Hystrix It. J. Mamm. (n.s.) 21(1) (2010): 83-88

OTTERS IN THE HAWR AL AZIM WETLAND, IRAN

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Received 10 September 2009; accepted 25 March 2010

ABSTRACT - Currently the Hawr Al Azim Wetland is the largest freshwater wetland in Lower Mesopotamia and represents the remaining fraction of the former Mesopotamian Marshes, whose area has declined dramatically over the past 25 years. Two species of otter, the Eurasian otter (*Lutra lutra*) and the smooth-coated otter (*Lutragale perspicillata*) have been reported for this area. The sub-species of the latter is endemic to the wetlands, and is thought to be close to extinction. Current knowledge on the distribution and status of the otters within the marshes is minimal, and attempts to obtain more information are being hampered by military operation. In order to determine the otters' status we conducted a field survey, interviewed local people who had access to the inner marsh and reviewed all available information about otters' distribution in the wetlands. Although we could find sound evidence of the presence of both species in the past, the survey failed to find any current sign of otters. In contrast, local fishermen claimed that otters are sometimes observed in the inner or upper parts of Hawr Al Azim. The distribution of the two species in the area needs to be further investigated and attempts should be made to protect and restore the best remaining parts of Mesopotamian marshlands.

Key words: *Lutragale perspicillata, Lutra lutra,* Eurasian otter*,* smooth-coated otter, Mesopotamia, Iran

RIASSUNTO - ***Le lontre dell'area umida di Hawr Al Azim, Iran***. Attualmente, Hawr Al Azim è la maggiore area umida della Mesopotamia inferiore, pur non essendo che una minima frazione residua della vasta area palustre mesopotamica progressivamente prosciugatasi negli ultimi 25 anni. Due specie di lontra vi sono state segnalate: *Lutra lutra* e *Lutragale perspicillata*, quest'ultima rappresentata da una sottospecie endemica probabilmente in via di estinzione. Le conoscenze sulla distribuzione delle due specie nell'area sono estremamente scarse, anche perché le indagini sono ostacolate dalle operazioni militari. Con lo scopo di determinare lo status delle due specie, oltre ad un'indagine bibliografica, sono stati condotti rilevamenti di campo e interviste a pescatori e militari che avessero accesso alle parti più interne dell'area umida. Malgrado le segnalazioni pregresse, non è stato possibile individuare alcuna traccia certa della presenza delle lontre. Al contrario, i pescatori locali sostengono di aver osservato lontre nella parte più interna di Hawr Al Azim. Sono necessarie ulteriori ricerche, mentre andrebbero sostenuti progetti volti alla protezione delle residue aree palustri mesopotamiche.

Parole chiave: *Lutragale perspicillata, Lutra lutra*, lontra euroasiatica, lontra liscia, Mesopotamia, Iran

INTRODUCTION

Two species of otters are found in Iran: the Eurasian otter (*Lutra lutra*) and the smooth-coated otter (*Lutragale perspicillata*). According to Tajbakhsh (1995), Melisch and Rietschel (1996) and Gutleb *et al*. (1996), the Eurasian otter can be found on most rivers throughout the country, being absent only from the central desert region. Ziaee and Gutleb (1997) reported that the species can be found in the Zagros, Elbruz and Koppe-Dagh mountain range and in the Iranian Azarbaiejan. It is present in the Hamoon Wetland, on the border with Afghanistan, and possibly on the south shores of the Caspian Sea. Today, the Eurasian otter is still considered to be widely distributed in most waterways of Iran (Karami *et al*., 2006).

Because of the wide range of the Eurasian otter (Conroy and Chanin, 2002), it is not surprising that a number of sub-species and forms have been described. Two out of the 11 sub-species identified by Harris (1968) have been listed as occurring in Iran: the Caucus otter *L. l. meridionalis* Ognev, 1931 and *L l. seistanica* Birula, 1912. Both sub-species are considered to be still extant, with Iran representing the core of their range (Wilson and Reeder, 2005). Which sub-species dwells in the Marshes is not known.

With regard to the smooth-coated otter, the Iranian population belongs to the sub-species *L. p. maxwelli*, which is endemic to the marshlands.

In the 2008 IUCN Red List of Threatened Species (www.iucnredlist.org) the Eurasian otter has been classified as 'Near Threatened' (A2acd). However, outside its European range data are sparse, while its current population trend is described as "decreasing".

The smooth-coated otter is classified as "Vulnerable" (A2acd), with the overall population considered to be "decreasing". Although quantitative data on population sizes or trends are lacking, it is suspected that the global population of the smooth-coated otter has declined by >30% over the past 30 years. Smooth-coated otters show a wide geographical range, from Java, Sumatra and Borneo in the east, to southwestern China, Bhutan, Nepal, India and Pakistan (Hussain *et al*., 2008). An isolated population lives in the marshes of Iran and Iraq, suggesting that once its range was wider. Otters are extremely vulnerable with respect to man-made impacts on aquatic habitats. Canalisation of rivers, removal of bank-side vegetation, dam construction, draining of wetlands and aquaculture activities, affecting fish availability, may represent as many threats to otter populations (Mason and Macdonald, 1986). Poaching is one of the main causes of otter decline in south and southeast Asia, and possibly also from north Asia, where the decrease in prey species has lead to local otter extinctions (Melisch and Rietschel, 1996; Karami *et al*., 2006). Additional threats include pollution and acidification of rivers (leading to declining fish stocks) and coastal populations are particularly vulnerable to oil spills (Mason and Macdonald, 1986).

The aim of this study was to determine the current status of these otter species in Hawr Al Hawizeh, which is the only remaining active part of the Mesopotamian Marshlands.

STUDY AREA

Hawr Al Azim and Hawr Al Hawizeh are parts of a single hydrological system and form one of the largest permanent freshwater wetlands in Lower Mesopotamia, being located between N 30° 58′- N31° 50′ and E 47° 20′- 47° 55′. This wetland is situated in the North Azadegan Plain, 80 km southwest of Ahvaz city, near the border between Iran and Iraq. The area is about 56.654 ha, most (37266 ha) of which lies within the Hawr Al Azim Wetland (Fig. 1).
Situated to the east of the River Tigris, mostly at about 6 m a.s.l., the marshes have experienced significant changes during the last two decades and are expected to face further modifications in the next years. Formerly they extended 85 km from north to south and 40 km from east to west, covering about 254000 ha. The system was fed by two tributaries of the Tigris and by the River Karkheh, which rises on the Zagross Mountains in western Iran. The northern and central parts of the marshes were permanent, while in the south they were largely seasonal.
In the early stages of the 1980-88 war, an east-west embankment road was constructed, bisecting the wetland almost through its middle (without any culvert). This road now forms the southern boundary of the remaining wetland. A few years later, Iran constructed the north-south Shahid Bakeri dyke, which currently constitutes the eastern boundary of the wetland. In the mid 1990s, Iraq started to divert the River Tigris from the wetland, which, together with the road, caused the southern part of the marshes to dry out (Ghadiri, 2005). In this degraded part of the wetland, Iraq constructed a north-south dyke along its border, physically splitting this section of the former marsh in two. In the same area, Iran has recently built an embankment parallel to the Iraqi dyke, leaving only a few hundred metres wide channel between the two barrages. Finally, the River Karkheh has recently been dammed and is subject to intensive water resources planning. This is resulting in a drastic reduction of water inflow in the northern part of the wetland.
Currently, Hawr Al Azim represents less than 2% of the former Mesopotamian Marshes and about one third of the current Hawr Al Azim / Hawr Al Hawizeh system (Fig. 2) (UNEP, 2001)
Looking further into the future, Iran has recently started constructing a dyke, which is planned to cross through the remaining functioning marsh along the border. If completed, this will bisect the remaining marsh again and will potentially be able to control water flow from the Iranian Hawr Al Azim to the Iraqi Hawr Al Hawizeh.

Fig 1 - Study area (SW Iran).

METHODS

The field survey was conducted between winter 2007 and summer 2008 in the North Azadegan Plain including Hoor-Al-Azim. Access to much of the area is limited because of the presence of land mines (a remnant from the Iran-Iraq conflict). Although some areas have been surveyed by the Iranian Army and the hazardous locations identified, most of the area remains uncharted. As a consequence, to determine the presence of otters in these wetlands and in adjacent areas (North Azadegan Plain), two methods were applied: i) the systemat-

ic search for otter signs of presence on streams, channels and other water bodies of the accessible parts of the wetland and adjacent areas; the surveys were carried out in three seasons (winter, spring and summer); ii) pictures of both otters and the small Indian mongoose (*Herpestes auropunctatus*) were shown to fishermen, soldiers and local people. They were then asked to check the safe parts of the wetland with which they were familiar for otter signs. The small Indian mongoose was selected because this species is abundant in the area and can potentially be mistaken for an otter.

Finally, we reviewed all available information about the distribution of the two otters in the study area.

RESULTS AND DISCUSSION

There is little information about the distribution of otters in the Mesopotamian Marshes in general and Hawr Al Azim in particular, although both the Eurasian and smooth-coated otters have historically been recorded in these marshes. Maxwell (1957) and Thesiger (1964) implied that the animals were abundant, but noted that they were widely hunted for their skins. In the early 1990s, K.Y. Al-Dabbagh (*in litt*.) reported that he had not seen any otter in the marshes since the early 1970s. Soldiers who had served for long periods in the Hawr Al Hawizeh in the 1970s and 1980s, also made no mention of otters being seen. Both species are thought to have drastically declined in the Mesopotamian marshes by the late 1980s, and, at present, many consider the endemic sub-species of the smooth- coated otter, if not already extinct, on the verge of extinction (UNEP, 2001). This sub-species was described from a skin and a live cub ac-

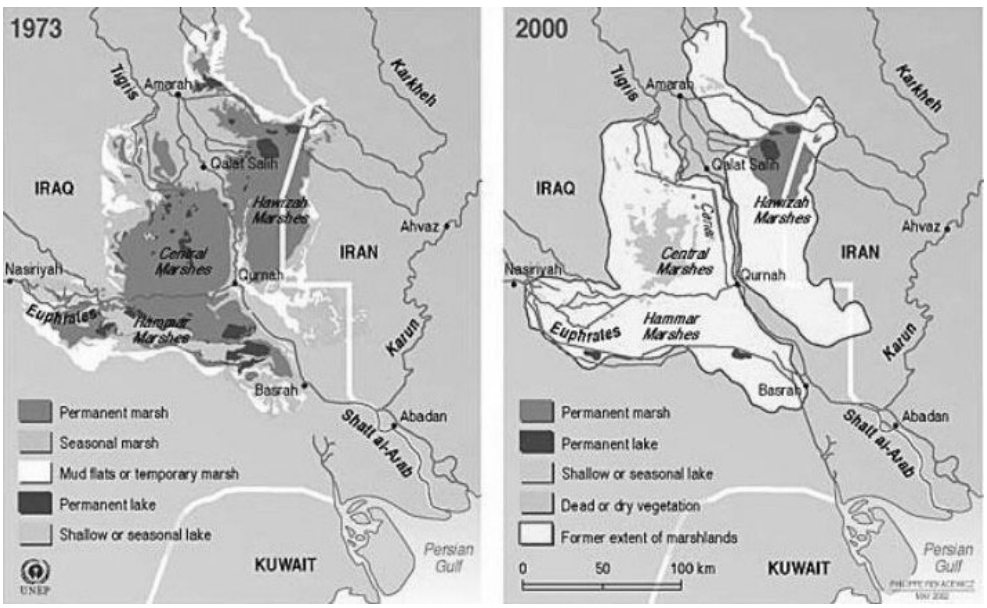

Figure 2 - Variation in the land cover of Mesopotamian Marshlands from 1973 to 2000 (UNEP, 2001).

quired by Maxwell (1957) in the marshes of Hawr Al Hawizeh in 1956 (Hayman, 1957). Further records, also in the 1950s, came from Al Azair on the Tigris and the Central Marshes, 19 km northwest of Al Azair (Iraq). Harrington (1977) stated that the smooth-coated otter had not been recorded in Iran, but Ziaee (1996) had collected one skin of a smooth-coated otter from Hawr Al Azim in 1973. Furthermore, Firouz (2000) included it in his list of the Iranian fauna, stating that it had been recorded from the marshes close to the Iraqi border in Khuzestan (presumably Hawr Al Azim). As far as it is known, no other information is available on this very isolated population of the smooth-coated otter.

According to the survey, there were no signs at all in the area and all selected water stretches were negative in all the monitored seasons.

Interviews with people had opposite and complex results. Most people said that they had not seen any otter in the area. However, several soldiers as well as local fishermen claimed that otters are sometimes observed in the inner or upper parts of Hawr Al Azim. Also some fisherman emphasized that otters sometimes disturbed their fishing in the inner parts. Summing up, it is still unclear whether otters currently exist in the Iranian part of the marsh and, if they do the species is unknown.

Whatever species is potentially still dwelling in the area, the otter population of the marshes has to be considered to be effectively isolated. As a consequence, the conservation of the otter in this area requires both further field research, as to bring sound evidence of the species' presence, and the protection and restoration of the remaining Mesopotamian Marshes.

Unfortunately, because of the current lack of detailed information on this wetland, the Hawr Al Azim has not, as yet, been specifically identified as a site of international importance (UNEP, 2001), although it probably meets all eight criteria currently being used for the designation of Ramsar Sites.

Restoration can only be guaranteed, albeit partially, through a carefully planned and scientifically based integrated approach, to be agreed upon by the four countries - Turkey, Syria, Iraq and Iran – which can regulate the water flow of the rivers Euphrates, Tigris and Karkheh as to secure the survival of this unique wetland.

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