

**PROPOSAL FOR INCLUSION OF SPECIES ON THE APPENDICES OF THE CONVENTION
ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS**

A. PROPOSAL: To include the South American sea lion, *Otaria flavescens*, in Appendix II to the Convention on the Conservation of Migratory Species of Wild Animals (CMS)

B. PROPONENT: Government of Peru

C. SUPPORTING STATEMENT

1. Taxon

1.1 Class: Mammalia

1.2 Order: Carnivora

1.3 Suborder: Pinnipedia

1.4 Family: Otariidae

1.5 Genus or species: *Otaria flavescens* (Shaw, 1800) or *Otaria byronia* (de Blainville, 1820)

The specific name of the South American sea lion is not unanimously accepted. A few years after a study by Cabrera (1940), the *Otaria byronia* nomenclature, in use until then, was replaced by that of *Otaria flavescens*. On the basis of a study by King (1978), greater credibility was lent to the paper by Allen (1905), in which the name of *Otaria flavescens*, despite predating it by 20 years, was shown to have an unsatisfactory basis, and that of *byronia* appeared more correct and appropriate. In a study of the same controversy, Rodríguez & Bastida (1993), however, concluded that *Otaria flavescens* would seem to be the most fitting specific denomination.

1.6 Common Names: *Otaria* is commonly known as "león marino sudamericano", "lobo marino de un pelo", "lobo ordinario", "lobo común", "lobo grueso" (Uruguay and Argentina), "lobo chusco or león marino austral" (Chile) or "lobo chusco" (Perú). In Uruguay, adult males are called "pelucas", sub-adults "pelucones", and females "bayas". In Chile, the former are known as "torunos". South American sea lion, (Vaz Ferreira, 1976, 1979, 1982; King, 1983; Cappozzo & Rosas, 1991; Jefferson et al., 1993). Manenrob, Patagonische zeeleeuw, Mähnenrobbe, Süd-amerikanischer Seelöwe, Sørmerikasjøløve, Patagonianmerileijona, Sydamerikanskt sjölejon, Lion de mer d'Amérique du Sud, Otaria dalla criniera (Van der Toorn, 2000).

2. Biological data

2.1 Distribution

The species is found along the coasts of South America, and the Falkland Islands/Malvinas. On the Pacific side, breeding colonies are found south of Zorritos (03°40'S), down to Tierra del Fuego and, on the Atlantic side, in Isla de Los Estados (54°45'S) in Argentina, and up to Recife dos Tôrres (29°21'S) in Brazil (Rice, 1998). Isolated individuals may reach the coasts of the state of Bahia, in Brazil, and on the Pacific side, the coast of Ecuador, Colombia and Panama, as well as the Galapagos and Tahiti (Reeves et al., 1992).

2.2 Population

There are no precise estimates of the population size, but it is assumed that the total population of the species is of the order of 260,000. Some 50,000 in Peru (IMARPE, unpublished data), 90,000 in Chile, 90,000 in Argentina, 12,000 to 15,000 in Uruguay, and a few hundred in Brazil. The populations in Uruguay and the Falklands are rapidly declining, whereas in Argentina their numbers are increasing at more than 3% yearly (Seal Conservation Society, 2000). The Falklands'/Malvinas population decreased from a total of 400,000, around 1930, to less than 6,000 in 1995 (Thompson & Duck, 1995). In Peru there was a decrease of almost 80%, from 144,000 to 28,000 during the El Niño of 1997/98 (IMARPE, unpublished data), and the population has been slowly increasing since. There is no information on the state of the populations in Chile, but it is likely that El Niño of 1997/98 will also have had a negative effect.

2.3 Habitat

Pinnipedia spend a large part of their vital cycle in the water, feeding and travelling between feeding grounds, and breeding colonies on land. The most important variables that determine the type of sea habitat, are, it seems, the distribution and abundance of food. In general the species tends to feed in shallow waters (< 50 m deep) in coastal areas, and around the continental slope, where it finds the greatest concentrations of pelagic fish and/or marine invertebrates (Riedman, 1990).

On the other hand there are also records of the species entering river mouths (basin of the Uruguay river, basin of the Santa Lucía river, Arroyo Pando and Arroyo Solís in Uruguay) and Atlantic coastal lagunes (Vaz Ferreira, 1982). Similarly, in Argentina, where they are also seen in the waters of the River Plate estuary, there are records in continental waters. Individuals have been seen in the Puerto de La Plata, and the mouth of the river Salado. They have also been observed upstream in the Negro, Deseado, Chico and Gallegos rivers (Ponce de Leon, 2000a).

On land their distribution is limited by the degree of isolation, and exposure to disturbance. On the whole, sea lions tend to take refuge in areas of difficult access such as small islands, or at the base of steep cliffs, or in far off beaches and islands. They tend to select sandy or pebbly beaches (Majluf and Trillmich, 1981).

2.4 Migrations

On the Atlantic coast, some *Otaria* populations abandon their breeding colonies after the mating season, and migrate towards their feeding and resting grounds. Generally, animals that breed in the Atlantic coast of South America must carry out very extensive feeding journeys, usually within the Patagonian shelf, but often reaching the continental slope, which may be 300 to 400 kilometres distant from the shore (Campagna et al, under publication). During such journeys they may leave the territorial waters of Argentina and Uruguay and reach international waters, where they are exposed to the very intensive pelagic fisheries of the South Atlantic. Argentine and Uruguayan populations also tend to migrate towards the south of Brazil when not breeding, and spend most of the time feeding in the water. According to Vaz Ferreira (1982), there are records of animals marked at birth in Isla de Lobos, Uruguay, found in Puerto Quequén, Argentina, 835 kilometres distant. Some individuals have been also found in beaches near Río de Janeiro, 1930 kilometres away from their normal breeding grounds.

In the Falklands/Malvinas, animals feed nearer to the coast, within 150 km. from their colonies (Thompson et al., 1998), but it is probable that there may be a connection between the Falklands'/Malvinas and Continental Argentina's populations (Sea Mammal Research Unit, 2000).

On the Pacific coast of South America, animals tend to remain in their colonies all year long, if environmental conditions allow it. On the whole, females do not abandon the group, while adult males carry out long journeys after the breeding season. However, during the occurrence of El Niño, when the

generally cold waters of the Pacific coast heat up, and the availability of food decreases, there are massive displacements southwards, which frequently result in permanent changes to the distribution of the species. During the El Niño events of 1982/83, and 1997/98, many of the populations in northern Peru decreased in size, and it is probable that, as evidenced by marked animals (Majluf, unpublished data), individuals may have migrated to join the populations of northern Chile.

3. Threat data

3.1 Direct threats to the population

All over their range, sea lions interact with fisheries, and this is bound to increase, while fisheries, in exponential growth in the area, further reduce the stocks of fish that feed the species. Fishermen constantly complain that sea lions damage their nets and reduce their catches, especially in the case of fisheries with particular types of nets. This is why, despite the prohibition to catch these animals, that exists in most countries, fishermen tend to kill them with shotguns, harpoons, dynamite, etc. (Arias Schreiber, 1993a, 1993b; Seal Conservation Society, 2000). Fishing nets also cause mortality when sea lions get caught in nets put across their transit routes towards their feeding grounds (Majluf et al, under publication). The species is also affected by fishing by trawlers, especially in the case of male sea lions, which follow the boats, and may die either from shot wounds from fishermen attempting to frighten them off, or entangled in the nets. It is likely that industrial fisheries are also contributing to the mortality of the species, since they catch the same species of fish, in the same areas, and at the same depth than sea lions. Unfortunately there are no data on the impact of this type of fishery, except for anecdotal information from persons present during the fishing activities of the Peruvian anchovy fleet.

Another threat which seems to be on the increase is associated with salmon farming, in rapid growth in Chilean waters. The sea lions not only get entangled in the nets that protect the farms, but are also the victims of shooting by guards attempting to protect their stocks and their nets. (Seal Conservation Society, 2000).

There is also the practice of killing sea lions in order to use their corpses as bait for crabs in southern Chile (J. Reyes, *personal communication*), and in Peru for catching winkles (*Thais chocolata*, Arias Schreiber, 1993a). We do not know the importance of such catches, or of their impact on the populations of sea lions.

Another cause of death is provided by strangulation with cords, metal hoops, and seals, used in the packaging of fishery products. These are mostly plastic, fishing line, or wire pieces of circular shape, between 60 and 120 cm long, and 2 or 3 cm wide. Since they float, animals approach them, and play with them until these objects get stuck to the lower parts of their neck. Once there, they cannot come off. Males with larger amounts of hair are at greater risk, and get entangled even with open hoops (straight metal pieces). The collar constrains the neck, and, since it is sharp, gets gradually further in under the skin until it suffocates the animal as it grows in size (Ponce de Leon, 2000a)

Finally the occurrence of El Niño affects strongly the sea lions populations of Peru and Chile. During El Niño of 1997/98, the Chilean and Peruvian populations were decimated; juveniles and adult females being most affected (Apaza et al, 1998). This means that the recovery capacity of the population has been greatly reduced (few breeding females, and no juveniles to replace dead adults). Should it happen again in the next decade, the populations of Peru, and probably also of Chile, would be seriously endangered. Global warming will bring an increase in the frequency and intensity of El Niño episodes in the future. If so, the sea lion population of Peru has scarce chances of surviving, and remaining individuals will be forced to migrate south, towards Chile, where their legal protection status is lower than in Peru.

3.2 Destruction of habitat

Massive human migration towards coastal areas is one of the main problems for the populations of sea lions. At present almost 70% of Latin America's population lives in coastal cities. This implies a greater occupation of coastal areas, including increased amounts of waste water, and of refuse, that find their way into the sea. For the area of Mar del Plata, where studies have been carried out, it is known that sea lions are seriously affected by the presence of chemical toxins and heavy metals, and show evidence of skin infections, rhinitis, conjunctivitis, and alopecia (Seal Conservation Society, 2000).

Coastal settlement by humans increasingly restricts the number of areas available for sea lion colonies, requiring quiet breeding areas. The main impact for the species of tourist activity in resorts and complexes consists of rubbish accumulation (especially in resorts and next to camping grounds), as well as disturbances caused by noise, vehicles, and excessive proximity to breeding grounds. During the last century, Peru has seen the progressive abandonment of many breeding and growing areas, compensated by the growth of colonies where there is effective protection, such as in the Reserva Nacional de Paracas, and in the system of guano islands and peninsulas (Majluf, 1991). Presently, almost 95% of the Peruvian sea lion population is to be found in these protected areas.

3.3 Indirect threats

The great development of industrial fishing fleets at global level endangers the pelagic resources on which sea lions depend. In Peru, industrial pelagic fisheries started developing in the sixties, and have already provoked several collapses of the anchovy population, the principal nourishment of sea lions (Pauly et al. 1989). In the past, recovery from El Niño episodes was quick, since sea lions had at their disposal unlimited quantities of food. Today, fisheries catch almost the total anchovy biomass, and sea lions therefore lack the resources necessary to recover properly from El Niño. Populations are therefore far smaller than before fisheries developed, and they increase much more slowly than those of similar species in areas without fisheries, and with abundant food (for instance *Arctocephalus Gazella* in South Georgia, Payne, 1977; Croxall & Prince, 1979).

3.4 Threats connected especially with migrations

On the whole the main breeding sea lion colonies enjoy relative protection, and are the object of tourist visits that contribute to it, since the animals have become a valuable local economic resource. It is when sea lions go to sea, that they expose themselves to capture or death from fisheries, directly or indirectly; especially when they migrate towards areas where their presence is less common, and where fishermen do not see them as a valuable tourist asset.

When sea lions cross borders, as when they pass from Peru or Argentina to Chile, they lose the legal protection that they have in the former two countries, and risk being caught in Chile, where their capture is the object of a weak moratorium that is not generally respected (Guerra and Torres, 1987). Even when moving within the same country, as in the case of Peru, where it should seem that animals migrate south, they expose themselves to by-catch in the nets of the industrial fisheries that take place there. Such situation may worsen if the Peruvian government allows industrial fishing up to 3 miles from the coast (and hence near the sea lion colonies on shore), as proposed in the new regulation to the Fisheries Law of February 2001.

3.5 National and international utilization

The population of the sea lion, if of less commercial value than that of the *Arctocephalus* species (to be found all over the range), was all the same the object of intense exploitation from the beginning of Iberian conquest (1520): leather and meat were the object, as well as the oil obtained from the animal. Later, during the period between 1920 and 1950, large scale slaughter was carried out at the hands of national permit holders who exploited the species, using the skin of puppies for fur and leather goods, the

skin of adults for saddlery, the oil for tanneries, and discarding other parts. Captures in Uruguay, between 1963 and 1976, were of no more than 3260 animals per year. During the industry's last two years, 2,500 animals were caught in Lobos island and Cape Polonio (Reeves et al, 1992).

In Chile, between 1821 and 1822, more than 52,000 sea lions were captured in the area extending between the islands of Mocha and Santa María. Sea lion catchers from the USA and Britain caught large numbers in Chilean Patagonia, between 1825 and 1865. Around 1860 their capture was taken over by Chilean catchers, active until 1907, when the Chilean government forbade it. Exploitation was restarted in 1976, mostly directed to pups, with variable regional quotas. In the seventies, total capture reached 11.000 pups per year, with smaller quotas for adults and sub-adults, mostly in areas where there were more conflicts with fisheries (Reeves et al, 1992).

Commercial capture of sea lions carried on in Argentina until the fifties, decreasing in the sixties for economic reasons. It is estimated that capture levels were so high that they reduced the Argentine population by 80 to 90 %. In the Falklands/Malvinas, exploitation of *Otaria* only started in 1928, when the Falkland Islands and Dependencies Sealing Company initiated operations and caught 40,000 sea lions in 10 years. In 1949 the activity was resumed, and 3,050 animals were caught in four years. Again, in 1962, the capture of 1,500 animals was allowed for the production of leather (Reeves et al, 1992). At present, commercial capture is forbidden by law all along its range.

In several points along the shores of the range countries, tourist outposts are being set up for the observation of sea lions. It is hoped that this type of situation will drive fishermen to value sea lions as a tourist asset, and that it will reduce their constant demands for the commercial capture of sea lions to be allowed.

4. Protection status and needs

4.1 National protection status

In Uruguay, as from October 1991, in accordance with the new Public Enterprise Law, Industria Lobera y Pesquera del Estado (I.L.P.E.) has been suppressed as a decentralized service, and the Ministerio de Ganadería Agricultura y Pesca (MGAP), will, through the Instituto Nacional de Pesca (INAPE), be in possession of the monopoly for the slaughter of sea lions, as well as their conservation and preservation along all the shores, and in all the islands, of the country, as well as in exclusive fishing rights areas. However, since October 1992, and up to the present, commercial exploitation has not been allowed, because of the difficulty of placing its products, and by-products, in the local and international markets (Ponce de León, 2000b).

In Argentina, Decree N 1216/74 prohibits the capture of sea lions, sea elephants, seals, penguins and similar marine species.

In Chile, Decree N° 225, of November 11, 1995, forbade for 30 years the capture of marine mammals, birds and reptiles, but allowed that of sea lions. Decree N° 336, in article 1, however, sets a period of five years during which capture of this species is banned (until the end of 2004); yet Article 3 makes some exemptions, based on "*productive surpluses of this resource*", and "*when there is a need for activities that will decrease the sea lions interference with fisheries and with aquaculture.*" The species is always afforded lower protection than other water mammals and sea birds. Resolution N° 896, of October 29, 1994, passed by the Chilean Ministerio de Economía, Fomento y Reconstrucción, sets a length of two metres as the minimum size for allowing the capture of *Otaria flavescens*, in Regions I and II. It also states the type of weapons that must be used, and the sanctions for offenders. Then, late in 1999, the Subsecretaría de Pesca issued Resolution N° 1930, which takes out all marine mammals from the list of species authorized for import, with the exception of the sea lion.

In Peru, Decree N° 013-99-AG lists *Otaria flavescens* as a vulnerable species, and forbids the capture of this one, and of all other species listed in the decree, for an indefinite period, prohibiting also its transport, holding and export for commercial purposes, with the exception of individuals destined to be part of a genetic reserve, or destined to be bred, or for reproductive purposes, in Zoos and in Management Areas for Wild Fauna, approved by INRENA.

4.2 International protection status

Otaria is not listed in any of the appendixes to CITES.

4.3 Additional protection needs

Since the *Otaria* populations are facing a critical situation almost all over their range, it would be advisable to include them in Appendix II to CITES. It is also necessary to carry out a timely evaluation of population levels for the species, and to set up protected areas around their breeding and feeding grounds, in order to facilitate recovery.

5. RANGE STATES

Argentina, Brazil, Chile, Peru, United Kingdom and Uruguay

6. COMMENTS FROM RANGE STATES

7. REFERENCES

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