Fifth Otter Survey of

Otters: Facts and theories – a personal view from Pete Reading

The Barbel Society shares the concerns of anglers over the possible effects of the recovery of otter numbers on our fisheries, and for the information of members we have reproduced the latest publications from the authorities about the subject.

The Society shares the view of the Angling Trust in that some urgent and detailed research needs to be done in order to establish the real long term effects of the return of the otter, and how any detrimental effects can be mitigated against. Other predators, especially non-native ones, should be considered too and the issue of appropriate controls debated.

It is difficult to accept yet another fish-eating predator when many of our rivers are failing Water Framework Directive assessments because of poor fish populations.

The picture is not clear to me, and many river systems with long established and stable otter populations appear to hold thriving and stable fish stocks, and others seem to be suffering. The relationships between predator and prey are complex, and not as simple as some people seem to think.

The debate is also clouded by over-simplifications, naïve assumptions, or simple untruths about the history of UK otter populations and their true nature.

They may have not been introduced in anything like the numbers some people claim, nor are they likely to have affected fish stocks on rivers as badly as we are told.

The past effects of hunting are unclear to me, and I suspect overstated, but the population of otters seems to be following a recovery that is mirrored by that of predatory bird populations, with kites, buzzards, and falcons and hawks all making a big comeback after pesticides affected them adversely.

My personal opinion is still an undecided one, but I like to deal in the truth, in facts and logic, and the scientific method, and at the moment I am tending to feel, and fervently hope, that the threat to riverine fish populations is generally exaggerated.

Changes in populations of fish in rivers can have a wide variety of causes, and although an additional predator may at first sight be easy to blame, there are more likely to be a mix of other factors at play.

It seems to me that a predator will never survive if it exterminates its prey, and it may be that many of the river barbel fisheries that have been apparently damaged by otters were about to collapse anyway; fish are not immortal, they grow old and die eventually, and a fishery dominated by a few big old barbel, or just old barbel of similar age can not last, and would have declined as a natural inevitability.

Habitat degradation in terms of dredging and pollution may also have removed long term spawning and recruitment success. Increased abstraction for domestic use or for canalisation are also factors to consider. The catchments of the Upper Thames, Evenlode, Windrush and Cherwell have suffered badly, it seems, but the Wye, Trent, Kennet and many other rivers are still fishing well for barbel and chub.

Wye barbel populations are booming, with a long standing and established otter population, and the Teme and Upper Severn have held otters for many years.

The apparent decline of roach and dace in some rivers has been going on for some time, and cannot be solely due to the recovery of the otter, and pre-date this recovery by many years. Otters may just have brought to our attention the instability of some fish populations, and could even, dare I say it, be of benefit in the long term.

Fish populations are often dominated by a head of one or two successful year classes, that will suddenly decline, only to be replaced in time by younger generations waiting to take over. A perfectly natural cycle that may not be popular with anglers.

The decline of the big roach of the Wensum, Stour and Hampshire Avon, for example, would have been blamed on otters had they been around at the time, and the rise in cormorant populations is seen by many as the key reason, but it is not wholly proven, and again is likely to be only part of the problem.

Mother Nature did not give us predators for no reason, and we should remember how little we know about the incredible complexity of food webs. Predators are an essential part of most ecosystems, and a natural balance produces the most stable populations in the long term.

Lions are not eating everything in Africa, and like most big predators, are actually in serious decline.

Predators tend to self -limit their own numbers, and otters are particularly good at killing each other off!

Not so very long ago, most angling clubs had rules demanding the killing of all pike, or even chub, because they were perceived as predators of more desirable species. Nowadays big pike are seen as valuable even on trout and salmon waters, and few clubs allow such ignorant and stupid amateur culling.

It is now realised that pike do not overtake fisheries and eat every fish in sight.

On the other hand, we may have to face the prospect of not dealing with natural populations at all, and try and run our rivers as artificial stocked fisheries with heavy-handed and expensive management. That scenario seems unworkable to me; it would be hideously expensive, impossible to manage and fraught with dangers, as can be seen with badly managed stillwaters.

"I like to deal in the truth, in facts and logic, and the scientific method, and at the moment I am tending to feel, and fervently hope, that the threat to riverine fish populations is generally exaggerated."

England 2009-2010

Much better to leave rivers as natural as possible, protect, preserve and reinstate the habitat and flow regime as best we can, and leave the animals to sort themselves out as evolution intended?

It should also be borne in mind that few of our rivers are in any way natural. They are the result of continuous realignment and dredging, and hold stocks of plants, fish and other wildlife that are not truly native; which includes first or second generation barbel in many cases!

So, read the reports, seek other factual information, and try and use these and other facts to draw your conclusions, and try not to leap to the obvious ones where fish populations are concerned!

Otters are not going away, and there is no real likelihood of culling or controls without firm evidence that they are going to damage other wildlife seriously.

We will, I think, have to learn to accept them as part of the healthy and self sustaining ecosystems that our rivers can be if we manage them properly.

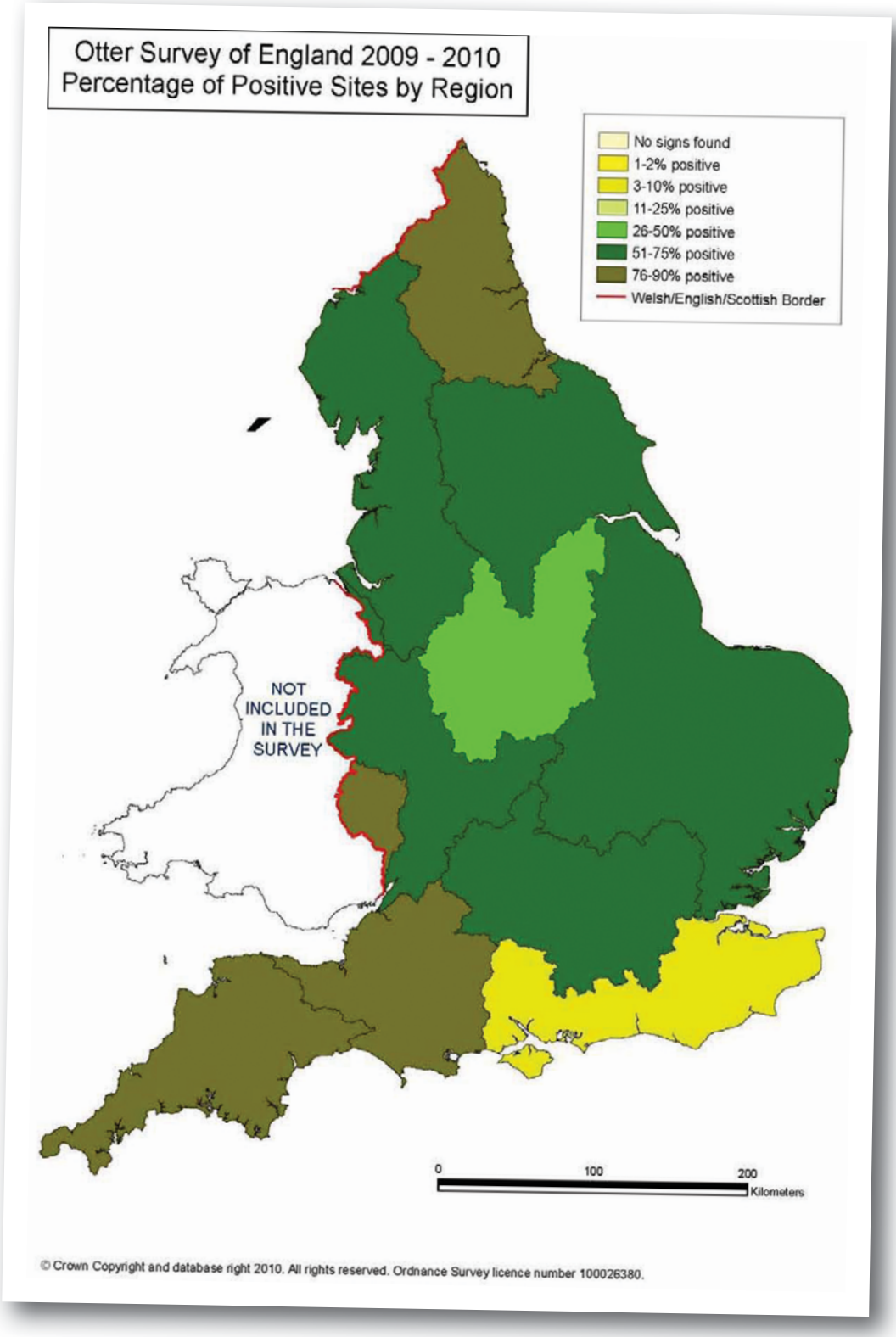
Finally, a few wise words from two sources; I will give a free membership to anyone who correctly attributes both.

"A man hears what he wants to hear and disregards the rest" and from 150 years earlier; "Eminent scientists have told us how difficult it is, even for a man of superior intelligence, to keep distinct what he actually sees from what he thinks he sees. It is so very easy to see what agrees with ones`s preconceived notions"

I could add; "The human mind is like a parachute; it works best when it is open"

Fishermans Story, circa 1816, Coventry Herald; "As Mr Wane, a Penrith grocer, was angling in the River Eamont some time ago, after taking a quantity of trout, he found an unusual attack made on his bait, and discovered that he had hooked an otter of 7lb in weight, and apparently about 4 months old.

No sooner did he bring it within reach of his landing-net, than the young savage bit the rim of it in two, though made of brass wire about 3/4 inch in circumference. He,



nevertheless, contrived to to throw it over his head on to the bank, and after repeated attacks, he managed to seize upon it.

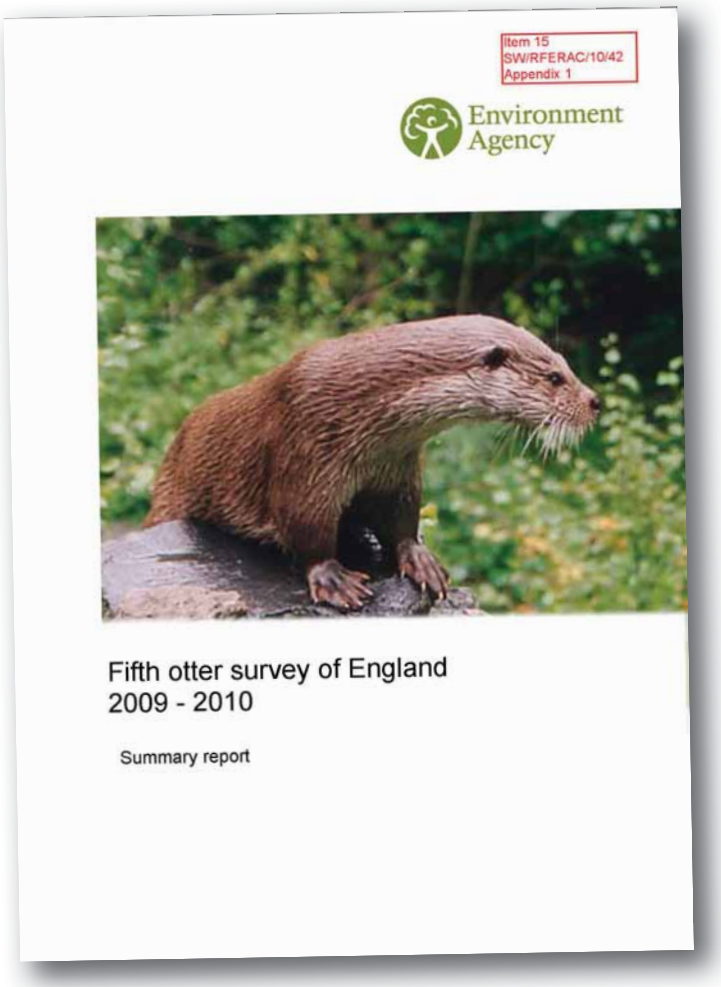
Finding himself in a very unusual element, the animal made a loud whistling noise which brought to it the parents,and along with them five or six young ones which, swimming to the edge of the water, set themselves on their hind legs, and following the example of the captive, by setting up a loud whistling noise and spurting water at Mr. Wane, whilst showing every symptom of savage ferocity.

Mr. Wane carried off his prisoner, and afterwards returned to the river and made his bag up to 67lb. The otter, in time, became domesticated."

Fifth Otter Survey of England 2009 - 2010
Published by:
Environment Agency

The return of the otter to most of England is one of the major conservation success stories of the last 30 years. The main reason for this increase has been the reduction in levels of toxic pesticides, but the general improvements in water quality and consequent increase in fish stocks have probably played a significant part.

Introduction
The European otter (Lutra lutra) is widely recognised as an emblem for nature conservation in the UK because it is a top predator and an important biological indicator of the health of our rivers and wetlands. Monitoring the status of the otter therefore gives us a valuable measure of the state of our water and wetland ecosystems. In England it is a largely nocturnal animal and is rarely observed in the wild. It is however possible to detect its presence by searching for faeces (spraints) and footprints.



The otter suffered serious declines throughout most of its European range, and by the mid 1970s the UK otter population had been reduced to such an extent that it only survived in Scotland, parts of Wales and the West Country, with a few remnant populations in other parts of England.

Monitoring otters
The first otter survey of England was carried out in 1977-79 covering alternate 50km squares across England. Together with surveys in Wales, Scotland and Ireland, it provided a baseline for the distribution of otters. Of the 2,940 sites surveyed in England in 1977-79, only 170 (5.8%) showed evidence of otters. This confirmed the results of the analysis of hunting records and the impression of many naturalists. The survey showed that the only significant populations of otters remaining in England were in the south west and along the Welsh border, with small and fragmented populations in East Anglia and in northern England. Otters were absent or only sparsely distributed in much of lowland and central England. Subsequent surveys and research have demonstrated that this was probably the low point of the decline which began in the late 1950s, and was primarily caused by the introduction of the persistent organochlorine pesticides dieldrin and aldrin.

Trends
National surveys were repeated in 1984-86, 1991-94, and 2000-02 using the same method and visiting the same sites. The fifth survey (2009-10) included 3,327 main survey sites, and additional spot-check visits for the alternative 50km squares not covered previously. This provides comprehensive coverage of the whole country for the first time. Direct comparison of positive records from the 2,940 sites used in all five national surveys reveals that otters have recovered from virtual extinction in most of England during the early 1970s. Positive site records increased from 5.8 per cent in 1977-79, to 9.6 per cent in 1984-86; 23.4 per cent in 1991-94 and 36.3 per cent in 2000- 02. The figure for the fifth otter survey, carried out between July 2009 and March 2010, was 58.8 per cent.

This latest survey reveals that recovery has continued in all but the very south-east where no signs were found in Kent or most of Sussex. Re-colonisation from strongholds in south-west and northern England and Wales has now been consolidated across much of the country and continues to drive recovery.

Geographical patterns
There was a very high percentage increase in the Thames catchment where there has been both consolidation of the population in the upper part of the catchment as well as re-colonisation eastwards.

The expansion in Yorkshire, Wessex and Severn regions has been a consolidation of the population in the core areas combined with re-colonisation of areas which were previously without otters. There are now few parts of these regions which are wholly without otters but the population is probably low in some areas.

In the Anglian region the increase has mainly come from consolidation of areas which in 2000-02 had a sparse or very sparse otter population. Otters are present in nearly all areas, only southern Essex still remains without otters. In the North West there has been a major consolidation in the core areas in the north and the southern

fringe combined with re-colonisation of much of the centre of the region. The otter population in the centre of the region remains very small and scattered.

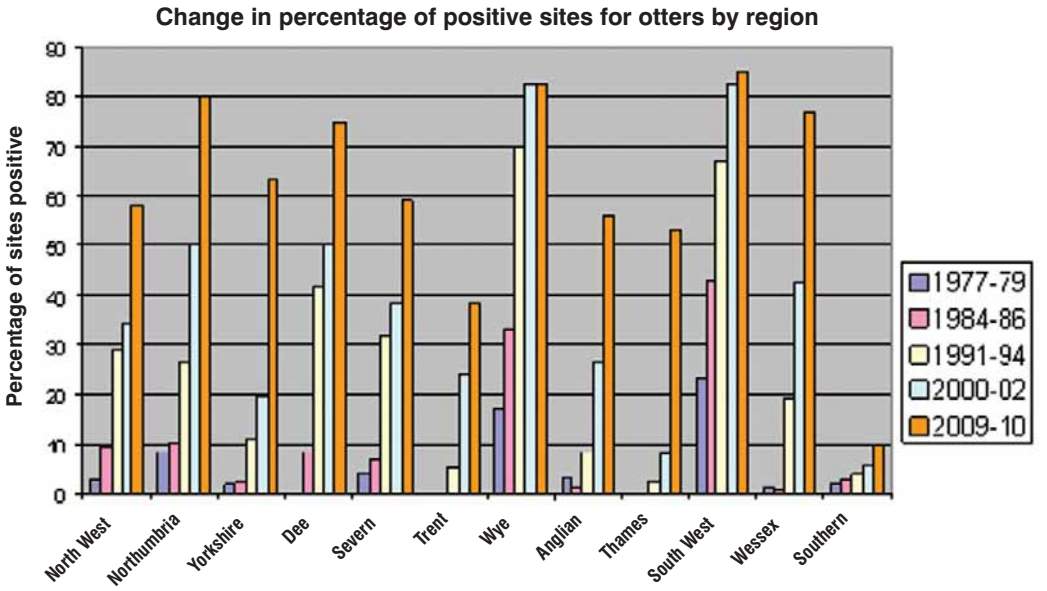
Southern region showed a small but significant increase in positive sites between 2000-02 and 2009-10. The increase was entirely in the western end of the region where there has been considerable expansion in range and an increase from 9 to 25 positive sites (64%). This was partly balanced by the complete loss of the population(s) in the eastern end of the region. Southern is the only region where the otter's range has declined between the two surveys. The reasons are not clear but it is likely that the population(s) in the east were too small to be self sustaining and they were too far from other populations to be sustained by immigration. The future of the population at the western end of the region looks secure and further eastward expansion would be expected.

The Trent catchment has shown a disappointing level of increase since 2000-02. There has however been considerable consolidation and re-colonisation.

In the Northumbrian region the increase in percentage terms has been fairly low but this is because otters were very widely distributed by 2000-02 and the increase has largely been as a result of consolidation within an existing range. Otters are now present throughout the region.

The increase in positive sites in the Dee catchment has been small. However otters are now present across most of the catchment.

The increase in positive sites in the South West has been very small and on the Wye catchment there was no increase. In both cases this is due to the high level of positive sites in 2000-02. It is likely that both these



catchments have reached carrying capacity.

Otters were shown to be present in 102 out of 115 subcatchments (88%) in England. An increase in otter distribution cannot be directly translated into an increase in otter numbers but such an increase in distribution must represent a significant increase in the number of otters on England's rivers and wetlands.

The tolerance of otters to apparently high disturbance situations such as city centres is far higher than was thought. They appear to select low disturbance habitats where possible but at least some otters are willing to tolerate high levels of human disturbance under some circumstances. It is likely that there is a variation between individual otters in the tolerance of human disturbance.

Environmental trends

There have been major improvements in general water quality leading to more sustainable fish populations on many rivers. Serious pollution incidents, resulting in major fish kills, have also decreased markedly since the last survey. However such incidents do still occur.

There are still concerns about the level of some environmental toxins, particularly those which can accumulate through the food chain. Environmental surveillance, partly through the existing programme of otter post-mortem and ecotoxicological analysis, needs to be maintained to address these concerns.

The increases in otter range in England have taken place within the context of river habitats which have been in many cases highly modified, causing damage to the ecology. The requirement under the Water Framework Directive to bring all atercourses up to good ecological status (or full ecological potential for artificial and heavily modified watercourses) will create the conditions necessary to allow sustainable fish populations to develop. This in turn is a pre-requisite for a healthy otter population.

Other issues

One of the consequences of this recovery has been the increase in reported road deaths, and the number of accidental deaths of otters remain a cause for concern. Nearly 1,000 otters are known to have been killed on the roads since the last survey in 2000-02 and this is certainly an underestimate. Deaths in fish and crustacean traps remain a concern and with higher numbers of otters using coastal habitats, deaths in lobster and crab pots may become a serious issue.

Another consequence of the recovery of otter populations has been increased concern about predation, particularly on specimen fish in still water fisheries and rivers. This creates a challenge to all those involved in river, wetland and fishery management to ensure that the successful return of our top freshwater predator is not seen as a longterm problem for fisheries but as a symbol of a healthy ecosystem.

Conclusions

Recovery has been in response to three main factors, the ban on pesticides that caused extinction of otters from many parts of England in the 1960s and early 1970s, legal protection for the otter since 1978, and the significant improvement in water quality in previously fishless rivers since the 1970s. Re-introduction programmes of captive bred and re-habilitated otters in certain parts of the country are likely to have speeded up the recovery locally in East Anglia, Yorkshire and the upper Thames. However the majority of the recovery has been the result of natural

expansion from the remnant populations. The prospects are for full recovery across England probably within the next two decades or so. This represents a major success story for pollution control, as well as investment by the water industry and efforts by landowners and river managers to improve river and riparian habitat. Tracking the otter's recovery has demonstrated the benefits of long-term monitoring and the use of this iconic species to raise awareness of pollution problems and the benefits of action to improve the environment.

OTTERS - THE FACTS
This is a partnership publication by:
Natural England
Angling Trust
Environment Agency

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.

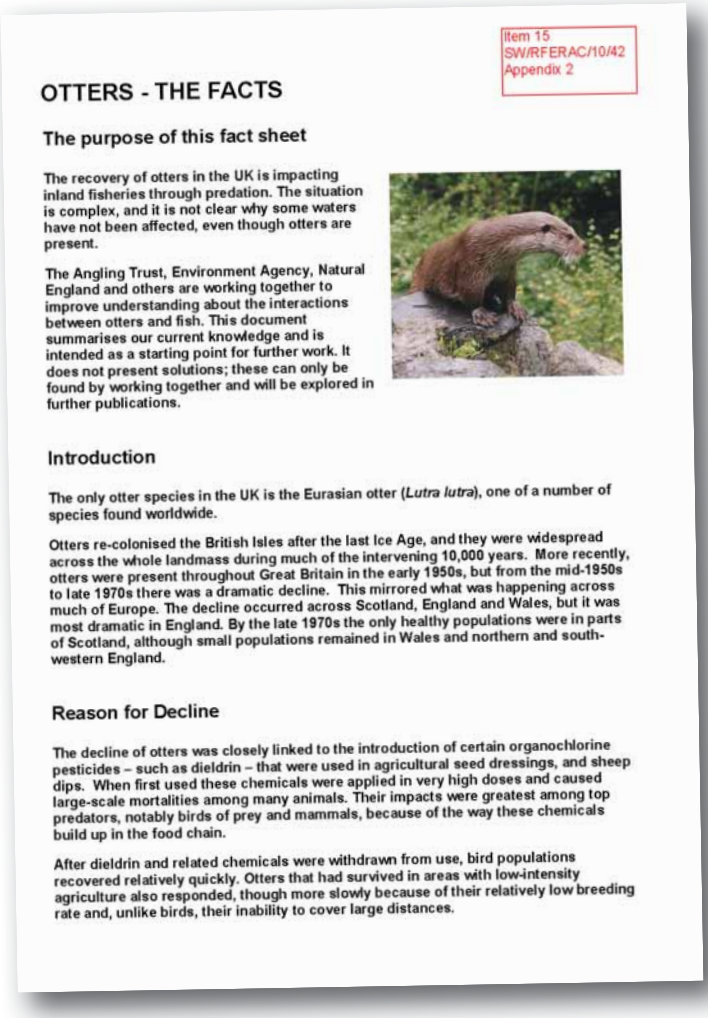
Reason for Decline
The decline of otters was closely linked to the introduction of certain organochlorine pesticides – such as dieldrin – that were used in agricultural seed dressings, and sheep dips. When first used these chemicals were applied in very high doses and caused large-scale mortalities among 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.

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 calalogue on the Environment Agency website: http://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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Appendix 2

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Reason for Decline

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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.

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

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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.

"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"

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.