

# IUCN Otter Specialist Group Bulletin

Number 9

1994



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**IUCN OTTER SPECIALIST GROUP BULLETIN**

The Bulletin will be published twice a year. News items, short articles, reports, symposium announcements and information on new publications are welcome. All submissions should be typed in double-spacing.

Submit articles for publication the editor:

Arno Gutleb  
Institute of Medical Chemistry  
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**IUCN/SCC OSG GROUP**

**OTTER SPECIALIST GROUP CHAIRMAN RESIGNS**

Pat Foster-Turley, who was vice-chairman of the IUCN/SSC Otter Specialist Group from 1987 - 1989, and chairman from 1990 until the end of 1993, has resigned from the post. In September 1993 Pat moved from her job with Marine World Foundation in California to take up a new position with United States - Asia Environmental Partnership Program in Washington. She is now totally involved in a busy programme which includes coastal management, coral reefs, mangroves, Pacific Islands, and many other Asian conservation issues. Pat, therefore, feels that she cannot devote sufficient time to her Otter Specialist Group duties.

We wish Pat everything of the best in her new career. She won't be lost to us altogether, as she intends to remain in touch as an advisor for the group.

At this stage a new chairman has not been formally appointed. The appointment will be announced in the next Bulletin (September 1994) - see the following article.

**NOTE FROM THE EDITOR**

Arno Gutleb of Austria will be taking over as editor of the IUCN Otter Specialist Group Bulletin: this was decided at the OSG meeting held in Pietermaritzburg, South Africa, during September 1993. Other changes to the bulletin were also discussed. It was agreed that the bulletin will in future appear twice a year, with deadlines for the submission of material being 1 March and 1 September. Long articles should not be submitted. Authors are welcome to submit news items, brief reports, short articles, symposium announcements, and details of recent publications. It was also agreed that all Otter Specialist Group members should be obliged to submit at least one brief communication per year. A person who is a member of the Otter Specialist Group must surely be involved in otter matters or related conservation issues, and should take the trouble to report on them.

The new editor's address is:

Arno Gutleb  
Institute of Medical Chemistry  
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AUSTRIA

## SHORT COMMUNICATION

### OTTER ZENTRUM BURNS DOWN

At the beginning of December 1993, the main building of the Otter Zentrum in Hankensbüttel, Germany, was completely destroyed by fire. Six years ago Aktion Fischotterschutz embarked on a project to establish an otter centre, which would not deal only with otters, but also other aspects of environmental conservation and environmental education. An energetic team under the leadership of Claus Reuther built the centre and embarked on a number of projects on conservation, habitat restoration, research, and environmental education (see reports on their activities in previous OSG Bulletins).

It was at the Otter Zentrum that many of us attended the 1989 Fifth International Otter Symposium, and I am sure that those of you that were there, or those that have visited the Zentrum on other occasions, will be shocked to learn of the disaster. We sympathise with our colleagues in Aktion Fischotterschutz and hope that they will soon be able to restore the Otter Zentrum.

## SHORT COMMUNICATION

### SIXTH INTERNATIONAL OTTER SYMPOSIUM

The quadrennial meeting of the IUCN/SSC Otter Specialist Group and the Sixth International Otter Symposium were held in Pietermaritzburg, South Africa during September 1993. The symposium was attended by 60 delegates representing 22 countries.

The first day (6 September) was devoted to the Otter Specialist Group meeting. This was followed by three days of verbal and video presentations, as well as poster sessions. On the last day delegates visited portion of the Natal Drakensberg Park where two otter species (*Aonyx capensis* and *Lutra maculicollis*) co-exist in a protected wetland.

The theme of the symposium was "Otter conservation is not just about otters". Subjects covered by the 38 verbal presentations, three videos, and 14 posters were distribution and status, conservation of species and habitats, conservation education and public awareness, socio-economic issues, biology and behaviour, captive breeding, genetics, and mortality and pollution. The region from which most contributions came was Europe, closely followed by Africa, with roughly equal representation from Asia, North America, and South America.

The proceedings will be published by Aktion Fischotterschutz of Germany. It should be possible to include an announcement in the next OSG Bulletin, indicating approximately when the publication will be ready.

### ASIAN OTTER GROUP FUND

Padma do Silva, Co-ordinator for Asia, expresses her gratitude to the participants at the Sixth International Otter Symposium for their donations towards the Asian Group's postage fund. In particular, she thanks Paul Polechla of Alaska and Arno Gutleb of Austria for their efforts in arranging the collection of funds.

## SHORT COMMUNICATION

### ZIMBABWEAN OTTER PROJECT COMPLETED

James Butler of Zimbabwe has completed his study on the clawless otter in the highlands, where he concentrated on resource use within the crab-eating guild (see OSG Bulletin N° 8). James was able to submit his thesis at the end of last year and was awarded a First Class MSc for his efforts. At present James is preparing manuscripts for publication, which we hope to see in print soon.

Since the otter symposium in South Africa during September, James has sent many appeals for funds to potential donors, requesting funding for a survey of Zimbabwean otters; but he has had no positive responses. He will probably be taking up a research post in the Department of Biology, University of Zimbabwe, Harare in 1994.

## SHORT COMMUNICATION

### OTTERS IN GABON

Gianluigi Negrone is studying the riverine ecosystem in Réserve de la Lopé in Gabon. One of the aspects of his investigation is to study the possibilities of fishery development in the Ogooué River. Local fishermen have complained about otters feeding on fishes in their nets. At this stage Gianluigi has not been able to establish which otter is responsible for the damage: both the spotted-necked otter *Lutra maculicollis* and the Congo clawless otter *Aonyx congica* are present in the reserve. He reports that Ogooué River flows through dense gallery forest and that there are many streams leading into it.

At the last three Otter Specialist Group meetings the need to conduct a study on *Aonyx congica* was identified as a priority. So, if there is anybody with a spirit of adventure and a source of funds, Gabon might be the right place to conduct the study. If more details are needed contact Gianluigi Negrone at ECOFAC, 8P 5555, Libreville, Gabon.

## SHORT COMMUNICATION

### SURVEYS PLANNED FOR MALAWI AND KENYA

Winston Kadongola of Malawi and Robert Chira of Kenya, two of the delegates that attended the otter symposium in South Africa, presented project proposals at the Otter Specialist Group meeting. Fundraising is a slow, and often fruitless process. Both of these wildlife biologists are keen to get started, but at present no funds are available from their respective department budgets to conduct otter surveys or to indulge in conservation awareness work, and it is not known when or whether there will be a positive response to their project proposals.

in Sri Lanka, Padma de Siiva was able to do much in her otter survey work using a donation of about \$ 300. Winston and Robert could at least get started if they had some funds. So, if anybody is willing to assist, please send donations directly to them. The addresses are:

Winston Kadongola	Robert Chira
Lake Malawi National Park	Kenya Wildlife Service
P O Box 48	P O Box 40241
Monkey Bay	Nairobi
MALAWI	KENYA

## SHORT COMMUNICATION

### OTTER RESEARCH IN SOUTH AFRICA

Work on the two projects outlined in last year's bulletin (N° 8) is still in progress.

In the south-western Cape Province, Michael Somers has made good progress on his study on "Otters as bio-indicators in freshwater ecosystem". Caterina Carugati, working on the area requirements of *Aonyx capensis* and *Lutra maculicollis* in the Drakensberg of Natal province, has completed the first phase of her project. This involved comparing sign of otters along three rivers in a protected area, and portion of one river outside of the protected area. The project will now be expanded. Caterina will be joined by Ilaria Carranza. They will investigate the co-existence of the two otter species with the other aquatic carnivore, the water mongoose *Atilax paludinosus*, and attempt to establish area requirements of all three species using telemetry and isotopes.

## PROCEEDINGS

### SYMPOSIUM OF THE AUSTRIAN OTTER GROUP

Spring 1993

In Spring 1993 the biannual Otter Symposium of the AUSTRIAN OTTER GROUP was held in Styria with participants from Austria, Germany, Hungary, Italy and the Netherlands. The Proceedings are published and include topics like status of the otter, conservation, feeding ecology, environmental contamination and an outline of the procedure which was successfully followed to implant intraabdominal telemetry devices in two otters (*Lutra lutra*).

The proceedings may be ordered from Arno C. Gutleb, Institute for Medical Chemistry, University of Veterinary Medicine, Linke Bahngasse 11, A-1030 Vienna. Austria.

## NEW BOOKS

### FORSCHUNGSBERICHT FISCHOTTER 2

Forschungsinstitut WWF Österreich has produced "Forschungsbericht Fischotter 2" The 64 page book covers the topics of the conflict between otters and fish farming, causes of death in otters in Austria, and ecology of fishes and the pearl river mussel.

The report may be ordered from Dr Erhard Kraus, WWF Austria, Ottakringerstrasse 114-116, A-1160, Austria.

## **C O N G R E S S   A N N O U N C E M E N T S**

### **RIVER OTTER SYMPOSIUM**

21 September 1994

Albuquerque, New Mexico, USA

The Wildlife Society, as a result of a landmark decision, is hosting the First Annual Conference on 20-26 September 1994 in Albuquerque, New Mexico. As part of this conference, the Wildlife Society and the River Otter Alliance will be holding the "River Otter Symposium" on 21 September 1994. This will be the first conference on the Nearctic River Otter since the one held in Columbia, Missouri in 1984, hosted by the Missouri Department of Conservation.

The symposium will last approximately a half day and individual presentations are allowed to be 15-30 minutes in duration (including questions). Presentations on the following topics are encouraged: 1) populations parameters and status, 2) conservation and management strategies, 3) geographic distribution, home range, and territory size, 4) ecology and biology, 5) reintroduction and restocking programs, 5) harvest and mortality factors, and 6) habitat parameters and other important topics.

If you are interested in attending, contact Paul Polechla, Department of Biology and Wildlife, Kuskokwim Campus, P O Box 368, Bethel, Alaska 99559, USA; preferably by fax at + 1 907 5434527. Provide him with (1) your name, mailing address, and fax and phone numbers; (2) the proposed title of your presentation.

Please do not delay. The information is needed immediately.

## SHORT COMMUNICATION

### THE DISTRIBUTION AND CONSERVATION STATUS OF OTTERS IN UGANDA

Jonathan Baranga

*Institute of Tropical Forest Conservation, PO Box 7487, Kampala, Uganda*

A survey of otters in Uganda was carried from 1986 onwards, together with other mammals. The information presented here was re-checked in the last three years. All three African otters are found in Uganda: the spotted-necked otter (*Lutra maculicollis*), the Cape clawless otter (*Aonyx capensis*) and the swamp otter or Congo clawless otter (*Aonyx congica*). The first two are widely distributed throughout the country with the exception of the dry North eastern region. The swamp otter has a limited distribution in the country and reaches its most easterly extension in western Uganda. Although otters are still relatively common in most of their traditional habitats, they are under pressure from hunters, fishermen, land developers and general habitat destruction. Digging up the stream bed, swamp drainage and destruction of natural vegetation has produced silting, lowered the water table and adversely affected otters in addition to other aquatic biota. The wetland, ecosystem, and therefore otter habitat, are under-represented in Uganda national parks (Baranga 1990). That leaves most of the otters numerically out of the strict conservation areas and thus exposed to potential danger. Suggestions to improve the conservation status of Ugandan otters are made in a more detailed article which will be published as part of the proceedings of the Sixth International Otter Symposium.

#### REFERENCES

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## SHORT COMMUNICATION

### OTTER SIGNS ON THE ISLANDS OF THE LAKE MALAWI NATIONAL PARK

Winston Kalebe Kadongola

*Lake Malawi National Park, P O Box 48, Monkey Bay, Malawi*

#### INTRODUCTION

Lake Malawi National Park (LMNP) was established in 1980 and is the newest in the country. It is situated in the productive southern end of Lake Malawi which is the southernmost basin in the Great African Rift Lakes System. It contains the most diverse community of freshwater fishes (cichlids and cyprinids) in the world. Most of the fish species are endemic not only to Lake Malawi but to LMNP in particular. Besides the land mass which makes up the terrestrial part of the park in the Nankumba Peninsula, there are thirteen islands scattered all over the place. The park extends 100m from the shoreline of both the landmass and the islands into the waters. Almost entirely, the shoreline is rocky with very steep slopes and deep waters. The park was instituted primarily to conserve beautifully coloured, highly demanded, ornamental rock-dwelling cichlids locally known as mbuna. Besides the fish, the lake, and the park in particular, is also a good habitat of both Sub-Saharan Otters: the Cape clawless otter (*Aonyx capensis*) and the spotted-necked otter (*Lutra maculicollis*). This can be attributed to the purity of the water of the lake as well as the rivers in the lake's catchment area and the availability of both crabs and fish which form a good proportion of the otters' diets respectively.

#### OTTER SURVEY IN LAKE MALAWI NATIONAL PARK

The information available on the presence of otters in the park and Malawi as a whole is not systematic - most of it comes from fishermen who compete with the otters for fish and from visitors who come to visit the park. There has never been any otter survey for the country conducted before. These have been proposed and will be carried out whenever funds are sought. However, in the interim, the research team at LMNP has started surveying all the thirteen islands of the park in order to map out otter distribution and establish their relative abundance, and also find out seasonal variation in their behaviour within the park boundaries.

Preliminary results for the survey done in November, 1993 show a lack of dens on the islands. This can be attributed to the absence of suitable sites where dens could be made as the islands have a lot of rocks. The other explanation could be that the otters themselves do not need dens in such a habitat because there are a lot of empty spaces e.g. sort of caves between rocks which the otters use as dens.

As can be imagined, there are no sliding and rolling places. It may be assumed that they groom themselves on the rocks instead. It must be pointed out that the lake level has been very low - in fact the lowest for the past three decades (Fisheries Department Data) due to the 1991-1993 drought. As a result of this, some of the rocks that are now exposed could have normally been submerged. It will be interesting to find out what the situation will be like when the lake level picks up again with the rains now. The otters may be forced to move high up in the hills and may be they could make dens there, and have rolling and sliding places.

One other interesting feature to note is the scarcity of scats of *Lutra maculicollis*, yet it is more frequently seen than *Aonyx capensis*, which has its scats scattered almost everywhere on the rocks.

## SHORT COMMUNICATION

### STRATEGIC REPRODUCTION OF *Lutra longicaudis*

Claudio Blacher

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The first recorded live birth of the *Lutra longicaudis* in captivity occurred at the Curitiba Zoological Park in Paraná, Southern Brazil (Cubas et al. 1993). This occurrence indicates an incidence of notable strategic reproduction in this species.

Three consecutive births occurred to a pair of captive South American River otters (*Lutra longicaudis*) over a period of eleven months. The male, arrived 1989, estimated at 70 days of age. The female, arrived 1986, age estimated at 70 days. The pair was formed in 1989 at the Curitiba Zoological Park in Paraná, southern Brazil. The first birth, a single infant, occurred on 1 April 1992. It is thought that this birth is likely to have been the first offspring born to this female. The female rejected the infant, and as a result this infant died within 24 hours. It is felt that the presence of the male in the enclosure may have discouraged the female from remaining in the nest (Cubas et al. 1993).

The second birth occurred on 21 July 1992, 110 days after the first birth, resulting in two offspring. These infants were removed for hand-rearing and owing to insufficient dietary supplementation died shortly after the birth. This demonstrates that the occurrence of delayed implantation may not be a reproductive feature of this species of *Lutra*. This episode suggests that *L. longicaudis* should be considered a separate species, apart from *L. canadensis*. This suggestion is in opposition to previously published data suggesting that there is no species differentiation between *L. longicaudis* and *L. canadensis* (Davis 1978). With regard to the reproductive biology of the species, delayed implantation has been documented in *Lutra canadensis* (Hamilton & Eadie 1964), and only presumed in *L. longicaudis* and *L. provocax* up to this time.

The third birth occurred on 14 February 1993. It is thought that the new maternity area and physical separation from the male had a positive effect, as the female was successful in raising the infants (Cubas et al. 1993).

These three litters distributed over the summer, fall, and winter seasons indicate that this species is capable of reproducing year-round in captivity. Further investigation is required to clarify the reproduction of this species in the wild.

*ACKNOWLEDGMENTS* - Sociodade para Pesquisa e Educação Ambiental (SPEA) and Laurie Elaine Neville for translation and typing of this paper.

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## REPORT

### GIANT OTTERS AND ECOTOURISM IN PERU

Elke Staib and Christof Schenck

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**Abstract:** Giant otters are the most endangered otters in the world, threatened by rainforest destruction, over fishing, the contamination of the water systems with mercury in areas of gold miners, illegal hunting and, possible infections with diseases of domestic animals. Numbers are so low that every otter is valuable. A new and increasing threat is tourism. Tourists find these animals very memorable and attractive, and guides lead their clients to find them. This disturbs otters, especially in places where tourist visits are irregular, and this can lead to them abandoning an area completely. We presented recommendations to mitigate this at the International Theriological Congress in Australia, 1993: the need for education of tourist guides; the prohibition of tourist groups accompanied by unlicensed guides; coordination among tourist agencies to stagger visits; provision of better information to tourists on conduct in the area and their likely impact on the environment; the provision of alternative attractions to relieve pressure on the lakes; limiting the number of lakes that may be visited by tourists and leaving the others undisturbed; and suggestions to improve administration and regulations.

#### GIANT OTTERS - AN ATTRACTION TO TOURISTS

The giant otters (*Pteronura brasiliensis*) are one of the largest carnivores in the tropical rainforest of South America. Of the 13 species existing worldwide they are the most endangered otters (IUCN Otter Specialist Group 1989). They are in Appendix 1 of CITES, the strongest protection category. An intensive hunting period from 1940 to 1970 for the international fur trade brought them close to extinction. Giant otters are protected everywhere nowadays, but up to now the populations have not recovered. There are now new endangering factors. First, the destruction of the tropical rainforests. In addition to that there are over fishing, the contamination of the water systems with mercury in areas of gold miners, illegal hunting, possible infections with diseases of domestic animals, and also tourism. Today only relict populations remain in the former huge distribution area, the tropical lowland from Venezuela to the north of Argentina.

One of the largest remaining populations appeared to be present in southeastern Peru. But, even in this area the number of animals is alarmingly low: in Manu National park we counted about 45 otters, in three surveys. We estimate the total number of giant otters at the river Manu with its oxbow lakes to be about 65 animals. The situation in the Manu National park seems to be natural. Nearly all suitable habitat is occupied by otters, seasonally or all year. In the Tambopata area we counted about 20 animals in two surveys. We estimate the whole population to be about 25 giant otters in this region. A few otter groups exist in the surroundings of these protected areas. These numbers show the importance of every single otter.

Giant otters are especially attractive animals to nature tourism in tropical rainforest. They are active by day, they live in groups, they are noisy and live in the oxbow lakes of the rivers, the only "open" areas in the tropical rainforest. Therefore they are easy to find and observe, in contrast to most other animals of the rainforest. The same characteristics that made giant otters easy prey to pelt hunters, makes them attractive to nature tourism nowadays. Social living, big mammals are especially interesting to observers. Giant otters are always in action, their common hunting and the eating of fishes, grooming, and their plentiful play are spectacular.

Giant otters approach canoes or boats on a lake until only a few metres away. They periscope and sound warning snorts. After some minutes they retreat. This behaviour often is wrongly interpreted as tameness: but is a threat and should drive intruders from the area. If the intruder, for example a canoe with tourists, does not retreat, then the otters retreat and sometimes even leave the area altogether.

During our field period we accompanied several hundreds of tourists. Most of the tourists did not know giant otters, and knew nothing about the threats to this species. When we asked the tourists at the end of their trip about the "highlight" of their animal observations, most of them told us the giant otters.

The local tourist agencies have recognised the importance of giant otters to tourism, and promote them as a major tourist attraction.

### **NATURE TOURISM - A THREAT TO GIANT OTTERS**

In Manu National park three of the 16 oxbow lakes are open to tourism. Nearly half of the giant otter population in Manu National park, with an area of 18 000 km<sup>2</sup>, is consequently under influence of tourism. Today Manu National park is visited by about 500 tourists yearly, and the Tambopata area is visited by a few thousands. In spite of these low numbers there are already many problems. With the view of the expected high increase of tourism in tropical rainforests, an increase of the existing problems is also expected.

Giant otters are very sensitive to disturbance, and sometimes leave their area after one single contact; e.g. when tourists approach very close to take photos, or otter groups with bad experiences have greater flight distances. Although our investigations show that giant otters can get used to humans, this didn't happen as the visits by the tourists are not regular. Especially damaging is disturbance when the otters have cubs, normally at the beginning of the dry season, when the tourism season starts. Giant otters with cubs are particularly shy, and disturbances can easily cause the loss of the litter. Tourist groups sometimes inadvertently approach otter dens, where the cubs stay the first two months. But there are also tourist guides, who search for the dens to show the otters to the tourists. Furthermore, tourist hiking trails are along the shores of the lakes, and tourist activity disturbs otters at dens and resting places.

### **RECOMMENDATIONS**

Recommendations have been made for solving the problems outlined above. The recommendations were given in detail in a presentation at the International Theriological Congress in Australia, 1993. In essence the recommendations cover the need for education of tourist guides; the prohibition of tourist groups accompanied by unlicensed guides; coordination among tourist agencies to stagger visits; provision of better information to tourists on conduct in the area and their likely impact on the environment; the provision of alternative attractions to relieve pressure on the lakes; limiting the number of lakes that may be visited by tourists and leaving the others undisturbed; and suggestions to improve administration and regulations.

## REPORT

### PCBS AND ORGANOCHLORINE PESTICIDE LEVELS IN OTTER (*Lutra lutra*) SCATS FROM EASTERN SCOTLAND

S.M. Macdonald and C.F. Mason

*Department of Biology, University of Essex, Wivenhoe Park, Colchester CO4 3SQ, UK*

**Abstract:** Thirty-five samples of otter scats were collected from rivers draining into the Firth of Forth, a heavily populated and industrialised region of eastern Scotland into which otter populations have been recently expanding. Samples from the River Devon had generally high levels of PCBs, with elevated amounts of dieldrin in samples collected close to an industrial area with woollen mills. Dieldrin and PCBs were also high in samples from the River Tyne. The more rural Forth, Teith and Allan rivers had samples with generally lower levels of contamination.

#### INTRODUCTION

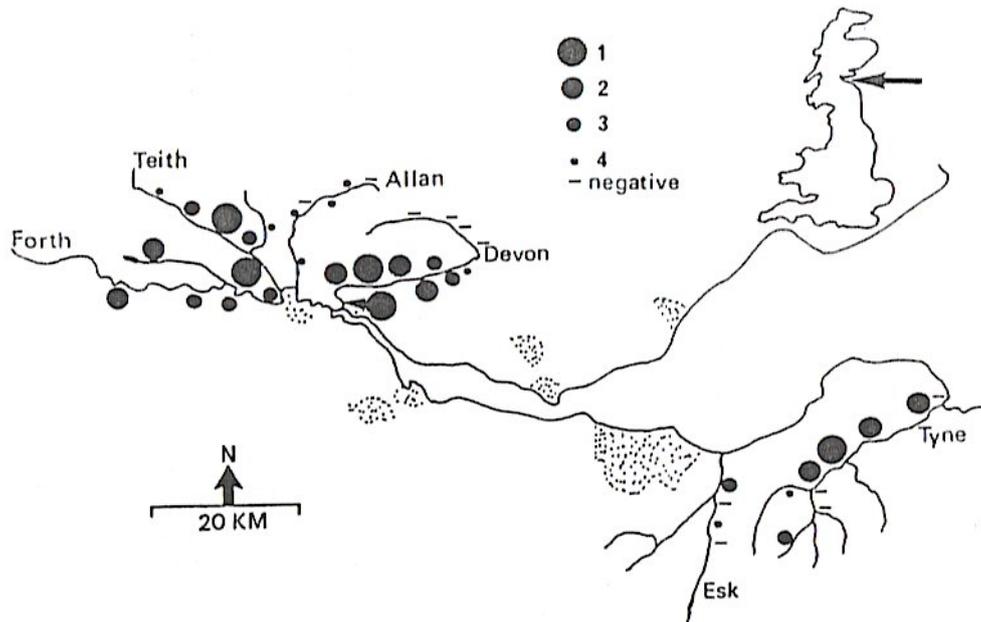
During the 1977-79 survey of Scotland the otter (*Lutra lutra*) was shown to be widespread over much of the country but poor results were obtained in the central and eastern lowlands (Green & Green 1980). In Lothian region all 103 survey sites were negative but in early 1980 signs of otters were found at four sites on the Rivers Tyne and South Esk. When the survey of Lothian was repeated in the mid-1980s, positive sites were again restricted to these rivers (Green & Green 1987). By contrast, in Central region, of the 146 sites visited on both surveys, 49 % were positive on the first occasion rising to 66 % on the second. Green & Green (1987) point out that water quality had improved in the period between the two surveys and site improvement in the Forth catchment as a factor influencing the increase in otter distribution in Central region. However, water quality classification is based largely on BOD; the presence of bioaccumulating contaminants such as organochlorine pesticides and PCBs, which most likely caused the decline in otter populations (Mason 1989), is seldom investigated. It was of interest therefore to examine levels of organochlorines in otters from these regions to ascertain whether contamination might limit further expansion of the population. In the absence of otter tissues, levels of OCs were determined in spraint (faeces) samples (see Mason *et al.* 1992, for rationale of this approach).

#### MATERIALS AND METHODS

Sites were surveyed for otters in November 1992 following the method used in the national field surveys (e.g. Green & Green 1980). Spraint samples were collected, wrapped in aluminium foil, and deep-frozen (-20 °C) prior to analysis. Organochlorine concentrations were determined with a Varian 3300 gas chromatograph, with a tritium electron capture detector and using a 25 m capillary column. Details of sample preparation and analysis are given in Mason (1993). PCB concentrations were determined against an Arocolor 1260 standard. The detection level was 0.01 mg kg<sup>-1</sup>.

#### RESULTS AND DISCUSSION

In Lothian region, signs of otter presence were found at 9 to 14 sites on the Rivers Tyne and South Esk, while on the Forth catchment 25 to 30 sites proved positive. Thirty-five spraint samples were collected. Results are shown in Fig. 1. It has been suggested that, in spraints, levels of PCBs and dieldrin, singly or combined, of less than 4 mg kg<sup>-1</sup> lipid weight are of little concern while levels over 9 mg kg<sup>-1</sup> could be damaging to otters (Mason & Macdonald 1993). As can be seen, a few samples from the Forth and Teith contained contaminant levels greater than 9 mg kg<sup>-1</sup> (levels 1 and 2 in Fig. 1), these all being owing to the PCB content.



**Figure 1.** Study area in eastern Scotland showing contaminants in otter spraints at four levels of concern

Samples from the river Allan were low in contaminant levels. On the River Devon no otter signs were found on the upper reaches but levels of contaminants in spraints increased progressively at downstream sites. Elevated levels were due largely to the PCB content but dieldrin levels were also high in samples collected close to the Alva industrial estate with its woollen mills. On the Tyne all samples from the middle and lower reaches contained levels greater than  $9 \text{ mg kg}^{-1}$  this being owing both to PCBs and dieldrin. Means and ranges of PCBs and dieldrin in samples are given in Table 1. High levels of p,p-DDE were recorded on the middle and lower Tyne (mean = 12,83; range 16,12 = 9,06) and at a few sites on the Teith, Forth and Devon.

**Table 1.** Concentrations of dieldrin and PCBs ( $\text{mg kg}^{-1}$  lipid) in otter scats from eastern Scotland.

Rivers (n)	Dieldrin		PCBs	
	Mean	Range	Mean	Range
Forth/Teith/Allan (16)	1.47	0.05 - 4.06	5.72	0.78 - 13.32
Devon (11)	3.15	0.11 - 15.73	28.36	0.68 - 169.00
Tyne/Esk (8)	3.62	0.85 - 6.57	7.05	0.67 - 18.65

Of the rivers sampled on the Forth catchment, the Devon was the most contaminated. No signs of otters were found on the upper reaches although, by contrast, Green & Green (1987) found signs only at upstream sites. It may be that the otter population on the Devon is underperforming due to contamination. Ormerod & Tyler (1992) also recorded elevated levels of PCBs in dipper (*Cinclus cinclus*) eggs on the Devon.

In Lothian region Green & Green (1987) recorded the lowest percentage of positive sites and the lowest mean number of signs found per positive site of all regions in Scotland. It may be significant that, on the middle and lower reaches of the Tyne, spraints contained elevated levels of PCBs, dieldrin and p,p-DDE and contaminants may be limiting the expansion of the otter population in this region.

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# REPORT

## OTTER NEWS FROM POLAND

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**Abstract:** 1993 was a good year for both the otter and otter researchers in Poland. Much field work was conducted, including several master degree projects, and some results of earlier research were published. The most important news is that signs of increase in otter population were noted. There are new threats however - the development of major rivers for transport, and conflict with fish farmers.

1993 was a good year for both the otter and otter researchers in Poland. Much field work was conducted, including several master degree projects, and some results of earlier research were published. The most important news is that signs of increase in otter population were noted.

### 4736 spraints analysed

Comparative studies of otter diet in different habitats were the subject of master degree theses of two students at the University of Warsaw. The rich data (total of 4228 spraints collected from six rivers in 1992-93) enabled interesting comparisons of the otter diet in various habitats and seasons (Kopczyrski 1993, Kurowicka 1993). Studies in Bieszczady Mountains, a stronghold for the otter in Poland, revealed that fishes dominated in the diet, followed by insects, amphibians and crustaceans (Harna 1993). Brzezirski *et al* (1993) have demonstrated that otters inhabiting small rivers in Bialowieza Forest are capable of surviving almost entirely on frogs, insects and tiny fish.

### Around the world after Polish otters

1993 was the second year of otter census in Poland. The recommended standard survey method (Macdonald 1983, 1990) was used, based on 10km square grid. Four main investigators with the help of 12 volunteers formed two-person teams that spent 160 days in the field. To complete the survey of 1845 sites over 45 000 km were driven, which is more than enough to drive around the world along the equator. Almost all of the country was surveyed; the remaining area in west Poland (about 250 sites) will be visited early Spring 1994. The otter distribution in part of this area (Gorzów region) is the subject of another master degree project, which is to be completed in June 1994 (M. Bartoszewicz, pers. com.).

During the national survey the otter presence was recorded in 77 % of sites visited. The species is widespread in most of the country (Fig. 1). Two areas with no otter signs were identified in Southeastern (Silesia) and Central Poland. The species is common in Eastern Poland, where lakelands in the north and mountains in the south provide suitable habitats for thriving otter populations. During the survey signs of otters were found even in those localities, where the species was supposed to be absent, which could indicate the recent increase in otter population.

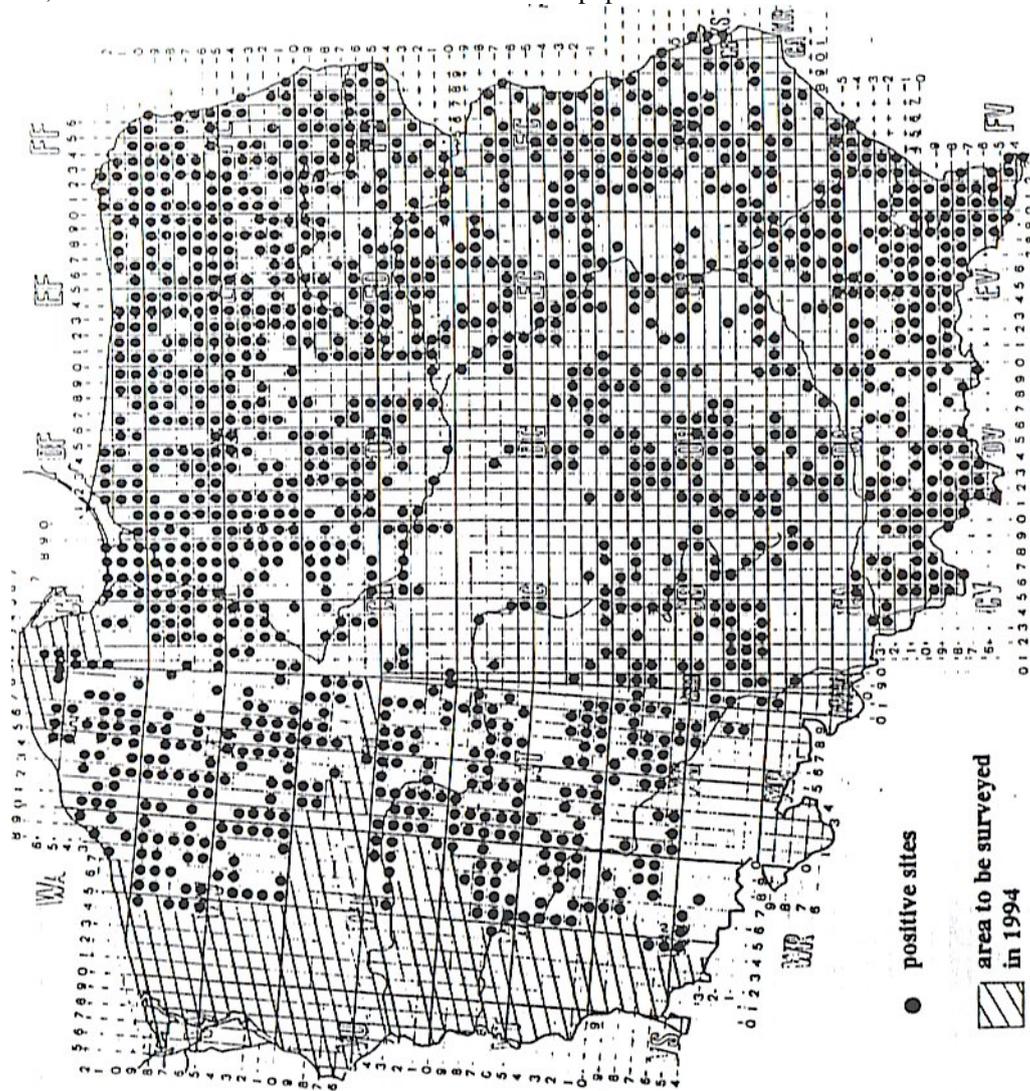


Figure 1. Otter distribution in Poland; study in progress by M. Brzeziriski, P. Cygan, B. Pabin & J. Romanowski.

### Conservation and threats

The otter is considered a "game species with a year-round protection" in Poland since 1955. Recently the question of giving the otter full legal protection as a "protected species" was discussed (Dobrowolski & Wasilewski 1993, Romanowski & Brzeziński 1993). It is highly probable that the otter will become a protected animal in 1994.

Otters are probably increasing in Poland, but a few threats can be seen. The distribution of otters is almost continuous, including all the biggest Polish rivers, which allows for dispersion. There is, however, a plan to develop the Vistula and some other main rivers into channels for transport. Gigantic money will be thrown away to repeat mistakes already experienced in some developed European countries. This may have dramatic consequences for the otter. In addition the current process of privatisation of fishing industry increases a pressure to solve the question of damages. The promotion of "otter-proof" fencing instead of paying for damages, and relocating the otters instead of illegal killing at fish ponds is needed in Poland.

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## REPORT

### STOP-GRIDS FOR FISH TRAPS IN DENMARK

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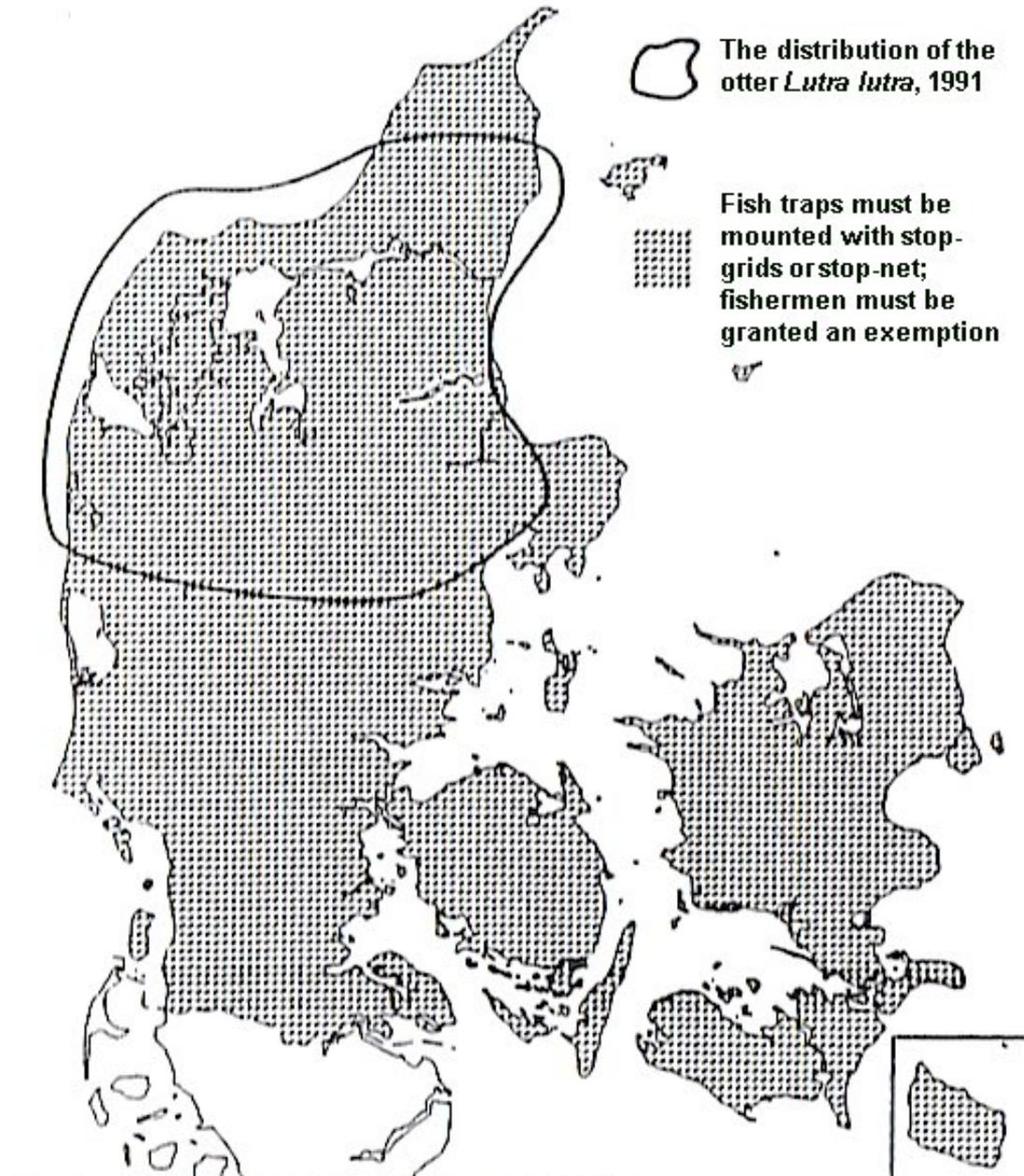
**Abstract:** From 1 January 1991, the Danish Ministry of Fishery has decreed that all trap fishers using fish traps in otter habitats must use stop-grids or stop-net in their fish traps; failure to do so incurs a fine of DM 175 (\$110) per trap, and the trap will be confiscated. This has now been extended to cover the whole of Denmark's fresh water, and certain areas in brackish and salt water.

Stop-grids that fit into the inner end of the first fyke tunnel of fish traps have been tested and used by experienced Danish trap fishers since 1986. The results are positive and have been published in the Proceedings of the Vth International Otter Colloquium, Habitat 6, Hankensbüttel, 1991 pp 237 - 241, entitled "Otter (*Lutra lutra*) mortalities in fish traps and experiences with using stop-grids in Denmark".

From 1 January 1991, the Danish Ministry of Fishery has laid down that all trap fishers using fish traps in otter habitats must use stop-grids or stop-net in their fish traps. If the trap fisher ignores this regulation, the penalty per fish-trap without stop-grid is DM 175, or \$110, and the tool will be confiscated.

During the last two years, the National Forest and Nature Agency and The National Environmental Research Institute have been negotiating with the Danish Ministry of Fishery for an extension of the law of 1991.

As a consequence, the law will be extended from 1 April 1994, as follows: in fresh water (lakes, rivers and streams), trap fishers in the whole of Denmark must use stop-grids; fishermen must be granted an exemption. In salt and brackish water trap fishers only in a limited geographical parts of the fiords must use stop-grids (Figure 1).



**Figure 1.** Otter distribution in Denmark and the area where stop-grids must be used

The stop-grid is a reasonable compromise between on one hand, protection of the otter population on, the other fishing interests. Two types of stop-grids are approved by the authorities in Denmark: one rigid, square, made of plastic (180 mm x 180 mm) and one rigid, square, made of steel (268 mm x 268 mm), both with 85 mm bar length (Figure 2).

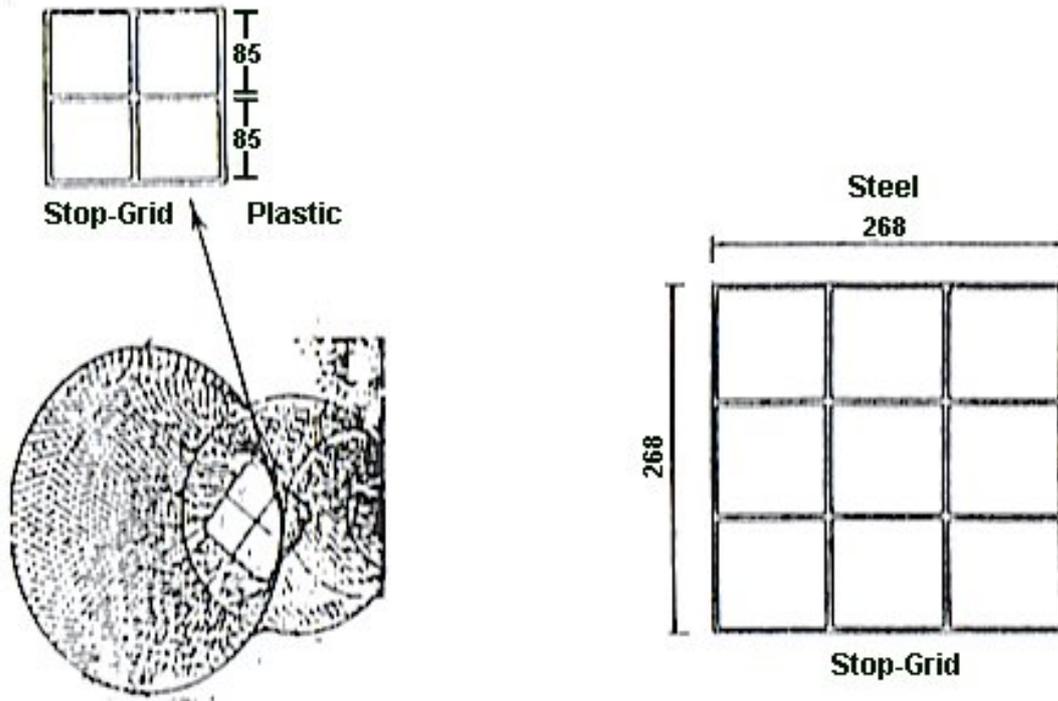


Figure 2 .The stop-grid

*Both types of stop-grids are manufactured and sold by the Centre of Technology and Product Development in the County of Aarhus:*

PROCON  
Rudolfgaardsvej 1B  
DK-8260 Viby J.  
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Telephone+45 86 29 65 88  
Telefax +45 86 29 65 64

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