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## OTTER STUDIES IN FINLAND

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**Abstract:** Interest in otters seems to be increasing in Finland. In order to get a general view of recent studies, I asked certain authors for information about their projects. Distribution surveys have been done. Caesium levels (following Chernobyl) have been assayed. Threats, captive breeding and reintroductions are reported.

Interest in otters seems to be increasing in Finland. In order to get a general view of recent studies, I asked certain authors for information about their projects.

### **Distribution.**

Former data based on questionnaires have been briefly summarized in Skaren and Kumpulaínen (1986). Results of two other questionnaires on otter distribution in Finland will be compared (1974/75 versus 1984/85) in the Zoological Museum, University of Helsinki and these data may be published in 1988 (T. Stjernberg, pers. comm.).

Another public inquiry was made via TV In spring 1987. The preliminary results indicate sparsest populations in Mid-Lapland and on the western and southwestern coastal area of Finland. Alternatively, people of these areas did not answer. However, positive observations were received from Utajoki, the northernmost part of the country, to Uusimaa, the southern coastal area (M. Helminen on TV 19th May, 1987).

Summer field surveys have also been done in the coastal area of Finland in 1986-1987. Otters were found e.g. on the southern Siuntio river, but signs were almost absent in the western coastal area (U. Cronstrom, pers. comm.).

Otter counts continued in North Savo, Central Finland, too. The distribution was surveyed in March 1986 and 1987. In the eastern, oligotrophic Nilsia river system, the proportions of positive sites were 36.7% and 33.3%, respectively. The corresponding values for the western, eutrophic Iisalmi river system were 61.3% and 31.%. The most probable cause of the crash of the western population is the exceptionally hard winter of 1986-1987, when there was very little snow but there may have been local difficulties in access to water. Local poaching is also possible (Skarén and Jaderholm, 1987).

### **Toxic Chemicals in Otters.**

As yet, results of analysis of only one otter have been published. Only low levels of mercury and some chlorinated hydrocarbons were detected in this specimen (Skarén and Kumpulainen, 1986).

Recently 11 more otters (found dead in the 1980s) were studied in North Savo. Concentrations of many hazardous chemicals were very low (not depending on the age group of the animal) in the extractable fat of liver: alpha- and oxychlorane, HCB, Lindane, DDT, DDD, DDE, PCB and Dieldrin. Even the highest value (2.5 ppm of PCB) was relatively low. Mirex and toxaphene were totally absent using a minimum detection level of one ng/g (- 0.001 ppm).

The effect of the Chernobyl power plant explosion on 26th April, 1986, 1,300 km SSE from the study area, can be clearly seen in increased caesium levels in fishes and in otters. As a sample test two old male otters were analysed (Bq/kg):

**Table:** Caesium levels in old male otters in Finland

Date of Death	Cs-134	Cs-137
2 <sup>nd</sup> February 1986	20	250
28 <sup>th</sup> August 1986	560	1250

The half-life of caesium 134 is 2.1 years, so the Chernobyl effect is clear especially in the proportion of this isotope (Skarén, 1988).

According to Finnish law, public laboratories for the national health service must, gratis, analyse any food stuff a citizen may demand. Thus, if you claim you eat otters, they have to analyse them too. I tested this by taking an otter carcass to a public laboratory on 16th October, 1987. The animal was an old, lactating female killed by traffic five days earlier in Vieremä, North Savo. The total radiation level of this otter was very low, only 89 Bq/kg.

All three otters were found in 'zone II' which in Finland got a moderate dose of radiation, the caesium 137 fallout being 3,000 - 20,000 Bq/m<sup>2</sup>. We continue to check the radiation levels in fishes and otters in Finland. For the present it seems that the Chernobyl catastrophe had hardly any acute effects on our otters.

An analysis of heavy metals is also under way. The preliminary data indicate only low levels of mercury in otters in North Savo (E. Tulisalo, Department of Environmental Science, University of Helsinki). Material from other parts of Finland will be analysed later (T. Stjernberg, pers. comm.).

### **Age Groups.**

40 otter skulls found in Central Finland were roughly age-grouped according to the skull structure using inter alia the ratio of interorbital:postorbital constriction. The age of most animals (52.5%) was estimated to be 1-2 years while 17.5% were younger and 30.0% were older specimens. The juvenile features seemed to be visible longer in the females compared to the males of the same age class (Skarén, 1987).

### **Breeding in Captivity.**

The first - and as yet the only - otter cub was born 4th May, 1987 in Ranua Zoo Park. Altogether 3 otters were living in this park at the end of 1987 (E. Pykalainen, pers. comm.). At the same time seven otters were kept in Ahtari Zoo Park (J. Lahtinen, pers. comm.). There are no otters in Korkeasaari Zoo, Helsinki (I. Koivisto, pers. comm.).

Because otters are not protected in fish hatcheries, some owners of these establishments have tried to live-trap them for transfer to zoo parks. To make this easier, Canadian otter traps will now be obtained. A new zoo park including otters will be opened in Saarijärvi, Central Finland in 1989 (Anonymous, 1987).

However, not all the owners of fish hatcheries will cooperate and, for example, in one small pond in Nilslä, eastern Finland, several otters are killed every year (P. Reinikka, pers. comm.). Nobody knows the total number of these legally killed otters in Finland.

### **Other Projects.**

Since 1986 the WWF Finnish Fund has supported studies to establish the present status of otters in Finland. One purpose is to help the reintroduction of otters to certain river systems, including the Swedish otterless areas. The first two otters, a couple, were released in the southern Finnish archipelago in May 1987 (Cronstrom, 1987).

Meanwhile the breeding status, causes of death, analyses of stomachs and so on are checked in every otter brought into the Kuopio Museum in Central Finland. Scat analysed in the field are also going on continuously.

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