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**OBSERVATIONS ON THE DISTRIBUTION AND CONSERVATION
STATUS OF THE NEOTROPICAL RIVER OTTER (*Lontra longicaudis*) IN
THE COASTAL LAGOONS OF THE URUGUAYAN ATLANTIC BASIN AND
THEIR MAIN TRIBUTARIES**

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Abstract: There are very few studies on Neotropical river otters (*Lontra longicaudis*) in Uruguay. However, the species is nowadays considered to be fairly common in the country. This paper reports on its distribution and current conservation status in the Uruguayan Atlantic basin. It provides some information on activity patterns, diet, and interactions with fishermen. The presence of otters was evaluated through interviews with fishermen and local people, and through field surveys in 1999 and 2000. Otter presence was recorded in every lagoon and tributary surveyed. Local people consider that Neotropical river otters are currently more abundant than they were 10 years ago. This recovery is probably the consequence of the ceasing of commercial hunting. Otters are both day and night active, though foraging takes place more during the night. All year round, otters are frequently seen in small groups, which may indicate that they are more social than generally thought. Most of the dietary items recorded were fish and crustaceans, but preying on mammals, birds, and reptiles were also recorded. Interactions of otters with fishermen go far beyond preying on fish trapped in nets. Local fishermen do not perceive these animals as competitors, but as sympathetic companions.

Keywords: *Lontra longicaudis*, conservation status, diet, interaction with man

INTRODUCTION

There are very few studies on the Neotropical river otter (*Lontra longicaudis*) in Uruguay. The first study on the distribution of the species was published in 1998 (SOUTULLO et al., 1998) and the only study dealing with any aspect of their ecology was carried out between 1989 and 1991 at one locality in the southeast (SE) of the country (BARDIER, 1992). This study provided some information on the characteristics of the habitat used by these otters as well as their diet.

According to SOUTULLO et al. (1998), Neotropical river otters are considered to be fairly common in Uruguay today and no obvious habitat preferences have been detected. Otters can be found in many different kinds of wetlands and watercourses, from large rivers and lakes to small streams and ponds, with or without abundant plant cover, and even in rice fields (BARDIER, 1992; SOUTULLO, unpubl. data).

This report is the result of a preliminary study on the distribution and current conservation status of the Neotropical river otter in the Uruguayan Atlantic basin and it also provides information on some behaviour patterns of the species. Data were collected through field trips carried out during the development of other projects. Given the lack of information on this species' biology throughout its range (CHEHEBAR, 1990), and the lack of information available in Uruguay in particular, we thought

it worthwhile to communicate these observations, even in the absence of a strictly planned methodology for the gathering of data.

STUDY AREA, MATERIALS, AND METHODS

The Uruguayan Atlantic coast is around 220 km long, whilst the Atlantic basin has an area of ca. 600 000 hectares. It is characterised by the presence of a system of coastal lagoons, which conform to the sub-basins of Laguna José Ignacio, Laguna Garzon, Laguna de Rocha, and Laguna de Castillos. Their tributaries mainly run from North to South and are of small to medium length and water volume. The area studied also includes the sub-basin of Laguna Negra, which is part of the basin of Laguna Merín. The study area includes the UNESCO Biosphere Reserve 'Bañados del Este' and is partially included within a Ramsar site. The coastal lagoons and their associated wetlands, as well as other natural sites within the area, have been declared National Parks (PROBIDES, 1999), however, with a few exceptions, conservation management in most of these parks is ineffective, or does not exist at all.

The system of coastal lagoons increase in size as one moves eastwards, with a size ranging from 1300 hectares for Laguna Garzón to 17 000 ha for Laguna Negra (Fig. 1). Laguna José Ignacio, Laguna Garzón, and Laguna de Rocha, are occasionally connected with the ocean, when their sandy pit-bars are opened due to heavy rains and wave action. Laguna de Castillo and Laguna Negra, however, are more distant from the ocean, the first draining to the ocean through Arroyo Valizas, whose bed sometimes allows interchange of water with the ocean. The second has suffered severe human modifications to its water regime, resulting in a reduction in its size.

The weather in the study area is considered subtropical and wet ('Caf' in Trewartha's weather classification), with warm summers. The annual medium temperature is 16° C, with a maximum of 21.5° C and a minimum of 10.8° C. The relative humidity is ca. 80% and the precipitation, which does not show a differential seasonality, annually ranges between 1100 and 1200 mm.

The main processes and impacts that affect the wetlands of the eastern region of Uruguay are drainage and transformation of natural areas for rice fields, the spilling of waste waters from urban and agricultural activities, fragmentation and loss of habitat due to human settlement, and the occupation of rivers and lagoons for tourism (PROBIDES, 1999).

Over the last two years (1999 and 2000), the five large coastal lagoons, their main tributaries, and secondary lakes were surveyed in order to detect the presence of otters. The presence of otters was evaluated through interviews with fishermen and local people, and through our own field surveys. In those sites (i.e. lagoons, lakes, or watercourses) where local people provided no record, one point was selected to start a field survey. A maximum of 300 metres along one bank was searched in any direction in order to record otters or their signs. In addition, local people and our own observations provided some information concerning diet and behaviour.

RESULTS

Otter presence was recorded in every lagoon, lake, and tributary surveyed. Table 1 and Figure 1 show the sites of these records. The people interviewed reported that, in some areas, otters are seen almost every day. Animals are seen throughout the year, mostly alone but frequently in groups of two, three, or even more individuals. All reported sightings were diurnal. Otters are seen throughout the day, but mainly at dawn and the first hours of the morning. Fishermen consider that otters mainly use the lagoons for foraging, and return to the tributaries, where vegetation cover is more abundant, for resting. They believe that these movements to and from the lagoon occur mainly at dawn and dusk, although some animals do remain in the lagoons during daytime. Foraging seems to take place more during the night, as the otters appear to take a higher quantity of fish from the fishermen's nets at night, though this also occurs during the daytime. Fishermen recognise remains of fishes eaten by otters because they only consume the posterior part of the trapped fish, leaving the head in the net; however, this does not cause major damage to the nets.

Table 1: List of surveyed localities and coordinates of record sites

Locality	Coordinates	Record
Laguna Negra	34° 04' S 53° 42' W / 33° 57' S 53° 36' W 33° 56' S 53° 36' W / 33° 58' S 53° 36' W 33° 57' S 53° 34' W	otters, food remains, tracks, spraints
Arroyo Valentín	34° 00' S 53° 46' W	spraints
Laguna de Castillos	34° 17' S 53° 56' W / 34° 1 5' S 53° 56' W 34° 20' S 53° 55' W / 34° 19' S 53° 54' W	otters
Arroyo Valizas	34° 20' S 53° 49' W	otters
Arroyo Don Carlos	34° 34' S 54° 07' W	spraints, tracks
Arroyo Chafalote	34° 20' S 54° 02' W	spraints, tracks
Arroyo del Consejo	34° 14' S 53° 57' W	spraints
Laguna de Brioso	34° 16' S 53° 46' W	otters
Laguna de los García	34°15'S53°45'W	otters
Laguna La Encantada	34° 14' S 53° 45' W	otters
Laguna de Rocha	34° 36' S 54° 20' W / 34° 39' S 54° 1 5' W 34° 35' S 54° °17' W / 34° 34' S 54° 18' W 34°35'S54°16'W	otters
Arroyo de Rocha	34° 31' S 54° 18' W / 34° 32' S 54° 17' W	otters, spraints, food remains
Arroyo de Las Conchas	34° 32' S 54° 14' W / 34° 29' S 54° 14' W	otters
Arroyo de Las Palmas	34°33'S54°13'W	otters
Arroyo del Sauce	34°30'S54°19'W	otters
Laguna Garzón	34° 46' S 54° 35' W / 34° 44' S 54° 33' W 34° 43' S 54° 32' W / 34° 43' S 54° 30' W	Otters
Arroyo Garzon	34° 38' S 54° 32' W	spraints
Laguna de José Ignacio	34" 46' S 54° 42' W / 34° 49' S 54" 40' W	otters
Arroyo José Ignacio	34° 43' S 54° 41' W	Spraints, tracks
Laguna Blanca	34° 51' S 54° 50' W	otters

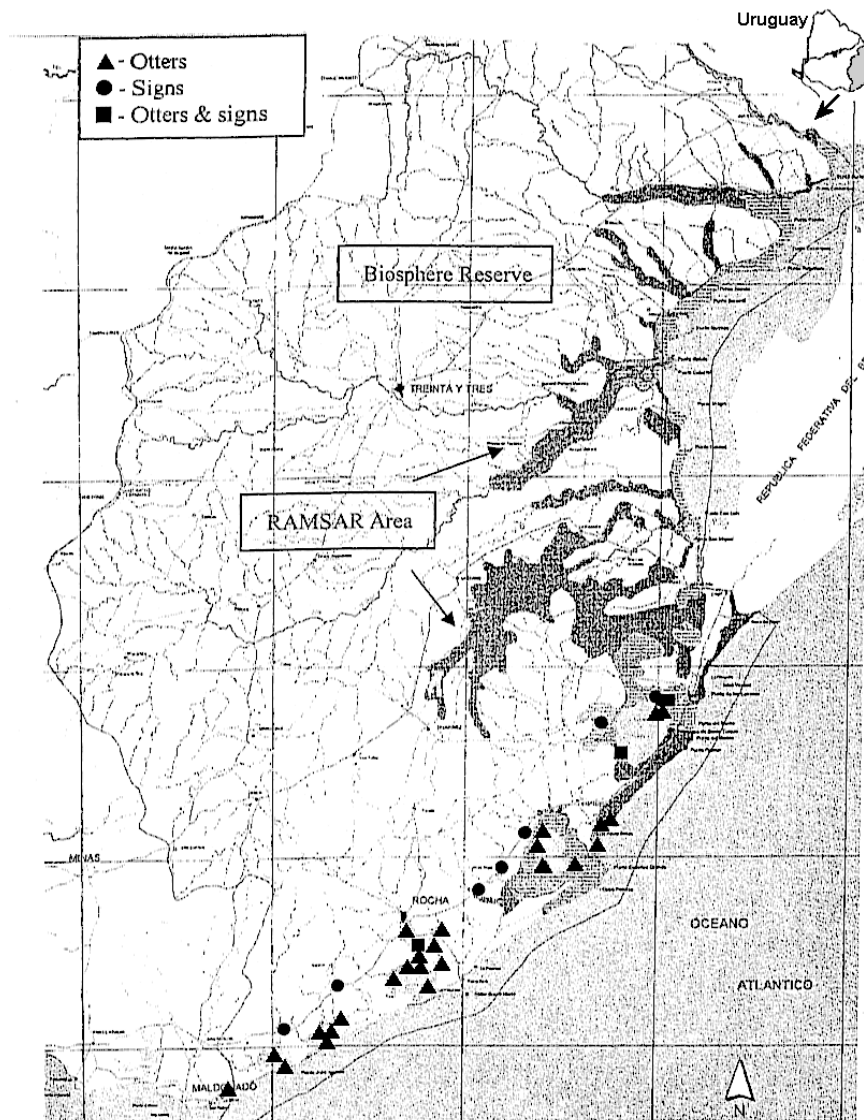


Figure 1: Sites where otters or their signs were recorded by the authors, or by people interviewed between 1999 and 2000. The different symbols indicate the type of record. Click image for larger version.

In the northern part of Laguna de Rocha, fishermen reported that otters seem to prefer 'bagres' (*Siluriformes*, *Pimelodidae*), since they leave other fish in the nets untouched. In the southern part of that lagoon, which probably has a different diversity of fish, as water salinity is higher due to the narrow, and sometimes nonexistent, pit-bar, they prey on any fish trapped in the nets. Fishermen also reported visual observations of otters occasionally preying on black-necked swans (*Cygnus melancoryphus*), wood-rails (*Aramides* spp.), and on nutria (*Myocastor coypus*). The latter took place during low water levels in Laguna de Rocha. One of us had the opportunity to observe a couple of sub-adult otters trying to catch a water snake (*Helicops infrataeniatus*), which an adult carried in its mouth. In some otter spraints we found duck feathers (probably of *Amazonetta brasiliensis*). Most spraints found had remains of both fish and crustaceans. Accumulations of fish remains (mostly 'bagres') were also found on the bank side, showing clear signs of having been eaten by otters.

During the course of this study, two otters skins, with a total length of more than 1.60 m, were found. These animals were therefore larger than those reported elsewhere (REDFORD and EISENBERG, 1992; PARERA, 1996; LARIVIÈRE, 1999).

DISCUSSION

The high frequency of otter sightings by fishermen, and the fact that Neotropical river otters were detected at every locality sampled (despite the small sampling effort), suggests that otters are very common in the study area. Similar surveys should be carried out every two years to monitor the situation of otters in this important wetland.

Between the 1950s and 1970s, Neotropical river otters were heavily hunted for their fur throughout their geographic range and, as a result, otters became locally extinct (BARDIER, 1992; PARERA, 1996; LARIVIÈRE, 1999). By the end of the 1980s, the hunting of otters stopped and, since then, otter numbers seem to have recovered. Today, in Rocha, local people consider that Neotropical river otters are more abundant than ten years ago. Indeed, it seems otter numbers are recovering over the whole country (SOUTULLO, unpubl. data).

PARERA (1996) and LARIVIÈRE, 1999 both described the Neotropical otter as being mainly solitary. Our records suggest a higher degree of socialisation, since otters were frequently seen in small groups all year round. However, whether these groups are mainly formed by adults, or by females with cubs, remains unclear.

LARIVIÈRE, 1999 reported that Neotropical river otters forage throughout the day, but that it is more common in the middle or late afternoon. He also reported that nocturnal activity is rare, but may become more common with human disturbance. PARERA (1996) suggested that, although these animals are mainly diurnal, they may become completely nocturnal if their habitat is continuously disturbed; whilst BARDIER (1990) reported that, in Uruguay, otters are mainly crepuscular due to human persecution. Our observations, as well as those of SOUTULLO et al. (1998), strongly suggest that otters are currently active during the day in Uruguay, but also that foraging is more important at night. The fact that otters are commonly seen during the day nowadays may be seen as a response to the cessation of hunting pressure and the current activity pattern may, indeed, be the 'normal' one, i.e. the animals are mainly nocturnal or crepuscular but remain active during daytime if not disturbed. Other patterns may be the result of disturbance, which forces otters to change their habits to avoid harmful encounters with humans.

The observations of otters preying on species other than fishes and crustaceans coincides with previous reports, i.e. that otters occasionally include in their diet birds, mammals, and reptiles (LARIVIÈRE, 1999). Therefore, although otters seem to show a preference for fishes and crustaceans, it also seems that they are able to prey on other items if they need to, or have the opportunity.

Today, interactions of otters with fishermen go far beyond preying on fish trapped in nets. During the winter of 1998, when the water level of Laguna de Rocha was high, otters used to rest on the top of fishing nets in warehouses. Fishermen even feed otters with fish remains, and some otters even approach fishermen when called. This is in contrast to the attitude of fishermen in Europe, who consider *Lutra lutra* more as a competitor or pest species (KRUUK, 1995).

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Résumé : Observations sur la Répartition et le Statut de Protection de la Loutre de Rivière Sud-Américaine (*Lontra longicaudis*) sur les Lagunes Côtières du Bassin Atlantique Uruguayen et de ses Principaux Cours d'Eau

Peu d'études sur la loutre de rivière sud-américaine (*Lontra longicaudis*) ont été réalisées en Uruguay, bien que l'espèce y soit actuellement considérée comme assez commune. Cet article apporte des informations concernant l'espèce sur le bassin atlantique uruguayen en matière de répartition, statut actuel de protection, patterns d'activité, régime alimentaire et interactions avec les pêcheurs. La présence de la loutre a été attestée à l'aide d'interviews auprès des pêcheurs et des populations locales, et de missions de terrain en 1999 et 2000, où celle-ci a été confirmée sur n'importe quelle lagune ou rivière prospectée. Les populations locales considèrent actuellement que la loutre de rivière sud-américaine est plus abondante qu'il y a 10 ans. Ce regain est sans doute imputable à l'arrêt de la chasse à des fins commerciales. Les loutres sont actives de jour comme de nuit, mais les déplacements sont plus fréquents la nuit. Tout au long de l'année, on observe souvent de petits groupes de loutres, ce qui peut indiquer qu'elles soient plus sociales qu'on ne le pense habituellement. La plupart des proies capturées sont des poissons et des crustacés, mais mammifères, oiseaux et reptiles composent aussi leur menu. Leurs rapports avec les pêcheurs vont au-delà de quelques poissons dérobés dans les filets. Les pêcheurs locaux ne considèrent pas les loutres comme des rivales, mais comme de sympathiques compagnons.

Resumen: Observaciones Sobre la Distribución y el Estado De Conservación de la Nutria Neotropical (*Lontra longicaudis*) en las Lacunas Costeras de la Cuenca Atlántica Uruguayana y sus Principales Tributarios

Existen muy pocos estudios sobre la nutria Neotropical (*Lontra longicaudis*) en Uruguay. Sin embargo, la especie es actualmente considerada bastante común en el país. Esta nota reporta su distribución actual y el estado de conservación en la cuenca atlántica uruguayana. También brinda información sobre patrones de actividad, dieta e interacciones con Pescadores. La presencia de las nutrias entre 1999 y 2000 fue evaluada a través de entrevistas con Pescadores y habitantes locales y relevamientos de campo. Se registró la presencia de la especie en todas las lagunas y tributarios relevados. Los habitantes locales consideran que la nutria Neotropical es actualmente más abundante de lo que lo era hace 10 años. Esta recuperación es probablemente consecuencia del cese de la caza comercial. Las nutrias son activas tanto durante el día como durante la noche, aunque el forrajeo es más importante durante la noche. A lo largo de todo el año las nutrias son vistas frecuentemente en pequeños grupos, lo que podría indicar que son más sociales de lo que generalmente se cree. La mayor parte de los items alimenticios registrados fueron peces y crustáceos, pero también se registró predación sobre mamíferos, aves y reptiles. Las interacciones entre nutrias y Pescadores van más allá de preda sobre peces atrapados en redes. Los Pescadores locales no perciben a estos animales como competidores, sino más bien como simpáticos compañeros.