WILDLIFE TRADE MONITORING UNIT

Traffic Bulletin

Publication of the TRAFFIC Bulletin is funded by THE PEOPLE'S TRUST FOR ENDANGERED SPECIES

Date of publication : 9 December 1982 Vol. IV Nos. 4/5

CONTENTS

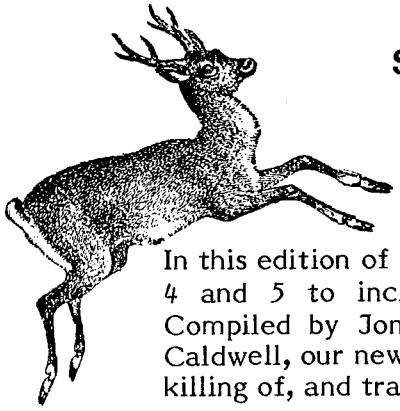
	Page
- Sudan Ratifies CITES North Yemen Bans Importation of Rhino Horn Slaughter of Black Bears Rare Butterflies for Sale EEC Conflict over Seals Pangolin Scales Seized	39
- A Review of International Trade in Marine Mammals by Jonathan Barzdo and John Caldwell	40-60
- 1979 International Trade in Crocodylia Reported by CITES Parties	60-62
- South African Fur Seal Harvest Amphibia-Reptilia Red Data Book	63
- Mammal Red Data Book Also Available US Wildlife Auction Result Outcome of the IWC Whale Moratorium	64

ISSN 0144-0896

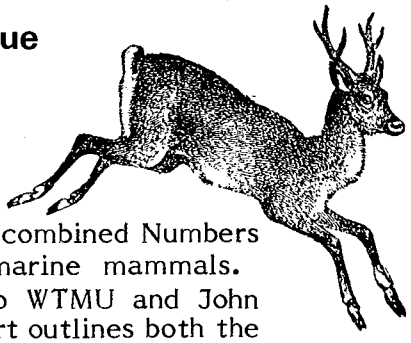
Publication of the Traffic Bulletin is funded by the People's Trust for Endangered Species, 19 Quarry St., Guildford, Surrey, UK.

Published by the Wildlife Trade Monitoring Unit, IUCN Conservation Monitoring Centre, 219c Huntingdon Road, Cambridge CB3 ODL, U.K. Tel: Camb. 277427.

Printed by Foister & Jagg Ltd., Abbey Walk, Cambridge.



Special Christmas Issue



In this edition of the Traffic Bulletin we have combined Numbers 4 and 5 to include a special report on marine mammals. Compiled by Jonathan Barzdo, Consultant to WTMU and John Caldwell, our new Trade Researcher, this report outlines both the killing of, and trade in, all marine mammals.

We would like to wish all our readers a very Merry Christmas and a Happy New Year.

Sudan Ratifies CITES

On 26 October 1982, Sudan became the 78th Party to CITES. The ratification becomes effective on 23 January 1983.

North Yemen Bans Importation of Rhino Horn

The Yemen Arab Republic (North Yemen) has decreed a total ban on the importation of rhino horn. The decree, issued by the Ministry of Economy and Industry in San'a, follows diplomatic efforts by the African Wildlife Leadership Foundation (AWLF). Hussein M. Almagbaly, the Yemen Ambassador to International Organizations in Geneva said that the Government's decision is "in keeping with its endeavour to protect endangered species throughout the world" and that "the Government of Yemen fully supports the conservation activities of WWF and IUCN which have drawn attention to such important issues".

North Yemen has been the world's largest single consumer of rhino horn. The horn is fashioned into handles for daggers called 'djambias' and traditionally worn by Yemeni males as a symbol of manhood. A single dagger made with rhino horn can cost from $300 to $13,000. According to Dr Esmond Bradley Martin, whose book 'Run Rhino Run' was reviewed in the last issue of the Bulletin, 22,645 kilos of rhino horn were imported to North Yemen between 1969 and 1977, which were derived from about 8000 rhinos.

The ban has been praised by the CITES Secretariat as the most important single step taken to stop illegal trade in rhino horn. Eugene Lapointe, the Secretary General of CITES, said "Arguments put forward by AWLF and the insistence of the CITES Secretariat has succeeded in convincing the Yemen Government that international co-operation to protect endangered wildlife by far exceeds requirements to maintain traditions having no relationship whatsoever with basic human needs."

... no evidence to support fever remedy

WWF/IUCN have sponsored a pharmacological study by Hoffman-Laroche and Co. (a pharmaceutical concern) and this research has found no evidence that rhino horn has any medicinal effect as an antipyretic and would be ineffective in reducing fever. Tests have also demonstrated that rhino horn contains no analgesic, anti-inflammatory anti-spasmodic, diuretic or bactericidal properties. According to Dr Martin "rhino horn on its own is used primarily for the purpose of reducing high fever ... some 60 per cent of all rhino horn sold is used for medicines."

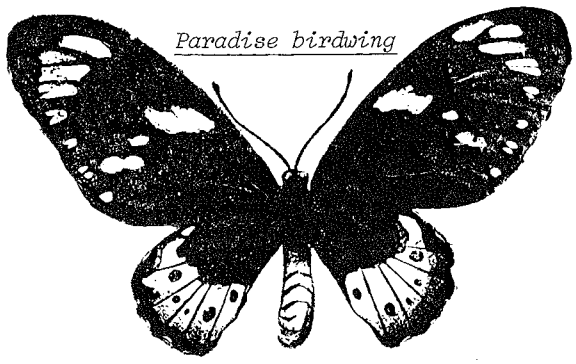
Esmond Bradley Martin, who is Vice Chairman of the IUCN African Elephant & Rhino Group, is currently in Asia on a WWF/IUCN project to persuade dealers and medicinal retailers to stop using rhino horn and find alternatives.

Slaughter of Black Bears

The Animal Welfare Institute Quarterly, Vol. 31, No. 3 reports that many Californian Black bears, Ursus americanus have been killed by poachers operating throughout the bear country of California and other US states and that this slaughter appears to be increasing. It is suspected that the bear paws, claws and gall bladder, highly prized amongst Orientals, are exported to the Far East. There, a bear's gall bladder, believed to be a cure for a number of ailments ranging from hepatitis to toothache, can fetch as much as $3000; the bear paws are considered a delicacy and the claws are valued as jewellery.

Rare Butterflies for Sale

Rajah Brooke's birdwing Trogonoptera brookiana from Malaysia, and Ornithoptera birdwing butterflies from New Guinea are amongst several rare butterfly species for sale as mounted souvenirs in Malaya, according to a report in The Malay Mail (1.10.82). A spokesman for the firm producing the souvenirs claims that the Rajah Brooke's birdwing species is not in any danger of extinction. "Certain other species that we don't sell are even more rare. In fact, Malaysia has an abundance of species. What we are selling are just common and cheap species for decorative purposes."



All Birdwing butterflies are on Appendix II of CITES.

EEC Conflict over Seals

The UK, at the meeting for the Council of Ministers on the proposal for the banning of seal skin imports into EEC countries, held on 3 December, has agreed to a 12-month voluntary ban. However the decision for a total ban has been put off because the British government does not believe that the EEC should interfere with trade on moral grounds. France and West Germany also oppose a total ban. The Netherlands, the Irish Republic and Italy, want a total ban similar to the one already imposed on whale products into the EEC.

The Commission has chided ministers for seeking a legal loohole to avoid an effective trade ban and warned that a vague package of voluntary restrictions would only lead to greater confusion.

Source: The Guardian, 4 December 1982

Pangolin Scales Seized

$60,000 worth of pangolin scales have been seized from a lorry in Penang by the Dept of National Parks, Malaysia. Packed in 94 sacks, the scales are believed to have been smugggled from Thailand and were probably intended for export to Singapore, Hong Kong and other countries. The Malayan pangolin, Manis javanica, is a CITES Appendix II species and protected in Malaysia. According to the State Deputy Director of the Department, Mr Encik Rapiah bin Mundah, anyone found catching this rare animal can be fined up to $3,000, jailed for two years, or both. The owner of the lorry is soon to be charged.

The scales of the Malayan pangolin, or scaly ant-eater, are used as medicine in powdered form and it is also believed that boxers in Thailand drink the blood of the animal to cure internal bleeding! The skin is used for leather goods.

Source: The Star, 21 July 1982

A Review of International Trade in Marine Mammals

by Jonathan Barzdo & John Caldwell

IUCN and the CITES Secretariat were recommended by FAO (Food and Agriculture Organisation of the United Nations) to "... prepare a detailed proposal for improvements in the collection and publication of statistics on the production of and international trade in products derived from marine mammals." This work was carried out by WTMU, with funding for the non-CITES-listed species coming from the International Fur Trade Federation, and part of the report is summarised here.

What Trade?

There is a limited trade in live marine mammals for zoos and dolphinaria, but this report is concerned primarily with the trade in products and derivatives.

Cetacea have long been utilized for meat, fats and oils, baleen, bones, teeth and ivory. Many small cetaceans are used locally for their meat and small quantities of leather have been produced from beluga, Delphinapterus leucus, for shoes, handbags and bicycle saddles (Anon, 1980b). Pinnipeds, too, have been killed for their oil, particularly the southern elephant seal, Mirounga leonina, and fur seals have been exploited for the clothing industry. Hair seals, too, such as the harp and hooded seals Pagophilus groenlandicus, and Cystophora cristata, are also heavily exploited for their skins. Many pinnipeds are caught for food by native peoples especially in Arctic regions, however current trade is mainly in skins, garments, oil and walrus ivory. There is a small trade in penis bones with Far Eastern countries - in 1980 Hong Kong imported 45kg of Arctocephalus pusillus penis bones from South Africa.

Otters are hunted for their skins but the bulk of those in trade are freshwater species. Polar bears provide trophies for hunters and skins for the fur trade.

All groups of marine mammals are used in the production of scientific specimens.

Sources of Information

Published data on killing were extracted from the 1980 FAO Yearbook of Fisheries Statistics (YFS) (Anon, 1981a), semi-popular books and scientific papers, and correspondence was initiated with fisheries, statistical and other governmental agencies in countries where the subject species occur. Unfortunately many of these failed to reply or were unable to supply any figures.

Statistics and information on trade were obtained from semi-popular books and scientific papers, official annual reports of customs statistics, correspondence with traders in seal skin, seal oil and seal meat, with CITES Management authorities in countries where the subject species occur or are known to be in trade, with other appropriate government agencies and with conservation organisations. Unfortunately, a large number of those written to failed to reply. For the CITES-listed species, the annual reports submitted to the Secretariat by CITES Party states were consulted but these failed to show all of the trade, mainly due to the number of non-Party states involved. Figures for 1979 are shown however in Appendix 2.

To clarify problems with the availability of statistics, both on killing and trade, correspondence was initiated with several intergovernmental agencies.

KILLING

Small Cetacea

Large numbers of small cetaceans are killed annually, mainly as incidental catches in commercial fishing operations. In the US this number is limited by permit and fishing operations, mainly for tuna and salmon, are obliged to cease when the quota is reached (Anon, 1982b). In 1981 the total allowable take of marine mammals under both US domestic and foreign commercial fishing permits was 29,474 animals. The US National Oceanic and Atmospheric Administration publishes yearly statistics of the numbers killed in incidental catches.

Elsewhere the catches are not recorded and although some meat may enter local markets, and some may be used as bait by fishermen, most is discarded (Anon, 1980b). Beluga, narwhal and pilot whales are hunted by native peoples for meat, and bottlenose dolphin and harbour porpoise are killed in the Black Sea for oil, meal and meat. Few products from small cetaceans enter international trade, one exception being narwhal tusks. Eskimos in Canada kill 500-1000 narwhal annually and some of the tusks are sold abroad, the majority of these going to the UK (see Appendix 2).

Large cetacea

The Bureau of International Whaling Statistics, Sandefjord, Norway, publishes information on the number of whales killed. Some data are also given on the quantity of oil, fat and other derivatives produced from these animals but there are no figures for trade (Anon, 1981e).

The International Whaling Commission, at its 33rd Annual Meeting adopted a Resolution asking member governments to provide the Secretary with statistics of all imports and exports of whale products in the same detail as contained in customs statistics. By the 34th Annual Meeting (July 1982) replies had only been received from the Governments of India, Japan, Switzerland and the UK. Japan is the largest consumer/producer of whale products and has entered reservations against the Appendix I listed species Physeter catodon, Balaenoptera borealis and B. physalus. CITES regulations came into force in Japan on 4 November 1980 so her 1980 report, the only one received so far by WTMU, only covers 2 months. No transactions involving marine mammals/products were reported.

Of the countries currently or recently involved in whaling Iceland, Korea, Spain and Taiwan are not Parties to CITES. Brazil, Chile, Norway, Peru and the USSR did not report any trading in whale products in their 1979 CITES reports and it is possible that the relevant authorities did not believe that whale meat constituted "any readily recognizable part or derivative" as defined in CITES Article I.

Trade in the majority of whale products was banned by the EEC from 1 January 1982.

PINNIPEDS

Southern fur seals

In South Africa between 70,000 and 80,000 Cape fur seals, Arctocephalus pusillus are killed annually for their skins. This is mainly a state-run enterprise and rookeries are leased to private contractors. There are restrictions on equipment used, season, sex and condition of the catch. The majority of the skins go to Norway and West Germany.

According to the FAO Yearbook of Fisheries Statistics, about 10,000 S. American fur seals, A. australis, are killed annually in Uruguay. According to CITES reports, however, only a few hundred skins are exported (625 in 1979, 258 in 1980). The 1980 YFS also shows that Chile killed 372 A. australis in 1979.

Northern fur seals

A convention exists for the management of northern fur seals, Callorhinus ursinus. The Interim Convention on Conservation of North Pacific Fur Seals, an agreement between Canada, Japan, USSR and USA, came into force on 14 October 1957 and has been regularly renewed and occasionally amended since. The North Pacific Fur Seals Commission, in Washington D.C., USA, was established under the Interim Convention and collects data on killing of this species. If the Parties to the Agreement can supply good information, the Commission would then become a reliable central source of data.

Harp and Hooded seals

Harp seals, Pagophilus groenlandicus appear to be taken in much greater numbers than any other seal. In two of the three areas of most intensive harvest this species occurs with hooded seals, Cystophora cristata which are also being intensively harvested. In the north-west Atlantic the take of both species, by Canadian, Norwegian and Greenlandic operations is recorded by the mother countries and reported to the North-west Atlantic Fisheries Organisations, which publishes them in its Statistical Bulletin. Obviously, Canada and Greenland have fundamental problems in collecting data on the take by arctic aboriginal coastal peoples but an allowance is made for their take and the figures are eventually produced to the highest possible degree of accuracy - which is not to say that these figures are accurate.

At Jan Mayen, both species are taken by Norwegian sealers and their catch figures are published by the Norwegian Directorate of Fisheries, along with those of Norway's other operations, in the N.W. Atlantic and White and Barents Seas. Hooded seals seldom occur in the White Sea. The take there, of harp seals by Soviet sealers is unknown, but Soviet scientists occasionally exchange data with those in other countries.

Antarctic seals

There are no native peoples in Antarctica; the residents are scientists and their supporting staff. Any seals killed are taken for human or dog food, for scientific research or, rarely, for keeping alive. The Agreed Measures for Conservation of Antarctic Fauna and Flora under the Antarctic Treaty are reinforced by the Convention for Conservation of Antarctic Seals, which came into force on 10 March 1978. It requires that Party States should report their take to each other and to the Scientific Committee on Antarctic Research. Reporting has not always been good, however, and there is also some concern that Parties do not report a zero take when no animals are taken (Laws, pers. comm.). The best data available are produced by R.M. Laws and published in Polar Record (see under each antarctic species in App. 2). It should be noted that the Convention applies only to the area south of 60° South Latitude, but requires reporting also of seals killed or captured in the floating sea ice area north of this limit. However, these species may range as far north as 35° South Latitude so that reporting of kills in subantarctic and southern temperate zones is also needed.

Other species

Several species are taken exclusively by Soviet sealers; some, of course, occur only on Soviet territory. The Baikal and Caspian seals are confined to Soviet inland lakes, and the USSR appears to be the major harvester of ribbon Histriophoca fasciata, bearded Erignathus barbatus and larga seals Phoca largha. Unfortunately information from the USSR is rarely available.

FAO obtains no data from the USSR for its Yearbook of Fisheries Statistics section on Pinnipeds (Gertenbach, in litt.). However, scientists from the USSR do occasionally exchange information with those at the US National Marine Mammal Laboratory, Seattle and at the Norwegian Institute of Marine Research, Bergen on species of common interest. Probably they provide information to others too. However, no published tabulated data were obtained in the present review.

Walrus Odobenus rosmarus are hunted by natives of Canada, Greenland and the USSR for subsistence purposes. The high market value of walrus ivory has led to many being taken illegally in recent years and the tusks smuggled into the US (Anon, 1982a). In 1979 Canada reported exporting 129 walrus ivory carvings and five tusks. The Canadian/Norwegian Agreement on Sealing, ratified in 1971, applies to the harp seal but provisions are made for this to extend to hooded seals, bearded seals and walrus.

The Walrus

It is interesting to note that Sweden reported importing 364 watch straps from Austria in 1981 made from southern elephant seal, Mirounga leonina. This appears to be the only report of any recent trade in this species.

Lutrinae

The marine otter, Lutra felina occurs off the coast of South America. In Peru it is occasionally shot as a pest but has no commercial value. In Chile it is sometimes hunted for its skin and pelts are sold illegally, mainly, it is thought, to Argentina (Thornback and Jenkins, 1982). Spain has a category in her customs classifications that covers both sea otter and seal skins, but this may only reflect a historical trade.

Sirenia

In the past an industry existed for dugong oil in Australia and various parts of the body have been used for "medicinal" purposes in the Far East. Currently some Sirenia are exploited for meat by local subsistence hunters and many die in fishing nets or nets set to reduce the numbers of sharks near beaches (Thornback and Jenkins, 1982). Accidents with boats kill a number of N. American manatees each year in Florida. The only international trade appears to be in scientific specimens however.

Polar bears

The Species Survival Commission's Polar Bear Specialist Group estimated that 900 polar bears, Ursus (Thalarctos) maritimus, would be killed in 1981 by indigenous peoples using traditional methods (Anon, 1981f). Most of the skins are used locally and do not enter trade. In 1979 Canada reported exporting 170 skins, mainly to Japan, and Denmark exported 32.

STATISTICS

FAO/YFS data

The statistics of Uruguay for non-CITES species obtained in this review were found only in the FAO Yearbook of Fisheries Statistics, 1980 (YFS) Table B-64.

With the YFS data there are several problems. The most obvious is that they are rather incomplete; some countries that are known to kill listed species of seal are not mentioned at all. Iceland, for example, is host to the deaths of up to 5,000 common seals a year, and this species is also taken in Canada, Norway, Japan, USSR, and F.R. Germany. Yet YFS 1980 reports catches over four years, only from Greenland and UK (Anon, 1981a). This fault is common to most of the ten species listed in YFS.

Customs statistics

The categories of goods recorded by customs are generally too broad for the purpose of monitoring trade in marine mammal products. For example, the SITC system lists "Oils and fats of marine mammals" [411.13]. The NIMEXE system is more specific and distinguishes, for example, between oil from cetaceans and that from other marine mammals. However no indication is given of the species involved except in the case of spermaceti.

Fur auction catalogues

Skin of fur seals and polar bears are often put up for sale at international fur auctions, e.g. Hudson Bay Co. in Canada, UK and USA, Sojuzpushnina in the USSR. However, results of sales are not always published, and skins often remain unsold or are withdrawn from sale if the price is unsuitable. For this reason it is very difficult to estimate from this source the number of skins entering the market for the first time.

CITES Statistics

Annual CITES statistics should be the most accurate indications of trade in CITES-listed marine mammals. There are, however, severe limitations on the usefulness of these data. The 1979 CITES reports show 140 entries for exports but only 38 for imports, due mainly to the importing countries not being Parties to CITES. From a comparison of the exports and imports reported (Appendix 2), it is clear that the annual reports are far from complete, with not all of the transactions being reported by either the exporting or importing country.

33 countries submitted an annual report for 1979 but up to October 1982, only 19 had submitted a report for 1980 and 8 for 1981.

There is also a problem with the accuracy of the reports. As an example, Uruguay reported exporting 625 skins of Arctocephalus australis to West Germany in 1979. The importing country's authorities reported receiving 625 skins of A. pusillus from Uruguay.

DISCUSSION

1. Killing

There is an ostensible need for a central source of data and the extant statistical publication of FAO seems an appropriate vehicle. The FAO already has a system and organisation for data collection and the YFS is already widely referred to. To be of value, however, the data would need to be substantially complete and to be 'final' figures from each country, unless otherwise were stated. To this end, FAO would need not only to send out questionnaires but to follow these up with correspondence to attempt to rectify anomalies. Of course, good data could only be published by FAO if they were first available to the government agencies which supply statistics.

2. Trade

For the CITES-listed marine mammals the most apposite source of information on international trade is the CITES annual reports which should become more comprehensive as more countries become Party states. These reports generally do not show trade in non-listed species.

Clearly, some data on seal product trade could be gathered if all species of pinniped were listed on Appendix II of CITES. However, it should be noted that to make this listing solely for the purpose of collecting data would be an abuse of the Convention. It should also be recalled that trade data from this source have not so far proved to be complete or reliable, and that only 60% of identified seal skin trading countries are also Contracting Parties to CITES.

APPENDIX 1

TRADE IN AND KILLING OF NON-CITES LISTED MARINE MAMMALS

Callorhinus ursinus — Northern fur seal, Pribilof fur seal, Alaska fur seal

DISTRIBUTION

North Pacific, centring on southern Bering Sea and southern Sea of Okhotsk (see esp. King, 1964). Occurs on coasts of Alaska and USA, Canada, Japan and the USSR.

Northern fur seal

KILLING

In 1911, an agreement between Great Britain (for Canada), the USSR, the USA and Japan prohibited pelagic sealing on this species in the North Pacific, allowing only a small number to be taken by aboriginal hunters. In 1941 Japan withdrew. In 1957, Canada, Japan, USSR and USA signed a new agreement, the Interim Convention on Conservation of North Pacific Fur Seals. It came into force on 14 October 1957, again prohibiting pelagic sealing, and establishing a programme of scientific research, and has been regularly renewed since then. The USA carries out kills on the Pribilof Islands, and sells most of the processed skins.

Japan and Canada each receive 15% of the skins or of the value at auction. According to King (1964), subject to certain regulations, these countries receive a similar percentage from the Soviet take on the Robben and Commander Islands.

Canada: No known take.

Japan: Those taken in pelagic operations, under the Convention, for scientific studies are: 1979 - 276; 1980 - 967; 1981 - 520 (Nagatani, in litt.). No other information available.

USA: Data are published in the Annual Reports of the US Marine Mammal Protection Act 1972 and in the FAO/YFS, but the latter are of varied status. The object of sealing is to take only males but female seals are sometimes taken by accident. St. George Island is, in any case, closed to commercial harvesting (since 1973) (Pfeiffer, 1981) but Aleut residents are allowed to take 350 seals a year for local consumption (see. e.g. Anon, 1981c). The following figures of the total take are provided by Roe (in litt.):

Pribilof Is, Alaska	1979	1980	1981	1982
St. Paul Is:				
males	25702	24278	23892	24730
females	60	49	36	98
St. George Is:	351	350	350	350
Total	26113	24677	24278	25178

USSR: The North Pacific Fur Seals Commission in Washington D.C., USA, obtains data and supplies these to FAO/YFS for publication, since USSR provides no data to FAO (Gertenbach, in litt.). Those published are as follows: 1979 - 5400; 1980 - 5659; 1981 - 8736 (Anon, 1981a).

TRADE

In US operations, following the removal of the pelt, the heart, liver, genitals and meat are removed and the remains are taken to a 'by-products plant' where they are turned into animal feed or crab bait (Pfeiffer, 1981). The cured pelts, which may include some from St. George Is., are sent to the Fouke Fur Company for processing into a finished fur product, and for sale at public auction (Seiz, in litt.). Canada's share of the skins is shipped to Hudson's Bay Co., International Fur Sales Centre in Ontario. Skins received and processed by the Fouke Co. are as follows: 1979 - 25350; 1980 - 24279; 1981 - 24056 (Seiz, in litt.). Skins of northern fur seal are not visible in the sales of the Soviet fur agency, Sojuzpushnina, and are most likely used within the USSR if taken in Soviet operations.

"Meat and other by-products taken from the Pribilof Islands are the property of the Tanadgusix Corporation, a native village group on St. Paul Island" (Roe, in litt.). Roe (op. cit.) believes that no oil has been produced for many years and says that about 3,000 carcasses are consumed locally in the Pribilof Islands each year.

Cystophora cristata — Hooded seal
Bladdernosed seal

DISTRIBUTION

Arctic and subarctic north and north-west Atlantic (see esp. Reeves and Ling, 1981). Thus occurs off coasts of Canada, Greenland, Iceland, Jan Mayen and Svalbard (Norway), rarely USSR.

KILLING

Because this species congregates in its moulting and breeding areas, commercial exploitation is considerable.

Canada: The Total Allowable Catch is 15,000 animals: from 1977 to 1981 each year 6000 was allotted to Canadian vessels and 6000 to Norwegian vessels, with, upon attainment of these, a further 3000 'available' on a free-for-all basis. In 1982 the 3000 was allocated to Canadian landsmen, the portion uncaught after March 25 being transferred to Canadian large vessels. Figures are published in the FAO/YFS, were previously published by the International Committee on Northwest Atlantic Fisheries, and are now published by its successor, the Northwest Atlantic Fisheries Organisation (NAFO). The last three years figures are produced in Table 1. There is, in addition, a small take by N.E. Canadian aboriginal peoples (Anon, 1978c).

Greenland: Hooded seals are taken by Greenlanders as available (Reeves and Ling, 1981). Preliminary figures are published by the Ministry of Greenland (see Anon, 1981b). However, Kapel (1981) notes that reporting of catches was unusually poor in several districts in 1979 and 1980. For 1977, he says the final figures are about 20% higher than the preliminary figures and about 5% higher than those estimated. He is quoted by the Nature Conservancy Council (NCC) (1982) as follows:

Greenland catches of hooded seals (provisional figures, with subsequent estimates in brackets)

1978 - 5257 (6200); 1979 - 5117 (5500); 1980 - 4221 (5600). Figures of uncertain status are published in FAO/YFS.

Norway: Sealing is now carried out at Jan Mayen only from Norwegian vessels, although Soviet sealing vessels operated here from 1958-66 and 1975-76. A Soviet/Norwegian agreement was achieved in 1958, and a quota of 30,000 was set in 1971, reduced to 20,000 in 1979. The Norwegian Directorate of Fisheries publishes catch statistics such as the following for 1980 (Anon, 1980b):

Catches of hooded seals by Norwegian sealing operations in 1980 (figures from T. Øritsland in Engesaeter and Kuhnle, in litt.)

	Newf'lnd	Jan Mayen area	Barents Sea area	TOTAL
Bluebacks	4987	8391	-	13378
1 year +	720	1358	-	2078
TOTAL	5707	9749	-	15456

(from: NAFO Statistical Bulletin vol. 29 1981; NAFO Statistical Bulletin vol. 30 NAFO SCS Doc 80/XI/28 Provisional, 1981). This evidently excludes catches for scientific research, since the following figures of catches at Jan Mayen area include these catches:

Catches of hooded seals by Norwegian and Soviet sealers at Jan Mayen, including for scientific purposes

	1979	1980	1981	1982
Pups	18211	9457	10736	12629
1 yr. + males	1590	574	122	615
1 yr. + females	3744	1369	1216	2620
TOTAL	23545	11400	12074	15864

Table 1

Catches of Hooded Seals in the North-west Atlantic
(1981 figures are provisional)

		by Canada			by Norway			Both Countries
		Young	1 yr +	Total	Young	1 yr +	Total	Total
1979	(Front)	5168	1651	6819	6780	1526	8306	15125
1980	(Front)	6166	1243	7409	4987	720	5707	13116
1981	(Front)	5691	1569	7260	4084	1283	5367	13686
	(Gulf)	896	163	1059				
Total	1981	6587	1732	8319				

FAO/YFS also publishes figures on the take by Norway in the Jan Mayen area, as follows: 1979 - 20262; 1980 - 9768 (Anon, 1981a).

The total catch in all Norwegian sealing operations on hooded seals, according to the Directorate of Fisheries is: 1979 - 24847; 1980 - 15456; 1981 - 17105.

USSR: Hooded seals rarely occur in the White sea so the take, if any, is likely to be small.

TRADE

Skins are traded as 'Hooded seal', 'Bladdernosed seal' or 'Hohlatchenok seal' (adults) or as 'Bluebacks' (pups).

All or nearly all the Canadian-taken raw skins are exported, principally to Norway, but also to F.R. Germany and the UK, rarely elsewhere. The skins taken in Norwegian sealing operations off the east coast of Canada and at Jan Mayen are landed in Norway and may remain there for processing and distribution to Europe, or be exported for processing in F.R. Germany. Skins taken by Greenlanders, if not used domestically are sold to the Royal Greenland Trade Department for trade within Greenland or internationally. RGTD auctions the skins in Copenhagen once a year, selling the following number: 1979 - 27271; 1980 - 2383; 1981 - 2461 (Gilbe, in litt.).

The oil from animals taken in Canada is sold either within Canada or to northern Europe - frequently to Norway. Most of the oil from Greenland probably remains with the hunters but some may be sold to RGTD, for trade elsewhere in Greenland or for export. In the last three years RGTD has exported seal oil only to Norway and the Netherlands (see under Phoca hispida). There are only two companies in Norway which produce oil from blubber; most of this oil evidently remains in Norway, at least until it is processed. Norway also imports a very large amount of oil.

Seal meat is used by native coastal peoples. In Canada some has been canned in the past but canning appears no longer to happen. In Greenland RGTD buys meat from seal hunters to sell within Greenland and occasionally to Greenlanders in Denmark. In Norway an experimental cannery of seal meat was underway in 1978; the present review obtained no information on the current status of this.

For a full review of trade see Barzdo (1980).

Erignathus barbatus — Bearded seal
Square flipper

DISTRIBUTION

Circumpolar in Arctic seas: thus occurs on coasts of Alaska (USA), Canada, Greenland, Japan, Norway, USSR, perhaps Iceland (see esp. King, 1964; Burns, 1981).

KILLING

Since this species is not gregarious, there appear to be no major sealing expeditions aimed at bearded seal. However it is of great importance to native coastal peoples throughout the Arctic regions (see Trade, below). According to the 1981 Annual Report on the US Marine Mammal Protection Act (Anon, 1981c), 10,000 to 13,000 are taken annually by subsistence hunters in Norway, USSR and Alaska. The present reviewer would not dispute these figures but found that the data, if not necessarily contradictory, are at least varied.

Alaska: Although protected by the US Marine Mammal Protection Act, this species may be and is taken by Alaskan natives. Anderson (1981) quotes their annual take as about 8,000 to 10,000 bearded seals. Burns (1981) quotes somewhat lower figures for the US catch in the Bering and Chukchi seas (i.e. off Alaska); for example 2125 seals in 1976 and 4750 in 1977, these being the latest years and the highest figures in his list of 12 years' catches. The FAO/YFS publishes no figures of the kill in Alaska.

Canada: There are probably fewer than 1000 a year taken in Canada, of which 50-100% are killed in the North-West Territories (Anon, 1978c). Data are collected from records of fur sales and indicate that in 1979, 366 skins of the less important species were traded in the NW Territories, primarily from bearded seals (Mansfield, in litt.), supporting the previous statement. In 1980, however, the number of 'other' seals was 2088, and in 1981, 409 (Wong, in litt. to Mansfield); there is no guidance as to the species involved. The present review obtained no other figures and none is published in the FAO/YFS.

Greenland: According to Anderson's review (1981) the annual catch in Greenland is 700-800 animals, and the number of seals killed and lost may be the same. Figures from the 1981 Ministry of Greenland Report, provided by Sloth (in litt.), show only a provisional kill figure of 600 in each year 1978-80. This is because of the extreme difficulty of ensuring the information collected is correct, and it takes a very long time to produce the final data. The 1980 FAO/YFS has seemingly more accurate catch figures for 1979, being 497 for one fisheries area and 133 for the other (total 630).

Japan: No information.

Norway: Anderson's (1981) review puts the annual catch at 1600 animals, with perhaps an equal number killed and lost. The 1980 FAO Yearbook records a catch of 0+ in 1979, 1+ in 1980. One animal is also Norway's recorded catch for 1981 (Røgeberg, in litt.), taken in Jan Mayen. There was a small annual catch at Svalbard, but this stopped in 1977 (Engesaeter and Kuhnle, in litt.).

USSR: Sealing vessels in the White and Barents seas are prohibited from taking bearded seals (Popov, 1976). Coastal peoples, however, do kill this species. Popov (1976) says the annual catch figure is unknown, but Anderson's (1981) review quotes the catch as about 1200 seals for northern USSR. According to Popov (1976), overexploitation of bearded seals in the Okhotsk and Bering seas led to the termination of sealing from ships in 1970, and the introduction of quotas: Okhotsk Sea - 5000, Bering sea - 3000, for harvest by coastal peoples. However this appears to have changed and catches in the Bering sea of several hundred bearded seals from ships have been reported by Soviet scientists since 1975 (Miller, in litt.). Yablokov, (in litt.) quoting Zemsky (1980) records a catch of 1483 for 1979 in the Bering and Chukchi seas and 1650 for 1980 in the Okhotsk sea. Figures are not published in the FAO/YFS but are occasionally provided by Soviet scientists to the US National Marine Mammal Laboratory, Seattle (Miller, in litt.). For 1977-79 these were as follows:

	1977	1978	1979 (to 1.11.79)
Bering Sea	628 coastal 416 ship	451 coastal 1500 ship	597 coastal 798 ship
Chukchi Sea	160 coastal	102 coastal	88 coastal

TRADE

No international trade in oil or meat is known. McMillan (pers. comm.) believes the number of skins traded internationally to be in the region of 100, entering trade through the Hudson's Bay Company in Canada. Several authors have written about the Eskimo use of bearded seals (see e.g. King, 1964; Maxwell, 1967). Burns (1981) notes their importance to local subsistence economies as a dependable and significant source of food and other products. "Boats, lines, clothing and other items are made from their durable skins. Formerly, implements were made from their bones, rain gear and translucent windows from their intestines, fuel from their oil, and waterproofing compounds and dyes from their blood".

Eumetopias jubata — Steller's sea lion, Northern sea lion

DISTRIBUTION

Occurs throughout the Sea of Okhotsk, in the southern Bering Sea and around some of its islands, and along the western coast of North America. Thus occurs on shores of Canada, Japan, USA including Alaska, and USSR (see especially King, 1964; Schusterman, 1981).

KILLING

According to Maxwell (1967) this species was hunted commercially in the late nineteenth century, and there was a remnant of the hide (skin) trade in the USA in the early twentieth century. Steller's sea lion is now protected from commercial harvest in the USA, but some appear to be taken by Aleutian and Alaskan native peoples. In addition the USA has licensed the taking of several hundred. The present review obtained no data on total numbers taken and no figures are published in the FAO/YFS.

TRADE

In the late nineteenth century the oil, skins and trimmings were apparently in great demand. After the turn of the century, hides were used for the production of cheap, low grade leather (Maxwell, 1967). Maxwell (op cit.) also states that in the 1930s trimmings were in great demand in China where whiskers are used as pipe cleaners, genitalia as a basis for aphrodisiacs and gall bladders for medicinal purposes. King (1964) says that sea lion products were formerly used by Aleutian natives; skins for boat coverings, harnesses, waterproof clothing (this is made of intestinal membranes according to Maxwell) and boots; the meat is eaten; the fat is used for fuel. She says that the carcasses are less in demand now, but that the very thick hides may be used to some extent for leather. However, she adds that the meat is frequently sold to fox and mink farms. This is likely to be internal trade in Canada (and perhaps the USSR), but some trade between Alaska and Canada may, presumably, be involved. The present review uncovered no details. McMillan (pers. comm.) believes there to be no international trade in skins, and the present review discovered none.

Halichoerus grypus — Grey seal, Atlantic seal

DISTRIBUTION

North-west and north-east Atlantic (see Bonner, 1981). On coasts of Canada, Finland, France, Iceland, Ireland, Norway, Sweden, United Kingdom, USSR, sometimes Denmark, Germany, Netherlands.

KILLING

Generally this species is of little commercial interest, most killing being a result of fishery-inspired control operations (Bonner, 1981).

Canada: Some 100 pelts a year are taken at Magdalen Islands and up to 800 a year on the north shores of the St. Lawrence estuary, largely by the Canadian Fisheries Service (Anon, 1978c). In 1979, 650-750 were taken here by fishermen (Mansfield, in litt.). A bounty was introduced in 1976.

Denmark: Hunting has been banned since 1977 (Anderson, 1981).

Finland: There has been a closed season of 15 March to 31 August since 1978, and total protection is planned. However, the 1980 FAO/YFS records a catch of unspecified seal species as follows: 1979 - 300, 1980 - 600. Only grey and ringed seals occur on the Finnish coast but there are no clues to the proportion of each in the above figures.

France: Grey seals have been protected since 1961 (Anderson, 1981). They are, in any case, uncommon in French waters, and no recent killing has been reported (de Chancel, in litt.).

Germany: Grey seals rarely occur in German waters and so are rarely taken. Koch (in litt.) says there is "no seal catching" in the German Democratic Republic. In the Federal Republic of Germany seals are protected in Schleswig Holstein and Lower Saxony.

Iceland: Less than 500 adults are killed each year (Anderson, 1981).

Ireland: Grey seals have been totally protected since 1977. Licences may be issued for killing for scientific research or fisheries protection. For scientific kills, 6

licences have been issued since 1979 for grey and common seals; the number killed is unknown but probably "extremely small" (O'Shaughnessy, in litt.). Since 1979, 22 permits for fishery-protection killing have been issued: there is no information on numbers killed. Two recent illegal kills are known about on Inishkea Island; in 1979, 67 grey seals and in 1981, 137, allegedly by local fishermen (O'Shaughnessy, in litt.).

Netherlands: Grey seals are covered by the Hunting Act, and a licence is required to kill them; none has been issued for at least three years (Kalden, in litt.).

Norway: Since 1973 grey seals have been totally protected south of Stad. In northern Norway (north of Stad) sealing is prohibited only from 1 May to 30 November. According to Holm and Kuhnle, (in litt.), there is no commercial sealing along the coast of Norway. Evidently grey seals are being culled along the Møre coast in the closed season (Anon, 1980b). The only figures we have of catches during this period, north of Stad, which includes the Møre coast, are of the following catches allowed for scientific research:

	1979	1980	1981
Grey seal	29	51	9

In the Vikna area also, some 20-30 grey seals are taken each year. There are no statistics on the northern Norway take outside the protection period.

Sweden: All seals have been protected, except at fishing nets, since 1974 (Anderson, 1981). Only a few are killed each year (Almkvist, 1980).

UK: Grey seals are protected under the Conservation of Seals Act, 1970, but licences may be issued allowing killing for fishery protection, management, commercial hunting or scientific research. In Scotland, the Department of Agriculture and Fisheries for Scotland permitted the following kills: 1979 - 1178 (incl. 3 for science); 1980 - 1436 (incl. 1 for science); 1981 - 1238 (Barbour, in litt.). FAO/YFS published figures, but they are wrong (Harwood, pers. comm.). In England and Wales the Home Office permitted the following kills: 1979 - 234 (incl. 1 for science); 1980 - 83 (incl. 11 for science); 1981 - 211 (Pelham, in litt; Harwood, pers. comm.).

USSR: Sport hunting of grey seals has been banned since 1970, (Bychkov, 1976). No other information available.

TRADE

The grey seal has little importance as a fur bearer (King, 1964; Bonner, 1981). Skins from the UK are probably used for leather in northern Europe.

The present brief review obtained no information on trade in meat and oil.

Histriophoca fasciata — Ribbon seal
Banded seal

DISTRIBUTION

From northern Sea of Japan throughout Okhotsk Sea, range is continuous to Bering Sea. Thus occurs on Hokkaido (Japan), eastern coast of USSR, and western coast of Alaska (USA). (See esp. Burns, 1981; King, 1964).

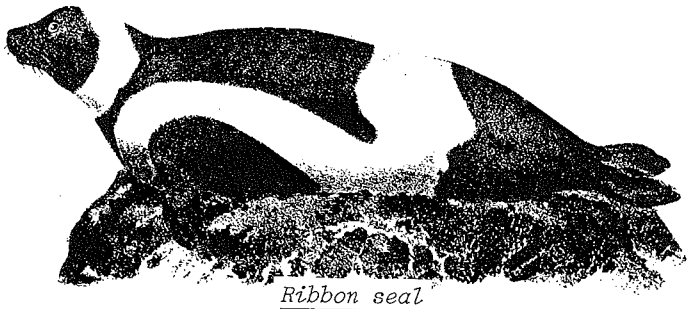
KILLING

No recent data on numbers killed were found, apart from those below. Numbers killed are not published in the FAO/YFS.

Alaska: According to Burns (1981), the harvest in Alaska has been less than one hundred animals each year since 1968. The US Marine Mammals Protection Act Annual Report (Anon, 1981c) records this only as 'a small number' taken by Alaskan natives for subsistence.

Japan: King (1964) reports that sealing expeditions by ship, from Hokkaido, primarily in search of common seals (Phoca vitulina) in pack ice approaching Japanese shores regularly take a number of ribbon seals. No other reference to this was found in the present review.

USSR: According to Popov (1976), over the past twenty years or so this species had been taken primarily from sealing vessels in the Sea of Okhotsk and the Bering Sea. A significant increase in the annual harvest, to 16000-23000 animals from 1961 to 1968, led to a decrease in stock size and consequent restrictions on sealing from vessels. In 1969 the Bering Sea quota was set at 3000 and the annual catch has remained at about that number (Burns, 1981). Popov (1976) states that the Sea of Okhotsk quota is 3500. Soviet scientists occasionally provide data to US scientists: according to these the catch by Soviet sealers was 3000 each year from 1977 to 1979, taken from ships in the Bering Sea (Miller, in litt.).



Ribbon seal

TRADE

King (1964) notes that ribbon seals are hunted for oil, meat and leather and that fertilizer and glue are produced from the carcasses, but that this species is of little commerical importance. If there is any commercial trade it is likely to originate in the USSR, and Popov (1976) in fact remarks that a ready market exists for ribbon seal products, especially pelts. Most of the consumption, however, is likely to be domestic. No skins have been offered by the Soviet government fur agency, Sojuzpushnina, for about eight years (McMillan, pers. comm.).

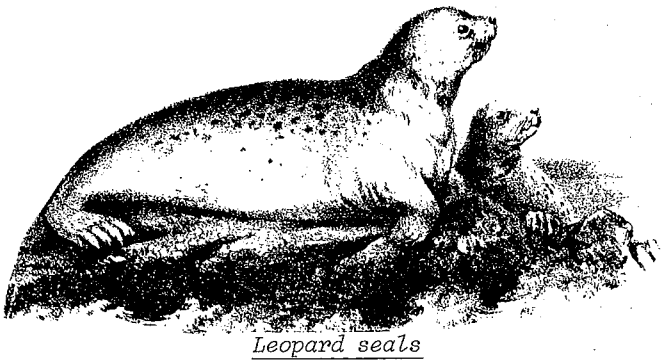
Hydrurga leptonyx — Leopard seal

DISTRIBUTION

Found throughout the antarctic pack ice, south to the edge of Antarctica; seasonal visitor to subantarctic islands including Kerguelen, Macquarie, Falklands; several seen off New Zealand, Australia, Cape Horn, Cape of Good Hope, one off Tristan da Cunha; most northerly record is Lord Howe Island (see especially Kooyman, 1981a).

KILLING

Since 1892/93 there was no commercial expedition for Antarctic seals until 1964 when a Norwegian ship carried out an exploratory sealing expedition between the South Shetlands and the South Orkneys. 861 seals were killed of which 13% were leopard seals (Laws, 1973a). The Annex to the Convention for the Conservation of Antarctic Seals, applicable to waters south of 60° South Latitude, sets a maximum permissible catch limit of 12,000 leopard seals.



Leopard seals

Catch figures are published in the Polar Record, the following being the most up to date:

Leopard seals killed or captured in the Antarctic Treaty Area

1964-65	65-66	66-67	67-68	68-69	69-70
108	2	-	8	22	5
1970-71	71-72	72-73	73-74	74-75	
12	2	13	13	-	

(Laws, 1972; Laws, 1973b; Laws and Christie, 1976; Laws and Christie, 1980)

TRADE

None is known to be killed for trade.

Leptonychotes weddelli — Weddell seal

DISTRIBUTION

Circumpolar in the antarctic and subantarctic seas, and largely coastal, rarely seen as far north as Australia, New Zealand, Macquarie, Heard, Falkland and Kerguelen islands (King, 1964).

KILLING

This species has been much used for food, for both men and dogs (King, 1964). The Annex to the Convention for the Conservation of Antarctic Seals, applicable to waters south of 60° South Latitude, sets a maximum permissible catch limit of 5000 Weddell seals a year. The Convention also protects adults between 1 September and 31 January, when they are concentrated on the fast ice.

The only figures published of all countries' catches are those in the Polar Record, as follows:

Weddell seals killed in Antarctic Treaty Area

1964-65	65-66	66-67	67-68	68-69	69-70
142	137	176	234	204	173
1970-71	71-72	72-73	73-74	74-75	
499	334	170	150	98	

(Laws, 1972; Laws, 1973b; Laws and Christie, 1976; Laws and Christie, 1980)

TRADE

None is known to be killed for trade.

Lobodon carcinophagus — Crabeater seal

DISTRIBUTION

Circumpolar in the Antarctic, and almost exclusively confined to the pack ice (see esp. Kooyman, 1981b).

KILLING

Since 1892/3 there was no commercial expedition of Antarctic seals until 1964 when a Norwegian ship carried out exploratory sealing operations between the South Shetlands and the South Orkney Islands. 861 seals were killed, 85% of which were crabeaters (Laws, 1973a). Since then there has been no commercial killing reported. The Annex of the Convention for the Conservation of Antarctic Seals sets a permissible catch limit for crabeater seals of 175,000 a year. Small number have been killed for food for men and dogs (King, 1964), and some still are.

Figures are published in the Polar Record; the following are the latest available:

Crabeater seals killed or captured in the Antarctic

1964-65	65-66	66-67	67-68	68-69	69-70
731	7	1	73	439	376
1970-71	71-72	72-73	73-74	74-75	
259	291	368	469	98	

(Laws, 1972; Laws, 1973b; Laws and Christie, 1976; Laws and Christie, 1980)

TRADE

There is no known commercial trade in any product of crabeater seals. King (1964) notes the lack of commerce in this species, commenting that pups' skins are too rarely found, and that adults' pelts are spoilt by scars. She also believed that "the expense incurred in overcoming the difficulties in securing enough blubber oil to be commercially useful would be more than the monetary value of the oil yield (op. cit.).

Neophoca cinerea — Australian sea lion
White-necked hair seal

DISTRIBUTION

Found only on the south coast of Australia (see Walker and Ling, 1981b)

KILLING

Much commercial exploitation took place before 1836 and this species was believed almost exterminated in the nineteenth century (Ling and Walker, 1976). The Australian sea lion is completely protected, but some take is allowed for scientific research and for zoological displays, this take being strictly controlled (Laws, 1973a). Other than that, if sea lions are killed in South Australia, Ling (in litt.) believes it is likely to be for crayfish bait, for attracting sharks to game fishing areas, or just for sport.

TRADE

According to Ling and Walker (1976) this species was mainly hunted for oil, and the skin was used for leather. They believe that Neophoca has probaby been less sought-after than fur seals because of its sparse coat. There is no evidence of any trade now.

Neophoca hookeri — New Zealand sea lion
Hooker's sea lion

DISTRIBUTION

Occurs on subantarctic islands of New Zealand, some reaching Macquarie Island (see Walker and Ling, 1981a).

KILLING

In the nineteenth century when southern hemisphere sealing was at its peak, this species was among those slaughtered for their skins and leather (King, 1964). Greatest numbers occur at Auckland Islands which, King notes (op. cit.), has been declared a reserve. The species is, in any case, evidently protected in New Zealand (Healy, in litt.). Not surprisingly, therefore, there are no catch statistics.

TRADE

None appears to be killed for trade. According to Walker and Ling (1981) there appears to have been none kept in captivity since 1887.

Ommatophoca rossi — Ross seal
Big-eyed seal
Singing seal

DISTRIBUTION

Circumpolar in the Antarctic, generally in heavy pack ice.

KILLING

No serious commercial exploitation has yet taken place (Anon, 1978). In fact, up to 1940 only 50 specimens had been seen (Burton, 1978) and this species is quite infrequently seen still (King, 1964). It receives special protection under the Antarctic Treaty, through its Agreed Measures for Conservation of Antarctic Fauna and Flora.

Protection is also offered under the Convention on the Conservation of Antarctic Seals, which applies to the seas south of 60° south latitude, and which came into force in 1978. The following data have been published in Polar Record:

Ross seals killed or captured in Antarctic Treaty Area

1964-65	1965-66	1966-67	1967-68	1968-69	1969-70
15	1	-	1	6	-

1970-71	1971-72	1972-73	1973-74	1974-75
1	6	2	5	3

TRADE

None is known to be killed for trade.

Otaria byronia (= flavescens) — Southern sea lion
South American sea lion

DISTRIBUTION

Coasts of Argentina, Brazil, Chile, Falkland Islands, Peru, Uruguay and possibly Ecuador (see esp. Vaz-Ferreira, 1981).

KILLING

Argentina: Used to have a small industry using sea lions; mentioned as current by King (1964). Killing has been prohibited since 1976 (Gonzalez Ruiz, in litt.) but some countries record imports of seal skins from Argentina.

Brazil: According to Jorge Padua (in litt.), the only marine mammals killed in Brazil are whales and manatees. Thus, there appears at least to be no commercial killing.

Chile: Sea lions were protected in Chile in 1965 (Laws, 1973a) and at least one agency referred to believes that they are still protected (Natoli, in litt.). Presumably some killing is now allowed (perhaps under licence) since the Director of the National Fisheries Service reports an annual kill, as follows: 1979-8755; 1980-6990; 1981-1413 (Petrowitsch, in litt.). These data are also published in FAO/YFS. McMillan (pers. comm.) believes that the animals taken are mostly pups. According to Petrowitsch (in litt.) about three-quarters of the seals killed were taken for skins, the rest for control of damage to fisheries.

Falklands: In the 1930s, an attempt to use sea lions commercially was unsuccessful (King, 1964). Between 1949 and 1952, 3045 were taken by a company unable to fill its quota (Laws, 1973a). King (op. cit) noted that commercial exploitation in 1964 was permitted under licence. There is no apparent commercial killing now.

Peru: Kellogg (1942), reported in Laws (1973a), estimated that 75000 skins a year were taken on the coast of Peru. Hunting was prohibited in 1959 (op. cit.). However, the Ministry of Fisheries sometimes authorises killing, as it did 1750 sea lions in 1977 (Anon, 1978b). In 1978, EPSEP, the Peruvian Public Enterprise of Fishing Services, said that about 4000 sea lions a year have been taken since 1970 (Benavides, 1978). No catch figures are published in the FAO/YFS, and the present brief review obtained none.

Uruguay: King (1964) reported that in Uruguay, sea lions were killed at the same time as fur seals; this may still be true. However since 1977, for which Uruguay reported a kill of 3057 sea lions to FAO, the catch published in the Yearbook of Fisheries Statistics has been zero.

TRADE

Since the 16th century (if not before) the Southern sea lion has been used by man for meat, hides and oil (King, 1964). Vaz-Ferreira (1981) says the skin can be used for making coats, adult hides can be used for suede and leather, oil is used for tanning, and meat is put into animal foods.

Only Chile is known to kill this species commercially, and certainly Chile trades internationally in seal skins. Argentina does not permit exports of seal skins (Gonzalez Ruiz, in litt.). Spain and Federal Republic of Germany report imports of seal skins from Uruguay but these are most likely to be of South American fur seal (Arctocephalus australis), there being some 10,000 each year known to be taken in Uruguay.

Brazil, Chile, Peru and Uruguay are known to trade in oils and fats of marine mammals, but not definitely in seal oil.

McMillan (pers. comm.) says that the southern sea lion has not been a success in the fur trade, and dealers find the skins difficult to sell now.

Pagophilus groenlandicus — Harp seal, Greenland seal, Saddle Seal

DISTRIBUTION

Arctic and subarctic north Atlantic (see e.g. King, 1964). Thus occurs on coasts of Canada, Greenland, Iceland, Norway (incl. Jan Mayen and Svalbard) and the USSR.

KILLING

This species congregates in high densities for pupping, allowing widespread and intensive exploitation.

Canada: Killing is regulated by quota, an allowance being made for aboriginal catches in Canada and Greenland, as follows:

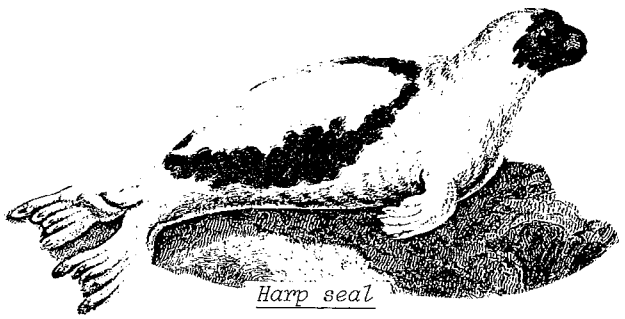
	1979	1980	1981	1982
Quota	170,000	170,000	168,200	175,000
Allowance of Greenland	-	8,200	13,000	none specif'd
Allowance of Arctic Canada	10,000 for NWT	1,800	1,800	11,000
Total Allowable Catch	180,000	180,000	183,000	186,000
Allocation to Norwegian Vessels	20,000	20,000	22,500	24,000

Figures for the north-west Atlantic catch are published by the Northwest Atlantic Fisheries Organisations (NAFO), including details of the animals age group (by pelage-type). The FAO/YFS also publishes figures, but of uncertain status. The following figures were provided by Doubleday (in litt.):

Take of harp Seals in the North-West Atlantic

Regulated	1979	1980	1981a
Taken by Canada	139634	148381b	166919
Norway	20288	20213	22382
Sub Total	159922	168594b	189301
Unregulated			
Canada Natives	4239	9685	14662
TOTAL	164161	178279b	203963

a - NAFO/SC WP 81/XI/48 revised.
b - NAFOSCS Doc 80XI/33 - this figure in error due to double counting (ca. 6000 too high in Canada/Regulated - relected in sub-total and total, which should be reduced accordingly). (Figs. from ICNAF/NAFO Statistical reports; reproduced by kind permission of Capt. J.C. Esteves Cardoso, NAFO). Figs. under Canada/Regulated adjusted by subtracting Labrador north of Cape Charles for inclusion in Unregulated.)



Harp seal

Greenland: Preliminary figures published by the Ministry of Greenland indicate the following kill: 1978 - 8500; 1979 -9200; 1980 - 6000 (Anon, 1981b). However Kapel (1981) notes that reporting of catches was unusually poor in several districts so the figures may need considerable revision.

For 1977 the final catch figures were 60% higher than the preliminary figures and 30% higher than the provisional estimate. Kapel's (1981) provisional estimates for the above years is: 1978 - 8169; 1979 - 12000; 1980 - 10,000. FAO/YFS publishes figures of uncertain status.

Iceland: No information.

Norway: Figures are published in FAO/YFS as: 1979 - 26367; 1980 - 25171.

The Norwegian Directorate of Fisheries publishes data annually and can provide detailed information, such as the following from T. Øritsland (Engesaeter & Kuhnle, in litt.):

Catches of harp seal in Jan Mayen area by Norwegian and Soviet sealers including kills for scientific purposes

	1979	1980	1981	1982
Pups	14371	5336	12625	8666
1 yr. +	889	8186	2850	3361
TOTAL	15260	13522	15475	12027

The annual Directorate report breaks the figures down further, as follows for 1980 (Anon, 1980b):

Harp seal catches in 1980 by Norwegian sealers

	Newf'lnd	Jan Mayen area	Barents Sea area	TOTAL
Whitecoats	20121	-	35	20156
Beaters	-	2336	13859	16195
1 yr. +	92	7538	1308	8938
TOTAL	20213	9874	15202	45289

Catches of harp seals in all Norwegian sealing expeditions in Canada, Jan Mayen and White and Barents Seas, are recorded by the Directorate as follows: 1979 - 46599; 1980 - 45289; 1981 - 51640 (Røgeberg, in litt.). In addition, in 1979, 2023 were caught at Varanger and in 1980, 3311 were accidentally caught in gill nets on Varanger Fjorden.

USSR: Harp seals are killed by Soviet natives on the north coast and by Norwegian and Soviet expeditions in the White and Barents seas. The combined Soviet/Norwegian catch averaged 49,000 a year from 1977 to 1981 (Nature Conservancy Council, 1982). The quota of 50,000 was revised to 60,000 for 1981 and 75,000 for 1982. The Soviet take is unknown; the Norwegian take was 17465 in 1981 (Røgeberg, in litt.).

TRADE

Harp seals are used by coastal aboriginal peoples in Canada, Greenland and USSR, and it is, of course, uncertain how many skins they retain. The skins may be traded as 'Whitecoat' (new born pup), 'Ragged jacket' (moulting whitecoat), 'Beater' (spotted pup, under one year), 'Bedlamer' (young adult, over one year), or 'Saddleback' or 'Harp seal' (adult with well-developed dark saddle-shaped marking on its back).

In Canada's North-West Territories the following skins were sold into trade according to the fur sales records: 1979 - 3620; 1980 - 6184; 1981 - 4672: taking each year as June 1 - May 31 (Wong, in litt. to Mansfield). The bulk of skins taken on the east coast is exported to Norway, other important consumers being F.R. Germany and Finland; processors exist in all three countries. Skins landed in Norway, from Canada, Jan Mayen and USSR, are retained there for processing and sale or exported for processing and sale, especially to F.R. Germany and Finland. Skins from the Greenland catch enter international trade only through the Royal Greenland Trade Department which sells them once a year at its Copenhagen auctions. Recently the sales have been: 1979 - 5144; 1980 -6887; 1981 - 6383; 1982 -5784 (Gilbe, in litt). The auctions of Sojuzpushnina, the Soviet fur agency, in Leningrad distinguish whitecoats from other seals in their figures, but these are sometimes of Caspian seals and sometimes of seals taken in Norwegian operations. In 1981, 19342 Soviet whitecoats were offered in January (98% sold), and 13110 were offered in July (57% sold). 4146 Norwegian whitecoats were also offered in July (89.8% sold).

The processed skins are sold in many different countries and establishing the trade routes is only possible through traders; but for a detailed review see Barzdo (1980).

Oil is sold from the Canadian take either in Canada or to Norway (Norwegian trade statistics show a large importation from Canada) or to other European countries if the price is better. Oil from Greenland enters international trade only through RGTD which, in the past three years has exported it only to Norway and the Netherlands. Only two companies in Norway produce oil from blubber; some of the oil is exported to Finland, F.R. Germany and Sweden but most appears to remain there; There is no evidence of export of seal oil from the USSR.

Meat is consumed mostly by the hunters, their families and communities. Canning used to take place in Canada but may have stopped. An experimental cannery was under way in Norway in 1978 but there is no new information. Some export of meat from Greenland may take place through RGTD for supplying Greenlanders in Denmark. There is no evidence of export of seal meat from the USSR.

For a more detailed review see Barzdo (1980).

Phoca caspica — Caspian seal

DISTRIBUTION

Occurs only in Caspian Sea, eastern USSR.

KILLING

There is considerable commercial exploitation. Up to 1915 some 115,000 were killed annually (King, 1964). Catches then fluctuated; the kill numbered 108,300 animals in 1962 and ranged from 60,000 to 70,000 between 1963 and 1970 (Popov, 1976); now 16-20,000 annually (Verzin, 1982 quoted by Yablokov, in litt.). Regulations for the killing now exist.

Hunting starts at the end of January, on whitecoat pups (King, 1964; Maxwell, 1967). Later, adults and pups are killed. No figures are published in the FAO/YFS.

TRADE

According to McMillan (pers. comm.), most of the trade is internal in the USSR; he believes that approximately 20,000 skins are 'visible' in international trade each year. In figures published by Fur Review magazine of auction sales by Sojuzpushnina, this species is only identifiable in the category 'Caspian whitecoats'. Unfortunately these are generally combined in the figures with 'Northern whitecoats', skins from Barents Sea and White Sea harp seal pups. In Sojuzpushnina auction figures for the last three years, the only identifiable Caspian seal skins

are of about 4000 offered in July 1979.

Phoca hispida — Ringed Seal
Jar seal
Fiord seal

DISTRIBUTION

Circumpolar in arctic seas, also northern Sea of Japan, Baltic Sea and two inland lakes, Lake Saimaa in Finland and Lake Ladoga in USSR, after which the resident subspecies are named. Thus found on coasts and shores of Alaska (USA), Canada, Finland, Greenland, Japan, Norway, Sweden, USSR, perhaps Germany and Korea (see esp. King, 1964).

KILLING

Ringed seals are caught by arctic coastal native peoples wherever the two coincide, and many thousands of skins from this source enter international trade.

Alaska: Ringed seals are protected except from aboriginal peoples. Anderson's (1981) review quotes the take of US and Soviet arctic coastal peoples as 12,000-16,000 a year. No figures are published in the FAO/YFS.

Canada: The likely average annual harvest is in the region of 75,000 animals, including some 60,000 from the North-West Territories (Anon, 1978c). The number entering trade, however, fluctuates considerably (see below).

Finland: Since 1975 there has been a closed season for pups from 10 March to 31 May (Anderson, 1981). FAO/YFS reports no killing of this species by Finland but records a kill of unspecified species as: 1979 - 300; 1980 - 600; significantly, only ringed and grey seals occur in this area. Saimaa seals (of Lake Saimaa) have been protected since 1955 (Anderson, 1981).

Greenland: This is by far the most commonly killed seal in Greenland. Figures are available from several sources. Provisional totals are provided in the Ministry of Greenland's 1981 Report - (provided by Sloth, in litt.) as follows: 1978 - 75000; 1979 - 80000; 1980 - 65000. The second figure is more or less supported by the latest FAO/YFS figure: 1979 - 77647; it is not clear why this is seemingly more precise than the Ministry of Greenland datum. Approximately 90% of the catch is sold to the Royal Greenland Trade Department (Gilbe, in litt.) whose purchases are recorded in the Ministry Report as follows: 1978 - 64488; 1979 - 72124; 1980 - 63373 (Anon, 1981b).

Japan: No information

Norway: FAO/YFS reports the following catch: 1979 - 2; 1980 - 0+; Røgeberg (in litt.) adds: 1981 - 10, taken in the White Sea. Perhaps coastal peoples of north Norway take ringed seals, but Norway is at the edge of its usual range and one may speculate that the number is not likely to be large. Very few were killed in most years at Svalbard, but this stopped in 1977 (Engesaeter and Kuhnle, in litt.).

Sweden: Ringed seals have been protected in Sweden since 1974. Fishermen are permitted to kill them if they disturb fishing but only a few are killed each year (Almkvist, 1980).

USSR: In Lake Ladoga, the commercial harvest is apparently 200-300 a year (Filatov, 1982, quoted by Yablokov, in litt.). On the arctic seas (i.e. north) coast, organised exploitation occurs only in some areas (Popov, 1976). According to Popov (1976) sealing is regular and intensive only in the White Sea where there is an annual quota of 3500 ringed seals. Timoshenko (1982, quoted by Yablokov, in litt.) says that now about 5000 are taken annually from the White, Barents and Kara seas.

In the Sea of Okhotsk the annual quota for sealing from ships has been revised downwards, from 32000 in 1969, to 25000 in 1972 to 18000 in 1975. In 1975 a quota of 7000 ringed seals for coastal people was established (Popov, 1976). According to Yablokov (in litt., quoting Zemsky, 1980) about 6,500 were taken from this area in 1980. Sealing by coastal peoples on the Bering Sea produced 30,000 - 35,000 seals shortly after the Second World War, later falling to 10,000 - 20,000. Sealing from vessels was forbidden in 1970 and the annual harvest by coastal people restricted to 2000-3000 (Popov, 1976). In 1979, 1851 were taken from the Bering and Chukchi seas (Popov, 1979, quoted by Yablokov, in litt.). Soviet scientists occasionally provide data to the US National Marine Mammal Laboratory, such as the following (Miller, in litt.):

	1977	1978	1979 (to 1.11.79)
Bering Sea	1002 coastal	613 coastal 1145 ship	439 coastal 766 ship
Chukchi Sea	537 coastal	607 coastal	646 coastal

No figures are published in the FAO/YFS.

TRADE

Skins may be traded as 'Silver jar' (for pups), 'Ringed seal', 'Jar seal' (for adults), or Akiba (in USSR). The Canadian take of skins is marketed largely through the Western Canadian Raw Fur Auctions in Vancouver and through Hudson's Bay Company auctions in Montreal, Toronto and London (McMillan, pers. comm.). The largest proportion comes from the N.W. Territories. The skin trading year is June 1 to May 31, and the N.W. Territories record of Ringed seal skins traded is 1979 - 27060; 1980 - 33848; 1981 - 23932 (Mansfield, in litt.). An unknown number of skins is retained by the hunters. The destination of Alaskan skins is unknown; most of them probably remain in Alaska for native use. Most of the Soviet take of skins appears to remain there (McMillan, pers. comm.) but Sojuzpushnina put 800 skins on sale in Leningrad in July 1982. It is estimated that 90% of the Greenland take is sold into international trade through the Royal Greenland Trade Dept. which holds two auctions a year in Copenhagen and which is the only international source of Greenland skins (see Barzdo, 1980). Their record of sales of ringed seals is as follows: 1979 - 60016; 1980 - 65510; 1981 - 59064. These should not be taken as the years' catches nor as reflecting them in any way since skins may be held over from one year to another. There is no information on other skins entering trade.

Eskimos eat the flesh and blubber and use the oil for lamps. The liver and intestines are eaten. The skin of the white pups may be used for undergarments (fur side in), and the adult skins are used for clothes, bags, harnesses, tents and so on (King, 1964).

There is no known export of oil except through the Royal Greenland Trade Department. Ringed seals make up 85 - 89% of Greenland's seal catch by number so, although they are relatively small animals they are likely to provide the bulk of Greenland's seal oil export. RGTD sales of seal oil have been as follows: 1979 - 11 tons to Norway;

1980 - 92 tons to Norway; 1981 - 28 tons to Norway and 51 tons to Netherlands (Gilbe, in litt.).

This review obtained no details of international trade in meat and blubber although RGTD does trade in these within Greenland.

Phoca largha — Larga seal, Spotted seal

DISTRIBUTION

Shores of Korea and Japan, through Sea of Japan, Sea of Okhotsk to Bering Sea and Chukchi Sea, including islands south to Aleutians and Kuril. Thus occurs in Alaska (USA), Japan, Republic of Korea, Democratic People's Republic of Korea, USSR, possibly China. Considered by some authorities to be a subspecies of P. vitulina (see e.g. King, 1964), and range overlaps with some subspecies of P. vitulina.

KILLING

No recent catch figures were obtained during the present review, other than those below. No figures are published in the FAO/YFS.

Japan: According to King (1964), the commercial catch of seals off Hokkaido is largely composed of common seals. In the western Pacific she treats these as Phoca vitulina largha. The present brief review, however, was unable to obtain any data on this catch.

USSR: Catches from Soviet sealing vessels and by coastal peoples in Bering Sea and Sea of Okhotsk averaged 10,000 - 15,000 animals a year for 18-20 years up to 1976 (Popov, 1976). In 1970 catch limits were set:

Bering Sea:
6000 for vessels, 2000 for coastal peoples

Sea of Okhotsk:
5000 for vessels, 2000 for coastal peoples

TRADE

Referring to seals taken off Hokkaido, King (1964) says that the whole body is used; the skin, the blubber for oil, the meat for human consumption and the bones and viscera for fertilizers. "The oil may be used in cheap paints, soaps and in the process for softening leather". Popov (1976) says there is an unlimited market for the fur of this species but the present review obtained no information on international trade. Some skins may have been included by the Soviet fur agency, Sojuzpushnina, in their collective category, 'Nerpa'; over the last three years only one auction has included Nerpa, being 3560 skins in January 1981, of which 32% were sold.

Phoca sibirica — Baikal seal

DISTRIBUTION

Occurs only in Lake Baikal, eastern USSR.

KILLING

Numbers taken have historically been determined by the needs of local people for skin, fur, oil and meat (Popov, 1976). According to Popov (op. cit.) a decrease in the numbers of seals and sealers had led to a recent decline in the annual harvest; catches averaged some 3500-4000 animals in the early 1920s, about 5600 in the early 1930s, 1500 in the 1940s and 800 in the 1950s. Conservation measures were introduced in 1966, banning the killing of pups and of seals in the water (Popov, op. cit.). Hunting is banned in the summer and autumn, and quotas are set for winter and spring (Bychkov, 1976). According to Popov (1976) regulations restrict the annual harvest to 2000-3000 seals. Since Popov wrote, however, the situation appears to have changed, since Yablokov (in litt., quoting Ivanov, 1982) records an annual catch of approximately 6000 plus as incidental take of 1000. Numbers killed are not published in the FAO/YFS.

TRADE

From time immemorial this species has been the object of hunting by native populations. A paper of 1862, quoted by King (1964), notes the skin was used for clothing, the flesh eaten and the blubber treated as a delicacy.

According to Maxwell (1967) there is little blubber. There is therefore unlikely to be much oil yield; in any case any blubber or oil as well as meat, is likely to be consumed locally.

Skins are rarely sold internationally. According to McMillan (pers. comm.), the Soviet government fur agency, Sojuzpushnina, has sold only very few lots of 1000-2000 skins of Baikal seal over the past ten years. It is probably traded under the name 'Sivar'. Published records of Fur Review magazine show only one sale of Sivar by Sojuzpushnina during the last three years; this was a sale of 1440 skins at the Leningrad fur auction, in January 1979.

However, some Baikal skins may be sold under the category 'Nerpa', which is a collective name for sealskins from several species. 4702 skins have been offered under this category in Leningrad over the past three years, but there is no way that the species can be determined.

Phoca vitulina — Common seal, Harbour seal, Spotted seal

DISTRIBUTION

North Atlantic and north Pacific coasts, but not into Bering sea or Sea of Okhotsk, where P. vitulina is replaced by P. largha. (Some authorities consider the latter to be a subspecies of the former.) (See esp. Bigg, 1981). Occurs on coasts of Belgium, Canada, Denmark, France, Germany, Greenland, Iceland, Ireland, Mexico, Netherlands, Norway, Spain, UK, USA (incl. Alaska), USSR, rarely Portugal, perhaps Japan.

KILLING

Belgium: No information.

Canada: The following information comes from Anon (1978c). On average 2900 a year were taken from 1914 to 1964. On the east coast some 500 a year are taken for bounty payments, approximately half from Newfoundland and Labrador. About 200 are killed in Nova Scotia, 20 on Prince Edward Island and 50 in New Brunswick.

This species is protected in British Columbia. According to Mansfield (in litt.), in 1979 some 300 were killed on the

North shore of St. Lawrence River, but there is no information on north Quebec. FAO/YFS publishes no figures.

Denmark: Hunting has been banned since 1977 (Anderson, 1981).

France: Totally protected since 1961 (Anderson, 1981), and no illegal killing recorded (de Chancel, in litt.).

Federal Republic of Germany: Hunting prohibited on Niedersachsen (Anderson, 1981) Schleswig-Holstein and Lower Saxony (von Heimburg, in litt.). Total seal catch for year April - March was: 1978/79 - 81; 1980/81 - 0 (von Heimburg, in litt.).

German Democratic Republic: Koch (in litt.) says there is no seal killing.

Greenland: The Ministry of Greenland Report for 1981 records the following provisional figures of catches: 1978 - 30; 1979 - 34; 1980 - 35 (Anon, 1981b). FAO/YFS also publishes figures.

Iceland: King (1964) notes that large numbers of yearlings are hunted. The present review obtained no data on killing, but Iceland exports about 4000 raw skins of seals each year, likely to be mostly of this species. FAO/YFS publishes no figures.

Ireland: Protected since 1977 (Anderson, 1981). Licences may be issued for scientific research and fisheries protection. For grey and common seals, 6 scientific licences and 22 fisheries protection permits have been issued since 1979; numbers killed are unknown (O'Shaughnessy, in litt.).

Japan: 'A few years ago' more than 300 a year were taken and now there is some killing (Anon, 1981d) but numbers are not known. No figures published in FAO/YFS.

Mexico: No information.

Netherlands: Totally protected since 1961 (Anderson, 1981). Killing is permitted under licence, and none has been issued for at least three years (Kalden, in litt.).

Norway: Protected in the south since 1973, with May - November closed season (Anderson, 1981). Common seals have been culled along the coast of Trondelag and Nordland (Anon, 1980). The only figures we have of catches during this period, in northern Norway (north of Stad) are the following allowed for scientific research: (there are no statistics on the northern Norway take outside the protection period).

	1979	1980	1981
Common seal	39	22	281

Each year also, some 20-30 common seals are taken in the Vikna area and about 200 in the Møre area.

Spain/Portugal: No information.

Sweden: Protected since 1974, except at fishing nets; thus only a few killed annually (Almkvist, 1980).

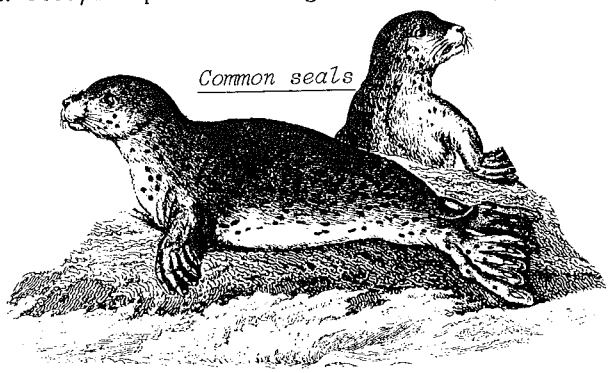
UK: Protected in the breeding season, under the Conservation of Seals Act, 1970, but licences may be issued to kill for fisheries protection, management, commercial hunting and scientific research. In Scotland, the following kills took place under licence: 1979 - 350; 1980 - 383; 1981 - 350 (Barbour, in litt.). In England and Wales, the following kills took place under licence: 1979 - 0; 1980 - 15; 1981 - not known (Pelham, in litt.). Figures are published in FAO/YFS but are apparently wrong for 1980.

USA incl. Alaska: No information on numbers taken in Alaska. 'As of March 31, 1982' 1,557 were authorised to be permanently removed from the wild, and 1489 authorised to be 'Taken by Killing' for 'Scientific Research/Public Display' (Anon 1982b).

USSR: According to Bychkov (1973), commercial harvest and sport hunting of the "pagophobic spotted seals" has been prohibited in the Soviet far east since 1970 and the species has no economic value there (Bychkov, 1976). There is some confusion here and I wonder if this refers only to the Chukchi Sea. Data supplied by Soviet scientists to the US National Marine Mammal Laboratory indicate that in the Chukchi Sea only 70 common seals were taken between 1969 and 1978, all in 1971 by coastal peoples; 325 were reported killed in 1979. The following figures are reported for the Bering Sea (Miller, in litt.):

	1977	1978	1979
Coastal	595	101	7
Ships	2800	4200	2938

Yablokov (in litt., quoting Popov, 1979 and Zemsky, 1980) reports that in 1979, 3270 common seals were caught in the Bering and Chukchi seas and in 1980, 2000 in the Okhotsk sea. FAO/YFS publishes no figures.



TRADE

Traders generally refer to this species as 'Ranger'. There is almost no information on the numbers of skins entering international trade from each source of origin. McMillan (pers. comm.) says there is very little international trade at all these days: each year a few hundred skins come from Canadian coastal hunters through the Hudson's Bay Co; a few hundred from the UK; a few thousand from the Icelandic cooperative of fishermen; and probably none from any other source. Probably the entire UK take enters the skin trade. Only a very small proportion of the Icelandic take is used domestically (Hagstofa Islands, in litt.); their export of about 4000 seal skins a year is thus likely to reflect the bulk of the take. There is no evidence of skins from Greenland or USSR entering international trade.

There is no information on oil or meat in international trade. These products are most likely used by the hunters if at all.

Zalophus californianus — Californian Sea Lion

Distribution

West coasts of Canada, USA and Mexico, around Galapagos Islands, and off Japan where it may be extinct (Odell, 1981).

KILLING

In the early nineteenth century large numbers (thousands) were killed off California (Maxwell, 1967). There were some sealing operations off Galapagos at the turn of the century (Anon 1981C). During the early part of the twentieth century there was some killing, primarily for dog food and for some hides (Mate, 1976). No figures were obtained in the present review of numbers now killed. According to Mate (op. cit.) Zalophus is protected throughout its range but some are killed each year in "fishing gear conflict situations". A harvest programme proposed by Mexico was never begun.

TRADE

Thousands of barrels of oil were obtained from those killed in the early nineteenth century but, according to Maxwell (1967) there was no market for skins; profit was later made from making glue stock. According to McMillan (pers. comm.) there is no skin trade in this species now. A small number (unknown) is taken for display purposes, for zoos and circuses. In the USA, authorisation had been given 'As of March 31, 1980' to take 319 for keeping alive (Anon, 1981c). No information is available on the international trade in oil or meat.

APPENDIX 2

TRADE IN CITES-LISTED MARINE MAMMALS

1979 ALL CITES TRANSACTIONS IN CETACEA

SPECIES	COUNTRY OF IMP.	EXP.	ORIGIN	IMPORTS REPORTED (PURPOSE)	EXPORTS REPORTED (PURPOSE)
APPENDIX I					
Balaenoptera physalus (-101)	CA	US		bone piece (S)	
Megaptera novaeangliae	CA	US		bone piece (S)	
BALAENIDAE spp	CA	US	[CA]	2 carvings (U)	
	US	CA			2 carvings (U)
Balaena spp	AU	CA			2 carvings
	CH	CA			4 carvings
	DE	CA			30 carvings
	FR	CA			7 carvings
	IT	CA			1 carving
Balaena mysticetus	US	CA			3 carvings
Eubalaena glacialis	CA	US		bone piece (S)	
APPENDIX II					
CETACEA spp	US	GB	[XX]	1 ivory carving (C)	
Tursiops truncatus	DE	CH	[ES]		2 live
	DE	CH	[XX]		1 live
	NL	DE	[JP]		2 live
	SE	US			3 live (Z)
Monodon monoceros	CH	FR		1 tusk	
	DE	GB	[XX]		3 tusks
	FR	CA			2 tusks
	GB	CA		81 tusks (C)	96 tusks
	IT	CA			6 tusks
	IT	GB	[XX]		1 tusk
	JP	CA			2 tusks
	US	CA			1 tusk
	US	GB	[XX]	1 tusk (C)	
Physeter catodon	AU	GB	[XX]		240 bags of wax
	CA	GB	[XX]		25 bags of wax
	CH	GB	[XX]		1 bone piece
	DE	GB	[XX]		480 bags of wax
	DE	GB	[XX]		3000 kg. wax
	DK	GB	[XX]		4 bags of wax
	ES	GB	[XX]		80 bags of wax
	FR	GB	[XX]		4025 g. other
	FR	GB	[XX]		200 bags of wax
	GB	AU		50 kg. teeth (C)	
	GR	GB	[XX]		1000 kg. wax
	IN	GB	[XX]		13500 kg. oil
	IT	GB	[XX]		40 bags of wax
	IT	GB	[XX]		5000 kg. wax
	JP	GB	[XX]		160 bags of wax
	JP	GB	[XX]		4000 kg. wax
	NL	GB	[XX]		200 bags of wax
	NO	GB	[XX]		31066 kg. wax

1979 ALL CITES TRANSACTIONS IN CETACEA (Ctd)

SPECIES	COUNTRY OF IMP.	EXP.	ORIGIN	IMPORTS REPORTED (PURPOSE)	EXPORTS REPORTED (PURPOSE)
	TH	GB	[XX]		1000 kg. wax
	US	GB	[XX]		2 bone pieces
	US	JP		26 cases of meat (C)	
	XX	GB	[XX]		400 kg. oil
	XX	US	[XX]		48680 lbs. oil (C)
BALAENIDAE spp	US	CA			3 carvings

1979 ALL CITES TRANSACTIONS IN POLAR BEARS (URSUS MARITIMUS)

SPECIES	COUNTRY OF IMP.	0F.	ORIGIN	IMPORTS REPORTED (PURPOSE)	EXPORTS REPORTED (PURPOSE)
APPENDIX II					
Ursus (Thalarctos)	AR	US			2 live (Z)
maritimus	AT	CA			1 skin
	AU	CA			2 skins
	AU	NL		1 live	
	CA	US			1 live (Z)
	DE	CA		1 live	1 live (Z)
	DE	CA		16 skins	17 skins
	DE	CA			1 skull
	DE	CA			5 trophies
	DE	CH	[DE]		1 live
	DE	DD			4 live (captive bred)
	DE	DK	[CA]		8 skins (C)
	DE	GB		7 skins	
	DE	IT	[XX]		1 live
	DE	SU		5 live	2 live (captive bred) (C)
	DE	SU			3 live (Z)
	DE	US			2 live (Z)
	DK	CA			12 skins
	DK	CA			1 trophy
	DK	CA	[XX]	9 skins (C)	
	DK	CA	[XX]	2 trophies (C)	
	ES	CA			4 skins
	FR	CA			2 live
	FR	CA			3 skins
	GB	CA		2 skins (C)	9 skins
	GB	DK	[GL]		3 skins (C)
	HK	CA		3 skins (C)	3 skins
	IT	CA			2 skins
	IT	DK	[GL]		1 skin (C)
	JP	CA			4 live
	JP	CA			110 skins
	JP	CA			2 trophies
	JP	DE	[SU]		1 live
	JP	SU			2 live (captive bred) (C)
	JP	SU			4 live (C)
	JP	US			2 live (C)
	JP	US			3 live (Z)
	MX	CA			3 skins
	MX	CA			4 trophies
	NL	CA			2 live (Z)
	NL	DD			5 live (captive bred)
	NO	CA			3 skins
	NO	DK	[GL]		7 skins (C)
	PL	DD			3 live (captive bred)
	SE	DK	[GL]		11 skins (C)
	SE	DK	[GL]		2 skins (P)
	SG	CA			1 live (Z)
	US	CA			1 live (Z)
	US	CA			3 skins
	US	CA			1 skull
	XX	US			2 live (captive bred) (Z)
	YU	CA			1 skin

1979 ALL CITES TRANSACTIONS IN PINNIPEDIA

SPECIES	COUNTRY OF IMP.	EXP.	ORIGIN	IMPORTS REPORTED (PURPOSE)	EXPORTS REPORTED (PURPOSE)
APPENDIX I					
Monachus monachus	CH	DE	[CH]	2 skulls	
APPENDIX II					
Arctocephalus spp	HK	GB	[XX]	18 skins (C)	
Arctocephalus australis	AT	DE	[UY]		3 garments
	BE	DE	[UY]		2 garments
	CH	DE		1 garment	
	CH	DE		30 skins	
	CH	DE	[UY]		1 garment
	CH	DE	[UY]		22 skins
	CH	IT		6 garments	
	CH	UY		99 garments	102 garments
	CH	UY		3 plates	
	DE	UY			41 garments
	DE	UY			625 skins
	DE	ZA		2 live	
	FR	DE	[UY]		4 garments
	IT	DE	[UY]		83 skins
	NL	DE	[UY]		14 skins
Arctocephalus pusillus	AT	DE	[ZA]		54 garments
	AT	DE	[ZA]		325 skins
	BE	DE	[ZA]		8 garments
	CH	DE		4 garments	
	CH	DE	[ZA]		2 garments
	CH	DE	[ZA]		30 skins
	CH	IT		2 garments	
	CH	IT	[NO]		3 garments
	CH	IT	[XX]		3 garments
	CH	IT	[ZA]		2 garments
	DE	NO	[ZA]		23959 skins
	DE	UY		13 garments	
	DE	UY		625 skins	
	DK	US	[XX]		1 garment (C)
	FR	DE	[ZA]		3 garments
	FR	DE	[ZA]		12 skins
	GB	AU	[ZA]	10 skins	
	GB	CA			152 skins
	GB	CA	[ZA]	152 skins (C)	
	GB	HK	[ZA]		4 live
	IT	DE	[ZA]		4 garments
	IT	NO	[ZA]		331 skins
	LK	HK	[ZA]		2 live
	NO	DE	[ZA]		8 garments
	NO	DE	[ZA]		52 skins
	NO	ZA	[NA]	43518 skins (C)	
	SE	DE		3 garments (C)	
	SE	DE	[ZA]		3 garments
	SE	NO	[ZA]		100 skins
	SG	HK	[ZA]		3 live
	TN	DE	[ZA]		1000 skins
	US	CA			3 garments
	US	DE	[ZA]		85 skins
	US	DK	[NA]		1 skin (C)
Arctocephalus pusillus doriferus	US	CA			1 garment
Arctocephalus pusillus pusillus	DE	ZA			1 live
	DE	ZA			25000 skins
	IT	ZA			2 live
APPENDIX III					
Odobenus rosmarus	CA	US	[CA]	14 carvings (U)	
	DE	CA			94 ivory carvings
	FR	CA			16 ivory carvings
	NL	CA			1 ivory carving
	US	CA			14 carvings (U)
	US	CA			4 ivory carvings
	US	CA			5 tusks

1979 ALL CITES TRANSACTIONS IN MARINE LUTRINAE

SPECIES	COUNTRY OF IMP.	EXP.	ORIGIN	IMPORTS REPORTED (PURPOSE)	EXPORTS REPORTED (PURPOSE)
APPENDIX II					
Enhydra lutris	JP	CH	[XX]		1 skin

1979 ALL CITES TRANSACTIONS IN SIRENIA

SPECIES	COUNTRY OF IMP.	EXP.	ORIGIN	IMPORTS REPORTED (PURPOSE)	EXPORTS REPORTED (PURPOSE)
APPENDIX I					
Dugong dugon (-104)	AU	PG			20 tusks (E)
	CA	PG			60 specimens (S)
	GB	PG			50 specimens (S)
Trichechus manatus	AU	US		50 pieces	
	DE	GY		2 live (S)	
APPENDIX II					
Dugong dugon (+208)	US	AU			35 specimens + blood samples

INDEX OF I.S.O. COUNTRY CODES USED IN THIS REPORT

AR	Argentina	JP	Japan
AT	Austria	LK	Sri Lanka
AU	Australia	MX	Mexico
BE	Belgium	NA	Namibia
CA	Canada	NL	Netherlands
CH	Switzerland	NO	Norway
DD	German Democratic Republic	PG	Papua New Guinea
DE	Germany, Federal Republic of	PL	Poland
DK	Denmark	SE	Sweden
ES	Spain	SG	Singapore
FR	France	SU	Union of Soviet Socialist Republics
GB	United Kingdom	TH	Thailand
GL	Greenland	TN	Tunisia
GR	Greece	US	United States
GY	Guyana	UY	Uruguay
HK	Hong Kong	XX	Country unknown
IN	India	YU	Yugoslavia
IT	Italy	ZA	South Africa

PURPOSE CODES

(C)	Commercial	(S)	Scientific
(E)	Educational	(U)	Transit
(P)	Personal	(Z)	Zoo

BIBLIOGRAPHY

Almkvist, L., 1980 :
Legislation, Protection and Research on Baltic Seals in Sweden since 1977. Address to Symposium on status and biology of Baltic Sea seals, University of Warsawa, Poland.

Anderson Sheila S. 1981, Part III in A.J.B Rudge, M. Klinowska, S.S. Anderson, 1981 :
Preliminary Status Report on the Marine Mammals of Major Relevance to Europe, Report EUR 7317 EN. Environment and Consumer Protection Service, Commission of the European Communities.

Anon, 1976 :
Report of Working Group 3 (Pinnipeds) of FAO Scientific Consultation on Marine Mammals, ACMRR/MM/SC/Rep.3.

Anon, 1978a :
Mammals in the Seas, Volume 1, Report of the FAO Advisory Committee on Marine Resources Research, Working Party on Marine Mammals. FAO in cooperation with UNEP.

Anon, 1978b :
The Sea-Lion War, CARETAS no. 535, 13 February 1978.

Anon, 1978c :
Report on the Status of Canadian Wildlife used by the Fur Industry Revised Edition (1977). Dept of Industry, Trade and Commerce, Ottawa, Canada, in association with the Canada Fur Council.

Anon, 1980a :
Why Norway is culling seals, Fishing News International, December 1980.

Anon, 1980b :
Arsberetning vedkommende Norges Fiskerier, 1980 nr. 10, Selfangsten 1980, Fiskeridirektøratet, Bergen.

Anon, 1980c :
A World Review of the Cetacea, Nature Conservancy Council, Great Britain.

Anon, 1981a :
Yearbook of Fisheries Statistics 1980. Food and Agriculture Organisation of the United Nations.

Anon, 1981b :
Grønland 1981, Arsberetning udarbejdet af ministeriet for Grønland, 12. drg. 1981 ISBN 87-7413-011-0 (Greenland 1981, yearly report published by Ministry of Greenland, 12th year, 1981).

Anon 1981c :
Marine Mammal Protection Act of 1972 Annual Report 1980/81, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, June 1981.

Anon, 1981d :
Native Seals on the Brink of Extincton, Chikyu no Koe no. 5, July 1981, Friends of the Earth, Japan.

Anon, 1981e :
International Whaling Statistics LXXXVII and LXXXVIII, The Committee for Whaling Statistics, Sandefjord, Norway.

Anon, 1981f :
IUCN Bulletin Vol. 12, No. 1-2, IUCN, Gland, Switzerland.

Anon, 1982 :
Norwegian Sealing in the North Atlantic. Royal Norwegian Ministry of Foreign Affairs and Royal Norwegian Ministry of Fisheries.

Anon, 1982b :
Marine Mammal Protection Act of 1972 Annual Report 1981/82, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, June 1982.

Benavides, F., 1978 :
In Defense of Sea Lions, La Prensa, 20 February 1978.

Bigg, M.A., 1981 :
Harbour Seal, in Ridgway, S.H and R.J. Harrison, 1981b.

Bonner, W.N., 1976 :
The Status of Seals in the United Kingdom. Paper to FAO Scientific Consultation on Marine Mammals ACMRR/MM/SC/43. May 1976.

Burns, J.J., 1981 :
Bearded Seal, in Ridgway, S.H. and R.J. Harrison, 1981b.

Burton, R., 1978 :
Antarctic Seals in Barzdo, J. (Ed), Management of Polar Birds and Mammals, Proceedings of Symposia, Assoc. Brit. Wild Animal Keepers.

Bychkov, V.A., 1973 :
The Kurile Harbour Seal = Pagophobic Harbour Seal in Seals, Proceedings of a Working Meeting of Seal Specialist on Threatened and Depleted Seals of the World, held under the auspices of the Survival Service Commission of IUCN, August 1972, University of Guelph, Ontario, Canada. IUCN.

Bychkov, V. :
(Unpubl.), Protection of Rare Pinnipeds in the USSR. Central Laboratory on Nature Conservation, Ministry of Agriculture, USSR. 1976.

Corbet, G.B. and J.E. Hill, 1980 :
A World List of Mammalian Species, British Museum (Natural History).

Honacki, J.H., Kinman, K.E., and Koeppl, J.W. (Eds.), 1982 :
Mammal Species of the World. Allen Press and the Association of Systematics Collections.

Kapel, F.O., 1981 :
Revised Statistics for the catch of harp and hooded seal in Greenland 1977, and preliminary figures for 1978 to 1980. NAFO/SC working paper 81/IX/44 to Special Meeting of Scientific Council - November 1981.

Kellogg, R., 1942 :
Tertiary, Quartenary amd Recent mammals of South America and the West Indies. Proc. 8th Amer. Sci. Congr., Washington, 1940, 3:445-73.

King, J.E., 1964 :
Seals of the World. Trustees of the British Museum (Natural History).

Kooyman, G.L., 1981a :
Leopard Seal, in Ridgway, S.H. and R.J. Harrison, 1981b.

Kooyman, G.L., 1981b :
Crabeater Seal, in Ridgway, S.H. and R.J. Harrison, 1981b.

Laws, R.M., 1972 :
Seals and Birds Killed or Captured in the Antarctic Treaty Area, 1964-69. Polar Record 16 no. 101, p343-364.

Laws, R.M., 1973a :
The Current Status of Seals in the Southern Hemisphere. in Seals, Proceedings of a Working Meeting of Seal Specialists on Threatened and Depleted Seals of the World, held under the auspices of the Survival Service Commission of IUCN, August 1972, University of Guelph, Ontario, Canada. IUCN.

Laws, R.M., 1973b :
Seals and Birds Killed or Captured in the Antarctic Treaty Area, 1969-70. Polar Record 16 no. 105, p901-913.

Laws, R.M. and E.C. Christie, 1976 :
Seals and Birds Killed or Captured in the Antarctic Treaty Area, 1970-73. Polar Record 18 no 114, p318-320.

Laws, R.M. and E.C. Christie, 1980 :
Seals and Birds Killed or Captured in the Antarctic Treaty Area, 1973-75. Polar Record 20 no. 125, p195-198.

Ling, J.K. and G.E. Walker, 1976 :
Seal Studies in South Australia; Progress report for the year 1975. The Southern Australian Naturalist vol. 50:4, June 1976.

Mate, B.R.,1976 :
History and present status of the California Sea

Lion Zalophus californianus. Paper to FAO Scientific Consultation on Marine Mammals, ACMRR/MM/SC/39. March 1976.

Maxwell, G., 1967 :
Seals of the World, Constable, London.

Naito, Y, and M. Nishiwaki, 1973 :
Kurile Harbour Seal (Phoca kurilensis) in Seals, Proceedings of a Working Meeting of Seal Specialists on Threatened and Depleted Seals of the World, held under the auspices of the Survival Service Commission of IUCN, August, 1972, University of Guelph, Ontario, Canada. IUCN.

Nature Conservancy Council, 1982 :
Recommendations and Status Reports on Harp and Hooded Seals - Revision of the 1981 Report EUR 7317 EN. Prepared for the Directorate General for the Environment Consumer Protection and Nuclear Safety of the Commission of the European Communities by the Nature Conservancy Council of Great Britain.

Pfeiffer, J.A., 1981 :
U.S. Government Sealing Operations on the Pribilof Islands, 1980 Season - St. Paul. World Society for the Protection of Animals.

Popov, L.A., 1976 :
Status of Main Ice Forms of Seals Inhabiting Waters of the USSR and Adjacent to the Country Marine Areas. Paper to FAO Scientific Consultation on Marine Mammals, ACMRR/MM/SC/51. June 1976.

Reeves, R.R. and J.K. Ling, 1981 :
Hooded Seal, in Ridgway, S.H. and R.J. Harrison, 1981b.

Ridgway, S.H. and R.J. Harrison (Eds), 1981a :
Handbook of Marine Mammals, Vol 1, The Walrus, Sea Lions, Fur Seals and Sea Otter. , Academic Press.

Ridgway, S.H. and R.J. Harrison (Eds), 1981b :
Handbook of Marine Mammal, Vol 2, Seals. Academic Press.

Schusterman, R.J., 1981 :
Steller Sea Lion, in Ridgway, S.H. and R.J. Harrison, 1981a.

Sergeant, D.E., 1973 :
Current Status of Seals in the Northern Hemisphere, in Seals Proceedings of a Working Meeting of Seal Specialists on Threatened and Depleted Seals of the World, held under the auspices of the Survival Service Commission of IUCN, August, 1972, University of Guelph, Ontario, Canada, IUCN.

Thornback, J. and M. Jenkins, 1982 :
The IUCN Mammal Red Data Book, Part 1, IUCN, Gland, Switzerland.

Vaz-Ferreira, R., 1981 :
South American Sea Lion, in Ridgway, S.H. and R.J. Harrison, 1981a.

Walker, G.E. and J.K. Ling, 1981a :
New Zealand Sea Lion, in Ridgway and Harrison 1981a.

Walker, G.E. and J.K. Ling, 1981b :
Australian Sea Lion, in Ridgway, S.H. and R.J. Harrison, 1981a.

PERSONAL COMMUNICATIONS AND LETTERS

Barbour, C., Department of Agriculture and Fisheries for Scotland, Cheseer House, Gorgie Road, EDINBURGH EH11 3AW, U.K.

Boe, Vivia, Research Coordinator, Greenpeace Seattle, 4534 1/2 University Way, SEATTLE, Washington 98105, USA.

Butcher, D.G., H.M. Customs and Excise, Kent House, Upper Ground, LONDON, SEI 9PP, U.K.

de Chancel, Jean, Direction de la Protection de la Nature, Ministère de l'Environnement, 14 Boulevard du Général-Leclerc, 92524 NEUILLY SUR CEINE CEDEX, France.

Dollinger, Peter, Federal Veterinary Office, Division International Traffic and Animal Welfare, Thunstrasse 17, 3000 BERN 6, Switzerland.

Doubleday, W.G., Director, Resource Research Branch, Fisheries and Oceans, 240 Sparks Street, OTTAWA, Ontario K1A OE6, Canada.

Engel, Z., Director, Leather and Leather Goods Dept., Ministry of Industry and Trade, P.O.B. 299, JERUSALEM 94190, State of Israel.

Engesaeter, S. and G.A. Kuhnle, Kontoret For Utredning og Statistikk, Fiskeridirektøren, Møllendalsvegen 4 - Postboks 185, 5001 BERGEN, Norway.

Fouarge, A., Chairman of the NIMEXE Committee, Statistical Office of the European Communities, Boite Postale 1907, Luxembourg.

Gertenbach, L.P.D., Senior Fishery Statistician, Fishery Information, Data and Statistics Service, Fisheries Department, Food and Agriculture Organization of the UN, Via delle Terme di Caracalla, 00100 ROME, Italy.

Gilbe, O., Export Division, The Royal Greenland Trade Department, Strandgade 100, P.O. Box 100, DK-1004 COPENHAGEN K, Denmark.

Gonzalez Ruiz, E.O., Director Nacional de Fauna Silvestre, Ministerio de Economía, Secretaria de Agricultura y Ganaderia, Paseo Colon 922-2° Piso of. 201, 1063 BUENOS AIRES, Argentina.

Hagstofa Islands. The Statistical Bureau of Iceland, REYKJAVIK, Iceland.

Harwood, John, Sea Mammal Research Unit, c/o British Antarctic Survey, Madingley Road, CAMBRIDGE, UK.

Healy, W.B., Minister (Scientific), New Zealand High Commission, New Zealand Scientific Office, New Zealand House, Haymarket, LONDON SWIY 4TQ, UK.

Heimburg, von, Der Bundesminister für Ernahrung, Landwirtschaft und Forsten, Postfach 140270, 5300 BONN 1, Federal Republic of Germany.

Henriksen, H.L., General Manager, Karlsen Shipping Co. Ltd., Karlsen Wharf, 2089 Upper Water Street, HALIFAX, Nova Scotia B3K 5M8, Canada.

Jorge Padua, Maria Tereza, Directora do Depto. de Parques Nac. e Res. Equivalentes - IBDF, Servico Publico Federal, SAIN-Av L4 Norte, BRASILIA-DF, Brazil.

Kalden, C.J., Head of the Fauna and Flora Division, Ministerie van Cultuur, Recreatie en Maatschappelijk Werk, Postbus 5406, 2280 HK RIJSWIJK, Netherlands.

Koch, R., Staatliche Zentralverwaltung für Statistik, 1026 BERLIN, den, Hans- Beimler-Str. 70/72, German Democratic Republic.

Laws, R.M., Director, British Antarctic Survey, Madingley Road, CAMBRIDGE, UK.

Lee Kam-Shing, Louis, Urban Services Dept., Headquarters, 12th Floor West Wing, Central Government Offices, Hong Kong.

Ling, John K., Director, South Australian Museum, North

Terrace, ADELAIDE, South Australia 5000, Australia.

Mansfield, A.W., Director, Arctic Biological Station, 555 St Pierre Blvd., STE-ANNE DE BELLEVUE, Province de Quebec, H9X 3R4, Canada.

McCormack, M., Assistant Private Secretary, Home Office, Queen Anne's Gate, LONDON SW1H 9AT, U.K.

McMillan, L.J., Director, McMillan and Moore, 16 Queenhithe, LONDON EC4V 3DX, UK.

Miller, R.V., Deputy Director, National Marine Mammal Laboratory, 7600 Sand Point Way N.E., Building 32, SEATTLE, Washington 98115, USA.

Nagatani, Y., Deputy Director, International Economic Affairs Division, International Trade Policy Bureau, Ministry of International Trade and Industry, 3-1 Kasumigaseki 1- Chome, Chiyoda-ku, TOKYO, Japan.

Natoli, I.T., Director Internacional Subrogante, Banco Central de Chile, SANTIAGO, Chile.

O'Shaughnessy, T., Department of Fisheries and Forestry, Leeson Lane, DUBLIN 2, Ireland.

Palekar, M.D., Officer-in-Charge, International Trade and Related Statistics Branch, Statistical Office, United Nations, NEW YORK, New York 10017, USA.

Pelham, C., Home Office, Queen Anne's Gate, LONDON SW1H 9AT, UK

Petrowitch, Ivan, F., Director Nacional de Pesca, Ministerio de Economía, Fomento y Reconstrucción, Servicio Nacional de Pesca, Dpto. Recursos, SANTIAGO, Chile.

Reakes-Williams, G.K., Ministry of Agriculture and Fisheries, P.O.Box 358, SUVA, Fiji.

Rieber, Chr., Director, G.C.Rieber and Co., A/S, P.O. Box 990, N-5001 BERGEN, Norway.

Roe, R.B., Acting Director, Office of Marine Mammals and Endangered Species, United States Dept. of Commerce, NOAA, National Marine Fisheries Service, WASHINGTON D.C. 20235. USA.

Røgeberg, S.L., Chief of Division 5, Statistisk Sentralbyra, Dronningens Gate 16, P.B. 8131 Dep, N-OSLO, Norway.

Seiz, Clyde, Jr., President, Fouke Fur Co., 8100 White Horse Road, GREENVILLE, South Carolina 29611, USA.

Sloth, Birgith, National Agency for the Protection of Nature, Monuments and Sites, Ministry of the Environment, Fredninsstyrelsen, Amaliegade 13, DK-1256 COPENHAGEN K, Denmark.

Sortheix, J.J.A., Assistant Secretary General, Customs Co-operation Council, rue de l'Industrie 26-38, B-1040 BRUXELLES, Belgium.

Wong, Brian, District Biological Adviser, Fisheries and Oceans, YELLOWKNIFE, North West Territories, Canada.

The References to Ivanov (1982), Popov (1979), Timoshenko (1982), Verzin (1982) and Zemsky (1980) are all quoted by Yablokov (in litt.) in Russian. Unfortunately we do not yet have the English translation.

1979 International Trade in Crocodylia Reported by CITES Parties

INTRODUCTION

This report summarizes the international trade in Crocodylia in 1979 as reported by CITES Parties. Data are presented in respect of trade in two categories: live animals and unworked skins and an analysis and some interpretation is offered for these two categories.

As is noted below, the quality of the trade statistics used in this report is extremely poor, and great caution must, therefore, be exercised in the use of these data. In view of the fact that even the figures for trade in unworked skins are extremely inaccurate, no attempt has been made to analyse or interpret the bulk of the data (which relate to trade in manufactured goods) available from CITES annual reports.

It is most important to note that this report is based entirely on CITES-reported statistics. What proportion of all international trade this represents is totally unknown and, at present, cannot even be guessed at.

METHODS

All relevant data submitted by CITES Parties in their annual reports for 1979 were processed in a Wang VS computer. The computer is programmed to produce a tabulation comparing all reported imports with all reported exports/re-exports. Printouts of such tabulations were obtained for the live animals and unworked skins of all Crocodylia.

For live animals, the overall maximum volume of trade was calculated by summing the relevant figures throughout, except where the tabulation indicates a precise correlation between reported imports and reported exports/re-exports, in which case only one of the two identical figures was included. A minimum figure was calculated by summing the figures for all countries which were net importers, and by adjusting the figures accordingly where there was partial correlation between reported imports and reported exports/re-exports.

For unworked skins a similar technique to that applied to live animals was used. However, figures referring to "sides" were halved to make allowance for the fact that two "sides" are normally obtained from each animal.

The use to which the data can be put is very limited as a result of several factors:

(i) Correlation between reported imports and reported exports/re-exports is so infinitesimally low that it is conclusively apparent that the data are extremely unreliable.

(ii) The pattern of trade is very complex with many countries acting as entrepots. This makes it impossible to calculate precise figures since it is not known what proportion of the specimens traded are recorded on more than one occasion.

(iii) Not all Party states submitted an annual report for 1979.

RESULTS

Live animals

All reported transactions in live animals were used to calculate maximum and minimum estimates of the number of animals involved (Table 1). The only reported trade in live crocodilians of major significance involved the species Caiman crocodilus. A total of c. 55,850 animals

Table 1

Reported trade in live Crocodylia

Appendix	Taxon	Maximum No.	Minimum No.
I	Crocodylus niloticus	102	102
I	C. palustris	4	4
I	C. porosus (-108)	51	51
I	Tomistoma schlegelii	2	2
I	Gavialis gangeticus	1	1
II	Alligator mississippiensis	6	4
II	Caiman crocodilus	49,972	46,415
II	Caiman c. crocodilus	9,172	8,372
II	Caiman c. fuscus	1,065	1,065
II	Palaeosuchus palpebrosus	3	3
II	Crocodylus n. novaeguineae	12	12
II	Crocodylus porosus	12	12

entered trade, of which most (c. 52,000) were destined for U.S.A. The majority of these animals originated in Panama (c. 51,000) and most of the rest came from Guatemala. In Europe, the Federal Republic of Germany and the Netherlands were the most important centres of trade.

Unworked skins

All reported transactions in unworked skins were used to calculate maximum and minimum estimates of the number of animals involved (Table 2). The following points are worthy of note:

Caiman latirostris

All 550 skins were exported from Italy to France and reported as originating in Brazil.

Crocodylus cataphractus

Of the 3,736 skins traded, 3,165 were reported to originate from Congo and 571 from Togo.

Crocodylus moreletii

96 skins were declared as originating from Panama.

Crocodylus niloticus

The major net importers were France (2,519) and the Federal Republic of Germany (1,161), and most of the trade was reported between France and Italy. Reported origins of skins were Togo (c. 1,750), Botswana (c. 1,150 and Congo (185). However, it is probable that the skins declared as originating in Botswana were actually re-exports of skins from Zimbabwe.

Crocodylus porosus (other than population of Papua New Guinea)

The major trading country in Europe was France who re-exported 1,931 skins to Switzerland and 1,865 skins to Italy. Most skins (3,572) were reported as originating in Singapore, although 140 were declared as coming from Indonesia and 74 from Malaysia.

Alligator mississippiensis

All reported trade occurred between U.S.A. and France.

Caiman crocodilus subspp.

The maximum estimate for all subspecies was 725,047 and the minimum estimate was 431,416. In addition, large quantities were reported in trade with the number unspecified. The true minimum figure for reported trade is probably in excess of 0.5 million. Major net importing countries were the Federal Republic of Germany (c. 250,000), Austria (c. 46,000), France (c. 40,000), Hong Kong (c. 27,000) and Switzerland (c. 26,000). It is apparent that declarations of the subspecies and origin of skins are in many cases inaccurate, and any analysis based on such information is unlikely to be meaningful. However, it should be noted that the major producing countries were reported as being Bolivia, Colombia and Paraguay.

Crocodylus novaeguineae novaeguineae

The minimum estimate of 41,155 corresponds precisely with Papua New Guinea's reported exports.

Crocodylus porosus (population of Papua New Guinea)

The minimum estimate was 8,613 + 48 kg of skin pieces. Papua New Guinea's reported exports were 7,425.

SUMMARY

Precise correlation between reported imports and reported exports/re-exports of unworked skins occurred in only one instance - Italy's re-export to Hong Kong of 1484 skins of Caiman crocodilus fuscus from Bolivia - out of a total of 401 reported transactions. Of the 400 (99.75%),

Table 2

Reported trade in unworked skins of Crocodylia

Appendix	Taxon	Maximum estimate	Minimum estimate	Notes
I	Crocodylidae spp.	4	4	-
I	Caiman latirostris	550	550	-
I	Crocodylus cataphractus	3,736	3,736	+ 1159 cm.
I	Crocodylus moreletii	209	113	-
I	Crocodylus niloticus	7,572	3,706	-
I	Crocodylus porosus (-108)	4,049	4,049	-
II	Alligator mississippiensis	5,470	5,404	-
II	Caiman crocodilus	16	16	+ 590 pieces + 34 leather (sic)
II	Caiman c. crocodilus	478,543	249,165	+ 3,486 kg. + 22,350 sq. ft. + 37,211 pieces
II	Caiman c. fuscus	243,218	179,870	+ 323 sq. ft. + 6159 pieces
II	Caiman c. yacare	3,270	2,365	+ 200 kg. + 3,000 sq. ft. + 6 pieces
II	Palaeosuchus spp.	50	50	-
II	Palaeosuchus palpebrosus	3,595	3,393	-
II	Crocodylidae spp.	163	163	+ 1 shipment
II	Crocodylus acutus	3,874	3,431	-
II	Crocodylus a. cuvieri	2,390	2,390	+ 323 cm.
II	Crocodylus johnsoni	2,145	1,943	-
II	Crocodylus novaeguineae	994	987	+ 5 sq. m.
II	Crocodylus n. novaeguineae	57,661	41,155	-
II	Crocodylus porosus	13,994	8,613	+ 48 kg.

a large number is due to countries involved being non-Parties, but the majority of discrepancies illustrate the gross inadequacy of CITES implementation.

CONCLUSIONS

The data submitted by CITES Parties in their annual reports are extremely inadequate and therefore can only be used to indicate broadly the pattern and volume of trade. The fact that many Party states failed to submit a report adds to the inadequacy of the statistics.

The discrepancies between trading Party states are so large that it is apparent that CITES implementation with respect to crocodilians is extremely poor indeed. Before CITES trade statistics can be used to accurately monitor such trade, there needs to be a very large improvement in the accuracy of figures submitted by Parties in their annual reports. Meanwhile, the main use of the statistics must be to illustrate the inadequacy of present controls and/or reports and to indicate those areas where the need for improvement is greatest.

The discrepancies between trading Party states are so large that it is apparent that CITES implementation with respect to crocodilians is extremely poor indeed. Before CITES trade statistics can be used to accurately monitor such trade there needs to be a very large improvement in the accuracy of figures submitted by Parties in The following are considered to be priorities:

(i) In preparing their annual reports, Parties should follow closely the guidelines prepared by the CITES Secretariat.

(ii) Parties not submitting annual reports should be urged to do so.

(iii) Parties should improve the accuracy of their annual reports, especially with respect to the number of unworked skins traded and the declaration of the origin of such skins.

South African Fur Seal Harvest

The previous report in this issue on the marine mammal product trade mentions a harvest of Cape fur seals, Arctocephalus pusillus, in South Africa and Namibia. WTMU has recently received information from the South African Sea Fisheries Research Institute that gives details of the number of animals killed, the amount of oil and meat meal produced, and the number of skins exported (see the table below). Some of the skins from Namibia are exported by the Republic of South Africa but not vice versa, and it is possible that the remaining skins are exported by Namibia herself. Appendix 2 of the above-mentioned report shows that a large percentage of the skins exported goes to West Germany; the seal oil and meat are used locally and do not enter international trade.

	REPUBLIC OF SOUTH AFRICA				NAMIBIA				
YEAR	Animals killed Bulls	Pups	Oil production (kg)	Meat meal production (m.tons)	Animals killed Bulls	Pups	Oil production (kg)	Meat meal production (m.tons)	Skins exported
1979	387	27308	25326	0	0	47775	192618	42.3	25000
1980	547	18666	27675	11.9	800	46508	226895	46	36772
1981	640	31837	55614	4.5	0	55128	249541	37.3	53338

Amphibia-Reptilia Red Data Book

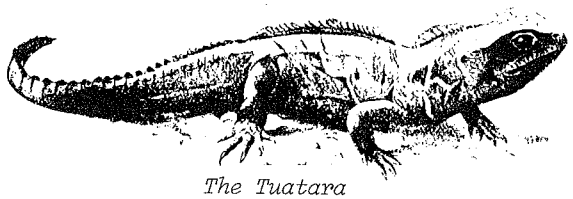
Part 1 of a new fully-revised and expanded edition of the IUCN Amphibia-Reptilia Red Data Book has just been published. It comprises accounts of the species and subspecies of the reptile orders Testudines, Crocodylia and Rhynchocephalia, whose continued survival is known or strongly suspected to be actively threatened or otherwise at risk. The order Testudines ('chelonians') includes freshwater turtles, sea turtles and land tortoises.

The Crocodylia ('crocodilians') includes alligators, caimans, true crocodiles and the gharial. The only living representative of the Rhynchocephalia is the lizard-like tuatara, Sphenodon punctatus.

For each taxon detailed and up-to-date accounts of distribution, population status, habitat and ecology, threats to survival and conservation measures are provided (wherever such data are available) together with a full reference list. An attempt has been made to be as comprehensive as possible within each subheading.

It was decided to begin the revision of the Amphibia-Reptilia Red Data Book with chelonians, crocodilians and the tuatara because of the volume of data available, and to some extent because of the wide interest in these species.

The detailed distribution and biology of most of the freshwater turtles and land tortoises included in this volume are very poorly known. For many taxa in these groups the prime conservation proposal is for a field survey to determine survival status, distribution and relevant aspects of biology. Habitat loss is cited as a threat to many of these animals, particularly freshwater species that tend to be affected by wetland drainage or pollution. Some freshwater turtles, notably Podocnemis expansa and Batagur baska, resemble sea turtles in coming ashore in seasonal concentrations to lay their eggs at traditional nesting sites. This renders them liable to excessive human predation on both eggs and adults. Other freshwater species, such as Phrynrops dahli and Pseudemydura umbrina, appear to be naturally extremely rare. A number of species is affected by a combination of small range, exploitation for food and habitat loss. Similarly most of the land tortoises are affected by a combination of factors. Some, such as Geochelone platynota are known to have been locally common in the nineteenth century but lack recent study and are suspected to be declining due to heavy food use. Exploitation for the pet trade has been a major threat to many of the taxa listed, Geochelone chilensis and Testudo graeca graeca for example. The most critically endangered tortoise, Geochelone yniphora from Madagascar, has in the past been exploited for food and occasionally for pets, and suitable habitat over much of its small range has been lost.



The Tuatara

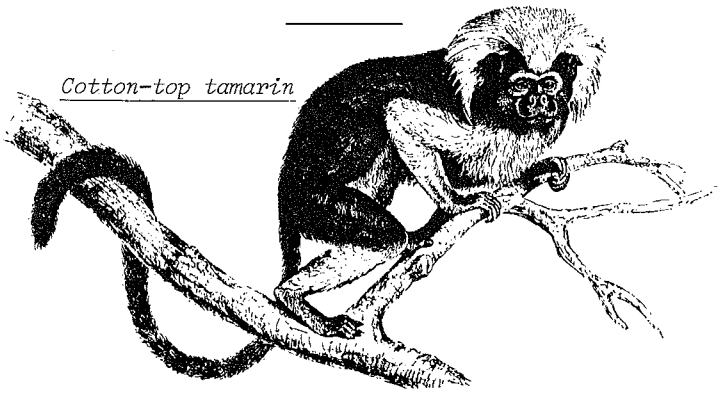
Sea turtles face many problems including widespread increases in the intensity of local exploitation, continuing international trade in luxury items such as turtle soup, leather and tortoiseshell; incidental catch in shrimp and prawn trawls, squid and fish nets; and habitat destruction and disturbance, especially to nesting beaches.

Unregulated or poorly regulated trade in hides has caused very severe depletion of crocodilian species throughout the tropics and sub-tropics. This primary threat of overexploitation is compounded in some areas by habitat destruction, notably drainage of wetlands. The focus of exploitation has tended to shift from one species to another; the more accessible and/or commercially preferable species being the initial target. For instance in Africa hides of the Nile crocodile, Crocodylus niloticus, were in maximum demand, but with widespread depletion of this species, hunting pressure appears to be switching to the two other African species, Crocodylus cataphrachus, African slender-snouted crocodile and Osteolaemus

tetraspis, African dwarf crocodile. Similarly in northern South America, although the belly skin of the spectacled caiman, Caiman crocodilus crocodilus, contains well developed osteoderms (bony buttons making the hide less valuable) it is being subjected to renewed hunting pressures as the more desirable hides of the black caiman Melanosuchus niger and true crocodiles become harder to obtain.

Work is now commencing on parts 2 and 3 of the Amphibia-Reptilia RDB, covering snakes and lizards in one volume and amphibians in another. Any information on rare and actively threatened amphibians, snakes and lizards that may be of use in compiling parts 2 and 3 will be most gratefully received. All information used will be acknowledged.

Brian Groombridge, Compiler, Reptilia-Amphibia RDB and Lissie Wright, Senior Technical Assistant, IUCN Conservation Monitoring Centre.



Cotton-top tamarin

Mammal RDB Also Available

Part 1 of the IUCN Mammal Red Data Book is also now available, covering 155 threatened taxa in North and South America and Australasia, including representatives from all thirteen orders (excluding Cetacea) which inhabit these regions.

The Mammal volume comprises 560 pp; the Amphibia-Reptilia volume 480 pp; both are hardback bound. Outside the Americas books may be ordered directly from:

> IUCN Publications, Avenue du Mont-Blanc, 1196 GLAND, Switzerland, or the Conservation Monitoring Centre, 219c Huntingdon Rd., Cambridge, CB3 ODL, UK. Price per volume (incl. postage) - £11.00 (US$22.00) surface mail; £13.00 (US$26.00) air mail.

In the USA, Canada, Latin America and the Caribbean orders may be placed with:

> UNIPUB, Box 433, Murray Hill, NEW YORK, NY 10016, USA. Price per volume (incl. postage), payable with order - US$21.00 plus any appropriate state tax.

Varanus/Tupinambis Report

A summary on the report on the trade in monitor and tegu lizards (Varanus spp. and Tupinambis spp.) which we had hoped to include in this issue, will now be published in the next edition of the Traffic Bulletin.

US Wildlife Auction Result

According to a News Release from the US Dept of the Interior, the sale in September of a 10-year backlog of confiscated wildlife products by the US Fish & Wildlife Service mentioned in our last issue, has raised an estimated $250,000 for the US Treasury.

The highest bid was $14,753 for 94 fur coats. 640 pieces of black coral jewellery went to another bidder for $14,144 and other sales included $909 for nine armadillo handbags, $552 for 36 elephant hide beer mugs, $500 for an elephant-foot stand, $688 for four elephant-foot ice buckets and a stuffed coatimundi went for $200.

Other products which cannot be sold, such as endangered species, marine mammals and migratory bird specimens, are being made available as loans or donations to zoos, museums, universities, research institutions, or government agencies for public display or educational purposes.

Outcome of the IWC Whale Moratorium

Japan, Norway, USSR and Peru, four of the seven nations which voted against a worldwide moratorium on commercial whaling have filed objections to the 3-year phase out of whaling operations. The formal objection filed is the only legal step required for a whaling nation to exempt itself from the IWC's decision to stop commercial whaling.

Chile has filed an objection to the zero catch limit of 1982/83 pelagic and 1983 coastal seasons.

Subscription Form

NAME _____

ORGANISATION _____

ADDRESS _____

_____

_____

DATE _____

I wish to continue to receive the TRAFFIC Bulletin.

I enclose cheque/bank draft/international money order for $10/£5.00, per volume, payable to the Conservation Monitoring Centre. (For orders of more than one copy, a reduced rate is available.)

The Bulletin is sent free to all WTMU/IUCN consultants, Government agencies, conservation organisations and other institutions in a position to further the conservation of threatened species. Donations to defray costs will continue to be welcomed. To commercial enterprises and private individuals the Bulletin subscription is $10.00 (£5.00) per volume to cover mailing.