

OTTERS - THE FACTS

The purpose of this fact sheet

The recovery of otters in the UK is impacting inland fisheries through predation. The situation is complex, and it is not clear why some waters have not been affected, even though otters are present.

The Angling Trust, Environment Agency, Natural England and others are working together to improve understanding about the interactions between otters and fish. This document summarises our current knowledge and is intended as a starting point for further work. It does not present solutions; these can only be found by working together and will be explored in further publications.



Introduction

The only otter species in the UK is the Eurasian otter (*Lutra lutra*), one of a number of species found worldwide.

Otters re-colonised the British Isles after the last Ice Age, and they were widespread across the whole landmass during much of the intervening 10,000 years. More recently, otters were present throughout Great Britain in the early 1950s, but from the mid-1950s to late 1970s there was a dramatic decline. This mirrored what was happening across much of Europe. The decline occurred across Scotland, England and Wales, but it was most dramatic in England. By the late 1970s the only healthy populations were in parts of Scotland, although small populations remained in Wales and northern and south-western England.

Reason for Decline

The decline of otters was closely linked to the introduction of certain organochlorine pesticides – such as dieldrin – that were used in agricultural seed dressings, and sheep dips. When first used these chemicals were applied in very high doses and caused large-scale mortalities among many animals. Their impacts were greatest among top predators, notably birds of prey and mammals, because of the way these chemicals build up in the food chain.

After dieldrin and related chemicals were withdrawn from use, bird populations recovered relatively quickly. Otters that had survived in areas with low-intensity agriculture also responded, though more slowly because of their relatively low breeding rate and, unlike birds, their inability to cover large distances.

Recovery

Natural Recovery

At the lowest point of the decline, in the late 1970s, otters were absent from parts of Scotland, much of Wales and most of England. In England, the first national otter survey in 1977-79 found evidence of otters at only 6% of sites examined. Since then, the surviving otter population has expanded eastward and southward from Wales, south-west and northern England; Wales and Scotland are now extensively occupied and England's population, though still expanding, has few large gaps outside the south-east corner of the country (see the Fifth Otter Survey of England report 2009-2010, available from the publications catalogue on the Environment Agency website www.environment-agency.gov.uk).

Direct counting of otters is impossible due to their mobility, often secretive behaviour and largely nocturnal habit. Otter surveys are therefore based simply on presence and absence of otters as shown by field signs such as spraints (faeces) and footprints. It is not possible to use these data to estimate numbers, given the flexibility in the size of otter territories and the inability to distinguish between individuals using field signs. While the distribution and frequency of field signs is used as an indicator of the health of the population locally, any estimate of numbers would be highly speculative. Nevertheless, it is likely that there are several thousand otters present in England today.

Role of Reintroductions

In the early 1980s, when it looked as though otters might be lost completely from England, the Nature Conservancy Council (now Natural England) worked with the Otter Trust to develop a reintroduction programme to repopulate parts of Eastern England with captive-bred otters. The intention was to try and ensure some continuation of occupancy and allow any surviving otters to interbreed with released ones and perhaps keep any locally adapted genes in the population. At that time there was no evidence of a natural recovery, but as this situation changed and there were signs of a slow natural recovery, most organisations involved in otter conservation preferred to rely on this rather than on re-introductions to restore otter populations in the UK.

The Otter Trust released 117 captive-bred otters between 1983 and 1999, mostly on East Anglian rivers, but with some elsewhere. Their last release was of 17 otters on the upper Thames catchment over a six-month period in 1999.

The Vincent Wildlife Trust released a further 49 rehabilitated animals (i.e. orphaned and injured wild otters kept in captivity until fit for release) between 1990 and 1996, many of these as part of a release programme in Yorkshire.

By the early 1990s it was clear that a strong natural recovery of otters from their strongholds in Wales and south-west England meant that reintroductions were no longer necessary, and by the end of the decade the Otter Trust's programme was wound up. Now descendants of the released otters form only a tiny proportion of the otter population of England, and most wild otters are the result of the natural recovery of the species after the banning of toxic pesticides.

The Environment Agency, Natural England and the Wildlife Trusts concentrated on encouraging natural recovery through improving river habitat, and they continue to do so.

Release of Rehabilitated Otters

A few orphaned and injured otters are taken into care by the RSPCA and other wildlife rehabilitation centres each year. The RSPCA has developed a protocol for the care and release of these animals which has been agreed with the Otter Biodiversity Action Plan (BAP) Steering Group (see below). Other rehabilitation centres are encouraged to follow these guidelines.

There is a legal requirement to return these animals to the wild once they are fit for release. Cubs may be kept for over 12 months as they need to be mature enough to fend for themselves before release. The numbers involved are very small compared to the numbers of wild otters now present – on average less than ten otters a year. Releases should be as near as possible to where they were found, but pairs of cubs found in different locations that are later reared together may go back to the point of origin of one of them. There is no programme of using rehabilitated otters to colonise currently vacant catchments.

Institutional Roles

Natural England is the statutory body that advises government on the natural environment. Among other duties, it administers a system of wildlife management licences in accordance with national and international law (see 'Legal status' below).

The Environment Agency is the government's leading environmental regulator and has statutory duties which include:-

- to further the conservation of species associated with the aquatic environment.
- to maintain, improve and develop fisheries.

Along with the Wildlife Trusts, the Agency is the lead partner for the otter under the UK Biodiversity Action Plan (BAP).

The Otter BAP Steering Group is a national steering group that co-ordinates and advises on actions for the recovery and conservation of otter populations in line with the UK BAP. The members are:-

- Countryside Council for Wales
- Environment Agency
- A representative from the Otter Specialist Group of the International Union for Conservation of Nature (IUCN)
- Joint Nature Conservation Committee
- Natural England
- Northern Ireland Environment Agency
- Scottish Environmental Protection Agency
- Scottish Natural Heritage
- Water UK
- The Wildlife Trusts

Otter Biology

Diet

Most of the otter's diet is fish (usually 75-95%) but amphibians, crayfish, waterfowl and small mammals are also taken. Otters are opportunistic feeders and show no strong preference for one fish species over another. They will take them in proportion to their local and seasonal availability. Eels are often cited as a 'favourite' food source, and where present and abundant they are frequent prey. However, studies across the range of the Eurasian otter show that there is no general dependence on any particular prey species – they will exploit those species available locally. Where eels have declined, otters will take a higher proportion of other species, some of which may be more abundant as a result of the lower number of eels.

Otters catch and eat predominantly live animals; there is limited evidence of dead fish being eaten, although this does occur occasionally. Their average daily consumption of food in captivity is about 1.5kg/day.

Habitat

Otters have been recorded on virtually every type of water body. Otters in England and Wales are mainly found on freshwater systems but they can also exploit coastal habitats, and there is growing evidence that they are doing so more often as populations recover. In Scotland they are familiar animals of rocky coasts, where they are sometimes referred to as 'sea otters', but they are in fact the same species.

An otter will occupy a 'home range', which on fresh waters usually includes a stretch of river as well as associated tributary streams, ditches, ponds, lakes and woodland. The size of a home range depends largely on the availability of food and shelter, and the presence of neighbouring otters. On rivers, a male's home range may be up to 40km or more of watercourse and associated areas; females have smaller ranges

(roughly half the size) and favour quieter locations for breeding, such as tributary streams. Although their social behaviour has some flexibility, on river systems otters are strongly territorial, with both sexes defending occupied territory from others of the same sex. Fighting is common, particularly in populations which are nearing carrying capacity, and this may result in death.



Otters without an established home range are known as 'transients'. They are mostly juveniles looking for a territory of their own, or adults that have been pushed out of their territories. Transient otters may use an area for a short while, but they will move on if conditions are not suitable or if they are driven away by resident otters. Transients will have been important in extending the range of otters during the recovery process, but they are very difficult to identify from field signs.

Within a home range an otter may use many resting sites. These include above-ground shelters, such as stands of scrub or areas of rank grass, and underground 'holts' – for example, cavities under tree roots and dry drainage pipes.

Breeding

Otters breed at any time of year. Females normally breed in their second or third year and select an undisturbed holt close to an abundant food source, giving birth to two to three cubs. The cubs remain in the holt for about three months and stay with the mother for up to a year. Male otters occupy separate holts and play little or no part in the rearing of the young.

Lifespan

Most otters live for three to four years in the wild, although they can live longer. Mortality is high among young animals looking to establish their own territories, particularly in areas with well established populations. The most common natural causes of death are likely to be starvation for young otters unable to fend for themselves or establish a territory. For adult otters, injuries sustained from territorial fighting are common causes of death. The most frequent reasons for non-natural mortalities are road kills and drowning in fish and crustacean traps.

Otter Activity and People

In fresh waters, otters are mainly active from dusk to dawn, when most people are unlikely to see them. Activity of coastal otters is linked to the state of the tide, and they can often be seen during the day. Even on rivers activity in daylight is becoming more common. This reflects not only their increasing distribution but may also show that, with the lack of persecution, otters are becoming less wary of people. Habituation to people may result in some individuals being more approachable, but these are not tame animals.

Impacts on Fish Stocks

Eurasian otters eat a range of fish species, but generally they take whatever is most abundant. Studies reveal that on average the fish they take are less than 300mm length; although very large fish can be taken, their choice of fish prey generally reflects what is available in the environment around them.

For a variety of reasons fish populations in some river and still water fisheries have come to be dominated by large individuals. Large fish may be more vulnerable to predation, and their loss will be more noticeable.

However, it is clear that not all fisheries are being adversely affected by otters. Evidence gathered so far indicates that specimen barbel and chub populations have been hit hardest in smaller rivers, particularly where stocks are dominated by older fish, but rivers in the north and west, where otters have always been present, appear to be less affected.

Otters have the most visible impact on unprotected stillwater fisheries that contain fewer but predominantly large fish, especially large carp. This does not mean that otters do not take smaller fish, or that they do not take fish from densely stocked fisheries, but in these cases their impacts are less noticeable.

Legal Status

Otters are now protected principally under the Conservation of Habitats and Species Regulations (2010), with additional protection under the Wildlife and Countryside Act (1981), as amended. The combined effect of these is that a person is guilty of an offence if he:

- deliberately captures, injures or kills any wild otter;
- deliberately disturbs wild otters including, in particular, disturbance which is likely to:
 - impair their ability to survive, to breed or reproduce, or rear or nurture their young; or
 - affect significantly the local distribution or abundance of the species;
- damages or destroys a breeding site or resting place of such an animal.

Or if he intentionally or recklessly:

- disturbs an otter while it is occupying a structure or place which it uses for shelter or protection; or
- obstructs access to such a place.

The Conservation of Habitats and Species Regulations provide for the granting of licences to prevent serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries. However, a licence cannot be granted unless the licensing authority is satisfied:

- that there is no satisfactory alternative, and
- that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Licences for the prevention of damage in England are determined by Natural England.

Satisfactory alternatives might include exclusion techniques (e.g. fencing) or the use of deterrents. However, it should be noted that the use of deterrents themselves, in some circumstances, may require a licence.

For more details contact Natural England's Wildlife Management and Licensing Service:

Natural England, Burghill Road, Bristol, BS10 6NJ.

Tel: 0845 601 4523 (local rate); Email: wildlife@naturalengland.org.uk

The Way Forward

There is a need for further studies to examine why otters seem to be having a more noticeable impact on some fisheries and not others. This will be explored in future publications from this group. These will seek to better understand the impacts on fish stocks and the likely long-term response of these fish populations.

Further Information/References

Chadwick, E.A., 2007. Post-mortem study of otters in England and Wales 1992-2003. Environment Agency Science Report SCO10065/SR. Environment Agency, Bristol.

Chanin, P.R.F. & Jefferies, D.J., 1978. The decline of the otter (*Lutra lutra*) in Britain; an analysis of hunting records and discussion of causes. *Biological Journal of the Linnean Society* 10(3): 305-328.

Crawford, A.K., 2003. The fourth otter survey of England 2000-02. Environment Agency, Bristol.

Crawford, A.K., 2010. The fifth otter survey of England 2009-10. Environment Agency, Bristol.

Jefferies, D.J., Wayre, P. & Shuter, R., 2000. A brief history of the Otter Trust's successful programme of repopulating lowland England with otters bred in captivity with a special emphasis on East Anglia. *Otters, Journal of the Otter Trust*, 2000 3(4): 105-117.

Jay, S., Lane, M-R., O'Hara, K., Precey, P. & Scholey, G., 2008. *Otters and Stillwater Fisheries*. The Wildlife Trusts, Newark.

Kruuk, H., 1995. *Wild Otters, predation and populations*. Oxford University Press, Oxford, UK.

Kruuk, H., 2006. *Otters: ecology, behaviour and conservation*. Oxford University Press, Oxford, UK.

Mason, C.F. & MacDonald, S., 1993. Impact of organochlorine residues and PCBs on otters (*Lutra lutra*) in eastern England. *Science of the Total Environment* 138: 147-160.

Strachan, R. & Jefferies, D.J., 1996. *Otter Survey of England 1991-1994*. Vincent Wildlife Trust, London.

This is a partnership publication by:

