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Eurasian Otter in the Czech Republic

A Eurasian otter female with an adolescent young one during a game. Lužnice River *Photo by Jan Ševčík*

The Eurasian otter [*Lutra lutra Linnaeus*, 1758] has been a natural part of the fauna of the Czech Republic since the time out of mind. Until the middle of the 19th century it occurred throughout the whole territory of the state, but then a decrease in their numbers started, as well as their withdrawal from many places. The quality of their fur and the damage they caused to fish resulted in the fact that people began to hunt them. This was accompanied by negative changes in the environment brought about by shortened water courses and polluted surface waters. The Eurasian otter population of the Czech Republic suffered the biggest loss in the 1970s and 1980s. However, their numbers have been increasing during the previous two decades. There is an estimate that more than two thousand Eurasian otters live in our country. The species has returned to the locations from which it had disappeared in the past.

Occurrence and Species Biology

This beast of prey belonging to the weasel family [*Mustelidae*], a subfamily of otters [*Lutrinae*], lives nearly in the whole of Eurasia. It also occurs in a part of the northern Africa adjacent to the Pyrenean peninsula. Its area in industrially developed countries is currently fragmented into small isolated populations. A viable population is missing in Switzerland, the Benelux countries, and a big part of Germany and France.

The Eurasian otter is tied up with freshwater biotopes and their vicinity. They can also catch fish in the sea but they need to have an approach of fresh water. This graceful beast of prey is perfectly adapted to movement in water. It is an excellent swimmer and diver. It is enabled to do this by its hydrodynamic body shape, with an elongated body, short and strong arms fitted with webs, and a long strong conical tail. The most important adaptation of otters is their very dense fur. The down maintains a thin insulating air layer under water. Fur fibres form bundles after leaving the water, from which water quickly drips off. Nostrils and ear holes close during diving by means of constricting muscles and, after emerging, they automatically open. The Eurasian otter can be confused with the American mink in nature. The otter, however, is twice as big as the mink, with a chocolate-brown colour and white-to-beige parts on its bottom. The mink is generally darker: It only has a white spot on its chin, and its tail is shorter. The body length of an adult otter ranges from 95 to 137 cm. It usually weighs about 9 kg, and rarely more than 12 kg. The Eurasian otter is a shy animal. Its hunting activity increases after sunset and at sunrise but, especially in winter, we can surprise it even during the day. Its main kill is fish and its menu is supplemented with water rodents, smaller water fowl, frogs, crayfish, and insects. It likes to dwell at ponds and natural water courses where, despite its hunting, strong fish populations can live in hiding places. It finds good possibilities for daily hides and for building lodges at banks.

What we can see from the traces: during creeping through the snow-covered banks an otter climbed a leaner, slipped and fell onto the ice *Photo by Jan Ševčík*

Chasing of the Eurasian Otter Has a Long Tradition

In medieval times, the otter as well as fish meat belonged to Lenten fare, and it was also popular with secular nobility. People of that time did not consider the otter to be a mammal. More often, they thought it was a kind of fish or amphibian (Comenius, 1657). The meat and valuable fur of the otter were sought-after commercial goods from the medieval era to the 20th century. Otters came to be continuously hunted in our territory with the boom of pond management in the 16th century. A significant decline in their numbers only occurred in our country in the 19th century in relation to more factors: a massive anti-otter campaign of fishermen, characterised

We can often observe the otters migrating over the frozen rivers in winter. The shot is from the Nová řeka River, which connects Lužnice and Nežárka rivers in the Třeboňsko region *Photo by Jan Ševčík*

by the use of traps, iron traps and better-quality guns; a decrease of suitable habitats caused by dwindling ponds, land improvement, and the straightening of water courses; and the pollution of waters caused by developing industry.

At that time there was renaissance of fish breeding in ponds and various fishermen's associations operating on flowing waters were emerging like mushrooms after the rain. Most fish farmers and fishermen fought for killing otters. Iron traps and quality guns started to be widely used. In 1891 there was an exposition promoting the killing of otters at the Territorial Jubilee Exhibition in Prague (caused by a fishing association in Louny). At least 48 specimens were needed to produce a sign "DEATH TO OTTERS" consisting of otter skulls and bones. According to historical data, Prague fur dressers annually received up to 800 otter skins (Anonymus 1892), although official statistics only recorded the shooting of 300 animals in Bohemia at that time. Since 1896, the Agricultural Council for Bohemia paid out, upon the proposal of the Regional Fishing Committee, two guldens for every otter skull that was handed over. The majority of otters caught in the entire Austro-Hungarian Empire were reported from the territory of Bohemia and Moravia (Anděra et Kokeš 1994).

Another blow to otters came from industrial development, which caused a catastrophic worsening of water quality at many places. This was especially seen in important industrial areas, but the decrease in fish and otters was noticed in relation to water contamination from starch factories and distilleries as well, e.g. in the Sázava River. The number of otters significantly dropped during the difficult times of WWI. Because of need during that time, otters were hunted by everybody everywhere. After the war, only a fraction of pre-war kills was recorded (Anděra et Kokeš 1994). The breakdown of monolithic country estate hunting districts in the first stage of the land reform after 1918 resulted in the establishment of a large number of small hunting districts and hunting associations. Therefore, the numbers of hunters grew significantly. The first official prohibitions and control of hunting otters in the period of the First Republic came almost too late. Otters became a rare species at most territories of Bohemia and Moravia, and were eliminated at many places.

Most residual suitable environments were lost during the upswing of socialism, accompanied by the development of heavy industry and the joining of plots of land during collectivisation in agriculture. And so, otters were soon described as rare in the Krkonoše Mountains (Obenberger 1952); they only lived in the Ploučnice reception area in Bohemia; and elsewhere, they disappeared (Michel 1921; Ripper 1936; Veselovský 1950). The Beskydy Mountains and South Bohemia seems to be the only regions where otters survived in greater numbers (especially in the Třeboň Region and the Šumava Mountains and its foothills).

Terrain Survey of Occurrence

The first all-republic terrain survey of otter distribution was performed by the Agency for Nature Conservation and Landscape Protection of the Czech Republic in 1989 and 1990. This survey was completed during 1991 and 1992. Otter occurrence was determined by zoologists and environmentalists using residential signs, especially traces and droppings. Monitoring traces on the snow performed along water courses at determined times gave data on the number of otters (Toman 1992). Monitoring confirmed the presence of otters in south Bohemia (except for the České Budějovice Basin and the Písek Region, where rare and irregular occurrence only was recorded at that time), with an overlap to the Highlands, especially to the Havlíčkův Brod and Dačice Region and to the locations near the border with Austria. The monitoring revealed two communicating subpopulations: in the massif of the Beskydy Mountains and in the territory of the present Poodří Protected Landscape Area in the easternmost parts of our country. There, the population, with its core in the territory of Slovakia and southeast Poland, partially reaches. Otters have probably disappeared from the area of the Jeseníky Mountains and the Opava River reception area during the 1980s (Poledník 1991). A few individuals were found in the Česká Lípa Region (Novozámecký Pond, the Ploučnice reception area), where we presumed a migration connection with the population in the Lusatian Nyssa reception area in Germany (Vitáček 1992). The terrain survey results confirmed an isolation of south Bohemia having the Beskydy and Česká Lípa population at the beginning of the 1990s (Toman 1992, Fig. 1). At that time no one could be sure that otters had it worst in our country and no one could anticipate that especially the south-Bohemian population would prosper beyond expectation in the following years. The decrease in numbers of individuals probably culminated in the 1970s and 1980s. In 1978 Baruš and Zejda (1981) estimated the strength of our otter population to be only 174 individuals!

The Třeboň Otter Foundation, with its seat in Třeboň founded in 1993 with the support of Dutch and other researchers, participated in the next terrain surveys (in 1997–2000 and 2006). Surveys were carried out by a standard method of IUCN/SSC Otter Specialist Group (Reuther et al. 2000) by a formed group of specialists at the International Union for Conservation of Nature (IUCN). The mapping of otter occurrence in the Czech Republic is based on the search for droppings or traces and the entering of data collected in this way to a uniform network of trapeziums (quadrates) with the dimension of 11.2×12 km. Residential signs are particularly checked under bridges over water courses: The otter often

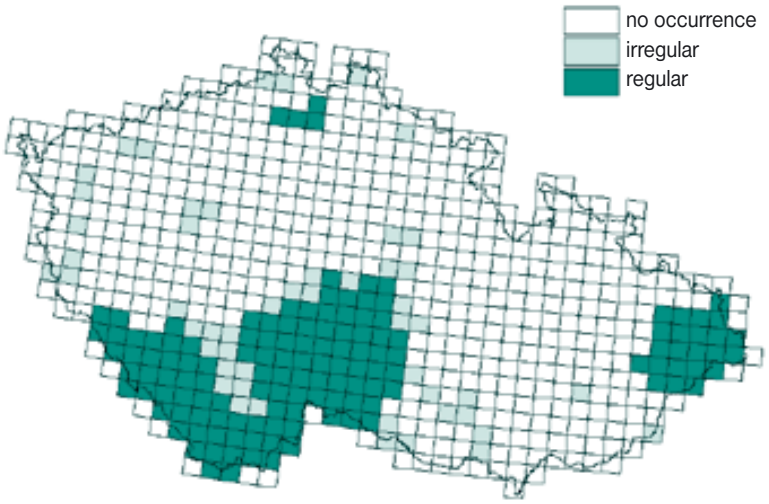
On otter in an unfrozen "eye" of a pond. Otters that are not chased lose their timidity. This one was photographed from a bridge from about 10 m distance *Photo by Jan Ševčík*

leaves signs where droppings are protected from climatic effects and where they can serve longer for scent communication with other otters.

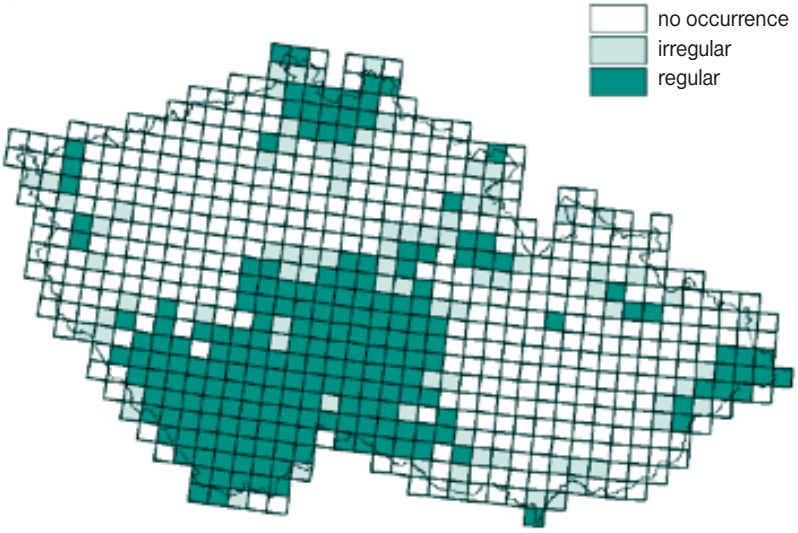
The national mapping performed in 1997–2000 proved that otters were spreading to new territories and confirmed their occurrence in 43% of the state territory (Kučerová et al. 2001, Fig. 2). Results of the mapping suggested a falling trend in spreading at the north-east of the Republic (the Beskydy) and, vice versa, an increase in a strong population in south Bohemia, the Highlands, and the Šumava. Connection with the population in Poland has probably been established through the Highlands and the Orlice reception area. The otter was also found in the vicinity of Mariánské Lázně and Cheb; and otters appeared in the Sázava reception area and at the Česká Lípa Region, where contact with a near population in southeast Germany was confirmed (Kučerová et al. 2001).

The latest national mapping in 2006 recorded the otter occurrence in 77.2% of the territory (Poledník et al. 2007, Fig. 3). The increase in the strength of population usually is manifested with territorial animals, which the otter belongs to, by the distribution of individuals in the vicinity. Otters thus have returned to many regions of west and central Bohemia, eastern parts of the Highlands, and the Dyje catchment area, as well as to mountainous and foothill regions of the Krkonoše, Jizerské Mountains, Orlické Mountains and Rychlebské Mountains and the Jeseníky Mountains. Sporadic occurrence was only confirmed at central Polabí, the middle Ohře River, the reception area of the lower course of Mže, and Berounka. A part of the reception area of the lower Ohře, Krušné Mountain foothills, and a part of central and south Moravia (Haná, valleys and their vicinity) remained unoccupied, where the Morava River itself has been occupied but its tributaries remained negative, i.e. with no occurrence (Poledník et al. 2009). The otter population in the territory of the Czech Republic was recently estimated at approximately 2,200 adult individuals (Poledník 2005). The next national mapping is going to be carried out in 2011.

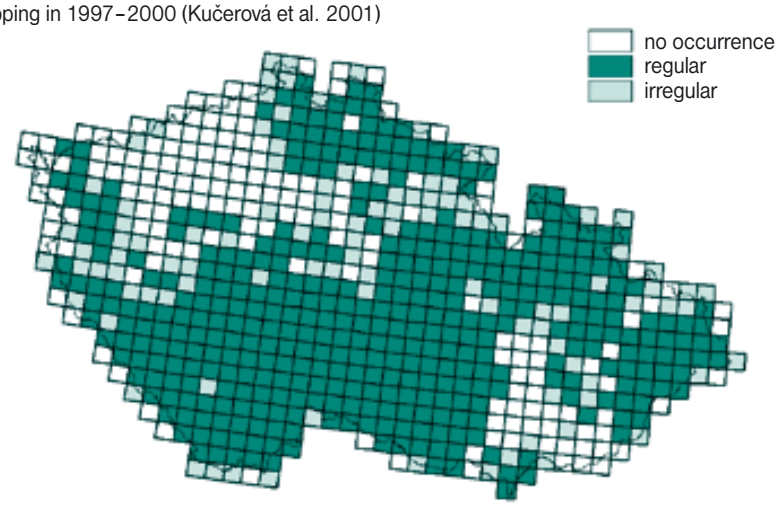
According to the frequency of findings of residential signs, the biggest population densities have been preserved in the core occurrence area, i.e. at the Šumava region, Třeboň region and an eastern part of the Highlands. Nonetheless, in the previous decade there have not been significant changes in the numbers of otters. This hypothesis is particularly confirmed by the results of a random tracing of otters in winter on fresh snow repeatedly organized in selected quadrates by a public service organisation, Alka wildlife, o. p. s., or the Czech Foundation Fund for Otter (continuing the activities of the Třeboň Otter Foundation).



Obr. 1. Occurrence of the Eurasian otter in the Czech Republic based on the species occurrence mapping in 1989–1992 (Toman 1992)



Obr. 2. Occurrence of the Eurasian otter in the Czech Republic based on the species occurrence mapping in 1997–2000 (Kučerová et al. 2001)



Obr. 3. Occurrence of the Eurasian otter in the Czech Republic based on the species occurrence mapping in 2006 (Poledník et al. 2007)

Repatriation and Species Protection

The Eurasian otter was repatriated in the Jeseníky Mountains in 1994–2003. It aimed at connecting the south-Bohemian population with a strong Slovak or "east-European" population and thus preventing possible decrease in genetic variability in the future (Hlaváč 1995). The repatriation was performed in three stages: First, preparations and study of the given locations were implemented. Then, trial repatriation was carried out, with four individuals of the Eurasian otter released to the reception area of the Moravice River. These were telemetrically monitored (Hlaváč et al. 1998). The last stage included releasing 25 individuals in the Jeseníky Mountains (Toman et al. 2003). Other repatriations are not planned in the Jeseníky Mountains or elsewhere in the territory of the Republic with regard to the present state of the population.

The Eurasian otter is protected in the Czech

Female with an adolescent young one while eating *Photo by Jan Ševčík*

Republic by Act No. 114/1992 Coll. on protection of nature and landscape. The implementation Regulation No. 395/1992 Coll. ranks it among seriously threatened species. The Red List of Endangered Species of the Czech Republic keeps it as a vulnerable species; the Red List of IUCN as a near-threatened species. It is protected in all Europe: It is included in Annexes II and IV of Directive No. 92/43/EEC on conservation of natural habitats of wild fauna and flora. It is also included in Annex II to the Bern Convention on Conservation of European Wildlife and Natural Habitats.

A care programme has been elaborated for the Eurasian otter and other animals which are not immediately endangered by extinction but belong among so called "conflict species". A currently valid document is the Programme of Care for Eurasian Otter (Lutra lutra) in the Czech Republic during 2009–2018, which aims to ensure that the present strength of the population and area of its occurrence does not decrease (Poledník et al. 2009). The programme of care contains data on taxonomy, distribution, biology, and ecology of the species as well as information on the reasons for its being endangered, and its protection status or previous conversational activities. It also includes an action plan which should ensure the permanent, independently sustainable existence of the affected species in nature.

Compensation for Damage Caused by Eurasian Otter

The effort to increase acceptance of the otter presence by pond managers and to eliminate potential conflicts which can result in a request for shooting or illegal hunting resulted in legislative regulation. In 2000, Act No. 115/2000 Coll. on compensation of damage caused by selected, especially protected animal species became effective. According to this Act the government will pay compensation for damage caused by the Eurasian otter to fish bred for economic purposes in ponds, store-ponds, fish hatcheries and breeding stations, cage breeding stations, or trout farms. The possibility of having damage compensated is widely used by breeders in south Bohemia and the Highlands, where more than 200 requests have been annually assessed in recent years. More information on the compensation for damage can be found at www.vydry.org. You can also find there further information on the research, eco-consultancy, and eco-educational activities of the Czech Foundation Fund for Otters.

A Secret Lady of Waters Has Not Won Yet

As should be obvious from the previous text, otters have managed to "escape from the gravedigger´s shovel" in our country. Their population in the Czech Republic has been prospering. This positive trend was probably incurred by a coincidence of several factors. These included, e.g., a quality improvement in surface waters, especially in flowing waters which appeared after the establishment of new water-treatment plants and a reduction in heavy industry. Strict legislation has proven to be effective. Another beneficial factor was the vitality of the south-Bohemian population because of its good health conditions and genes. The facts that hunting otters and other "evil-doers" is not a social standard anymore, and that the majority of the public sees the protection of these species positively certainly also plays an important role.

Despite all the good news, otter protection is justified. Any permission to shoot them would quickly reverse this development. Extensive development, technical modifications to water courses, and removing bank growths is continuously harmful, and not only to otters. Traffic becomes an increasingly important threatening factor. Young migrating individuals searching for a new territory most often end under the wheels of cars; but sometimes even adult residing otters meet that fate. For permanent sustainability of our otter population, it is essential to communicate with fishermen, and to continue in the effort to solve the conflict between their business and the otters. The protection of our otters should also be understood in an all-European context, because the most important population of the central-European area has been living in the Czech Republic, which forms a basis for returning otters to numerous near, as well as distant, regions. We should be proud of this valuable and rare fact.

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