

Report on the Basic Information about the Eurasian Otter in Parishan Lake

Parishan International Wetland is one of the most important freshwater wetlands inside Iran, as well as one of the protected areas under the supervision and management of the Iranian Department of Environmental Protection. The unique characteristics of this wetland have paved the way for the selection of this wetland as one of the pilot sites for the CIWP (Conservation of Iranian Wetlands Project).

The Eurasian otter (*Lutra lutra*) is considered as one of the prominent species in clean ecosystems, which is currently facing an increasing number of threats in Parishan Wetland.

Otters are well-equipped for living in water and close of water. They have a long spiral-shaped body with long legs, and a muscular and slender tail. Otters have a flat head, where the nostrils, the eyes, and ears are all on the same line. These features enable this animal to utilize all three senses simultaneously while swimming.

Given the draught trend observed in this wetland, studying and evaluating the status of this species in the selected area are more necessary than ever before. Accordingly, a project was defined with the aim of promoting the awareness of and empowering local communities for monitoring the current state of the otters in order to protect this species in Parishan Wetland. The current report has been developed based on this project.

The history of otters goes back to 30 million years ago. The fossil records remained from otters go back to the Miocene epoch. Some scientists believe that sea otters are fish eaters similar to their ancestors living about five to seven million years ago, i.e., during the late Miocene and early Pliocene epochs. In general, there is a wide range

of otters around the world, and these creatures live in highly different environments ranging from tropical climates to the North Pole.

It seems that this animal lives in the coastal areas of the Caspian Sea and in permanent rivers and lakes. It has not been seen in the central regions and southern coasts of Iran. The Eurasian otter can be found in the rivers and freshwater lakes in Zagros, Alborz, Kopet Dag, and Azerbaijan mountains. It is possible they may be present in Hamoun Wetland in the border between Iran and southern Afghanistan as well as the auxiliary branches of its rivers.

Otters are among aquatic animals that have fur instead of fat. The body of an otter is covered in two types of hair; thick protective long hair and short hair with dense configuration. The head of the otter is wide and located in the middle of the body with a length of 570-700 mm. The neck of the otter is also short, thick, and sturdy. The eyes are located in the top of the head. Their ears are small and round, and when they dive into the water, the ears are closed and they will be almost completely covered by the fur. In fact, the external hearing holes have a veil or skin, which can close the ear hole. This species has a large mouth with strong teeth. Otters have short hands and webbed feet with five toes.

The usual diet of the otter varies based on geographical location. However, since otters are carnivores, considering their usual habitat, their main source of food around the world consists of fish. Nonetheless, since this species can live both on land and in water, it can feed on a large number of other animals.

In many countries around the world, fishing nets, especially eel bag traps and crab traps create some problems at the local level for the Eurasian otter. Some experts believe that the mortality rate of otters due to these problems is very low, while it

can be significant in some region. Other studies show that the mortality rate of otters due to getting caught in fishing nets can be as much as 8 percent.

The important point regarding the health of otters in Parishan Wetland is the increasing use of plastic in agriculture, particularly in the northern banks of this wetland. This cannot be downplayed since lack of planning for the usage of these plastic items and failure to collect them after cultivation of crops will not only create visual pollution, but it will also have a significant impact on the lives of wetland fish, and in turn the survival of the otters.

The majority of rural families living around Parishan Wetland are farmers. The increase in the level of farming, especially rice fields in the western part of Parishan Wetland, significantly decrease the inflow of water into the wetland, while also increasing the agricultural wastewater poured into the wetland. Therefore, management of water consummation around this lake is an integral issue.

In the international Parishan Wetland, boat riding is an attractive activity for nature tourists. Therefore, during holidays, many nature enthusiasts and tourists swarm to ride boats in this small body of water. Since this wetland is an important habitat for many birds during various seasons, particularly in winter and spring, the chaos caused by the traffic of tourists and nature enthusiasts in the wetland can create serious problems for the biodiversity in this wetland.

Various biological locations in Iran have been introduced as areas where the Eurasian otter is present. Some sources claim that the Eurasian otter is certainly present in about 20 provinces in the country. This is while the ecosystems in each of these provinces are usually different from each other. On the other hand, recent sources show that the Eurasian otter lives in at least 16 provinces in Iran.

Determining the areas where a species is or isn't present and providing a scattering model for the species can be effective in better management of the target species. Nowadays, investigating the relationship between a species and the ecosystemic characteristics of its habitat is considered as the basis for the conservation and management of biodiversity. Maintaining biodiversity requires knowledge about the geographic distribution and its pattern as well as understanding processes biodiversity goes through at various scales. Decision-makers and resource managers are in need of a clear and reliable insight about the distribution of species and their frequency at various scales. Therefore, predicting models and developing maps based on an analytical foundation are highly necessary for conservation-based planning and biodiversity models through identification of distribution changes based on quantitative data; this is strongly needed for the otter species. Investigating the differences in the performance of the species depends on factors such as habitat variables, climate variables, and accessibility to food sources. Based on available information, lack of such information is strongly felt for the Eurasian otter. Therefore, it is necessary that relevant organizations and scientific centers at high levels prioritize such studies more than ever before.