use of these rattlesnake remedies has its dangers, say the researchers, the most significant being infection with *salmonella* bacteria which commonly infect snakes and have been isolated from rattlesnake capsules and a dried carcass. About two dozen cases of generalized *Salmonella arizona* infections have been reported in the Los Angeles, California, area. Nearly all of those infected had a history of consuming capsules of powdered rattlesnake flesh to alleviate serious ailments.

*Herp Review 22(4), 1991*

## CITES Trade Ban with Italy

At its 28th meeting, held from 22 to 25 June 1992, the CITES Standing Committee reviewed information presented to it by the Secretariat and the representatives of Italy on the progress achieved by that country with regard to the implementation of CITES (see *TRAFFIC Bulletin* 13(1):7). Despite the adoption of a law which introduced penalties for CITES violations, Italy had not adopted the necessary implementing decrees of the law.

Consequently, the Standing Committee recommended that Parties adopt stricter domestic measures in accordance with Article XIV, paragraph 1 of the Convention, by: i) not issuing any CITES documents for specimens consigned to Italy; and ii) not accepting any CITES documents issued by Italy, until Italy demonstrates to the Standing Committee that necessary steps to ensure adequate implementation of the Convention have been taken.

*CITES Secretariat Notification to the Parties No. 675, 30 June 1992*

## Tiger Populations Threatened

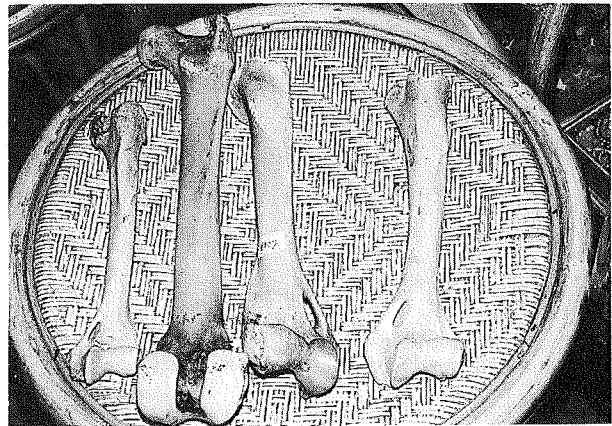
Given the sharp surge in poaching to meet the demand for Tiger bone in China and among overseas Chinese, and the small number of Tigers *Panthera tigris* - wild populations are estimated to be fewer than 7000 worldwide - the continued survival of this species in the wild is now in question, according to Peter Jackson, who as Chairman of the IUCN/SSC Cat Specialist Group is concerned with assessing the status of the world's 37 species of wild cat.

With the once large and widespread Tiger population of China now reduced to fewer than 100 individuals, increased hunting and poaching pressure has been placed on the Tiger populations in the Indian subcontinent, home to about half the world's Tigers. In Ranthambhore National Park, in Rajasthan, India, nine poachers who were recently caught claim to have killed a total of 20 Tigers there in the past two years. A census carried out in the park in May 1992 showed that, of the 44 specimens censused in 1989, only between 15 and 20 remain.

Tiger bone rather than Tiger skin is the motive for the poaching. For many centuries Tiger bone has been used in traditional Chinese medicine. An encyclopedia on animal-based drugs in traditional Chinese medicine, dating from 1597 AD, states that Tiger bones are good for "curing bad ulcers, rheumatic pains in joints and muscles, typhoid fever and malaria". For rheumatic swelling of bones and joints, the book recommends "a bath in tiger bone broth". Powdered Tiger bone should be "applied to burns and eruptions under the toenail". For non-physical ills, the dictionary suggests putting Tiger bones on the roof, where "it can keep devils away and so cure nightmares". Tiger bone wine is used as a tonic. According to Jackson, one kg can yield 50 bottles of wine. A small Tiger can yield six to seven kg of bone.

Because of the difficulty in persuading consumers to change habits that have been central to Chinese medicine for thousands of years, it looks likely that for the time being demand for Tiger bone will continue and can currently only be met by poaching Tigers in the wild.

This situation could change, however. A breeding centre for big cats, established in China in 1986, is expected to re-submit a proposal at the next meeting of the Conference of the Parties to CITES requesting recognition of the centre with a view to an authorized international trade in Tiger parts from culled animals. The proposal was submitted at the eighth meeting but withdrawn. The China Heilongjiang Native Produce and Animal By-products Import/Export Corporation and the CITES Management Authority which established the centre, estimates that 50 breeding Tigers and 635 young could be raised at the centre by the year 2000. The centre opened with eight individuals of the subspecies *Panthera tigris altaica*, the Siberian/Amur/Manchurian Tiger; in 1987, it acquired a further 14 from Chinese zoos. Breeding has been successful and there are now 62 Tigers at the centre. Apart from establishing a limited legal trade in Tiger



Tiger bones: 3 humeri and 1 femur, Taiwan.

© Kristin Nowell

derivatives, the objectives of the centre include solving the problem of inbreeding depression so that pure characteristics of the subspecies are retained. It hopes thereafter that the possibility for releasing captive-born Tigers in the wild might be realized.

Tiger hunting, combined with habitat loss, is threatening Tigers with extinction in Viet Nam, according to Nguyen Xuan Dang and Pham Trong Anh, of the Institute of Ecology and Biological Resources in Hanoi.

Hunting is for pelts and bones, which are highly valued in Viet Nam for medical balm. Nguyen and Pham call for a comprehensive action plan to stop hunting, to determine the present status of Tigers and to establish well-managed reserves and a captive-breeding programme for the animals.

The Tiger subspecies found in Viet Nam is *Panthera tigris corbetti*, whose range extends westward throughout Southeast Asia to the Irrawaddy River in Myanmar. Until the 1970s, the species was widespread throughout all forested areas of Viet Nam which, in 1949, covered 43.3% of the country's land surface, but had been reduced to 28.1% in 1987.

The Tiger's present range is confined to remote areas of the country with complicated terrain. These areas are situated mainly along borders with China, Laos and Cambodia and on the Tay Nguyen Plateau in southern Viet Nam. The highest density of Tigers is in Lai Chau province and Tay Nguyen Plateau.

The Tiger has been legally protected in Viet Nam since the 1960s and is included in the *Red Data Book of Viet Nam*.

IUCN/SSC Cat Specialist Group, August 1992;  
Cat News, Nos. 16/17, March/September 1992

## Nursery Supplies Medicinal Plant Trade

Most residents in Umlazi, a township near Durban, in South Africa, use traditional medicine made from plants, tree bark, and animal products. Full-time gatherers, mainly women, scour fields and forests to supply plants to over 70 *muthi* shops - retail outlets for traditional medicines and potions. According to a 1989 study, close to 350 kg of bark, 150 000 plants and 2000 reptiles, birds and small mammals are traded every week and an estimated 50 million plants are gathered and sold each year.

As a result, many plants are being over-harvested and some have disappeared. *Mathithibala Haworthia* sp., used to ward away evil spirits and purify the blood, can no longer be found in the region.

In 1986, South Africa established its first, and now the country's largest, medicinal plant nursery, Umlaas nursery, at Silverglen Nature Reserve - 220 ha of land owned by Durban Parks Department. Thousands of specimens of some 350 species are grown to supply a booming traditional medicinal plant trade. The nursery is seen as the last chance of survival for some endangered medicinal plants.

"The peppercorn tree, from northern Zululand, is now extremely rare in the wild" explains the project's initiator, Geoff Nichols. This plant, which would otherwise become extinct in unprotected areas in five to 10 years, has been propagated from cuttings taken from another reserve, according to Nichols.

The success of the nursery depends to a large degree on the knowledge of Zulu herbalists such as Mkhuluwe Cele, who grows thousands of plants in his own nursery, which he set up with the help of Silverglen staff.

The Herbal Traders Association, which acts as a middleman between *muthi* shops and plant gatherers, encourages medicinal plant nurseries. Loganathan Govender, the association's president, says that the demand for traditional medicine is greater than the supply. "Twenty per cent of our members are now interested in starting their own nurseries."

However, some gatherers fear for their livelihood and accuse the nurseries of stealing their trade. "The solution is to teach people how to plant, and then they will realize there is no need to destroy our forests", says Cele.

*WWF News* (76), May 1992

## Colombia's Cut Flower Industry

Bogotá in Colombia is at the heart of one of the world's biggest flower industries, in a country ranking second only to the Netherlands as a cut flower exporter. Fertile soil, wet weather and cool temperatures, allow a year-round growing season for, primarily, roses, carnations, chrysanthemums, and sunflowers. While air freight from the 24 000 m-high plateau amounts to 40% of wholesale flower costs, low labour costs counter this expense; the average wage for the industry's 65 000 workers is US\$7 a day.

Imports of cut flowers from Colombia to the UK and USA continue to grow. Miguel Gomez, export manager for the Colombian Flower Association, says the US flower market has grown by 10% a year in each of the last seven years. In 1990, Colombian flower exports were worth US\$235m.

In November 1991, the European Community dropped tariffs on Colombian flowers in reward for the country's efforts to curtail the proliferation of drugs. Now, European business leaders want to tighten import controls again. From 1992, each flower must be from a seed, with royalties paid to the original breeder - usually Dutch and German specialists. Paying such royalties will cost Colombian growers at least US\$3m a year. Advocates of the policy say it will ensure high quality flowers, because grafted or rooted flowers quickly lose their brilliance.

*The Orchid Hunter Newsletter*, December 1991

## Crocodile Oil Medicine

Oil extracted from crocodile meat has a traditional use in Madagascar as a medicine. Until recently its use was restricted to rural populations as a tonic and for treating open wounds. Now the oil seems to be finding mainstream acceptance, even in the capital, Antananarivo.

Olivier Behra, a Deputy Vice Chairman of the IUCN/SSC Crocodile Specialist Group, has carried out investigations in response to enquiries as to where the substance could be obtained. He found that hospitals are now using and selling crocodile oil for the treatment of a variety of ailments including burns, skin ulcers which show an allergic reaction to other medicines, cancer and melanomas. However, by far the most important use is for asthma, especially when taken with antibiotics such as theophylline. At the Ravoahangy Andrianavalona Hospital, crocodile oil is prescribed for asthma and is also sold on request for other purposes. The hospital price for the oil is the equivalent of US\$10 a litre, and the street price is slightly higher. In the west of Madagascar where most of the country's wild crocodiles are found, the price is US\$3 a litre. The average annual income in Madagascar is around US\$210.

The oil is extracted either by slowly cooking the meat or, as preferred by pharmacologists, hanging the meat from a trellis to drip.

Although Madagascar has crocodile ranches, the oil is from wild-caught animals. The number of animals killed is not known, but Behra believes that the trade, at present uncontrolled, could be managed sustainably. At the moment, however, the exploitation of crocodiles for oil is adding to pressure on wild populations.

*Olivier Behra, "BIODEV", Lot. VX.18, Andrefandrova, Antananarivo, Madagascar.*



## Cockle-Collecting Banned

A ban on all vessel fishing of cockles along the Solway Firth in Scotland has been implemented following results of a survey which indicates that stock has declined, in part through over-fishing of the molluscs. The ban is effective until July 1993.

Communities along the Solway coast have been concerned that cockle seabeds are being killed off as a result of excessive collection. Such collection has, in turn, led to a devastating depletion of the once abundant birdlife in the area dependent on the seabeds as a food source.

Cockle collectors, or cocklers, use industrial suction pumps to collect the edible bivalves (*Cardiidae*) which can fetch £250 (US\$380) a tonne in Europe; up to 250 sack-loads were collected each day. As the Netherlands has declared a moratorium on cockling, Dutchmen have also been working the Solway beds.

Up to eight trawlers operated along the Solway Firth and tractors were also used to dredge the shores at low tide; at least one boat would ply the estuaries night and day, the cockles being cooked on board before being loaded on to refrigerated vessels.

In addition to cockles, the suction pumps remove non-target species such as algae and eel grass - the staple diet of around 20 species of bird. The Royal Society for the Protection of Birds has warned that nine Scottish estuaries are threatened with irreversible damage; five are in the Solway, and cockling is believed to be the main cause of the damage.

The ban follows recommendations made by the Scottish Office Agricultural and Fisheries Division, which has surveyed the Solway annually over the past three years. From 6 October and effective until the end of July 1993, all vessel fishing of cockles is prohibited in the area under the *Inshore Fishing (Scotland) Act, 1984*; thereafter, until December 1993, fishing will be restricted to 5 days a week. This procedure will continue into 1994, with a ban for the first seven months to allow the spats (young cockles) to settle on the beds and grow.

*Herald (Scotland), 26 May 1992;*  
*Scottish Office Agricultural and Fisheries Division*

## Agreement on the Conservation of Small Cetaceans

An agreement to promote the conservation and management of small cetaceans in the North Sea and the Baltic is expected to come into effect during the first half of 1993. Signatures from six range states are needed before the agreement can enter into force. Sweden, UK, Germany, Netherlands and Denmark have already signed and Finland, Belgium and France are expected to soon; although the EC has signed, it does not count as a range state.

The Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas was drawn up under the Convention on the Conservation of Migratory Species of Wild Animals (Bonn 1979). Under the Agreement, research groups will be established in each country bordering the North Sea or the Baltic and will be co-ordinated by an Interim Secretariat, housed at the Sea Mammal Research Unit (SMRU) in Cambridge, UK. Dr Christina Lockyer, a whale scientist at SMRU and in charge of the Interim Secretariat, states that the scale of damage caused by pollution, disease and accidental catches by fishermen is still unknown and will be a priority for investigation. Incidental catches - when animals get tangled in fishing nets and die - are difficult to monitor as there is no incentive for fishermen to report details and deliver dead specimens.

In February, the UK Ministry of Agriculture Fisheries and Food issued fishermen with forms to help them identify and report incidental catches, but so far only a few catches have been reported. Lockyer would like to see a scheme that rewards fishermen for information, but not so well that it encourages them to catch small cetaceans deliberately.

For the purpose of this agreement, the term 'small cetacean' refers to any species, subspecies or population of toothed whales sub-order *Odontoceti*, except the Sperm Whale *Physeter macrocephalus*.

*New Scientist, 16 May 1992;*  
*Sea Mammal Research Unit*

## Cod Crash in Iceland?

On 2 June 1992, an advisory committee of the International Council for Exploration of the Seas announced that the cod stock around Iceland could collapse unless the annual catch quota is reduced by 40% in 1993. "This is the worst news that the Icelandic fishing industry has received, ever," said Mr Thorsteinn Palsson, the country's fisheries minister.

Cod constitutes 40% of Iceland's fish exports, which in turn make up 80% of national exports. Despite a rigid quota system designed to conserve the stocks, cod has been decreasing steadily over the past three decades.

With a population of 250 000 and a gross domestic product (GDP) per capita of US\$25 000, Iceland relies on fish exports for more than half of its foreign currency earnings. If the cod catch is cut by 40%, GDP could fall by 4% to 5% in 1993, the state-run National Economics Institute has estimated.

In July, the quota for 1993 was set at 205 000 t, a reduction of 22.5% on the 1992 quota.

*Financial Times (UK), 3 June 1992; UK Embassy of Iceland*

## South Pacific has largest tuna fishery

The main fisheries resource in the South Pacific is tuna. Recent catch figures for tuna indicate that this region now supports the largest tuna fishery in the world. It has grown over the last 20 years from a fishery harvesting in the vicinity of 200 000 t in 1972, to a fishery now taking 1.5 m t annually. The region accounts for almost 60% of the total global tuna catch, with a value in excess of US\$2 billion annually.

*Forum Fisheries Agency News Digest No. 2, March-April 1992*

## Treaty to Conserve South Pacific Fisheries

South Pacific nations have agreed to a treaty on surveillance and law enforcement to protect and conserve their vast fisheries resources.

The Niue Treaty on Fisheries Surveillance and Law Enforcement in the South Pacific was agreed in Niue in May and signed at the 23rd South Pacific Forum meeting in Honiara, Solomon Islands, on 9 July 1992, by 13 of the 16 members of the Forum Fisheries Agency (FFA). Fiji, Kiribati and Papua New Guinea, the remaining FFA members, are expected to sign shortly.

A key element of the treaty is a provision to enable one country to enforce the laws of another in that country's waters. For example, a patrol boat from Australia (a member of the treaty), could be authorized to apprehend a vessel fishing illegally within the 320-km zone of any country party to the treaty and with which Australia had a subsidiary agreement.

The mandate of the FFA is to promote co-operation in fisheries in order to secure the maximum benefits from the marine resources of the South Pacific for the people in the region. For some smaller island states that do not have the capacity to fish on a large scale, the Marshall Islands, Kiribati and Tuvalu for example, most income is derived from foreign fleets who pay for access to the islands' fish resources. The FFA assists members in negotiations over access fees, which are normally related to the catch's value. A regional register of foreign fishing vessels has been compiled by the FFA, providing the latest information on vessels active or potentially active and a Fisheries Mapping System gives information on fishing activities such as catch densities, which provides vital information for conservation of the fishery.

FFA members are Australia, Cook Islands, Fiji, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, and Western Samoa.

## Japan Tightens Controls on its Tuna Fisheries . . .

Japan's Fisheries Agency has cautioned Japanese tuna vessels to observe all rules regarding their southern Bluefin Tuna *Thunnus thynnus* fishing operations. Operations of unlicensed vessels within foreign 320-km zones are strictly prohibited. Licensed vessels operating within specified areas must withdraw after a designated date, and they are required to submit catch reports. The Agency will inspect the landings of all vessels and those vessels fishing in Australian waters must undergo inspection before and after operations at an Australian port by Australian authorities. Catches must be clearly marked to separate fish caught within the 320-km zone from those caught outside the zone. Red and yellow tags, respectively, are used.

Japanese southern Bluefin Tuna vessels operating in New Zealand waters must now keep a record not only of the weight but also the length of the fish caught.

In addition to these self-imposed regulations, tighter controls have been placed on Japanese tuna longliners wanting access to the Australian Fishing Zone during 1991-92, following recent bilateral negotiations. Japanese tuna companies will pay an access fee of A\$3.8m (US\$2.5m) for 1991-92 compared to A\$6.98m in 1990-91 because of reduced access and significant falls in tuna prices during 1991. Japanese access to southern Bluefin Tuna around Tasmania has been cut from 800 t to 400 t in 1991-92 in response to demand from Australian interests to catch tuna. Restrictions to access have also been placed on vessels on the east and west coasts of Australia. Arrangements to move Australia's tuna industry into large-scale use of long-liners have also been finalised with the Japanese. In 1991-92, joint venture operations using Japanese-style long-line vessels to catch a total of 2900 t of Australia's southern Bluefin Tuna quota will be facilitated by the provision of more than A\$1m by Japan to train Australian fishermen.

## . . . and sets up Bluefin Breeding Programme

In an attempt to reverse the species' rapid decline, Japan's Fisheries Agency plans to launch a full-scale cultivation programme for Bluefin Tuna. The programme is in reaction to international pressure on Japan to cease fishing for Bluefin Tuna, officials of the Agency have said.

A cultivation site will be selected in the Nansei Islands, a cluster of islands extending southwest of Kyushu.

*Insight, 7 August 1992; Forum Fisheries Agency News Digest No. 3, May-June 1992; The Monthly Record, October 1991, Japan Times, 21 August 1992*

## Seaweed Farming

Four million tonnes (m t) of seaweeds were harvested worldwide last year. Of this, 3.2m t were used directly as human food, almost all of this produced and consumed in Asian countries, where seaweed is cultivated on a large scale. The West has yet to exploit unprocessed seaweeds for their flavour and nutritive values, although it extracts more than 55 000 t of thickening and gelling agents from seaweed each year for use in ice-cream, toothpaste, processed foods and pharmaceuticals.

The 14th International Seaweed Symposium was held in August 1992 in Brest, in Brittany, France, a region that leads Europe's efforts to utilise seaweeds commercially. A number of Breton companies now produce cosmetics, drugs, animal feed, fertilisers and food from seaweeds, 10m t of which grow off the coast of Brittany alone. A small company, Ceva (Centre D'Etude et de Valorisation des Algues), which specializes in the industrial appliance of seaweed science, believes that advanced farming techniques and consumer research are the keys to developing seaweed foods in Europe; this is a view shared by Chris Dawes, a founder of Seaweed Supplies Ltd, who runs the UK's first such farm off the Isle of Man.

Ceva and Seaweed Supplies tested thousands of pollution-free sites before selecting those which offered the best conditions (light, nutrients, currents and wave action) to grow and harvest their seaweed. Attention was also given to the choice of seaweed to be cultivated. The Japanese mainly grow species of the brown kelp *Undaria* and *Laminaria*, the red seaweed *Porphyra* (Welsh "laver"), and the green seaweed *Monostroma*. Seaweed Supplies screened 640 species for taste and texture before choosing *Alaria*, a large, brown kelp found in British waters. This year the company will grow four ha of the kelp and hopes to produce 200 t; in France, Ceva is aiming to harvest 600 t of *Undaria*.

The harvested seaweed, which usually ends up as dried flakes, pastes or liquids, must have uniform properties of taste, texture and nutrition and meet microbial and toxicity requirements. While both companies have opted to sell seaweed to food companies for use as ingredients rather than trying to sell directly to shoppers, they remain convinced that a demand for seaweed food exists.

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A large proportion of the world's seaweed crop is produced in the Philippines, but extensive tests have shown that seaweed grown in the Marshall Islands, in the Pacific, yields a higher quality of the valuable chemical, carrageenan, an emulsifying agent.

According to the marine scientist who carried out the tests, Dr Richard Zingmark, of the University of South Carolina, USA, seaweed farming in the Marshalls could be established as a major industry, with export markets worldwide.

The price of seaweed on the world market is equivalent to that of copra (the dried, oil-yielding kernel of the coconut), but its production requires less work.

In Kiribati, seaweed farming has become a firmly-based industry where it supplements copra as an export earner.

*The Independent (UK), 24 August 1992;*  
*The South Sea Digest, 7(12), 19 June 1992*

## Whalers Seek to Protect Traditions

Four North Atlantic whale-hunting nations have announced that they will be setting up a regional body in protest at the International Whaling Commission's conservation policies.

Representatives of Norway, Iceland, Greenland and the Faeroe Islands agreed on 11 September 1992 to set up the rival North Atlantic Marine Mammal Commission.

An official for the Faeroe Islands said in an opening speech at the meeting that whale hunters could no longer passively stand by and watch as international management of whale stocks crumbled under the pressure of extremist environmental groups (see pages 57-60 for a report of the 44th IWC meeting).

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The sixth annual Inuit Circumpolar Conference held in July 1992, in Inuvik in the Northwest Territories, Canada, was attended by some 800 delegates and observers from Alaska, Northwest Territories, Greenland and Siberia. Many of the delegates are seeking to set up their own whaling agency to protect aboriginal hunting traditions as it considers the International Whaling Commission is failing to address native needs.

*The Independent (UK), 12 September 1992;*  
*Japan Times, 22 July 1992*

## Norway Loses Business Over Whaling

Two Norwegian firms have stated that they are losing business abroad because of their country's announcement that it will resume commercial whaling next year. Fish and frozen foods producer Frionor A/S has lost a US contract worth Nkr.50m (US\$8.5m). According to the company's marketing director, Paal Berger, "American fast food chains want to stay away from anything controversial". Oso Hot Water, a firm which makes unvented water heaters, has also felt the impact of criticism over the whaling issue and lost a contract, worth Nkr.1m, with a construction firm which has said that it will not buy Norwegian products as long as Norway is engaged in whaling.

*Japan Times, 24 July 1992*

## Concern over Abalone and Crayfish Fisheries in Australia and New Zealand

Illegal trawling and poaching of abalone *Haliotis* spp. and crayfish *Jasus* spp. in Tasmanian waters, in Australia, has reportedly reached such proportions that surveillance by police has become a top priority. There is also concern that such activities are causing irreparable damage to local fisheries.

Abalone poachers, lured by a lucrative black market, are reportedly using sophisticated navigation systems which allow pinpoint accuracy in locating the molluscs and minimise the poachers' risk of detection. Under-sized crayfish - the Southern Rock Lobster *Jasus edwardsii=novae-hollandiae* - are caught in Tasmanian waters and shipped to South Australia, where the minimum size requirement is smaller.

New marine police strategies to bring these activities under control has resulted in a significant increase in the seizures of crayfish and abalone in recent months.

Tougher penalties for abalone poaching will soon be introduced in South Australia which will impose a maximum fine of up to A\$60 000 (US\$42 000) and a sentence of up to four years' imprisonment for such offences; confiscation of equipment from those caught poaching will continue. The value of the State's licensed abalone production in 1990-91 was about A\$14m, with poached abalone valued at an estimated A\$2.4m-A\$3.2m. In the State of Victoria, a 12-month gaol term, suspended to six months, and a A\$50 000 fine was recently imposed for offences by an individual relating to A\$1m-worth of poached abalone.

Two species of abalone occur in the waters off South Australia: Green-lip Abalone *Haliotis laevigata* makes up most of the South Australian catch and fetches slightly higher prices than Black-lip Abalone *H. rubra*, which has a more southerly range and forms the bulk of the Tasmanian catch.

Concern about the state of the crayfish fishery in New Zealand was raised by Ministry of Agriculture and Fisheries (MAF) scientists 20 years ago; in 1990, an assessment by MAF stated that: "For at least 10 years, effort has been two to three times higher than optimal for this fishery. As a consequence, the stock is smaller than the optimal level. Further consequences are that the catch is less than the potential maximum sustainable yield, economic yields are small compared with their potential, and the fishery may decline further and be in some danger of collapse."

The crayfish was added to a quota management system in 1990. A particular problem with crayfish, however, is that the total catch includes a large illegal and recreational catch, as well as the reported commercial catch.

To deal with the continuing debate over the sustainable crayfish catch, the Minister for Fisheries, Mr Douglas

Kidd, established a committee composed of representatives from the fishing industry, of Maori, recreational and conservation groups, to come up with a plan to rebuild the population within 10 years. Although a report published by the committee last October made progress with integrating catch limits, enforcement, and size controls, it failed to agree on any catch reductions.

In November 1991, MAF's Dr Paul Breen reported that "at the present catch levels, the risk of collapse is very high: 29% over four years and 78% over the next 10 years". Extrapolation from Dr Breen's figures means that to rebuild the stock within 10 years, the Total Allowable Commercial Catch (TACC) would need to be reduced to under 1500 t.

Contrary to these recommendations, the Fisheries Minister made only a modest reduction to the TACC for 1992-93 - from 3000 to 2700 t.

*TRAFFIC Oceania; Australian Fisheries, August 1992; The Mercury (Tasmania), 11 March 1992; Forest & Bird, August 1992*

## Namibia Harvests Seals

Authorities in Namibia have approved quotas to harvest 40 000 seal pups and 2200 bulls during the 1992 season.

A total of 23 000 pups and 1100 bulls of Southern Fur Seal *Arctocephalus pusillus* may be harvested at the Cape Cross Colony north of Swakopmund, while a quota for 17 000 pups and 1100 bulls has been approved for Wolf Bay and Atlas Bay near Luderitz, to the south.

An amount of R348 000 (US\$116 000) had been allocated to support seal research during the 1992/93 financial year.

*Pretoria News (South Africa), 3 September 1992*

## Taiwan Blocks Seal Imports

The Taiwanese Council of Agriculture has been persuaded to ban imports of Canadian seal meat and skins.

With the USA and European markets for seal products effectively closed, the Canadians have been seeking new customers for the products derived from their annual seal harvest. Recently the country's fishery department sent a promotional delegation to Taiwan in the hope of attracting sales there. However, the Taiwanese Council of Agriculture came under intense pressure from the local fishermen's representatives who claim seal meat would take a share of their business. As a result, the Taiwanese officials refused to meet the Canadian delegation and, as part of a block on imports, told Canada's trade office to ensure that seal meat and skins were not included in a recent Canadian marine products show in Taipei.

*Leather, September 1992*

## New Wildlife Trade Law in the EC?

A proposal is currently under discussion by the Member States of the European Community (EC) for a new law which would replace the legislation currently controlling the EC's trade in wildlife. Entitled *Proposal for a council regulation laying down provisions with regard to possession of and trade in specimens of species of wild fauna and flora*, the draft law is the result of at least five years of development by the European Commission. Although originally planned to enter into force on 1 January 1993 to coincide with the formal completion of the Single European Market, the new regulation is now unlikely to enter into force before January 1994. Furthermore, many of its innovative elements risk being seriously compromised by changes in the wider European political climate.

Since 1 January 1984, the EC's trade in CITES-listed wildlife specimens has been subject to control under a number of legal instruments, principally Council Regulation 3626/82. Reflecting the strict legislation previously adopted at a national level by some Member States, this regulation went beyond the basic requirements of CITES by imposing the necessity for both import and export permits and/or certificates for trade in species listed in CITES Appendices II and III; by setting restrictive conditions governing the issuance of import permits for certain Appendix II species; and by introducing a general prohibition on intra-Community movement and certain other commercial activities involving any Appendix I and some Appendix II species, unless the transaction is specifically exempted. The Regulation, in applying legally to all Community Member States, forced Ireland and, until its very recent accession, Greece, to apply the CITES rules despite not having joined the Convention.

The lessons of 10 years of implementation of Regulation 3626/82 and an intensive review carried out in 1986/87 by the World Conservation Monitoring Centre, the IUCN Environmental Law Centre and the TRAFFIC Network, under contract to the Commission of the European Communities, revealed the great need for improved definition in Community wildlife trade legislation and for full integration of a greater range of CITES provisions within the text of the EC legislation. The lack of clarity with regard to many basic requirements of the Convention has led to serious differences in its interpretation by the Member States. Furthermore, a number of stricter measures have been adopted by individual Member States (for example, the implementation of registration and/or possession controls for specimens of many species, and the control of trade in many species not included in the CITES Appendices). However, after January 1993, the virtually complete removal of internal EC border controls will greatly undermine such national measures.

The application of Regulation 3626/82 has suffered most of all from a paucity of resources to support administration and, in particular, enforcement; it has failed to act as a focus for co-ordination of attempts to halt wildlife smuggling. This problem has often been revealed

during the CITES Parties' review of infractions of the Convention, which has pointed to major enforcement deficiencies in the control of wildlife trade in Europe.

The original proposal for a new regulation put forward by the European Commission addressed many of these problems, allowing for: application of trade control regimes to a far greater number of species than those listed in the CITES Appendices; stricter controls on the import, possession, movement and purchase of certain selected species; increased reference to animal welfare requirements; far greater integration of CITES provisions; specific reference to the obligation to apply sanctions and the right to charge for permits and certificates. Above all, it attempted to provide a regulation which can be used and understood as one legislative entity covering all species for which possession or trade in the EC is, or should be, regulated.

Recent negotiations about the detailed content of this new legislation have been frustrated by disputes between Member States about the level to which trade controls should or can be standardized. Furthermore, the proposal is under discussion during a period of intense political debate about trade regulation in general within the EC.

A TRAFFIC Europe discussion paper entitled *The need for improved wildlife trade legislation in the EC* (by Steven Broad and Tom De Meulenaer) was published in December 1992 and is available on request from TRAFFIC Europe.

*Steven Broad, Assistant Director, TRAFFIC International*

## UK Relaxes Wildlife Trade Controls

The UK Government has announced the relaxation of licensing requirements for hundreds of species previously exercised under the *Endangered Species (Import and Export) Act 1976*. In a news release, the Department of the Environment (the UK CITES Management Authority) explained that the relaxation of internal EC border controls after 1 January 1993 will make it impractical to retain stricter national controls on trade in many species not listed in the CITES Appendices formerly subject to licensing requirements under UK law. Therefore, from 1 January 1993 import and export controls will be applied only to CITES-listed species and to the skins of Harp *Pagophilus groenlandicus* and Hooded *Cystophora cristata* seal pups, which have been prohibited from import to EC countries since 1983 under other Community law. However, controls on trade within the UK will be strengthened for approximately 200 non-CITES species which are considered to be at risk owing to the easing of import and export restrictions. The UK Government has also expressed its commitment to support the extension of EC-wide trade controls to species other than those listed in the CITES Appendices under the proposed new EC wildlife trade law (see above).

*Department of the Environment News Release*

### USA Restricts Wild Bird Imports

The *Wild Bird Conservation Act 1992* became law in October and places significant new restrictions on the import of wild-caught birds as pets to the USA, currently the world's largest recorded importer of birds.

The Act imposes an immediate moratorium on the import of ten species of wild birds whose populations are thought to be especially at risk through trade. These include Tanimbar Cockatoo *Cacatua goffini* and Philippine Cockatoo *C. haematuropygia* (both in Appendix I) and the following Appendix II-listed species: Fischer's Lovebird *Agapornis fischeri*, Yellow-headed Parrot *Amazona oratrix*, Red-crowned Parrot *A. viridigenalis*, Golden-capped Parakeet *Aratinga auricapilla*, Grey-cheeked Parakeet *Brotogeris pyrrhopterus*, White Cockatoo *Cacatua alba*, Yellow-crested Cockatoo *C. sulphurea* and Chattering Lory *Lorius garrulus*.

Other CITES-listed bird species accompanied by appropriate permits may continue to enter the USA for a further year, after which time their import will be prohibited unless the species is on an approved list to be published by the US Fish and Wildlife Service. Assistance in compiling this list is provided for in the Act by a call for information on the bird conservation programmes in all exporting countries. Where appropriate, the Act seeks to determine whether or not CITES is being effectively implemented for species in their country of origin. Captive-breeding facilities in these countries must also satisfy conditions of the new Act before import of their stock is permitted. Guided by this and other information, the US Department of the Interior will have authority to ban the import of any species of bird from any country whose regulatory and enforcement measures fall short of the specific criteria established by the Act.

The new law also seeks to ensure humane treatment of birds. The methods of capture, transport and maintenance in transit must minimise the risk of injury or damage to the health of the birds.

A further provision of the Act establishes the Exotic Bird Conservation Fund. This fund will use revenue collected from fines, donations and other dues for projects to conserve exotic birds in their native countries. Many of these countries do not have funds available to conduct conservation activities or develop suitable management schemes.

*US Department of the Interior News Release, 27 October 1992*

### New Legislation for Japan

The *Law on the Conservation of Endangered Species of Wild Fauna and Flora* (LCES) was approved by the Japanese National Diet on 29 May 1992 and will come into effect on 1 April 1993.

The Law will replace the *Law for Control of Transfer Etc. [sic.] of Endangered Wild Fauna and Flora* (LCTE), which controls possession, sale or transfer within Japan of

species of wild animals and plants designated as endangered; these include most taxa listed in CITES Appendix I except those for which Japan has a reservation, legally hunted or fished species and captive-bred or artificially propagated specimens. This protection will remain under the new legislation and penalties for violations will increase from a maximum ¥300 000 (US\$2500) fine, or six months' imprisonment, to a maximum of ¥1 000 000 or one year in gaol. Offenders may also be ordered to pay for the return of seized live wild animals or plants either to the country of export or of origin, or to a designated facility.

There remain many areas where the new legislation is inadequate, however. Jurisdiction over domestic trade is limited to species included in CITES Appendix I and does not control trade within Japan of imported Appendix II or III specimens. Furthermore, trade controls apply only to live and to whole, dead specimens, eggs and seeds. As a result, no control can be exerted over Japan's trade in parts and derivatives of Appendix I species. Additionally, domestic trade in the Asiatic Black Bear *Selenarctos thibetanus* and sea turtles, both of which are listed in CITES Appendix I, is not covered by LCES on the grounds that these native species fall under the jurisdiction of other Japanese laws, which do not treat them as 'endangered'.

In approving the draft law of LCES, both the Environment Committee of the House of Representatives and the Environment Special Committee of the House of Councillors have adopted several resolutions calling for further strengthening of laws governing wildlife trade within Japan.

*TRAFFIC Japan*

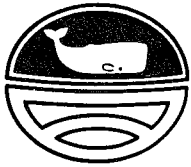
### Singapore and Taiwan Ban Domestic Trade of Rhino Horn

From 20 November 1992, the sale or display of rhino horn or related products is banned in Singapore under the *Endangered Species (Import and Export) Amendment Act*. Offenders will be fined S\$2000 (US\$1200) and/or sentenced to three months' imprisonment. Singapore banned the import and export of rhino horn in October 1986, but domestic trade had been allowed to continue to allow local retailers to run down their stocks.

According to Executive Order of 19 November 1992, the Council of Agriculture in Taiwan has prohibited the use and display of rhino horn for commercial purposes. The Order is issued under the *Wildlife Conservation Law* of 23 June 1989, which prohibits, among other things, the import, export and exchange of endangered species, including rhinos and their products and derivatives.

Violators of the new Order face up to three years' imprisonment or a fine of up to NT\$30 000 (US\$1100).

*Straits Times (Singapore), 15 September/13 November 1992; Council of Agriculture, Taiwan, December 1992*



# International Whaling Commission

## A Report of the 44th Annual Meeting

*Jørgen Thomsen*

The 44th Annual Meeting of the International Whaling Commission (IWC) was held in Glasgow, Scotland, from 29 June to 3 July 1992. Thirty-one Party States participated in the meeting, together with two non-Parties (Austria and Canada). Observers from seven inter-governmental organizations and 79 non-governmental organisations also attended.

The meeting was opened by Mr John Gummer, UK Minister of Agriculture, Food and Fisheries. In his speech, he warned whaling nations against a return to the "barbary of the past" and drew specific attention to the issue of whaling of small cetaceans, which currently is thought to be outside the legal competence of the IWC. The Minister's speech was rebutted by a number of subsequent opening statements of States with whaling interests. They expressed the view that the Minister was guilty of "cultural imperialism", and also of double-standards in view of his well-known position in favour of the continuation of fox hunting, which they considered to be an equally cruel activity.

### Commercial whaling in Norway

The Norwegian whaling commissioner, Ambassador Jan Arvesen, threw the IWC meeting into disarray by announcing that, irrespective of what might be decided at this meeting of the IWC, Norway would resume commercial whaling as of the next whaling season (1993). He drew attention to the fact that while Norway held a reservation on the international moratorium on commercial whaling, the country had so far voluntarily agreed to abide by the moratorium. However, Norway was planning to take 382 Minke Whales *Balaenoptera acutorostrata* from 1993 to 1995 inclusive. Simultaneous to this announcement, Mrs Gro Harlem Brundtland, the Norwegian Prime Minister, made a similar statement in Oslo.

Many delegations expressed disappointment at Norway's decision to resume commercial whaling. The so-called "like-minded" or anti-whaling group of countries, which included Australia, New Zealand, UK and the USA, issued a joint statement signed by 16 commissioners, expressing concern about the effect the Norwegian Government's decision might have on the IWC.

### Departure of Iceland

As expected, at the end of the first day of the meeting, the whaling commissioner of Iceland, Ambassador Gudmundur Eiriksson, announced his country's formal withdrawal as a member of the IWC, to take effect at midnight of the same day. In his closing statement, the Ambassador pointed out that for a country such as Iceland, which is overwhelmingly dependent on the utilisation of marine resources, it was necessary to be "a participant in nature, not just an observer". He did not wish the IWC well in its future work, rather he suggested that the best solution might be the demise of the Commission. He expressed his dismay at the disrespect many member States showed the IWC by not following the rules by which it should work, and at the disregard of scientific advice provided by IWC's Scientific Committee.

### WHALING CATCH LIMITS AND SPECIAL PERMITS

#### Revised Management Procedure

As a result of IWC's 1982 decision to impose a moratorium on commercial whaling, catch limits set for all commercial whaling of larger whales have been zero since the 1985/86 whaling seasons. Although this decision was maintained at the 44th meeting, the Commission moved one step closer to embarking on a new management regime for whaling when it adopted the so-called "Catch Limit Algorithm" (CLA) as the means by which quotas for commercial whaling would be calculated. The CLA is a complicated population modelling regime which can respond, at least theoretically, to natural fluctuations in population levels, and accommodate uncertainty created by the fact that estimates of whale population levels, their degree of depletion and rate of growth are extremely imprecise. Despite these uncertainties, the CLA is designed to ensure that no whale stock exploited ever remotely approaches extinction.

Faced with the fact that the Scientific Committee had completed its work on the CLA, the main component of the "Revised Management Procedure" (RMP), many delegations, such as that of the USA, found themselves in a dilemma between having to support the CLA because they were among the countries who decided to initiate a process towards a revised procedure (as this was part of the bargaining for the moratorium) and, on the other hand, wanting to oppose it because it meant a step closer to a resumption of commercial whaling, which politically they had made a commitment to delay for as long as possible. The net result was a rather bizarre situation with the "like-minded" group of countries drafting and lobbying for a resolution which would move them closer to a resumption of commercial whaling, and with those countries sympathetic to whaling, especially Norway, abstaining or opposing the adoption of the CLA because they felt the IWC, by introducing new elements to the RMP, had "moved the goal-posts". The final resolution, which passed with 16 votes in favour, one vote against and 11 abstentions, adopted the CLA but prevented the

Scientific Committee from implementing it, i.e., establishing specific quotas for specific populations, until there was agreement on all aspects of the RMP. The reference to other "aspects" referred to the resolution's requirement of agreement on:

- i) minimum data standards;
- ii) guidelines for conducting surveys and analysing results;
- iii) a fully effective inspection and observation scheme;
- iv) arrangements to ensure that total catches over time are within the limits set by IWC;
- v) the necessary change to IWC's Schedule, which would formalise any commercial quota above zero.

### Specific catch limits

A proposal by Japan for an interim "relief" allocation of 50 Minke Whales to be taken in its coastal waters (North Pacific population) by small whaling operations was rejected by 15 votes against, seven in favour and five abstentions. Japan argued, as it had previously, that a number of coastal communities were under severe hardship as a result of the whaling moratorium. The IWC did not accept any traditional, aboriginal or subsistence exemption for these coastal communities and ruled that the proposed interim relief whaling was a commercial activity.

### Special permits

Japan and Norway decided to issue "special permits" for 'scientific' whaling of Minke Whale in the Southern Hemisphere and in the North Atlantic. While Japan's scientific whaling programme is well-known, Norway had previously restricted itself to largely non-lethal research on whales. During the period 1992-94, Norway stated it would take 382 Minke Whales for "scientific purposes". The 1992 catch of 110 whales would take place shortly after the IWC meeting. Japan's 'scientific' programme for the 1992/93 and 1993/94 seasons aims at a total catch of around 300 whales.

Russia had also submitted a proposal for 'scientific' whaling, but the country's whaling commissioner withdrew the proposal before it was considered by the IWC.

As had been the case in the past, the "like-minded" group of countries introduced resolutions urging reconsideration of scientific whaling programmes. In an attempt to reach consensus on the wording, the resolution regarding Japan's scientific whaling programme was drafted in such weak language that it did not condemn the programme but called for the proposed research to be improved. The final language, adopted by consensus, asked Japan to "continue to reconsider and improve" the proposed research programme.

The resolution on Norway's special permit was slightly less accommodating in that it asked the country to "reconsider" the proposed take of Minke Whale in light of the fact that IWC's Scientific Committee had expressed the opinion that the proposed research did not "address critically important research needs".

The following catch limits were adopted for aboriginal subsistence whaling:

**Fin Whale *Balaenoptera physalus* (West Greenland stock taken by Greenlanders):** the catch limit for 1993 is 21 whales.

**Minke Whale (East Greenland stock taken by Greenlanders):** the catch limit for each of the years 1993 and 1994 is 12 whales.

The following catch limits remain in force from previous years:

**Bowhead Whale *Balaena mysticetus* (Bering-Chukchi-Beaufort Seas stock taken by Alaskan Eskimos):** the total number of strikes for the years 1992, 1993 and 1994 shall not exceed 141 (with a provision to carry over a maximum of 13 whales, depending on the number of strikes made during the autumn 1991 hunt). In any one year no more than 54 whales shall be struck and no more than 41 shall be landed.

**Grey Whale *Eschrichtius robustus* (Eastern North Pacific stock taken by Russian Eskimos):** the catch limit for each of the years 1992, 1993 and 1994 is 169 whales.

**Fin Whale (West Greenland stock taken by Greenlanders):** the catch limit for 1992 is 21 whales.

**Minke Whale (West Greenland stock taken by Greenlanders):** the total number of strikes for the years 1992, 1993 and 1994 shall not exceed 315, with a maximum catch limit of 115 in any one year.

**Minke Whale (East Greenland stock taken by Greenlanders):** the catch limit for 1992 is 12 whales.

**Humpback Whale *Megaptera novaeanglia* (taken by residents of St Vincent & The Grenadines):** the catch limit for the season 1992/93 is three whales.

## HUMANE KILLING

### Definition

A workshop to discuss the humane killing of whales and one on whale-killing methods took place the week before the IWC meeting. Symptomatic of the difficulties various constituencies face in reaching common ground on the humane killing issue was the fact that IWC found itself constrained in defining what "humane killing" meant. A number of new definitions were discussed in the workshop, but several delegations, were uneasy about committing to any new definition of this contentious term. Thus, the definition agreed in 1980 remained the measure against which IWC's decisions should be viewed:



"...causing its death without pain, stress or distress perceptible to the animal. That is the ideal. Any humane killing technique aims first to render an animal insensitive to pain as swiftly as is technically possible, which in practice cannot be instantaneous in the scientific sense."

The IWC meeting adopted by consensus a resolution on humane killing, which commended the report of the humane killing workshop and urged IWC members to continue to promote the development of humane killing methods. An eleven-point action plan was also agreed which set out a series of objectives for further investigation and research.

### New information

A particular problem identified by the workshops was the fact that very little information on killing methods was available from the countries currently engaged in the killing of whales, especially with respect to small cetaceans. The workshop paid particular attention to information presented by Japan on the use of an "electric lance" to kill whales not killed instantly by grenade harpoon.

### SANCTUARIES

#### Indian Ocean whale sanctuary

The designation of this sanctuary, which was agreed over 10 years ago, was renewed by consensus for a period of 10 years. No change was made to its borders which would become continuous with the Southern Ocean whale sanctuary, which was proposed by France.

#### Southern Ocean whale sanctuary

The French proposal sought to establish a large sanctuary in the Southern Ocean (Antarctica) which covered the feeding ranges of at least one biological population of each of the globally-distributed species of large whales. A specific argument for the sanctuary was that it would provide protection for some populations throughout their migratory ranges and life cycles, which would supplement new regulatory measures for resumed commercial whaling under the RMP.

Interestingly, even amongst the "like-minded" group of countries, there was only half-hearted support for this proposal. However, a number of Southern Ocean states, including Australia, Argentina and New Zealand, gave their unequivocal support for the sanctuary and, in the end, a resolution was adopted by consensus which committed the IWC to give full consideration to the proposal at the 45th annual meeting. The resolution also called for consultation with the Commission for the



Conservation of Antarctic Marine Living Resources (CCAMLR), the Scientific Committee for Antarctic Research (SCAR) and other relevant organisations.

### SMALL CETACEANS

#### IWC resolutions on small cetaceans

Although many legal issues remain unresolved with regard to IWC's competence to manage small cetaceans (considered to be all species smaller than Minke Whales), the IWC has established a small cetacean sub-committee of the Scientific Committee, whose mandate is to review information on the biology and exploitation of these species. In addition, during the past few years, a number of countries from the "like-minded" group have been pushing the concept of "creeping competence", i.e., pushing for management decisions and the adoption of resolutions on small cetacean issues so that it can be argued at some point in future that the IWC has gained competence on this issue regardless of what the treaty might say. In 1990, this strategy resulted in the adoption of three resolutions on small cetaceans: 1) endorsement of the UN resolution on a moratorium on large-scale pelagic driftnet fishing, an activity that results in large by-catches of small cetaceans; 2) a directive to the Scientific Committee to assess the status of small cetaceans; and 3) a recommendation to the Government of Japan to take urgent action to conserve its population of Dall's Porpoise *Phocoenoides dalli*, including a substantial reduction in the annual take.

This year, four further resolutions were adopted on different aspects of small cetacean conservation:

1) by 15 votes in favour, six against and six abstentions, IWC adopted a resolution that provided a framework for exchange of information and co-operation on the conservation of small cetaceans that have been adversely impacted by directed take and other activities;

2) by 11 votes in favour, eight against and eight abstentions, IWC adopted a resolution that urged the Danish Government to inform the Commission of methods used to kill Long-finned Pilot Whales *Globicephala melas* and to contribute to IWC's action programme on humane killing;

3) by 14 votes in favour, five against and eight abstentions, IWC adopted a resolution that urged the Japanese Government to take urgent action to allow recovery of its population of Striped Dolphin *Stenella coeruleoalba*, which is a target of Japanese drive fishery on small cetaceans;

4) by 15 votes in favour, five against and seven abstentions, IWC adopted a resolution that noted that the take of Narwhal *Monodon monoceros* and White Whale *Delphinapterus leucas* in certain areas was not sustainable and urged range states to engage in further research and information gathering.

By consensus, IWC agreed to establish a working group to be convened prior to the next meeting to consider the legal issue of competence.

#### Recorded takes of small cetaceans

A number of IWC members report to the Scientific Committee on annual takes of small cetaceans. Again, as a result of the dispute on legal competence in this area, those countries reporting do so on a voluntary basis and do not want this information to be interpreted as an agreement to commit themselves to management recommendations adopted by the IWC. Although there was a significant lack of reporting in 1991, there nevertheless seemed to be a declining trend emerging in annual take amongst reporting countries. Listed in Table 1 are the species which were reported killed in numbers larger than 1000 individuals in any of the years 1989, 1990 or 1991.

#### COMMENTS ON THE FUTURE

The 45th annual meeting of the IWC will be held in May 1993, in Japan. Although the whaling commissioner of Japan expressed himself in very strong terms in his closing remarks, indicating that politically it was increasingly difficult for Japan to stay inside the IWC, Japan seemed committed to complying with IWC regulations for at least another year. Norway, on the other hand, may decide to leave the IWC in time for the next meeting, in which case it is difficult to see any future for the Commission. Some of the North Atlantic countries have already established what they see as a potential alternative to IWC, the North Atlantic Marine Mammal Commission (NAMMCO) (see page 53), and Japan has proposed to do the same for the North Pacific.

Having observed the tactics and interventions by several delegations (in particular the USA) at the 44th IWC meeting, it seems clear that it is politically unacceptable for many "like-minded" countries if IWC falls apart. That

		1989	1990	1991
Narwhal				
<i>Monodon monoceros</i>	I	0		
	D	942	1200	
White Whale				
<i>Delphinapterus leucas</i>	I	0		
	D	1765/1779	1283/1302	228/238
Long-finned Pilot Whale				
<i>Globicephala melas</i>	I			28
	D	1258	916	
Pacific White-sided Dolphin				
<i>Lagenorhynchus obliquidens</i>	I	6119	4449	14
	D	3912		
Bottlenose Dolphin				
<i>Tursiops truncatus</i>	I	22	33	96
	D	401	1363	437
Pan-tropical Spotted Dolphin				
<i>Stenella attenuata</i>	I	56016/58270	33851/35920	13991/14560
	D	129	11	153
Spinner Dolphin				
<i>Stenella longirostris</i>	I	23547/24536	12330/13153	8854/9078
	D			
Striped Dolphin				
<i>Stenella coeruleoalba</i>	I	250	9	311
	D	1225	749	1022
Common Dolphin				
<i>Delphinus delphis</i>	I	14447/15498	5659/6046	3689/4008
	D	120	239/240	22
Northern Right Whale Dolphin				
<i>Lissodelphis borealis</i>	I	10961	7909	7
	D		11	1
Dall's Porpoise				
<i>Phocoenoides dalli</i>	I	331	3108	141
	D	29048	21804	17634

Table 1. Small cetaceans reported killed in numbers over 1000.

"I" denotes incidental take; "D" denotes directed take. Where two values appear the first is based on reports to IWC, the second is based on IWC reports as well as additional information from non-IWC reports.

IWC Scientific Committee

is why, despite Norway's decision to resume commercial whaling, a number of countries went a long way towards finding a solution that would satisfy this country and Japan. The US whaling commissioner made the US position very clear when, prior to the adoption of the CLA, he stated:

"Approval of this resolution should not be taken to imply that the United States favours the resumption of commercial whaling. We do not. But if one or more nations should at some future date resume commercial whaling with or without IWC approval, the United States wishes to ensure, insofar as it can, that such whaling is conducted under the conservative guidelines so carefully constructed by the IWC's Scientific Committee and which are enshrined in this resolution. However, under no circumstances will the United States condone a resumption of commercial whaling not authorised by the IWC."

Jorgen Thomsen is Director of TRAFFIC International.

## Observations on Wildlife Trade in Viet Nam

Esmond Bradley Martin

*Wild animals and their products are widely available in markets throughout Viet Nam, especially in Ho Chi Minh City (formerly Saigon). In 1989, the Ministry of Forestry brought in a regulation prohibiting killing and trade in certain animal species, but this is not enforced. Unless the Vietnamese vigorously enforce their laws, endangered species such as the Javan Rhino *Rhinoceros sondaicus*, White-headed Leaf Monkey *Trachypithecus leucocephalus*, Douc Langur *Pygathrix nemaeus*, Siamese Eld's Deer *Cervus eldi siamensis*, and Roosevelt's Muntjak *Muntiacus rooseveltorum*, may be extirpated in the wild because of habitat destruction and their use in commercial trade.*

*On behalf of the World Wide Fund for Nature (WWF) and IUCN - The World Conservation Union, and with the support and co-operation of Professor Vo Quy and other staff of the University of Hanoi, the author first visited Viet Nam in March 1990 in order to carry out a study of the wildlife products offered for retail sale. The survey focused on Hanoi, but visits were made to Ho Chi Minh City. In January 1991, the author returned to Ho Chi Minh City and other areas in the southern part of the country.*

### INTRODUCTION

Viet Nam is one of the largest countries in Southeast Asia, extending in a north-south direction for 1368 km. Excluding the coastal plain, the Red River delta in the north and the Mekong delta in the south, much of the remaining topography consists of mountains and plateaux, which in many parts are forested. Millions of trees were destroyed during the Viet Nam war, and today there is a need to clear yet more land for crops to support the expanding human population of about 69 million. The percentage of the country covered in forest declined from 44% in 1943 to 24% in 1990. Perhaps only 10% of relatively primary forest remains (J. MacKinnon, pers. comm.).

In and around the forested areas there is still much wildlife, but recently there has been a considerable amount of commercial hunting. In some forests, all larger birds and mammals have been shot or trapped, and winter migrants are also killed (J. MacKinnon, pers. comm.).

Rare large mammals are also poached. In the 1950s, the Javan Rhino (the rarest rhino species) may have numbered in the low hundreds in Viet Nam (G. Schaller, pers. comm.). By the mid-1970s, with the effects of the Viet Nam war and poaching, hardly any Javan Rhinos were left. Nevertheless, poaching continued, and by 1988 there were an estimated 10-15 Javan Rhinos in Viet Nam (Schaller *et al.*, 1990; Santiapillai, 1991).

The White-headed Leaf Monkey has been exploited for trade and food, and today fewer than 100 remain in the

wild, all at Cat Ba Island near Haiphong. In 1991, six specimens were for sale in one market (Kemf, 1991).

No detailed surveys of Viet Nam's wildlife trade had been carried out and documented until the author's work was undertaken. Several people had described the trade, however, in general terms. MacKinnon wrote in 1990:

"Hunting pressure affects many wildlife species. Despite the fact that official protection is given to some species by the Government, a Government trading company, NAFORIMEX, is actively encouraging people to shoot and trap a wide range of species for export of skins, horns, antlers, etc. A survey team found kouprey horns, gibbon and langur pelts, and other animal products in NAFORIMEX stores in 1989".

Kemf, visiting Viet Nam in 1991, made these observations:

"During a recent interview in Hanoi, Professor Vo [Quy] expressed concern over the region's burgeoning wildlife trade which is draining Indo-China of some of the rarest animals in the world. Wildlife markets in both Ho Chi Minh City and Hanoi are spilling onto the sidewalks... Last month, four Malayan sun bears, three clouded leopards, dozens of swamp turtles and crocodiles, wild dogs, pelicans and several seriously threatened species of primates were literally sold down the Saigon River to Japanese, Thai, Taiwanese and Singaporean traders".

### A SURVEY OF THE TRADE

The surveys concentrated on the two principal cities in the country - Hanoi and Ho Chi Minh City. Although Hanoi in the north is the capital of Viet Nam, it is not the largest city, having only three million people, compared with four million in Ho Chi Minh City in the south. Hanoi has had a socialist economy since 1954; Ho Chi Minh City has a centrally-planned economy, set up in 1975 only, which is less strict than that of Hanoi. When the Government liberalized the economy in the late 1980s - by further devaluing the Vietnamese currency (dong), allowing private ownership of certain businesses, relaxing price controls, encouraging some foreign investment, and facilitating the acquisition of entry visas for foreigners - the souvenir business began to grow in Ho Chi Minh City. There are many consumer goods in the shops (some of which have been smuggled in from neighbouring countries) and tourism has greatly stimulated the trade in wildlife products; over 100 000 foreigners visited Ho Chi Minh City in 1990 from countries in Asia, Europe and North America. Hanoi, with its small tourist trade, has fewer retail outlets for the sale of such goods.

### Hanoi

The craftsmen who produce the greatest variety of items for foreign tourists in Hanoi are the ivory carvers. The most skilled master craftsmen work from home. Some families have been in the business for over 50 years; one 72-year-old ivory craftsman had been carving ivory for 57 years using skills learnt from his father who, in turn, had

Item	US\$
Small earring	1
Finger ring	2
Elephant figure, 8 cm	12
Cigarette holder, 10 cm	19
Sculpture of man holding lantern, 9 cm	19
Sculpture of kneeling woman, 9 cm	24
Beaded necklace	25-52
Chopsticks (pair)	33
Buddha figure, 15 cm	35-160
Bangle, 1.3 cm thick	38
Crucifix, 15 cm	56
Two human figures, 15 cm	95
Cup, 10 cm	100
Carved tusk, 30 cm	250
Carved tusk, 41 cm	480
Multi-armed figurine, 18 cm	620
Elaborately-carved lamp, 25 cm	1500
Intricately-carved tusk, 7 kg, 91 cm	2500

Table 1. Ivory carvings for retail sale in Hanoi, March 1990. Survey by the author

learnt from his grandfather. In the early 1950s, this man employed many craftsmen who utilised 6000 kg of raw ivory a year, mostly imported from France and presumably of African origin. Now, as a result of the difficulty of obtaining new pieces of raw ivory and the decrease in the number of foreigners visiting northern Viet Nam since 1954, his consumption has dropped to 100 kg of raw ivory a year. Most of his new stocks of raw ivory come from Laos or Viet Nam which, between them, have about 3500 to 5000 wild elephants (Santiapillai and Jackson, 1990). Owing to the small amounts of raw ivory available from Viet Nam and Laos (which has its own ivory carving industry), and the overall scarcity of ivory following the transfer of African Elephant *Loxodonta africana* to CITES Appendix I in 1990, the wholesale price for good quality tusks doubled to US\$200 a kg from early 1989 to late 1990.

#### Souvenir shops

The aforementioned ivory craftsman and his family are still carving very elaborate ivory items, such as intricately-carved tusks, lamps and statues, which are sold to souvenir shops in Hanoi and to private collectors (Table 1). The artisans only use hand tools which means that carving a 25 cm-high lamp takes one man one month to complete. Such an item costs US\$1500 and US dollars are specifically requested, not Vietnamese currency. After much bargaining by the author, an intricately-carved tusk weighing seven kg was priced at US\$2500. As the average monthly salary in Hanoi is US\$14, only foreigners can afford these prices.

During the period of the survey in 1990, the US dollar price was based on the official exchange rate of 4200 dong to one US dollar; the unofficial rate was 4400 dong. In 1991, it was based on the official exchange rate of 6825 dong to one US dollar; the unofficial rate was 7500 dong.

There are very few people carving large and expensive ivory items now in Viet Nam because there is not the demand for them. Although Viet Nam is not a Party to CITES and will allow the export of these expensive ivory pieces, there would be great problems in importing items into most countries as a result of the trade restrictions on ivory. Therefore, most of the estimated 40 to 60 ivory carvers working within a 200 km radius of Hanoi are making small, inexpensive items such as bangles, necklaces, Buddha figures, crosses and rings. Compared with similar items produced in China, Hong Kong or India, the quality of workmanship is not high. The few buyers of carved ivory today are the Taiwanese, Singaporeans, French and Polish.

Ivory pieces are for sale in most of the 50 or so souvenir shops in central Hanoi, but other wildlife products are not common in these shops. This is probably because the few expatriates (mainly eastern Europeans and Russians) who are resident do not have the money nor interest in purchasing them, whereas in Ho Chi Minh City, there is a greater market for such items. Occasionally, one may see fake rhino horn, stuffed bears and pangolins *Manis*, but such occurrences are exceptional.

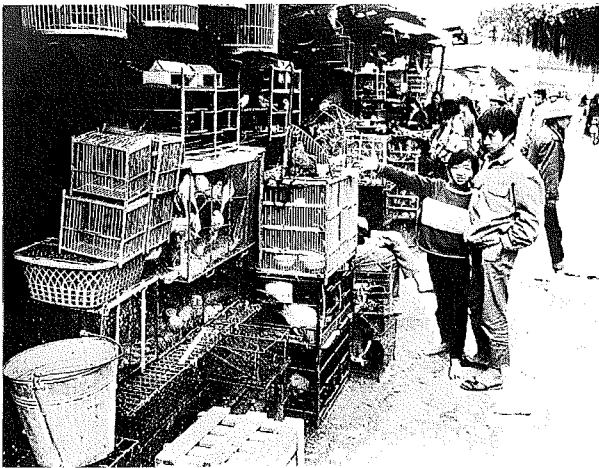
#### Medicine shops

Where one does see more wildlife products for retail sale in Hanoi, is in the oriental medicine shops, especially in the Lan Ong Street area which was traditionally the Chinese part of Hanoi. In the 1970s, many Chinese fled Hanoi, and Vietnamese took over some of the pharmacies. Although most of these small shops sell herbs, one can buy deer antlers to cure backache, Tiger *Panthera tigris* bones which are often boiled into a concentrate to cure rheumatism or backache, monkey skeletons to relieve general pain, pangolin scales to cure skin diseases, and dried geckos Gekkonidae as aphrodisiacs (Table 2). This traditional Vietnamese medicine is very similar to that practised in China.

Item	Use/cure	US\$
Gecko	Aphrodisiac	80 cents each
Tortoise shell	Kidney disease	2.5 (whole shell)
"Wild goat" skeleton	Pain	3/kg
Monkey skeleton	Pain	3/kg
Deer horn	Backache and pain in bones	8/kg
Pangolin scales	Skin diseases	12 (one animal)
Tiger bone	Backache and rheumatism	350/kg

Table 2. Wildlife products for retail sale in oriental pharmacies in Hanoi, March 1990. Survey by the author

One significant wildlife product expected to occur but missing from these pharmacies was rhino horn. On several occasions, the author returned to the many small shops in the congested Lan Ong Street area where shopkeepers had promised to supply rhino horn. On each occasion, they offered fake rhino horn at a fraction of the



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The bird market in Hanoi.

prices that genuine horn would have been worth. Some people interviewed said that they had sold real horn recently. The elderly ivory craftsman referred to earlier claimed to have sold horn in 1989, and the owner of a medicine shop in Lan Ong Street stated that he had bartered one horn weighing one kg with a man from China in 1989 for US\$5000 worth of packaged Chinese medicines. Some people from the mountains in Viet Nam had offered this man rhino horn quite recently. However, his information may not be reliable as few pharmacists or souvenir shop owners have much knowledge about rhinos or rhino products. Various people have approached Professor Vo Quy at Hanoi University with so-called rhino horn for him to verify but he has never been offered a genuine piece (Vo Quy, pers. comm.). It seems likely that because of the poor economy in Hanoi and elsewhere in Viet Nam, any trader who actually possessed rhino horn would either arrange to have it exported or would sell it to a foreigner. This is happening in neighbouring Laos where almost all rhino horn is bought by visiting Thais (Martin, 1992).

*Live animals*

Live animals are available in Hanoi in the Dong Xuan market (Table 3), and are sold for food or as pets. However, this market is small, and at the time of the survey, there were very few rare species available. Birds are the most popular purchase, usually bought by the

Vietnamese who keep them as pets. Certain common monkeys and the Slow Loris *Loris tardigradus* are also sold as household pets, while pythons *Python*, tortoises *Testudinae*, lizards *Sauria*, terrapins *Emydidae* and pangolins are bought as food. Professor Vo Quy has visited this market many times and confirms that few endangered animals are offered for sale here (Vo Quy, pers. comm.).

**Ho Chi Minh City**

By comparison with the Dong Xuan market in Hanoi, the main live animal market in Ho Chi Minh City, Cau Mong market (or Mong Bridge in English), handles a number of rare and endangered animals, and a great deal more wildlife products are for retail sale in the city. This is probably because it is easier to do business in the more open economy of the south, where there are more foreigners interested in buying.

*Souvenir shops*

In the mid-1980s, most of the souvenir shops, which are situated in and around the international hotels, were still closed following the nationalization of the economy in 1975. The few that were open sold antiques and some ivory tusks. However, business began to pick up when the Government liberalized the economy in the late 1980s.

There are now approximately 100 individual stalls or shops in central Ho Chi Minh City, covering an area of about 3 km<sup>2</sup>. Just over half of these are located along Dong Khoi Street, and they sell antiques, bone, ivory and wood carvings, lacquer ware, and commodities made from domestic and wild game skins. Other tourist shops in the city also sell such items, particularly lacquer ware. In January 1991, 31 (about half) of the curio shops along Dong Khoi Street sold wildlife products, ivory being the most common (Table 4). It is carved in southern Viet Nam, and mostly in Ho Chi Minh City.

The largest ivory carving business is a family company which has been active for 40 years. In 1975, their enterprise closed down for 18 months. In 1977 it re-opened as a co-operative, and in 1987 returned to private ownership. At the time of this survey, 17 people were trained to work in ivory at this company, but owing to the decline in demand, most were in fact only working part-time with ivory. At least 10 of the 17 craftsmen were members of the same family which included one female carver. They are not paid a salary, but earn, when carving ivory, US\$117 to US\$220 a month, a very large sum in Viet Nam. The owner obtains his raw ivory privately from people's homes and from traders who have connections with people in the forests in Dac Lac Province. In early 1990, he paid US\$100 a kg for raw ivory. During that year, its scarcity increased and the price continued to rise - up to US\$180 in November - but by December 1990, the price declined slightly because of the greater difficulty in selling finished ivory pieces to foreign tourists. The ivory craftsmen use both machine-driven drills and hand tools

Common name	Scientific name	US\$
Terrapin	Emydidae	7/kg
Javan Pangolin	<i>Manis javanica</i>	7/kg
Pygmy Slow Loris	<i>Nycticebus pygmaeus</i>	5
Monkey, various	Primate	14
Indian Python	<i>Python molurus</i>	4/kg
Tortoise	Testudinae	2.5

Table 3. Live wild animals for retail sale in Dong Xuan market in Hanoi, March 1990. Survey by the author

Items	Price US\$
Elephant ivory: small rings	1
Buddha statue, 6 cm	7
six dice	10
thin bangle	15
small-bead necklace	15
pipe holder, 10 cm	17
seal, 7.5 cm	17
engraved chopsticks (pair)	36
engraved cigarette holder, 18 cm	40
carved elephants on tusk, 48 cm	395
elaborately carved tusk, 61 cm	1025
Elephant hide: wallet	3
purse	14
Tortoiseshell: small rings	3
thin bangle	3
knife, 18 cm	9
comb, 19 cm	30
framed spectacles	78
fan, with 25 cm ribs	78
Snakeskins: belt	6
wallet	8
woman's shoes	11
purse	15
Miscellaneous: lizard skin wallet	10
crocodile skin belt	35
Clouded Leopard skin, with head	210-400
Leopard skin, with head	200-1400
Tiger skin, with head	1800-1900
Tiger tooth	9
Bear tooth	9
Tiger claw	10
Wild Boar tooth	14
Pangolin, stuffed	20
Palm civet, stuffed	25
Monitor lizard, stuffed	37
Malayan Sun Bear, stuffed	250
Various deer horns	Various

Table 4. Selection of wildlife products for retail sale in souvenir shops, Ho Chi Minh City, January 1991. Survey by the author

to make a wide variety of items, from jewellery to Buddha figures. To make optimum use of daylight hours, they work from 7am to 4pm, five days a week. The output is sold either directly to embassy staff, who often choose small pairs of tusks, to Taiwanese, who are some of the few foreigners still willing to buy ivory, or to Ho Chi Minh City's souvenir shops. Because of the fall in sale of ivory items, the owner of this family business has diversified into wood carving, taxidermy, and making Tiger-claw jewellery.

The tourist shops in Ho Chi Minh City are also supplied with ivory carved by a few other craftsmen in southern Viet Nam. One of these lives in Vung Tau, a beach resort 125 kmsoutheast of Ho Chi Minh City. Most of his work, however, is sold at the small tourist enterprises in his home town. This man has carved ivory for 19 years; he obtains the tusks from Dac Lac Province or from traders who have bought them in Cambodia. In 1989, he paid US\$150 a kg and, in 1991, US\$200 a kg. In addition, he buys small pieces of scrap ivory for US\$30

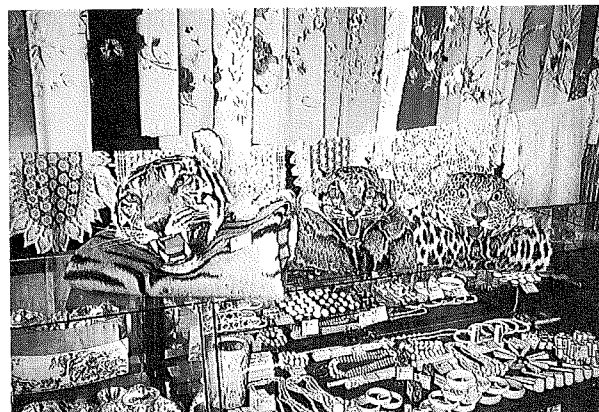
a kg to make tiny items such as earrings and finger rings. If he carves small pieces of ivory full-time, he can earn a profit of US\$147 a month, but if he carves a medium-sized tusk during the same time, he can earn up to US\$700. Since 1989, however, his work in ivory has declined.

Beach resorts, such as Vung Tau, are visited at the weekends by foreign residents and tourists. The kiosks along the coastal road sell many tourist items apart from ivory. In Vung Tau one could purchase pig teeth (30 US cents each), tortoiseshell bangles (US\$7), Tiger claws with silver clasps (US\$10), complete tortoise shells (US\$26), stuffed pangolins (US\$30), stuffed tortoises (US\$50) and tortoiseshell spectacles (US\$50).

Items made from tortoiseshell are commonly seen in curio shops. The raw product reportedly comes from Viet Nam or Singapore, and costs about US\$132 a kg. Some of the workmanship is carried out in factories in Ho Chi Minh City by craftsmen who formerly worked on ivory. They earn about US\$145 a month. Among the main buyers of tortoiseshell items are the Japanese who find the prices very reasonable. In Ho Chi Minh City, the hotel shops stock large amounts of tortoiseshell goods.

Some of the most expensive wildlife products for sale in Ho Chi Minh City are skins from rare and endangered wild cats. Tiger skins were displayed for sale in at least three of the curio shops during the 1991 survey. Also, according to the shopkeepers, skins from Leopards *Panthera pardus* and Clouded Leopards *Neofelis nebulosa* are often available. The Tigers originate from Viet Nam. Most of the buyers are Taiwanese, but also comprise visitors from Thailand, South Korea, Japan, Hong Kong and occasionally France. The skins are normally packed in personal hand luggage; if discovered the owners must pay a tax, but the skins are not confiscated. If shops arrange for the export of the skins as non-accompanied baggage, there can be complications. For example, in January 1991, a souvenir shop sold two Tiger skins and one Leopard skin to a Taiwanese person who requested their immediate export to Taiwan. They were packed in a box and sent to the airport but were back in the shop the following day because the shop attendants were unable to obtain any proper permits to export them.

Ivory, and heads and skins of Tiger, Clouded Leopard and Leopard for sale in souvenir shops in Ho Chi Minh City.



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Observations on Wildlife Trade in Viet Nam

Common name	Scientific name	Use	US\$ each
Binturong	<i>Arctictis binturong</i>	Live for display	117
Asiatic Brush-tailed Porcupine	<i>Atherurus macrourus</i>	Medicine	9
Small deer	<i>Cervus spp.</i>	Pet, meat	-
Turtles	<i>Chelonia</i>	Food	3
Siamese Crocodile	<i>Crocodilus siamensis</i>	Skin	750/metre
Tokay Gecko	<i>Gekko gekko</i>	Aphrodisiac	.70 cents
Malayan Sun Bear (baby)	<i>Helarctos malayanus</i>	Medicine	290
Javan Mongoose	<i>Herpestes javanicus</i>	Pet	12
Yellow-cheeked Gibbon	<i>Hylobates leucogenys gabriellae</i>	Live for display	1.5
Smooth Otter	<i>Lutra perspicillata</i>	Pet	12
Crab-eating Macaque	<i>Macaca fascicularis</i>	Pet	15
Pigtail Macaque	<i>Macaca nemestrina</i>	Pet	15
Malayan Pangolin	<i>Manis javanica</i>	Meat, medicine	6/kg
Ferret Badger	<i>Melogale personata</i>	Meat	12
Indian Muntjak	<i>Muntiacus muntjak</i>	Meat	1.5/kg
Asiatic Cobra	<i>Naja naja</i>	Medicine	6/kg
Clouded Leopard	<i>Neofelis nebulosa</i>	Live for display	590
Pygmy Slow Loris	<i>Nycticebus pygmaeus</i>	Medicine: cancer	6
Green snakes	<i>Ophidia</i>	Food, medicine: cancer	1.50
Common Palm Civet	<i>Paradoxurus hermaphroditus</i>	Meat	6/kg
Spot-billed Pelican	<i>Pelecanus philippensis</i>	Pet	44
Flying-foxes	<i>Pteropus spp.</i>	Medicine: cough and headache	3
Indian Python	<i>Python molurus</i>	Meat, medicine	15
Indian Python (albino)	<i>Python molurus</i>	Pet	3500
Lesser Mouse Deer	<i>Tragulus javanicus</i>	Pet	-
Water/Bengal Monitor Lizard	<i>Varanus salvator/V. bengalensis</i>	Meat, medicine	4/kg

Table 5. Wild animals for sale at Cau Mong market, Ho Chi Minh City, January 1991.

Survey by the author

### Medicine shops

As well as the Vietnamese, there is a group of traders of Chinese origin who deal in wildlife merchandise in the Cholon area of Ho Chi Minh City. Before the change of Government in 1975, Cholon was the "Chinatown" of Ho Chi Minh City, with a large Chinese population. By 1975, most Chinese had fled, and soon afterwards most of their businesses handling wildlife were taken over by the new Government. With the liberalization of the economy in the late 1980s, some of the remaining Chinese began to rebuild Cholon and re-open their old enterprises. One of the busiest parts of Cholon today is the section where wholesale and retail medicines, including wildlife products, are sold. The medicine shops are similar to those found in other Southeast Asian cities, except that there are very few imported Chinese packaged medicines or raw animal products from China. However, some Chinese people from China do come to these shops to buy goods to take back to their country. One of the most expensive items they come for is rhino horn. During the time of the survey, a Chinese man had reportedly purchased a Black Rhino *Diceros bicornis* horn from a "raw medicine" shop in Trieu Quang Phuc Street in Cholon. The horn weighed

620 grams (g) and cost the equivalent of US\$5435 a kg which he paid for in gold. This information is lent credence by the fact that the proprietor of this shop showed the author the only real rhino horn seen during the entire survey. This horn weighed 2.35 kg, was also from the Black Rhino, and had just been sold for US\$7660 a kg to a businessman from Taiwan.

It is not surprising that the Taiwanese are interested in buying rhino horn in Ho Chi Minh City, as there is still a large demand for it in Taiwan. One Vietnamese businessman claimed to have recently been contacted by a Taiwanese trading corporation in Taipei offering to buy Asian rhino horn at a price of up to US\$10 000 a kg. In early 1991, this same Vietnamese was negotiating with the corporation to sell a small Asian rhino horn of 100 g. This man claims he has only seen three rhino horns in Ho Chi Minh City over the past few years, and he believes that only the Chinese traders in Cholon and he himself can distinguish them from fakes.

Cholon's Chinese medicine shop owners sell rhino horn copies to the souvenir shops in Ho Chi Minh City's tourist areas. Over 50 such fakes were on display in early 1991. Most of these were small, weighing under 300 g, and are easy to distinguish from real horns, being usually

hollow, with small carved bumps near the base. When the souvenir shops sell them as fakes the prices vary from US\$20 to US\$88 each, but when they believe them to be genuine or claim them to be, the shop owners try to obtain huge amounts of money, preferably in US dollars.

Less expensive animal products in Cholon's medicine shops include sea-horses Syngnathidae, deer antlers, tortoise shells, Tiger bones and pig teeth. Most of these come from Viet Nam and Cambodia and are sold to Vietnamese, who come from all over the country to buy them. Traders from China can allegedly obtain, on request, live animals such as Tigers, bears and gibbons from Cholon's wealthy Chinese businessmen.

#### Live animals

During three visits by the author to Cau Mong market in one week in January 1991, the species seen for sale included pelicans *Pelecanus*, pangolins, lorises *Nycticebus*, gibbons *Hylobates*, Clouded Leopards, Binturongs *Arctictis binturong* and Malayan Sun Bears *Helarctos malayanus* (Table 5). According to the shopkeepers, other species often sold at the market include Tigers, Fishing Cats *Felis viverrina* and civets Viverridae. The buyers are mostly from Singapore, Thailand, Taiwan, Hong Kong and South Korea and they export the animals to their home countries. The most expensive animal seen for sale was an albino python at US\$3500; the buyers were expected to be French or Italian collectors. Some of the animals, including pangolins, bears, tortoises and flying-foxes *Pteropus*, are bought by Vietnamese traders, some from the north, who transport them to the border with China in order to sell to Chinese traders. This may be because there are not enough such animals in northern Viet Nam to supply this market in China. Most of the animals seen at the privately owned stalls are kept in small wire cages and mortality, especially for birds, appears to be high. Some animals are in poor condition: a Clouded Leopard with a severe and untreated skin infection was being offered for US\$290, half the price of a non-diseased animal.

Street stalls also sell live animals, mainly for food (Table 6). The most common are pangolins, palm civets Viverridae, mouse deer *Tragulus*, porcupines Hystricidae, Wild Boars *Sus scrofa*, Sambars *Cervus unicolor* and mongooses *Herpestes*. There is a market specifically for these edible animals called Cho Pham Viet Chanh. It has six private stalls; one of the most successful owners told the author that she sold 100 kg of game meat a day. The animals originate from Song Be Province, Dong Nai Province and Pleiku in the highlands of southern Viet Nam and are brought by hunters and traders at least once a week. Game meat sells well, largely because it is the same price as beef or chicken; the most popular wild game meats are Sambar and Wild Boar. The shop owner sells some meat - Wild Boar, Sambar, muntjak *Muntiacus* and porcupine - to traders for export to Thailand. Occasionally, she will sell live tortoises, pangolins, and Slow Lorises to middlemen who send them by train to Hanoi for eventual sale in China.

Common name	Scientific name	US\$/kg
Asiatic Brush-tailed Porcupine	<i>Atherurus macrourus</i>	2
Sambar	<i>Cervus unicolor</i>	1.5
Javan Mongoose	<i>Herpestes javanicus</i>	3/animal
Himalayan Crestless Porcupine	<i>Hystrix hogdsoni</i>	2.50
Malayan Pangolin	<i>Manis javanica</i>	5
Burmese Ferret Badger	<i>Melogale personata</i>	-
Indian Muntjak	<i>Muntiacus muntjak</i>	1.5
Pygmy Slow Loris	<i>Nycticebus pygmaeus</i>	7 each
Common Palm Civet	<i>Paradoxurus hermaphroditus</i>	4.5
Indian Python	<i>Python molurus</i>	3
Wild Boar	<i>Sus scrofa</i>	1.5
Tortoise	<i>Testudinae</i>	5
Lesser Mouse Deer	<i>Tragulus javanicus</i>	2
Water Monitor	<i>Varanus salvator</i>	4

Table 6. Wild game meat for retail sale in Ho Chi Minh City, January 1991. Survey by the author

Many other places in southern Viet Nam have live animals and game meat for sale, but the quality is not generally as good as in Ho Chi Minh City. For instance, at the Long Thanh market, 50 km east of Ho Chi Minh City, deer, Sambar and Wild Boar are the usual selection.

#### CONCLUSION

From the wildlife trade surveys in Hanoi, Ho Chi Minh City (and Vung Tau), it is obvious that endangered species are openly offered for retail sale. One can only guess at what may be secretly available from wholesale sources. Over the last couple of years, the liberalization of the Vietnamese economy has contributed to an increase in the commerce of these wild animals and their products and consequently, from a conservation perspective, the situation has deteriorated. The Government does have laws protecting certain species from exploitation, such as the Ministry of Forestry Decision Number 276/QD, dated 2 June 1989, which forbids the hunting and trading of 38 species of forest animals. However these regulations are not well enforced; this is clearly demonstrated by the number of specimens or products of species seen for sale during the surveys which are included in this legislation, namely, *Crocodilus siamensis*, *Elephas maximus*, *Helarctos malayanus*, *Neofelis nebulosa*, *Nycticebus pygmaeus*, *Panthera tigris*, *P. pardus* and *Pygathrix nemaues*.

The establishment and protection of parks and reserves in Viet Nam is relatively new and, at present, there are insufficient skilled people to guard them successfully from illegal hunters and farmers. Poaching and exploitation appear to be widespread in many forests in Viet Nam and will require greater resources to control.

In addition to addressing these matters, the Government should consider joining CITES in order to facilitate control of the international trade in endangered species indigenous to Viet Nam. Membership of CITES would also make it easier in the future for Viet Nam to export



wildlife and related products from legitimate captive-breeding enterprises, and from common species harvested on a sustainable basis from the wild. If the Government is to accede to the Convention, it must improve its law enforcement capabilities significantly, especially at airports, seaports and road exits. Presently, endangered species are being brought out of the country because there are inadequate controls at these check-points.

As well as implementing better law enforcement and improved trade controls, the Government needs to initiate a public awareness campaign. Few Vietnamese realize the damage that this largely uncontrolled trade is having on their country. More attention must be focused on the problem and how to combat it.

#### ACKNOWLEDGEMENTS

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*Esmond Martin is a TRAFFIC/WWF consultant on the trade in rhino horn, and is based in Kenya.*

*TRAFFIC Southeast Asia has embarked upon a further comprehensive study of wildlife trade in Viet Nam, initial results of which will be published in late 1993. (Ed.)*

## The Venus Flytrap Trade in North and South Carolina, USA

Jane C. MacKnight and Vonda Frantz

Since its discovery in the USA in 1770 by British botanist John Ellis, the Venus Flytrap *Dionaea muscipula* has captivated scientists and horticulturists with its unique appearance and carnivorous habit. Observers have been fascinated by the speed with which the "trap" - really a modified leaf - captures and consumes its prey. Foreseeing the popularity of the Venus Flytrap, Ellis wrote "... (it) is now likely to become an inhabitant of the curious gardens in this country and merits the attention of the ingenious."

Today, the Venus Flytrap is grown in botanical gardens around the world and sold as a novelty plant in many countries, including the USA, Germany, Netherlands, Japan and UK. Wild populations of Venus Flytrap, however, are diminishing as their savannah and bog habitats along coastal North and South Carolina in the USA are drained and cleared for urban development and timber plantations. As well as loss of habitat, collection of wild plants is contributing to the serious decline in abundance of the species.

### INTRODUCTION

In 1991, TRAFFIC USA contracted Vonda Frantz to examine the trade in Venus Flytrap as part of an international effort to gather information to determine whether the species merited inclusion in the CITES Appendices. The study would also assess the need for additional protection measures to ensure survival of the species in the wild.

The investigation focused on the trade in North and South Carolina and, to some degree, the international market. Few data are available on trade within the USA, but some anecdotal information about domestic trade was collected during the investigation. Information was gathered on international trade, propagation methods, collection practices and pressures, and laws and enforcement efforts in North and South Carolina.

As a result of this investigation and data from other sources, the Venus Flytrap was placed in Appendix II at the eighth meeting of the Conference of the Parties to CITES in March, 1992. This new protection status requires that Venus Flytrap be carefully monitored in international trade.

Jane MacKnight, a consultant botanist to TRAFFIC USA, presents the results of Frantz's investigations in this article.

### BIOLOGY AND HABITAT

The Venus Flytrap is the sole representative of the genus *Dionaea*, a member of the Droseraceae family which also contains the genus *Drosera*, or the sundews.

The leaves of this small, perennial, herbaceous plant overlap at the base forming what the growers and collectors call a bulb. The plant is dormant in winter, dying back to the ground, but in sheltered sites may remain green all year. New growth begins in early spring and six to twelve white flowers are borne in May and June on a 10-30 cm tall inflorescence. Each flower forms a capsule which may bear as many as 25 seeds.

The distinctive "traps" are modified leaves, with leaf blades hinged length-wise forming two kidney-shaped lobes, lined with stiff bristles along the margin which interlock when the trap is closed. Insects are attracted to the plant by a sugary substance secreted by leaf glands. Upon settling into the "trap" for a meal, the insect brushes sensitive trigger hairs, causing the trap to close with enough pressure to prevent escape. Other glands in the trap begin releasing an acidic, enzyme-laden fluid which digests the insect. The trap will usually re-open within five days of capturing and consuming its prey.

*Dionaea* is endemic to a 320-km strip of coastal plain in southeastern North Carolina and northeastern South Carolina where the sandy-peaty, acidic, low-nutrient soils remain wet. Populations decline rapidly when overgrown by shrubs and taller plants. Periodic fires are characteristic of Venus Flytrap habitat. Unless other management techniques are employed, drainage or suppression of fire will cause extirpation of the habitat and Venus Flytrap populations (Schnell, 1976; Folkerts, 1977; Slack, 1979; Sutter *et al.*, 1982).



Venus Flytrap *Dionaea muscipula*.

© Robert Sutter

### STATUS OF PROPAGATION METHODS

The Venus Flytrap is propagated in both the USA and Europe. Methods of propagation - by division, tissue culture, leaf-base culture, from leaf blades or by seeds - are relatively easy and require between one and three years for the plants to reach a marketable size.

After checking nurseries and collectors certified by the South Carolina Department of Agriculture, no commercial propagation or trade in Venus Flytrap was identified in South Carolina.

The North Carolina Department of Agriculture's (NCDA) Plant Conservation Program provided its list of Certified Nurseries and Plant Collectors in North Carolina for this study. The list contains information about growers and collectors of native plants, including insectivorous species. Nine nurseries in the state found to trade in Venus Flytrap were visited or interviewed by telephone for the study. All indicated that they grow the plants. However, with the characteristic dormancy period of the plant, "growing" can mean refrigerating wild-collected bulbs over the winter and then "growing" the plants in the spring and summer. Consumers will think they are buying artificially-propagated plants, because the plants may be advertised as "nursery grown". In North Carolina, only one nursery was found to conduct true artificial propagation, while others either propagate by division and continually replenish stock with wild plants or rely entirely on wild-collected plants.

Propagation of Venus Flytraps on a commercial scale is feasible. A dealer in the Netherlands propagated 350 000 specimens in 1991 (M. Jenkins, pers comm.). The one- to three-year growing period is not excessive compared with other horticultural plants. The deterrent to propagation is simply the greater costs involved; while wild plants are easily and cheaply acquired, the cost of greenhouse space for growing and tending plants for two or three years before sale is much higher. Several of the nurseries contacted for the study are small-scale operations that have little or no greenhouse space. At least three nurseries offering propagated plants were found to rely on wild bulbs either completely or as propagation material. A reputable mail order business believes its source of plants is completely free of wild plants, while this investigation found the source probably uses wild plants for leaf-base propagation.

#### LEGAL PROTECTION

Both states where Venus Flytraps occur have taken measures to protect the species. Since 1980 South Carolina has had a law protecting Venus Flytrap from collection or damage on public property, and on private property without the landowner's consent (Anon., 1980). South Carolina has experienced infrequent illegal collecting, and has had no known violations since 1990.

By contrast, North Carolina has experienced continued illegal collection of Venus Flytrap, despite a 1941 law protecting plants growing in certain counties, and a 1976 law prohibiting the removal of plants from state gamelands. In 1991, the state listed the Venus Flytrap as a species of "Special Concern" and new regulations went into effect which prohibit collection of Venus Flytrap from all public lands, or from private lands without the written permission of the landowner. The permission must be dated and is valid for no more than 180 days. It is also illegal to sell

Year	No. of plants
<sup>1</sup> 1989	661 620
<sup>2</sup> 1990	1 137 227
<sup>3</sup> 1991	299 202

**Table 1. Total international exports of Venus Flytrap bulbs, whole plants, and seeds from North Carolina.**

<sup>1</sup>USDA APHIS data only; <sup>2</sup>USDA APHIS data and NCDA PCP data; <sup>3</sup>January through May only - USDA APHIS data and NCDA PCP data.

unlawfully-collected plants, putting an onus of responsibility on the nursery as well as the collector. Fines have been raised to US\$100-US\$500 for a first offence and to US\$500-US\$1000 for a subsequent offence (Anon., 1991a; Anon., 1991b).

The "Special Concern" listing gives the state the authority to establish new rules should it be necessary for future regulation. For example, rules could be written that require nurseries to report exports to other states, or that require the source to be designated on export permits.

The listing of the Venus Flytrap in CITES Appendix II became effective on 11 June 1992 and requires documentation for all international exports and re-exports. All wild-collected plants destined for export require export permits and artificially-propagated plants require a certificate of artificial propagation. CITES Appendix II status requires that export only be allowed if the US Scientific Authority has determined that the trade will not be detrimental to the survival of the species, and if the US Management Authority is satisfied that the specimens have been legally obtained. In addition, regulation under CITES will increase effective monitoring of specimens in trade by requiring exports to be labelled as to source. This information will be useful to help eliminate illegal trade, and to assist officials in developing an effective management programme for the species (Anon., 1992a).

#### TRADE

The Venus Flytrap is traded as a novelty plant in North America, Europe and Asia. In Germany, the plants are also used in a medicine, *Carnivora*, which is sold as a claimed remedy for cancer and AIDS (Walker, 1991).

The majority of plants traded are bulbs, but whole plants and occasionally seeds are offered as well. Retail prices vary according to the size of the plant or bulb, but are relatively low. A review of 1989, 1990 and 1991 US retail catalogues showed that prices range from US\$1.00 for small bulbs to US\$3.00 for large bulbs. A 1991 German retail catalogue offered plants ranging from US\$4.35 to US\$6.70 (IUCN, 1992).

For this study, export data from Phytosanitary Certificates issued by the Animal and Plant Health Inspection Service (APHIS) of the US Department of Agriculture (USDA) and the Plant Conservation Program of the NCDA were examined. Because there are few federal

Year	Country	No. of plants
1989	Netherlands	373 000
	Germany	221 000
	UK	52 000
	Canada	14 520
	Mexico	1000
<sup>1</sup> 1989	<b>Annual total</b>	<b>661 620</b>
1990	Netherlands	798 000
	Germany	246 000
	Japan	31 000
	UK	20 900
	Canada	18 323
	Australia	10 000
	France	6500
	Taiwan	6000
	Belgium	300
	Tahiti	200
	Italy	4
<sup>2</sup> 1990	<b>Annual total</b>	<b>1 137 227</b>
<sup>3</sup> 1991	Netherlands	166 000
	Japan	87 002
	UK	21 000
	Germany	10 000
	Canada	8500
	France	6000
	Mexico	700
<sup>3</sup> 1991	<b>Total</b>	<b>299 202</b>

Table 2. Countries importing Venus Flytrap.

<sup>1</sup>USDA APHIS data only; <sup>2</sup>USDA APHIS data and NCDA PCP data; <sup>3</sup>January through May only - USDA APHIS data and NCDA PCP data.

inspectors, APHIS trains and certifies state inspectors in North Carolina to carry out inspections and to issue USDA Phytosanitary Certificates. Exporters can have plants inspected either by USDA inspectors at federal inspection centres, or by certified NCDA inspectors. The export data indicate that there are five exporters in North Carolina: two exporters regularly have shipments inspected by the NCDA nursery inspectors and three exporters ship through the USDA-APHIS inspection centre in Wilmington.

Of the 1 137 227 Venus Flytraps exported from North Carolina in 1990 (Table 1), it is estimated that this quantity represents roughly 300 000-500 000 wild plants, plus the plants propagated from wild stock. Because most nurseries replenish their stock with wild material each year, it is possible that 99% of the Venus Flytraps exported from North Carolina are of wild origin (C. Frost, pers. comm.).

Table 2 shows the total trade volume by importing country: the Netherlands accounts for over half of all imports each year. While shipments to Germany were high in 1989 and 1990, the first four months of 1991 show a decline. This coincides with publicity surrounding the

new NCDA regulations and imposition of the stiffer fines for illegal collection.

Because statistics are not maintained on trade within the USA, it is not known what quantities of Venus Flytraps are sold domestically. Based on anecdotal information, it is believed that nurseries in other states purchase plants from North Carolina to use as propagation stock, for retail trade or to export. For example, during this investigation, sources in North Carolina reported a buyer from Florida was seeking a source for 20 000-30 000 bulbs. Some experts have estimated the domestic trade to be as high as four million plants per year (Sutter, 1985).

#### COLLECTION OF WILD PLANTS

The extent of wild-collection cannot be accurately measured because there is no public permitting or reporting procedure. For this study, the extent and impact of collection was assessed through interviews with wildlife officers, police officers, landowners and caretakers, and reserve owners and managers.

Small-scale collecting may occur in South Carolina, but it is not believed to be a serious problem. Most Venus Flytrap habitat in the state is in protected areas or on land owned by timber companies. In 1990, collectors from North Carolina were apprehended in the Lewis Ocean Bay Heritage Preserve, a site managed by The South Carolina Non-Game and Heritage Trust Program (S. Bennett, pers. comm).

Illegal collection of wild plants in North Carolina is frequent, widespread and large-scale. It occurs on private land, such as the large tracts owned by paper companies, and on state lands, such as the 49 000-acre Holly Shelter state gameland in Pender County. Federal lands such as the Croatan National Forest are also subject to wild-collection, as are protected areas such as the 13 000-acre Green Swamp Nature Preserve, owned by the North Carolina Nature Conservancy (Rose, 1991). Based on reports of observers and law enforcement officials, the volume of Venus Flytraps collected annually in North Carolina may be as high as several hundred thousand plants.

All sources report that collecting is carried out primarily by very poor, rural people, who are supplementing other meagre income. Most collecting seems to be done by a few small groups of people who repeatedly collect in a particular area. In many cases, they are families who have been collecting for generations.

When the habitat of Venus Flytrap was abundant, the impact of collection was probably negligible. But the effects of development - bulldozing and paving of habitat, drainage of large tracts for timber extraction, and fire suppression - have diminished the amount of habitat, and the impact of collection is magnified. The decrease in collecting sites causes each remaining site to be more heavily collected. The NCDA's Plant Conservation Program is currently involved in a two-year survey of all known sites containing Venus Flytrap in North and South Carolina (Anon., 1992b).

Law enforcement officials in North Carolina have warned and/or arrested numerous collectors over the years. It is estimated that as many as 75 to 100 citations are written annually at Holly Shelter. However, officials believe that collection will continue as long as a market for wild-collected plants exists. Reports of citations and fines issued repeatedly to the same collector substantiates this belief. The new rules regulating collection, combined with making nurseries responsible for the plants they sell, is expected to restrict the market for wild-collected Venus Flytraps.

In 1991, North Carolina expanded the authority of its wildlife officers, giving them law enforcement powers on private land. Cecil Frost, head of the NCDA's Plant Conservation Program, met with coastal wildlife officers to enlist their support and co-operation in enforcing the regulations on collection of Venus Flytraps; enforcement began in October 1991. Increased enforcement authority and stiffer penalties will enable the state to control Venus Flytrap collection more effectively.

#### SUMMARY

Several conclusions can be drawn from this investigation. Venus Flytrap populations are declining, owing primarily to loss of habitat. The coastal region of North Carolina is under rapid urban development pressure and draining of lowlands for pine plantations has been extensive. The suppression of fire is required to protect both urban development and timber. Drainage of lowlands and fire suppression destroys Venus Flytrap habitat. Combined with rapidly diminishing habitat, collection of wild plants has an increasingly detrimental effect as collectors resort to fewer locations with less abundant plants.

Nurseries rely on wild plants because they are cheap and easy to acquire, not because of any particular difficulty in propagating Venus Flytraps. The volume of Venus Flytrap business is large. As many as 1 000 000 plants may be annually exported overseas from North Carolina; plants may also be exported from other states. The volume of domestic trade is not known.

Efforts to stop illegal collecting on public lands have been diligent, yet collecting persists and Venus Flytraps are declining. Protected areas alone do not assure the survival of the species. However, the new state law and increased enforcement authority in North Carolina, plus the inclusion of the species in CITES Appendix II, may provide effective measures to control illegal collection and sale of Venus Flytraps.

#### RECOMMENDATIONS

The long-term preservation of the Venus Flytrap will require a series of measures:

1) **Reduce and control collection of wild plants.** Periodic assessment of Venus Flytrap populations outside of protected areas should be made to determine appro-

prate levels of collection and to allow development of management plans for such populations. Increasing the incentives for nurseries to propagate Venus Flytrap will reduce the demand for wild-collected plants. Nurseries should be required to reduce their reliance on wild plants over a period of two or three years, allowing time to develop stock plants and propagation techniques.

2) **Enforce state regulations and CITES.** New state regulations in North Carolina and international trade requirements of CITES provide the tools for better monitoring and effective management of Venus Flytrap. Additionally, regulation of the nursery industry will be necessary to ensure that plants are being propagated and collection is being reduced. Nursery inspectors can require evidence of propagation on a scale commensurate with business volume. Penalties for illegal collection and sale need to be enforced.

3) **Establish more protected areas.** Development within the range of the Venus Flytrap is likely to continue until protected areas are the only remaining habitat. These areas will need to be large enough to support fire and water management regimes. Management plans for protected areas should address specific requirements for maintaining Venus Flytrap populations.

In North Carolina, protected areas could be funded through the North Carolina Recreation and Natural Heritage Trust Fund, established by the legislature for the purpose of creating parks and preserving natural areas. Funds are available to a few state agencies, such as the Department of Agriculture, North Carolina Forest Service, and the Wildlife Resources Commission. The NCDA's Plant Conservation Program should identify protected areas and apply for funds.

Local chapters of The Nature Conservancy as well as local land trusts should be encouraged to acquire protected areas for Venus Flytrap. Since this plant occurs only in the USA and is of great international interest, a national park should be established in prime habitat.

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## Canada is Top Timber Exporter

Almost 20% of all forest products exported are from Canada, ranking the country as the world's largest exporter of such goods. Statistics provided by the Food and Agricultural Organization of the United Nations also show that developed countries accounted for 81.4% of global exports of forest products in 1989.

### Top 10 exporters of forest products in 1989.

Country	US\$ billion
Canada	18.4
USA	12.4
Sweden	8.7
Finland	8.5
Germany (F.R.)	6.1
USSR	3.8
Indonesia	3.7
France	3.3
Malaysia	3.0
Austria	2.8

*Food and Agricultural Organization of the United Nations data in Asian Timber, April 1992*

## Netherlands Certification Scheme

The Dutch Government has announced that from 1995, but if possible earlier, it intends to prohibit the use of tropical hardwoods unless they come from areas with a sustainable forest management policy. A certification scheme is to be introduced. The Dutch Government has earmarked approximately Dfl.30m (US\$17m) each year for the tropical rainforest protection policy.

The Netherlands is second only to Japan in its per capita consumption of tropical hardwoods.

*Official Journal of the European Communities, 16 March 1992*

## ERRATA

In the article documenting the results of the eighth meeting of the Conference of the Parties to CITES (*TRAFFIC Bulletin*, 13(1):21), inclusion in App. II of logs, sawn timber and veneer of American Mahogany *Swietenia mahagoni* was not confined to the population of Central America. The 10-year review proposal to delete *Platymiscium pleio-stachyum* from App. II was withdrawn.

## Cinnamon Products Traded Illegally

Of the 20 species of *Cinnamomum* trees which occur in India, most are traded illegally.

*Cinnamomum zeylanicum*, one of the four species which occur in Kerala, is perhaps the one which faces the greatest threat to its natural habitat. The bark of the tree is ground into a powder and used as a spice or condiment; it is also used in incense, perfumes and medicines. Oil from the bark is used extensively in perfumes, confectionery, liqueurs, the pharmaceutical industry, soaps and dental preparations. *Cinnamomum camphora* is a major source of camphor, an aromatic substance obtained by distilling parts of the plant. Certain *Cinnamomum* species are used as timber, and in Kerala, and in particular areas such as the Periyar National Park, trees have been completely stripped of their bark which is smuggled into Tamil Nadu. The bark may well be the biggest minor forest produce that is being illegally obtained from protected areas in Kerala.

*TRAFFIC India*

## New Zealand Bill to Ban Export of Logs and Woodchips

Following four years of debate on indigenous forest policy, the New Zealand Government has introduced a bill which calls for a ban on the export of native woodchips and logs. There are no constraints on the export of finished or manufactured indigenous timber products, but the bill requires restricted logging of podocarps, kauri and beech trees, and the milling of native logs to be confined to timber from sustainable sources.

Two areas of Maori land are exempt from the provisions of the bill: the area known as Southland, on South Island, and that managed by West Coast Timberlands (132 000 hectares).

The bill is pending.

*Forest & Bird Conservation News, No. 74, July 1992*

## Importer Suspends Trade with Mahogany Dealer

M & N Norman, the Scottish timber importer, has agreed to suspend dealings with a major supplier of Brazilian mahogany, following allegations of illegal logging by the supplier on Indian reserves. The loggers are said to have bribed the Indians to permit felling.

The decision to interrupt imports is in keeping with the aims of The Scottish Hardwood Charter, which M & N Norman set up in 1990, and whose 500 members intend to use only hardwood from sustainable sources by 1995.

*The Scotsman (Scotland), 14 May 1992*

## "High value" Tropical Timber in EC

In a recent study published by the Food and Agriculture Organization of the United Nations, and based on 1989 statistics, several countries in the European Community were identified as "high value" markets for tropical timber products.

As the timber trade in general becomes increasingly competitive, owing to the substitution of timber by other materials in the building trade, the increased supply of plantation-grown timbers and improved harvesting methods, less efficient producers are placed under growing pressure. This situation affects suppliers of tropical timber in particular, who have few methods of decreasing the cost of their operations, given the heterogeneous nature of the natural forests. Moreover, tropical timber traders, in northern EC countries especially, foresee the growing influence of the anti-tropical timber lobby affecting demand.

In view of these factors, and at a time when economic growth has been slowing in the EC in general, the traders of tropical timber are aware of the clear need to refine their marketing strategies towards specific end-uses. These so-called "high-value" uses range from those in which tropical timber is virtually irreplaceable to those where it is strongly preferred to alternative materials for technical, aesthetic or commercial reasons. Thus, furniture-makers, interior joiners, and the transport and construction industries are prime users of tropical timber in northern EC countries (UK, France, Netherlands, Germany, Belgium), where its combined strength, durability and appearance are appreciated.

Estimated m<sup>3</sup>/per capita consumption of tropical sawn timber, plywood and veneer by some EC countries in 1989.

Country	Sawn Timber	Plywood	Veneer
Belgium	25.3	15.6	1.4
Denmark	5.8	6.4	1.6
France	12.1	5.2	0.7
Germany	8.1	3.5	1.6
Greece	8.0	2.0	0.9
Italy	11.9	0.6	4.2
Netherlands	48.5	15.2	1.3
Spain	8.9	3.1	3.3
UK	12.6	9.2	0.4

*Asia Pacific Forest Industries, July 1992*

## Mushroom Harvesting May Harm Forests

The underground filaments of some species of fungi deliver vital nutrients and water to the roots of trees. Michael Amaranthus, a fungi expert at the US Forest Service, estimates that as many as 3000 species of fungus contribute to the growth of trees in the forests of Oregon and Washington. Some are essential to the establishment of young saplings - Douglas Firs *Pseudotsuga menziesii*, for example, depend on Matsutake or Pine Mushrooms *Tricholoma matsutake* and Chanterelle Mushrooms *Cantharellus cibarius*.

A growing trade in wild fungi has led forestry biologists to embark on a study of how the harvesting of exotic fungi affects the growth of forests in the northwest of the USA. Some varieties of fungi can fetch hundreds of dollars a kg in Europe and Japan; Japanese customers pay as much as US\$100 for a single young Matsutake Mushroom, while Oregon White Truffles *Tuber gibbosum* can fetch US\$1200 a kg in Europe. A good fungus forager can earn US\$1000 a day. As amateurs join the professional mushroom hunters, supplies of some fungi are dwindling.

*New Scientist, 29 August 1992; The Herbarium, Royal Botanic Gardens, Kew, UK.*

### ANNOUNCEMENTS

- **Beyond UNCED 1992, Global Forest Conference:**  
Response to Agenda 21  
Bandung, Indonesia  
February 1993

The objectives of this Conference will be to contribute to and to disseminate views on UNCED forestry-related actions. For additional information contact: Dr Nani Djuangsih, Institute of Ecology, Padjadjaran University, Jl. Sekeloa, Bandung, Indonesia.

- **14th Commonwealth Forestry Conference**  
Kuala Lumpur, Malaysia  
13-16 September 1993

"People, the Environment and Forestry - Conflict or Harmony". For further details contact: The Secretary General CFC-14, Forestry Department Headquarters, Peninsular Malaysia, Jalan Sultan Salahuddin, 50660 Kuala Lumpur, Malaysia.



**Assistance in investigations was provided to authorities by TRAFFIC staff in most of the cases reported below which occurred in regions covered by a TRAFFIC office or representative.**

## EUROPE

### BELGIUM

On 25 June 1992, in Antwerp, several persons were convicted of charges under EC CITES Regulation 3626/82 of smuggling live animals to Belgium from Colombia by ship (see *TRAFFIC Bulletin* 12(1/2):25).

Daniel Van Hoek, a Belgian, and Ante Pera, a Yugoslavian living in Antwerp, were each fined BF80 000 (US\$2400); also convicted were Maria Hendrickx of Belgium (fined BF90 000), Goran Jurčina, a Yugoslavian ship captain (fined BF400 000 and sentenced to 1 month imprisonment), and Bartul Silic, a Yugoslavian crew member (fined BF80 000). The animals confiscated from the ships included 1 Red Howler Monkey *Alouatta seniculus* (App. II), 1 Ocelot *Felis pardalis* (App. I), 4 Scarlet Macaws *Ara macao* (App. I), 7 Blue-and-Yellow Macaws *Ara ararauna* (App. II), 2 Chestnut-fronted Macaws *Ara severa* (App. II), 19 Mealy Parrots *Amazona farinosa* (App. II), 4 Orange-winged Amazons *Amazona amazonica* (App. II). Others involved in the case await trial, including the Belgian dealer implicated in the sale of the birds. The birds are to be returned to Colombia.

On 11 September 1992, 54 live Spur-thighed Tortoises *Testudo graeca* (App. II) were seized from Willy Cambré, in Grobbendonk, Belgium. All specimens are believed to have been wild-collected.

On 25 September 1992, TRAFFIC was requested by Customs at Zaventem airport to assist in the identification of a 1.3 t shipment from Zaire. The cargo contained mainly frozen foodstuffs (cured meat, fish and packets of manioc *Manihot esculenta* leaves). The shipment was seized because it infringed Belgian health regulations and because, on initial inspection, 3 ivory items were discovered; on further investigation the shipment was found to contain more than 100 worked Hippopotamus *Hippopotamus amphibius* and elephant ivory objects (statues, jewellery and trinkets) and a dozen traditional musical instruments made with tortoiseshell of *Testudo* and *Kinixys* (both App. II). The meat consisted of 20 kg of Duiker *Cephalophus*, 5 kg cane rats *Thyonomys* and African great pouched rats *Cricetomys*, 3 pangolins *Manis*, 10 kg of African guenons *Cercopithecus* (App. II) and 4 kg of tortoises (App. II). All foodstuffs were destroyed on health grounds; the CITES-listed items were confiscated and the remaining articles were released to the importer, a Belgian citizen. During the course of their enquiries, authorities confiscated several other ivory items from the importer's home. The case is under investigation.

TRAFFIC Europe staff assisted in identification of the following items confiscated at Zaventem airport on the dates listed. With one possible exception, all ivory was of African Elephant *Loxodonta africana* (App. I):

- 20 April 1992. 10 ivory carvings from Zaire (total 4.4 kg) concealed in shipment of manioc *Manihot esculenta* leaves.
- 5 May. 22 bracelets of elephant hair from a Belgian returning from Zaire.
- 12 May. 2 polished tusks (total 6 kg) from a Japanese in transit to Tokyo from Nigeria.
- 13 June. 2 polished ivory statues (0.5 kg) from a passenger travelling from Zaire.
- 13 June. 2 polished tusks (total 5 kg) from a passenger travelling from Zaire.
- 23 June. 3 ivory sculptures (total 1.6 kg) from a passenger travelling from Zaire.
- 25 July. Raw, fresh ivory pieces (total 40 kg) discovered in abandoned suitcase in transit area. Pieces carefully cut to fit case. Exact origin unknown.
- July. 2 handbags of West African Dwarf Crocodile *Osteolaemus tetraspis* (App. I).
- 9 August. 1 stuffed Dorcas Gazelle *Gazella dorcas* from a passenger returning to Netherlands from Algeria.
- 17 October. Worked ivory (13 kg) including 93 statues, 48 bracelets, 100 rings, 96 earrings, 51 necklaces, 8 sculptures, 1 stick and 9 Leopard *Panthera pardus* teeth, from a passenger from Zaire.
- 18 October. Handbags of Nile Monitor *Varanus niloticus* (5), African Python *Python sebae* (4), Nile Crocodile *Crocodylus niloticus* (4) and Cobra *Najasp.* (3) from two Chinese passengers arriving from Benin en route to Beijing, China.

### TRAFFIC Europe

### FRANCE

On 13 March 1992, a well-known raptor dealer, Mr Cadeac, was stopped in Algeciras by Spanish Customs for the unlawful possession of a Chimpanzee *Pan troglodytes* (App. I). Inspection of Cadeac's home revealed 10 raptors - Eurasian Griffon *Gyps fulvus*, Golden Eagle *Aquila chrysaetos*, Red Kite *Milvus milvus* (all App. II), a Common Buzzard *Buteo buteo*, three parrots, a Barbary Macaque *Macaca sylvanus* (App. II) and a Puma *Felis concolor* (App. I/II). As a preventive measure, Cadeac was gaoled on 15 June and released by the Court of Appeals on 16 July 1992; he remains under judicial supervision. In 1986, Cadeac was arrested by Spanish police for removing several young Peregrine Falcons *Falco peregrinus* and Golden Eagles from their nests.

In mid-May 1992, a Dutch citizen arriving from Madagascar was stopped by Customs at Roissy airport in possession of a number of CITES Appendix I-listed animals: 14 lemurs *Haplemur* spp., 46 Radiated Tortoises *Geochelone radiata* and 7 boas *Acrantophis madagascariensis*. The animals were returned to Madagascar and the case is under investigation.

On 22 May 1992, a coach carrying tourists returning to Czechoslovakia from Morocco through the Franche-Comté region in France, was searched by Customs at Besançon following reports that the tourists had been selling animals to pet shops in the area. Some 1000 specimens, mostly reptiles, were discovered in luggage and under seats. These included 219 spiny-tailed lizards *Uromastyx* (App. II), 221 unidentified lizards, 78 Spur-thighed Tortoises *Testudo graeca*, 54 unidentified geckos (App. II), 35 Common Chameleons *Chamaeleo chamaeleon* (App. II), 500 invertebrates

including scorpions and spiders, 25 species of beetles and crickets, plus an undisclosed number of grass snakes, amphibians and squirrels; some 250 empty packages were also seized indicating that further specimens had been sold or had perished during the eight days the coach had been on the road. The trip was organized by a company based in Prague which apparently specialises in safaris for collectors. Most of the haul had originated in North Africa and was estimated to be worth F250 000 (US\$5000). The animals, mostly young specimens in poor condition, were seized and are being housed in zoological gardens. The coach was impounded but later released in exchange for a sum of money. A fine to be paid by 15 July has not been paid to date.

Dealers are using the post to avoid Customs requirements in France. In mid-September 1992, 121 Goliath Bird-eating Spiders *Theraphosa leblondi* and 12 unidentified beetles sent by parcel post from French Guiana were intercepted in Paris. Although the animals are not listed in the CITES Appendices, the importer was fined for having misdeclared the package's contents on Customs forms. He was allowed to keep the animals.

### TRAFFIC Europe-France

### GERMANY

On 1 August 1992, two ivory smugglers arrested at Frankfurt airport in January 1992 (see *TRAFFIC Bulletin* 13(1):34), one from Cameroon and one from Taiwan, were given a sentence of two years in prison without probation.

A case under investigation for several years following the arrest of an orchid smuggler at Heathrow airport, UK, and the illegal import of some 7650 wild-collected orchids, originally into Germany, has finally resulted in confiscation of the plants. Efforts by authorities and orchid specialists to bring criminal proceedings against the nursery owner supplying the specimens are still pending however. Most of the orchids were *Paphiopedilum* spp. (App. I), including *P. malipoense* (426 specimens), *P. emersonii* (141 specimens), *P. armeniacum* and *P. micranthum* (total 2775 specimens), *P. rothschildianum* (136 specimens) and *P. sanderianum* (163 specimens). The plants have been given to a botanical garden for artificial propagation.

On 26 August 1992, Ludwig Hörr was convicted of parrot smuggling and given a suspended sentence of three years without probation. His wife was convicted of being an accessory to the crime, and given a suspended sentence of two years with probation and a fine of DM10 000 (US\$6000). The couple has been banned from dealing in parrots for five years.

Although the public prosecutors in the case demanded that the fine, the highest ever awarded in Germany for smuggling of endangered species, be given to WWF-Germany to sponsor a project on parrot conservation, the sum was paid to the Government.

In 1989, the Hörrs skipped bail in Australia following a charge of attempting to export native Australian birds without a permit (see *TRAFFIC Bulletin* 11(1):13).

## SEIZURES AND PROSECUTIONS

On 26 August 1992, Customs officials at Düsseldorf airport seized 108 spiny-tailed lizards *Uromastyx* (App. II), 61 Common Chameleons *Chamaeleo chamaeleon* (App. II), 18 Desert Monitors *Varanus griseus* (App. I) and 12 Egyptian True Tortoises *Testudo kleinmanni* (App. II). The reptiles were found in the hand luggage of a German, travelling from Cairo, Egypt. Thirty of the animals had died; the surviving animals were taken to Aqua-Zoo in Düsseldorf. The case is under investigation.

Eleven Imperial Eagles *Aquila heliaca* (App. I) were seized by Customs officials at the German border near Munich following their discovery in boxes and rucksacks. The birds are believed to have been trapped as chicks in Kazakhstan, and were valued at over £12 000 (US\$18 000) per bird on the black market. They are to be released in Hungary, as German wildlife experts fear that insufficient expertise exists in Kazakhstan to reintroduce them successfully in their native territory. A Customs official stated that Imperial Eagles and other birds of prey have become status symbols in Germany, along with pit bull terriers and large American cars.

*TRAFFIC Europe-Germany; German Customs, Düsseldorf; New Scientist, 31 October 1992*

### GREECE

For the first time in Greece, authorities have confiscated live CITES-listed animals sold and exhibited within the country. Each case was wrought with complexities, owing to lack of legislative infrastructure. However, with the country's recent accession to CITES (see page 47), measures to improve such inadequacies should now be addressed.

An Olive Baboon *Papio hamadryas anubis* (App. II) taken from the wild as a baby and brought illegally to Greece by ship over three years ago, was confiscated in accordance with EC CITES Regulation 3626/82 from a garden shop in Athens where it was being offered for sale. In July, after lengthy negotiations between a multitude of authorities and the intervention of the Aga Khan, and following a period of time spent at Hellenic Wildlife Hospital, the animal was relocated to a safari park in France, until such time that Greece has the facilities to care for the animal. The owner of the garden shop is waiting to stand trial.

Still more examples of illegal trade in CITES App. I specimens associated with Italian circuses in Greece are coming to light (see *TRAFFIC Bulletin*, 13(1):34).

On 2 April 1992, Greek Customs confiscated 1 Lion *Panthera leo* (App. II) and three Tigers *Panthera tigris* (App. I) which had been kept in a circus truck left by an Italian circus on Forest Department land. An export permit was provided to allow their shipment to France on 30 June 1992.

*TRAFFIC Europe-Greece*

### NETHERLANDS

On 2 June 1992, Customs officers at Schipol airport discovered 81 elephant tusks and 20 rhino horns, while checking two packing crates of "handicrafts" en route from Malawi to Taiwan. A number of the rhino horns were clearly fresh. All items were seized, and investigations in Malawi continue.

On 26 June 1992, Dutch reptile dealer Wim Janssens was found guilty in the Netherlands of violating EC CITES regulations with regard to the sale of reptiles in Belgium (see *TRAFFIC Bulletin* 12(1/2):25). Janssens was sentenced in Den Bosch to six months in gaol (of which three were suspended) and fined Dfl.100 000 (US\$55 000). Anneke Van Rooij was also found guilty in the case, and was sentenced to three months in gaol and fined Dfl.50 000. Both appealed to a higher court for a lower sentence; the public prosecutor has appealed for the sentences to be increased.

Janssens has been accused on 12 previous occasions of CITES-related offences; he also faces similar charges in Belgium.

Inspection of Russian ships in Rotterdam harbour resulted in the confiscation of 3 baboons *Papio* spp., 4 marmosets, including 1 White-eared Marmoset *Callithrix jacchus aurita* (App. I), and a number of parrots and tortoises.

The incidence of animals, particularly parrots, being transported on Russian ships is high. To discourage such practices, the General Inspection Service (GIS) recently informed the agency acting on behalf of Russian vessels in the Netherlands that such activities infringe Dutch regulations. The agency duly instructed its ships to conform to regulations. As a consequence, there have been fewer reportings of such infractions and one ship, on receipt of the agency's order, immediately declared its illegal cargo.

On 25 August 1992, the GIS seized 200 Indian Star Tortoises *Geochelone elegans* (App. II) en route to Los Angeles, USA, from Dubai, UAE. CITES permits accompanying the shipment indicated that the animals were captive-bred, but no known breeding programme for this species exists in the UAE. The animals will be sent to the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group in the USA for captive-breeding. This is the first case where the General Inspection Service has called upon TRAFFIC Europe's recently-appointed Investigations Officer to assist enquiries.

On 3 December 1992, a parrot dealer was fined over Dfl.800 000 (US\$45 000) for the illegal possession of: 4 black cockatoos *Calyptorhynchus* (App. II), 3 Salmon-crested Cockatoos *Cacatua moluccensis* (App. I), 2 Cuban Parrots *Amazona leucocephala* (App. I), 2 Yellow-shouldered Parrots *Amazona barbadensis* (App. I), 3 Yellow-headed Parrots *Amazona oratrix* (App. II), 35 Rose-ringed Parakeets *Psittacula krameri* (App. II), and 15 tortoises *Testudo* spp. (App. I/II). The birds were confiscated.

*TRAFFIC Europe-Netherlands; General Inspection Service; NRC-Handelsblad*

### SPAIN

On 30 September 1992, following co-operation between the Paris Customs Investigations Service and Spanish Customs, 36 Gyrfalcons *Falco rusticolus* (App. I) were seized from Harald Kuspert, a German raptor dealer; he was subsequently arrested and gaoled. Kuspert was arrested in France in 1989 when he was found to be concealing 5 Peregrine Falcon *Falco peregrinus* (App. I) chicks in his car. For that offence, he was fined Ff20 000 (US\$4000) and his car and mountain climbing equipment were confiscated.

*TRAFFIC Europe-France*

### UK

Several ivory shipments were seized at Heathrow airport in recent months.

- 80 kg of raw tusks and carvings (declared as personal effects) on route from Zaire to Cyprus.
- 36 kg of raw tusks and carvings in transit from Tanzania to Italy located in the false bottom of a crate containing a declared cargo of wooden artefacts.
- 11 kg of carvings and necklaces in a shipment of other goods declared as personal effects, travelling from Zambia to Romania.
- 22 pieces of jewellery in luggage sent from Paris to Armenia but midirected to Heathrow.

Earlier this year, the damaged base of a wooden statue from Hong Kong revealed a concealment of several small ivory carvings. Enquiries into the addressee of the package suggested earlier evasion of Customs controls on similar goods. In August, Customs prosecuted Mrs Gillian Walker, alleging evasion of endangered species and revenue controls. Mrs Walker pleaded guilty to 2 counts each on both offences alleged and was fined a total of £1000 (US\$1500) plus £50 costs.

Martin Barber and Christopher Turner, of Cannock in Staffordshire, have been convicted of conspiring to import and export parrots to and from Australia illegally via the postal service. Barber was arrested in Australia following detection in the post of 3 live parrots sent to his home address. He was sentenced in Australia (see below). A second parcel containing 11 cockatoos *Cacatua* spp. (all dead) was discovered in the UK several days later, also addressed to Barber. Customs officials also discovered that the two men had conspired to ship 3 African Grey Parrots *Psittacus erithacus* (App. II) from the UK to Australia by the same method. Turner was fined £2000 (US\$3000), ordered to pay £200 in court costs, and given a six-month gaol sentence, suspended for two years.

*H.M. Customs & Excise; Psittacine 4(3), August 1992; Daily Telegraph (UK), 5 June 1992*

## ASIA

### CHINA

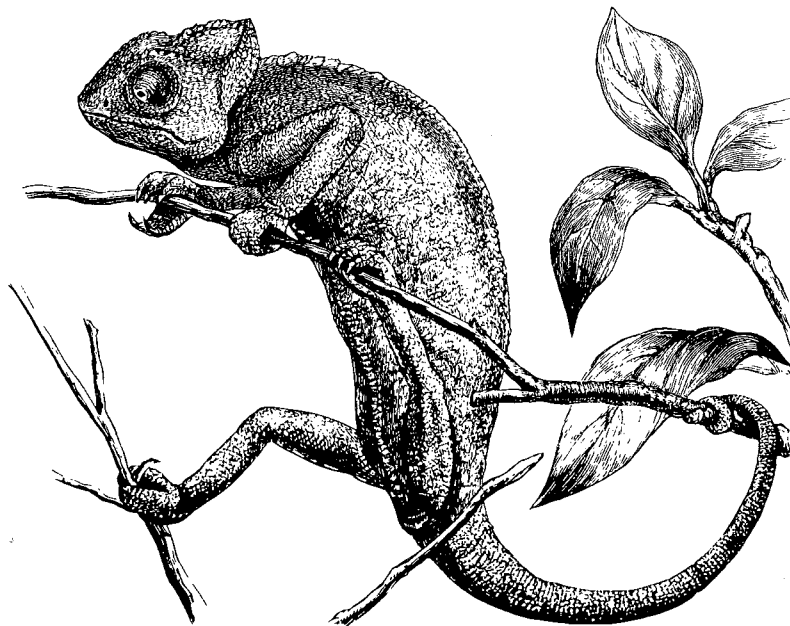
A man has been gaoled for 12 years in Shanghai for attempting to sell the skin of a Giant Panda *Ailuropoda melanoleuca* (App. I). An accomplice was sentenced to eight years. The men were arrested at the Peace Hotel in the city as they were accepting Y200 000 (US\$30 000) for the pelt.

*The Guardian (UK), 2 May 1992*

### INDIA

On 21 May 1992, 8 ivory tusks (22-30 cm) of Asian Elephant *Elephas maximus* (App. I), weighing a total of ca.12.5 kg, were seized at Cochin airport, Kerala. The case is under investigation. According to a recent investigation by WWF-India into elephant poaching in Kerala, the ratio of tuskers to females and juveniles in that state may have fallen from a low of 1:50 to 1:400. This seizure suggests that sub-adult males are now being targeted by poachers.

## SEIZURES AND PROSECUTIONS



Common Chameleon *Chamaeleo chamaeleon* (App. II).

On 9 June 1992, surveillance at Bombay airport and a local bird market by Indian wildlife officials led to the seizure in Dongri of over 3000 munias (*Red Avadavat Amandava amandava*, Green Avadavat *A. formosa* and Black-headed Munia *Lonchura malacca*), 8 Hill Mynahs *Gracula religiosa* and 250 Indian Star Tortoises *Geochelone elegans* (App. II) from a Pakistani national. The animals were part of stock being accumulated for illegal export to Pakistan. One individual has been charged with violation of the *Wildlife Protection Act 1972*, and faces a maximum fine of Rs25 000 (US\$900), and up to three years in gaol. The birds and tortoises were released in Sanjay Gandhi National Park.

On 24 June 1992, Gopal Mogya was arrested in Ranthambhore National Park, Rajasthan, in possession of a Tiger *Panthera tigris* (App. I) skin. He later admitted to shooting the tiger with the intention of selling the skin to Ghulam Hussain Qureshi alias Munim Khan, also arrested, who had offered to pay him Rs11 000 (US\$400). Mogya admitted that he and his brother, Shankar Mogya, had killed a total of 8 Tigers and 1 Leopard *Panthera pardus* (App. I) within the park in the previous 12 months (see page 49).

In October 1992, skins of various Felidae species as well as finished garments were seized in New Delhi. The items included: Leopard - 2 long coats, 1 skin with head mount, 1 stuffed trophy, 1 mounted head; Tiger - 1 adult with head mount, 1 cub skin; Leopard Cat *Felis bengalensis* (App. II) - 2 skins; and Clouded Leopard *Neofelis nebulosa* (App. I) - 1 skin with head mount. An Indian national has been arrested in connection with the incident.

On 27 October 1992, in what is perhaps the largest seizure of its kind in India in the last decade, wildlife authorities of the Union Territory of Delhi seized 81 skins from two Indian nationals, who were arrested and placed in custody awaiting interrogation. The following skins were seized: 29 Leopard, 3 Tiger, 2 Clouded Leopard, 5 crocodile *Crocodylus*, 35 mongoose *Herpestes*; 6 jackal *Canis*; and 1 hare *Lepus* sp.

On 25 November 1992, at Kemply Village in the foothills of the Himalayas, wildlife officers seized two Leopard skins from a well-known poacher. The skins were to be sold for Rs10 000 (US\$300) to a decoy customer who had been promised five more skins the following week. The poacher, who was arrested and remanded in custody, admitted that he had been poaching wildlife for skin traders in the hills of Uttar Pradesh for many years. He named a Deputy Forest Ranger as his associate.

*TRAFFIC India; Mr. A.K. Jha, Regional Deputy Director, Wildlife Preservation, Western Region, Bombay, India; The Times of India, 27 June/1 July 1992*

### JAPAN

In November 1992, four Japanese men were arrested for attempting to smuggle ca. 7 t of frozen whale meat from Taiwan into Japan. The meat, which has been identified as that of Bryde's Whale *Balaenoptera edeni* (App. I), was seized from a fishing boat by the Maritime Safety Agency of the southern island of Okinawa.

The International Whaling Commission bans its members from importing whale meat from non-member nations. Japan is a member of the IWC but Taiwan is not.

*TRAFFIC Japan*

## OCEANIA

### AUSTRALIA

**Recent convictions on charges under the Federal Wildlife Protection (Regulation of Exports & Imports) Act 1982**

On 14 February 1992, Martin Barber of UK (see UK), pleaded guilty in Perth Magistrates Court to the illegal importation of 2 African Grey Parrots *Psittacus*

*erithacus* (App. II), illegal export of 8 Galahs *Eolophus roseicapillus*, 2 Long-billed Corellas *Cacatua tenuirostris* (App. II) and 2 Galah x corella hybrids; and the attempted illegal export of 2 Galahs and 2 Red-capped Parrots *Purpureicephalus spurius* (App. II). All transactions were of live birds sent through the post. Barber was sentenced to three six month-terms of imprisonment, to run concurrently.

On 25 June 1992, Tsuyoshi Shirawa was sentenced to two and a half years' imprisonment for attempting to smuggle 49 Shingleback Lizards *Trachydosaurus rugosus* out of Australia to Japan. Shirawa's female travelling companion, Timeme Tomimatsu, pleaded guilty to attempting to export native wildlife and was imprisoned for a maximum of 18 months. Shirawa denied the charges but a jury found him guilty after a four-day trial in the Downing Centre District Court. The couple were apprehended attempting to smuggle the reptiles out of the country on 24 September 1991.

### NEW ZEALAND

On 31 July 1992, at Invercargill District Court, Frederick Angell was charged under the *Crimes Act* for his part in the theft of Tuataras *Sphenodon punctatus* (App. I) from Southland Museum. He received a three-year prison sentence which is to be served on top of a 23-month sentence received in February for taking Tuataras from Stephens Island (see *TRAFFIC Bulletin* 8(3):53 and 12(1/2):27 for previous convictions).

On 25 August 1992, in Auckland District Court, Stanislaw Tracz was convicted of attempting to smuggle birds' eggs into New Zealand in June 1991 (see *TRAFFIC Bulletin* 12(3):73). Tracz accompanied two women who were apprehended at Auckland airport on 25 June 1991, carrying 52 birds' eggs. The women later admitted that the eggs belonged to Tracz. Tracz pleaded guilty and was fined NZ\$3000 (US\$1500) for breaching Section 13(1)A of the *Animals Act* and NZ\$6000 for committing an offence under Section 44(B) of the *Trade in Endangered Species Act*. The women, whose names were withheld in court, were each fined NZ\$5000 under the same legislation. In court, it was alleged that the eggs had come from captive birds held in the USA.

### PALAU

The Government of Palau in the Caroline Islands arrested 49 Indonesian citizens for illegally harvesting bêche-de-mer at Helen's Reef, an island and reef complex within the waters of the Republic of Palau, and approximately 250 km from the outer islands of Indonesia. The incident is the third occasion that a group of Indonesian poachers has been apprehended at the reef in the past 10 years. The men were taken to Koror where they were tried and gaoled. The recurrence of poaching stems from the fact that Indonesians have traditionally fished in the waters and reefs that are now under Palau's jurisdiction. Bêche-de-mer, or Trepang, is the dried body wall of several species of sea cucumbers (*Holothurians*). In the South Pacific and Asia, the species is used in cooking and reputedly has aphrodisiacal properties.

*TRAFFIC Oceania; Pacific Magazine* 17(4), July/August 1992; *TRAFFIC International*

# SEIZURES AND PROSECUTIONS

## AFRICA

### RWANDA

On 15 July, 1 young Eastern Plains Gorilla *Gorilla gorilla graueri* (App.I) and 1 young Chimpanzee *Pan troglodytes* (App.I) were confiscated by authorities in Kigali from an Egyptian citizen, Mr Mohammed Hoesdein Ashraf, who was returning to Egypt from Zaire. The animals had been purchased in Zaire for US\$1000 and US\$500 respectively. In 1990, Ashraf was apprehended in Kigali in possession of 5 infant Chimpanzees and 1 young Bonobo *Pan paniscus* (App.I).

TRAFFIC Europe

### SOUTH AFRICA

On 2 July 1992, US businessman Kenneth Karner was arrested at his home in Franschoek on suspicion of attempting to smuggle 27 African Elephant *Loxodonta africana* tusks from Cape Town to Kobe, Japan, in February (see *TRAFFIC Bulletin* 13(1):35). It appears that Karner, using the alias Mike Anderson, had smuggled the tusks into South Africa from either Zambia or Zaire, before shipping them to Japan. He is due to appear in court in early January 1993.

On 6 July 1992, three suspected ivory dealers were arrested in Ermelo for possession of 9 rhino horns. The horns were valued at R950 000 (US\$316 000). The arrests were made by the Transvaal Provincial Administration's Chief Directorate of Nature and Environmental Conservation, with the co-operation of the Ermelo police.

On 9 July 1992, the Johannesburg Regional Court fined Rahim Saljee R5000 (US\$1600) or one year in gaol for acting as a go-between in the sale of a single tusk estimated to be worth R35 000. Saljee was given an additional 12 months in gaol suspended over four years.

The maximum sentence in Transvaal Province for illegally dealing in ivory is a R100 000 fine or 10 years' imprisonment, plus a mandatory fine of up to three times the value of the animal.

A Natal man has received what is believed to be the highest fine ever imposed in South Africa in a case involving specially protected plants.

On 16 July 1992, at Port Shepstone Magistrates Court, Leon Scholz, a former nursery owner, pleaded guilty to seven charges relating to the unlawful possession of cycads, contrary to the *Nature Conservation Ordinance*. Scholz had been found with 1079 cycads and 680 seedling cycads, which included specimens of *Encephalartos villosus*, *E. cernuus* and *E. laurifolius* (all App.I). He was fined a total of R12 500 (US\$4000), or R2000 (or one year's imprisonment) on each of six counts and R500 (or six months' imprisonment) for the seedlings. He is also not eligible to hold a licence to run a nursery for three years. Cycads are indigenous to South Africa and are specially protected; these specimens were forfeited to the Natal Parks Board who have seen the culmination of a six-year investigation into the case.

On 8/9 August 1992, seven Zambians were arrested following investigation by the Soweto Vehicle Theft Unit that led to the recovery of five vehicles as well as carved elephant tusks, ivory necklaces and unpolished gemstones valued at several million rands.

*The Citizen* (South Africa), 6/7 July 1992;  
*The Star* (South Africa), 10 July /1 August 1992;  
*TRAFFIC East/Southern Africa-South Africa*

## AMERICAS

### ARGENTINA

On 20 August 1992, following a tip-off from TRAFFIC South America, authorities seized the following birds from the home of Mr Raul Alberto Fernández: 4 Golden Parakeets *Aratinga guarouba* (App. I), 2 Yellow-collared Macaws *Ara auricollis* (App. II) and 1 Blue-fronted Parrot *Amazona aestiva* (App. II), with a total value of US\$3000-US\$4000. Fernández was unable to provide permits and awaits prosecution.

In August 1992, a total of 500 tortoises and more than 1000 birds, including 53 Yellow Cardinals *Gubernatrix cristata* (App.II), 81 caciques *Cacicus*, 465 whydahs *Vidua*, 215 Orange Bishops *Euplectes franciscanus*, 3 Red-billed Hornbills *Tockus erythrorhynchus*, 3 Red-browed Parrots *Amazona rhodocorytha* (App. II) and 1 Golden Parakeet *Aratinga guarouba* (App. I) were seized from a warehouse. The owner of the animals, Alberto Sartini, was detained for four days and fined US\$20 000.

In August 1992, a number of birds were confiscated from Marcos Aparicio, a dealer from Buenos Aires. He was detained for three days for the illegal possession of birds which included 3 Golden Parakeets *Aratinga guarouba* (App. I), 2 Blue-and-Yellow Macaws *Ara ararauna*, 1 Yellow-crested Cockatoo *Cacatua sulphurea* (App.II), 2 Chattering Lories *Lorius garrulus*, 1 Alexandrine Parakeet *Psittacula eupatria* (App. II) and 2 Hill Mynas *Gracula religiosa*.

TRAFFIC South America-Argentina

### PARAGUAY

On 24 July 1992, at Expo '92 in Asunción, products made of Vicuña *Vicugna vicugna* (App. I), and chinchilla *Chinchilla* (App. I) were seized from a Bolivian stallholder. These included 10 Vicuña and chinchilla tapestries, 4 Vicuña blankets, each comprising 25 whole skins and one tanned Vicuña skin. The skins were on sale for the equivalent of US\$900.

On 2 September 1992, police seized more than 50 000 Spectacled Caiman *Caiman crocodilus* (App. 1/ II) skins from a tannery in Luque, near Asunción. A smaller number of skins of Anaconda *Eunectes* sp. (App.II), peccary, Rhea *Rhea* sp., and Jaguar *Panthera onca* (App. I) were also removed. The maximum penalty that could be incurred is a 8500 guaraníes (US\$5.5) fine for each illegal skin and closure of the premises. The investigation continues.

TRAFFIC South America

### URUGUAY

During August 1991-August 1992, the General Direction of Natural Renewable Resources, under the direction of Ing. Roberto M. Cal Johnston in his first year in that position, carried out a number of seizures, several following tip-offs from TRAFFIC South America. Amongst the live animal seizures were 1107 passerines, flamingoes and ducks, 268 Chaco Tortoises *Geochelone chilensis* (App. II) and slider turtles *Trachemys scripta dorbigni*; dead animals and products included 129 armadillos Dasypodidae, 923 Spotted Nothuras *Nothura maculosa*, 211 tegulizards *Tupinambis* (App. II) and 400 tegu lizard tails, 4 Capybara *Hydrochaeris hydrochaeris* and 97 Rhea *Rhea americana* (App.II) eggs. A number of skins have been confiscated including 3427 Coypu *Myocastor coypus*, 54 Capybara, 9 skins and 140 tails of Neotropical Otter *Lutra longicaudis* (App. I), and 26 Geoffroy's Cat *Felis geoffroyi* (App. I).

Offenders were fined between US\$25-US\$400. Penalties for illegal possession of wildlife are expected to increase to US\$100-US\$10 000 in the near future.

TRAFFIC South America

### USA

In March 1992, a person was convicted in the US District Court of the unlawful receipt of illegally transported Polar Bear *Ursus maritimus* (App.II) parts, including gall bladder. He was apprehended by Service agents in Seattle as he collected a Polar Bear gall bladder at the airport, shipped from Kivalina, Alaska, and for which he paid US\$150. According to Service officials, the man purchased a Polar Bear gall bladder in January 1988 from an Alaskan native from Kivalina, and a Polar Bear hide from the same individual three months later. In February 1990, he purchased the hindquarters of a Polar Bear. The man, whose identity is not reported, was placed on two years' probation and fined US\$7500.

On 2 July 1992, at Marquette District Court, Michigan, Heinz Pinkepank of Germany faced charges under the US *Lacey Act* of illegally digging and removing 85 specimens of the indigenous Giant Rattlesnake Orchid *Goodyera oblongifolia* (App.II) from the Pictured Rocks National Lakeshore in Grand Marais, Michigan. The defendant admitted the charge and told Park Service personnel that he had planned to trade or sell the plants in Europe. He was fined US\$3525. The value of the plants in the USA has been estimated at US\$4-US\$15 per specimen.

On 16 July 1992, following his extradition to the USA on charges relating to illegal imports of rhino horns and military arms from South Africa (see *TRAFFIC Bulletin* 13(1):37), Marius Meiring was sentenced by the US District Court in New Haven, Connecticut, to eight months in federal prison. Meiring was credited with time served in South African and US gaols and was allowed to return to South Africa at the end of July.

*Fish and Wildlife News, Spring 1992; The Animals' Agenda, July/August 1992; TRAFFIC USA; Wildlife Conservation November/December 1992*

*Illegal Tropical Timber Trade: Asia-Pacific*

A TRAFFIC Network Report by Debra J. Callister

1992. Published by and available from TRAFFIC International. 83pp. Price: £2.50 (US\$4) incl. postage.

This report presents TRAFFIC's preliminary findings on the illegal trade in tropical timber in the Asia-Pacific region and reports on the extensive scale of illegal forestry practices. Illegal logging and trade in hundreds of thousands of hectares of tropical forest has undermined efforts to manage such forests sustainably, resulting in the loss of millions of dollars in foreign exchange, uncollected forestry taxes and loss of forest resources.

*The World Trade in Rhino Horn: A Review*

A TRAFFIC Network report by Nigel Leader-Williams

1992. TRAFFIC International and the People's Trust for Endangered Species. 40pp. Available from TRAFFIC International. Price: £2.50 (US\$4) incl. postage.

As a result of high demand for rhino horns, rhinos have been exploited unsustainably and the trade in their products has largely been responsible for reducing the world's five species of rhinos to their presently endangered status. This report presents a summary of the available information on volumes and prices of rhino horn on world markets and examines whether policies attempting to halt the rhino horn trade over the past 15 years have succeeded or are ever likely to succeed.

*The Control of Wildlife Trade in Greece*

A TRAFFIC Network Investigation Edited by Thomas De Meulenaer and Julie Gray

1992. Published by and available from TRAFFIC International. 37 pp. Price: £2.50 (US\$4) incl. postage.

Greece will become a Party to CITES with effect from 6 January 1993. It was, however, already bound by its membership in the European Community to enforce the EC CITES regulation. Nevertheless, the lack of adequate domestic legislation has hindered the effective enforcement of this regulation which, in turn, has serious implications for the Community-wide enforcement of CITES as internal border controls are removed. In 1991, TRAFFIC Europe carried out a survey to determine the extent of wildlife trade in the country, identify enforcement problems, and provide assistance to authorities in the country in facilitating improvements. This report documents the findings of the survey.

*1991 Psittacine Captive Breeding Survey*  
A Survey of Private Aviculture in the United States

by Kurt A. Johnson

1992. Published by TRAFFIC USA/WWF-US. 78 pp. Price: US\$12

A summary of the results of the 1991 Psittacine Captive Breeding Survey, TRAFFIC USA's second annual survey of psittacine captive breeding by private aviculturists in the USA. The results of their 1990 Psittacine Captive Breeding Survey are available for US\$5.

*Wild Plants in Trade*

A TRAFFIC Europe report by Martin Jenkins and Sara Oldfield

1992. Published by and available from TRAFFIC International. 36pp. Price: £2.50 (US\$4) incl. postage.

Although the vast majority of plants in the horticultural trade are artificially propagated, a surprising number of those on sale, particularly in specialist nurseries, may have been collected from the wild. This booklet, based largely on the results of a Europe-wide survey undertaken by TRAFFIC Europe in 1991, describes the trade in wild-collected plants, both legal and illegal, in some detail. It discusses the impact the trade may have on wild populations of the species involved, outlines controls on the trade and provides guidelines to enable consumers to make responsible choices when buying plants.

The following publications are published by and available from the CITES Secretariat, 6 rue du Maupas, Case postale 78, CH-1000 Lausanne 9, Switzerland.

*The Evolution of CITES*

A reference to the Convention on International Trade in Endangered Species of Wild Fauna and Flora

by Willem Wijnstekers. 1992. Third edition, including the decisions taken at the eighth meeting of the Conference of the Parties in March 1992. 392 pp. Price: SF40 plus SF10 (SF5.50 within Europe) surface post.

*Checklist of CITES Fauna and Flora*

A checklist of the animal and plant species covered by the Convention on International Trade in Endangered Species of Wild Fauna and Flora

by Kees Schouten. 1992. Revised edition. 238 pp. Price: SF20 plus SF4 (SF2.50 within Europe) surface post.

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TRAFFIC is supported by WWF - the World Wide Fund for Nature and IUCN - the World Conservation Union - to monitor trade in and utilisation of wild plants and animals. As the majority of the Network's funding is provided by WWF, the Network is administered by the WWF Programme Committee on behalf of WWF and IUCN.

The mission of TRAFFIC is to enhance, in accordance with the principles of the World Conservation Strategy, the conservation of biological diversity by: monitoring and reporting on trade or other forms of utilisation of animals and plants and their derivatives; identifying areas of such utilisation that may be detrimental to any species, and; assisting the Secretariat of, and Parties to, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and other appropriate bodies in facilitating the control of trade and in curtailing possible threats to species created by trade or other forms of utilisation.

The TRAFFIC Network shares its international headquarters in the United Kingdom with the World Conservation Monitoring Centre.

